

PRILOGA 1B

NASLOVNA STRAN NAČRTA

2/1 Načrt s področja gradbeništva
DMM-025/21 (Načrt gradbeništva)

OSNOVNI PODATKI O GRADNJI

naziv gradnje	Novogradnja prizidka k obstoječemu vrtcu Smlednik
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kratek opis gradnje	Objekt je novogradnja prizidka k obstoječemu vrtcu, in sicer na območju objekta, ki je namenjen za rušitev. Prizidek vsebuje gradnjo dveh igralnic za otroke drugega starostnega obdobja, skupne sanitarije novih igralnic ter komunikacije. Zasnova prizidka je urejena kot kompakten volumen, oblikovan skladno z obstoječim vrtcem. V sklopu prizidka se prav tako preuredi obstoječi garderobni niz za otroke drugega starostnega obdobja in se ga poveča v prostorih komunikacij novega prizidka. Koncept nove zasnove je volumen z žepki, ki se zažemajo v zelene površine in obratno. V zunanji zasnovi se k obstoječim dodajo nove zunanje površine za otroke. Uredi se tudi zunanje pohodne površine za pešce, glede na novo ureditev vrtca.
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VRSTE GRADNJE	NOVOGRADNJA - PRIZIDAVA
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DOKUMENTACIJA

vrsta dokumentacije	PZI (projektna dokumentacija za izvedbo gradnje)
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<input type="checkbox"/>	sprememba dokumentacije
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številka projekta	136
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PODATKI O NAČRTU

strokovno področje načrta	2 Načrt s področja gradbeništva
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številka in naziv načrta	DMM-025/21 (Načrt gradbeništva)
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številka načrta	DMM-025/21
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datum izdelave	
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PODATKI O IZDELOVALCU NAČRTA

ime in priimek pooblaščenega arhitekta, pooblaščenega inženirja ali druge osebe	Matjaž Žabkar, d.i.gr.
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identifikacijska številka	IZS G-2844
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podpis pooblaščenega arhitekta, pooblaščenega inženirja ali druge osebe	
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PODATKI O PROJEKTANTU

projektant (naziv družbe)	Obrat d.o.o.
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sedež družbe	Janežičeva 3, 1000 Ljubljana
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vodja projekta	Blaž Babnik Romaniuk, magister inženir arhitekture
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identifikacijska številka	A-1591
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podpis vodje projekta	
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PRILOGA 3

KAZALO VSEBINE PROJEKTA

2/1 Načrt s področja gradbeništva
DMM-025/21, Gradbene konstrukcije

KAZALO NAČRTOV

PZI		PID	
		<i>navesti tiste načrte, ki so dopolnjeni ali izdelani na novo</i>	
naziv načrta	številka načrta	naziv načrta	številka načrta
NASLOVNA STRAN NAČRTA	1.0		
KAZALO VSEBINE NAČRTA	2.0		
TEHNIČNO POROČILO	3.0		
Tehnično poročilo - splošno	3.1		
Poročilo statične presoje nosilne lesene in AB konstrukcije	3.2		
Detalji stikovanja elementov lesene konstrukcije z izračuni	3.3		
Rekapitulacija armature	3.4		
RISBE	4.0		
NAČRTI AB KONSTRUKCIJE	A		
TLORIS TEMELJNE PLOŠČE (armaturni načrt)	4.A.1		
NAČRTI LESENE KONSTRUKCIJE	B		
NOSILNA NOSILNE LESENE KONSTRUKCIJE (plošče in stene - 1. del)	4.B.1		
NOSILNA NOSILNE LESENE KONSTRUKCIJE (plošče in stene - 2. del)	4.B.2		

po potrebi dodaj vrstice

KAZALO IZKAZOV

PZI	št. izkaza
naziv izkaza	

po potrebi dodaj vrstice

INVESTITOR: Občina Medvode
Cesta Komandanta Staneta 12, 1215 Medvode

OBJEKT: Novogradnja prizidka k obstoječemu vrtcu Smlednik
Viški vrtci, enota Rožna dolina

FAZA: PZI

ŠT. NAČRTA: DMM-025/21

ŠT. PROJEKTA: 136

3.1 TEHNIČNO POROČILO

Ljubljana, September 2021

Odgovorni projektant:
Matjaž ŽABKAR, dipl. inž. gradb.



1.0) TEHNIČNO POROČILO

1.1) ZASNOVA

Predmet projekta je izgradnja prizidka vrtca. Objekt je zasnovan kot lesena gradnja na AB temeljni plošči. Objekt je samostojec in bo lociran ob obstoječem objektu. Na stiku z obstoječim objektom se izvede dilatacija.

Glavni del objekta je pravokotne tlorisne oblike tlorisnih dimenzij 17,25 m x 9,21 m. Na eni bočni strani je tlorisni gabarit razširjen v tlorisnih izmerah 6,22 m x 12,07 m. Tako prečna kot vzdolžna stena razširitve se navezuje na obstoječ objekt preko vertikalno podajne dilatacije katera zagotavlja bočno pridržanje stenskih elementov. V glavnem delu objekta se izvede tudi poglobitev gabarita v tlorisnih izmerah 7,38 m x 1,91 m in sicer po celi višini do strehe. Na eni zunanji vzdolžni stranici objekta se izvede nadstrešek tlorisnih dimenzij 15,10 m x 2,40 m.

Po vertikalnem gabaritu je objekt pritličen. Višine objekta se po segmentih spreminjajo. Kapna višina glavnega dela meri 4,53 m medtem ko meri kapna višina razširjenega dela 3,46 m. Kapna višina nadstreška meri 3,39 m. Na poglobljenem delu glavnega gabarita se izvede preskok v strehi konstantne višine 0,32 m. Višina slemena glavnega gabarita objekta meri 6,42 m. Na nadvišanem delu strehe se izvede atika v obliki robnega nosilca višine 0,40 m katera povezuje obe stranici poglobljenega gabarita. Višina razširjenega dela objekta je enaka kapni višini katera meri 3,46 m. Streha je na vse strani podaljšana v previs dolžine 0,16 m. Vse mere so konstrukcijske mere.

Streha glavnega dela objekta je enokapna pri čemer meri naklon 6,78°. Streha razširjenega dela objekta pa je ravna. Prečna zunanja stena glavnega dela objekta v slemenu se izvede v naklonu 72°. Ta stena je postavljena na parapet višine 0,82 m medtem ko so ostale stene postavljene direktno na temeljno ploščo. Na poševni steni se izvede tudi frčada širine 3,85 m in globine 0,84 m ter višine 2,98 m. Streha frčade je blagega naklona 1,5% zaradi odvodnjavanja. Na strešini razširjenega dela objekta se izvedejo tri okrogle strešne kupole premera 1,20 m.

Vse nosilne stene novogradnje so masivne lesene stene iz križno lepljenih masivnih lesenih plošč medtem ko so predelne stene lahko suhomontažne izvedbe. Zunanje nosilne stene so tudi dodatno toplotno izolirane s slojem toplotne izolacije in zaključene z dekorativnim fasadnim ometom, na notranji strani pa oblečene v knauf plošče na podkonstrukciji. Strešno konstrukcijo prav tako tvorijo masivni leseni elementi iz križno lepljenih masivnih lesenih plošč katere so na vmesnem delu dodatno podprte s prečnimi lesenimi stenastimi nosilci. Konstrukcijo nadstreška tvorijo leseni lepljeni nosilci. Stabilizacijo nadstreška pa tvorijo tipske jeklene napenjalke. Objekt ni podkleten ter tudi ni vkopan.

Temeljenje objekta tvori armirano betonska temeljna plošča izvedena na zmrzlinso odporni tamponski blazini. Po celotnem obodu objekta se izvede robna ojačitev. Na delu poševne stene se izvede parapetni zidec višine 0,82 m kateri je v delu poglobljen in je višine 0,54 m.

Kritino enokapne strehe in ravne strehe tvori zelena streha na toplotni izolaciji. Streha nadstreška je ravna, z minimalnim padcem zaradi odvodnjavanja. Kritino nadstreška tvori lepljeno kaljeno steklo.

1.2) STATIČNI SISTEM

NOSILNA LESENA KONSTRUKCIJA

Nosilno konstrukcijo predstavljajo masivne lesene stene iz križno lepljenih masivnih lesenih plošč. Debelina zunanjih nosilnih sten glavnega dela objekta je 120 mm. Debelina ostalih nosilnih lesenih sten je 100 mm. Vse odprtine v panelih sten se izvede brez dodatnih ojačitev ali preklad. Debelina strešnih masivnih lesenih plošč je povsod 120 mm. Stenasti nosilci na glavnem delu objekta so prav tako debeline 120 mm in spremenljive višine zaradi naklona. Nosilci nadstreška so različnih dimenzij. Stebri so pravokotnega preseka dimenzij 10x32 cm. Povezniki so spremenljive višine

in so dimenzij 10x15/30 cm. Kapni povezniki so dimenzij 10x16 cm. Nosilec nadstreška na poglobitvi je dimenzij 22x34 cm, ob njem pa je naležni nosilec dimenzij 20x16 cm. Robni nosilci ob poglobljenem delu so dimenzij 16x20 cm medtem ko je robni povezovalni nosilec dimenzij 12x40 cm. Na vseh stropnih površinah je predvidena tudi izvedba spuščene stropa katerega se izvede na podkonstrukciji.

STREHA

Streha je na vseh nivojih pohodna. Pri odvodnjavanju strešin je potrebno izvesti varnostne prelive da se v delu vegetacije ne zadržuje voda.

TEMELJI

Temeljenje objekta tvori AB temeljna plošča debeline 25 cm. Po celotnem obodu temeljen plošče se izvede robna ojačitev debeline 35 cm in višine 50 cm. Na vseh mestih sten se izvede ojačitve v obliki vtopljenih nosilcev.

1.3) OBREMENTIVE

Poleg sile mase konstrukcije je v računu upoštevana tudi stalna obremenitev, ki jo predstavlja sestava strešne konstrukcije, obremenitev zaradi snega $s_k \approx 1,59 \text{ kN/m}^2$, v horizontalni smeri pa obremenitev zaradi vetra z referenčno hitrostjo 20,0 m/s. Obremenitev stropne plošče predstavlja tudi spuščen strop skupaj z instalacijami v skupnem iznosu $0,5 \text{ kN/m}^2$.

Prav tako so na temeljni plošči upoštevane tudi spremenljive obremenitve za večnamenske prostore v več različnih kombinacijah.

1.4) MATERIAL

V računu je za vse lesene elemente upoštevan lepljen les II. ktg. (C24). Strešni nosilci so prav tako iz lepljenega lesa kvalitete Gl24h. Armatura v AB temeljni plošči je rebrasta kvalitete S500 ter mrežna, kvalitete S500 B. Kvaliteta betona v vseh AB konstrukcijah je C25/30 Xc2. Zaradi zagotavljanja vodotesnosti se lahko uporabi tudi višja marka betona. Vse oznake materialov so po predpisih EuroCode.

Izvajalec del mora pred pričetkom izvedbe objekta pripraviti »Program kontrole zagotavljanja kakovosti izvedenih del«, ki mora upoštevati vse zahteve iz projektne dokumentacije.

1.5) PRIKLJUČKI

Za izdelavo nosilne lesene konstrukcije se uporabi posebne spoje po detajlih proizvajalca celotnega sistema nosilne lesene konstrukcije. Vezna sredstva za stikovanje lesenih elementov so lesni vijaki, žebliji in kovinski vezni elementi ter sorniki. Glavnih nosilnih elementov se ne zarezuje drugače kot je predvideno v računu. Spoji pri elementih nadstreška in sidranje stenskih elementov se izvede s kovinskimi veznimi pločevinami ter vijaki oz. sidrnimi vijaki.

Eventuelne oslavitve prerezov je potrebno dodatno preveriti v fazi izdelave delavniških načrtov kjer se upošteva vse zahteve proizvajalca nosilne lesene konstrukcije.

Na stiku z obstoječim objektom je potrebno izvesti dilatacijske stike z vertikalno podajnostjo. Stik nove AB plošče z obstoječimi temelji se izvede kot možnična dilatacija preko uvrtnih možnikov.

OPOMBA!

Pred izvedbo sidranja mora odg. Nadzornik preveriti mesta zasidranje in ugotovitve vpisati v gradbeni dnevnik. V primeru slabe podlage za izvedbo sidranja je potrebno najti ustrezen rešitev v soglasju s projektantom.

Izvajalec montažne gradnje mora za tovrstno gradnjo pripraviti tudi vse certifikate in ateste za vse gradbene proizvode v kolikor so tipizirani ali pa uporabiti materiale po zahtevah Evropskih standardov.

1.6) TEMELJNA TLA

Temeljna tla so srednje dobro nosilna. Material je zameljen prod pod katerim se nahaja peščena glina v kombinaciji z meljem in peskom. Prostorninska masa materiala znaša 19-20 kN/m³, strižni kot 28-30°. Dopustna obremenitev temeljnih tal v dreniranih pogojih znaša ~0,45 MPa. Modul reakcije tal je določen na 35 MN/m³. Podatki so povzeti po geomehanskem poročilu št. 20/21-IZP izdelanega s strani GEOENG/CO. d.o.o. v mesecu September 2021.

OPOMBA!

Temeljna tla mora po izkopu za temelje pregledati geomehanik in ugotovitev vpisati v gradbeni dnevnik. V primeru večjih odstopanj je potrebno sistem temeljenja ustrezno korigirati. Prav tako mora biti v času gradnje ves čas vršen geomehanski nadzor ter monitoring posredkov.

Temeljna plošča se izvede na zmrzlinso odpornem tamponu po navodilih geomehanika. Pred izvedbo je potrebno pridobiti ustrezna navodila oziroma elaborat za pripravo temeljnih tal v kolikor v geomehanskem poročilu ni dovolj natančnih navodil za izvedbo. Okoli temeljne plošče se izvede ustrezno odvodnjavanje površinskih voda.

1.7) PROTIPOTRESNA PRESOJA

Objekt bo grajen v VIII. potresni coni, kjer je pričakovana vrednost projektnega pospeška temeljnih tal ocenjena na $a_g=0,25g$ po karti projektnih pospeškov za povratno dobo 475 let, upošteva se tip tal C. Potresna obremenitev brez upoštevanja snega je približno enaka obremenitvam zaradi vpliva delovanja vetra in ni merodajna zaradi majhne lastne mase nosilne konstrukcije zato so bili za dinamične obremenitve upoštevani prevladujoči vplivi vetra.

Pri izračunu sidranja lesene konstrukcije je bila pri potresni obremenitvi upoštevana delna masa zaradi vpliva snega na strehi.

Potresno varnost objekta zagotavljajo vzdolžne in prečne nosilne stene preko katerih se obremenitve prenašajo v AB temeljno ploščo. Za dosego potresne varnosti je potrebno AB prereze ustrezno armirati, za stikovanje elementov lesene konstrukcije pa zagotoviti kvalitetno izvedbo vseh detajlov stikovanj. V vseh AB prerezih je potrebno zagotoviti tudi minimalno potrebno armaturo.

Vsi elementi lesene konstrukcije so stikovani z ustreznimi veznimi sredstvi kot so čepi, žebli ali kovinske spojke ter sorniki kar zagotavlja ustrezno duktilnost nosilne lesene konstrukcije.

1.8) UPORABLJENI STANDARDI

Načrt je bil izdelan na podlagi pravil Evrokodov. Pri projektiranju so bili upoštevani tudi ostali veljavni pravilniki in standardi. Račun z računalniškimi programi je bil izveden po veljavnih evropskih predpisih SIST-EN:

- Evrokod 1: Vplivi na konstrukcije
 - SIST EN 1991-1-1 Splošni vplivi, prostorninske teže, lastna masa, koristne obremenitve.
 - SIST EN 1991-1-3 Snežne obremenitve na območju RS.
 - SIST EN 1991-1-4 Delovanje vetra na območju RS.
- Evrokod 2: Projektiranje betonskih konstrukcij
 - EN 1992-1-1 Splošna pravila in pravila za stavbe.
- Evrokod 5: Projektiranje lesenih konstrukcij
 - EN 1995-1-1 Splošna pravila in pravila za stavbe.
- Evrokod 7: Geotegnično projektiranje
 - EN 1997-1 Splošna pravila
- Evrokod 8: Projektiranje potresnoodpornih konstrukcij
 - EN 1998-1 Splošna pravila, potresni vplivi in pravila za stavbe.

1.9) IZVEDBA

a) Izdelava in montaža

Izdelavo in montažo lesenih elementov konstrukcije je potrebno izvesti v skladu s *SIST EN 14081-1:2006* za rezan les oz. *SIST EN 14080: 2005*. Izdelavo betonskih delov konstrukcije je bilo potrebno izvesti v skladu s *SIST EN 13670*.

Vsi leseni elementi so predvideni v transportnih dolžinah in morajo biti opremljeni z ustreznimi certifikati.

Protipožarna zaščita se izvede v skladu s študijo požarne varnosti.

b) Zahteve pri izvedbi

Investitor je med gradnjo objekta dolžan zagotoviti strokovni nadzor in kontrolo izdelave z vsemi ustreznimi meritvami vgrajenega materiala po veljavnih predpisih in standardih.

Izvajalec je dolžan pred pričetkom gradnje izdelati elaborat postopka gradnje, vključno z vsemi varstvenimi ukrepi. Med gradnjo mora voditi vso po veljavnih predpisih zahtevano dokumentacijo, ki se nanaša na dokazovanje kvalitete vgrajenih materialov in tehnoloških postopkov posameznih faz gradnje. Vsi vgrajeni produkti morajo imeti ustrezna tehnična soglasja oz. certifikate.

Ves vgrajen, dodajni in spojni material mora biti opremljen v skladu z Zakonom o gradbenih proizvodih (ZGPro) oziroma Direktivo EU o gradbenih proizvodih (DGP), z izjavami o skladnosti proizvoda oz. certifikati o skladnosti proizvoda in mora biti vgrajen po veljavnih predpisih in standardih. Vsak vgrajen material mora biti označen in sledljiv.

Izvajalec je dolžan pred začetkom izvedbe oz. gradnje izdelati naslednje dokumente:

- Načrt zagotavljanja kakovosti del,
- Delavniško dokumentacijo,
- Elaborat varstva pri delu,

Dokumenti morajo biti pregledani s strani strokovnega nadzora investitorja. Konstrukcijo je potrebno v vseh fazah gradnje, s pravilnim vrstnim redom sestave in gradnje, varovati proti izgubi stabilnosti ali porušitvi. Med gradnjo je potrebno voditi vso potrebno kontrolno dokumentacijo, potrdila o kvaliteti osnovnega, dodajnega in spojnega materiala, potrdila o usposobljenosti varilcev, skladnosti varilnih postopkov, merske protokole, rezultate kontrole zvarov. Montažo je potrebno izvajati v skladu s projektom montaže. Geometrijo konstrukcije je potrebno preverjati v vsaki fazi montaže in se držati predpisanih toleranc. Za vsako spremembo je potrebno pred njeno izvedbo pridobiti pisno soglasje projektanta in strokovnega nadzora.

Izkop za temeljenje mora kontrolirati pooblaščen geomehanik in ustreznost potrditi z vpisom v gradbeni dnevnik.

Pri delu je potrebno upoštevati ustrezne predpise iz varstva pri delu.

Pripravil:

Matjaž Žabkar d.i.gr.



INVESTITOR: Občina Medvode
Cesta Komandanta Staneta 12, 1215 Medvode

OBJEKT: Novogradnja prizidka k obstoječemu vrtcu Smlednik
Viški vrtci, enota Rožna dolina

FAZA: PZI

ŠT. NAČRTA: DMM-025/21

ŠT. PROJEKTA: 136

3.2 POVZETEK STATIČNE PRESOJE NOSILNE LESENE IN AB KONSTRUKCIJE

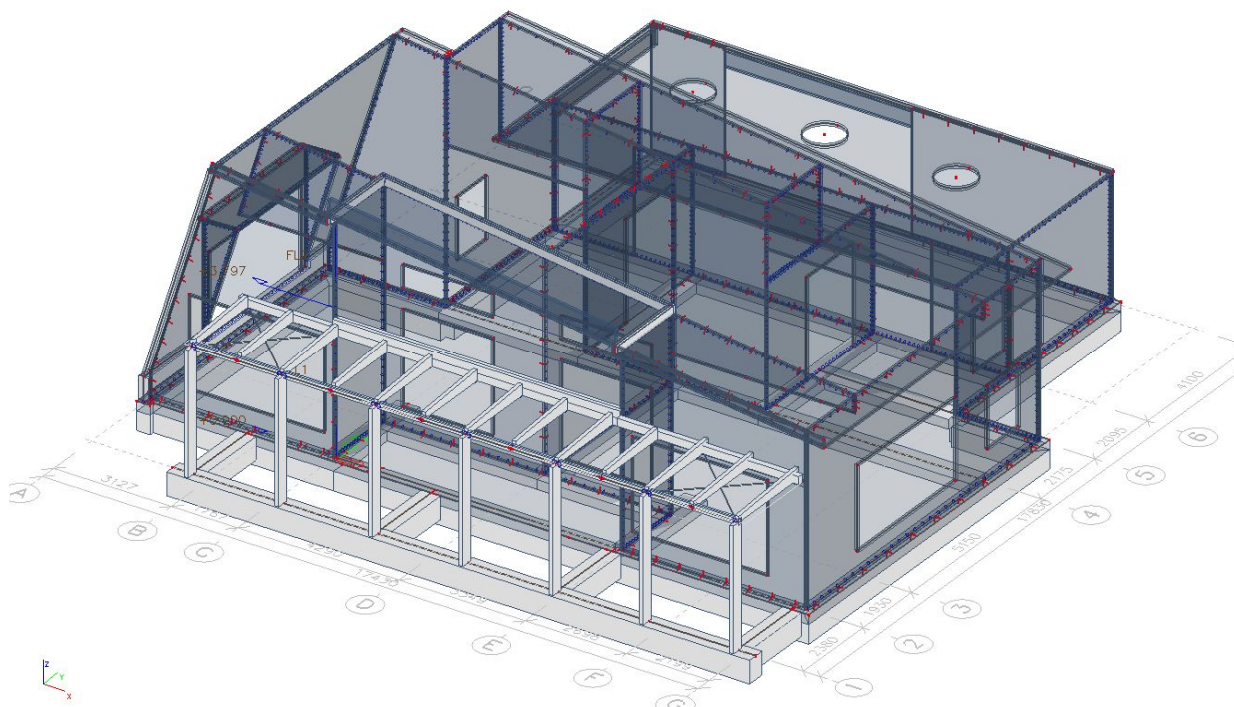
Ljubljana, September 2021

Odgovorni projektant:
Matjaž ŽABKAR, dipl. inž. gradb.



STATIČNI IZRAČUN NOSILNE LESENE IN AB KONSTRUKCIJE

1.0 RAČUNSKI MODEL KONSTRUKCIJE Z OSNOVNIMI PODATKI



Dispozicija osi z dimenzijami konstrukcije – pogled

1.1 MATERIALI

Beton EC2

Name	Type	ρ [kg/m ³]	Density in fresh state [kg/m ³]	E_{mod} [MPa]	μ	α [m/mK]	$f_{c,k,28}$ [MPa]
C25/30	Concrete	2500,0	2600,0	3,1500e+04	0,2	0,00	25,00

Armatura EC2

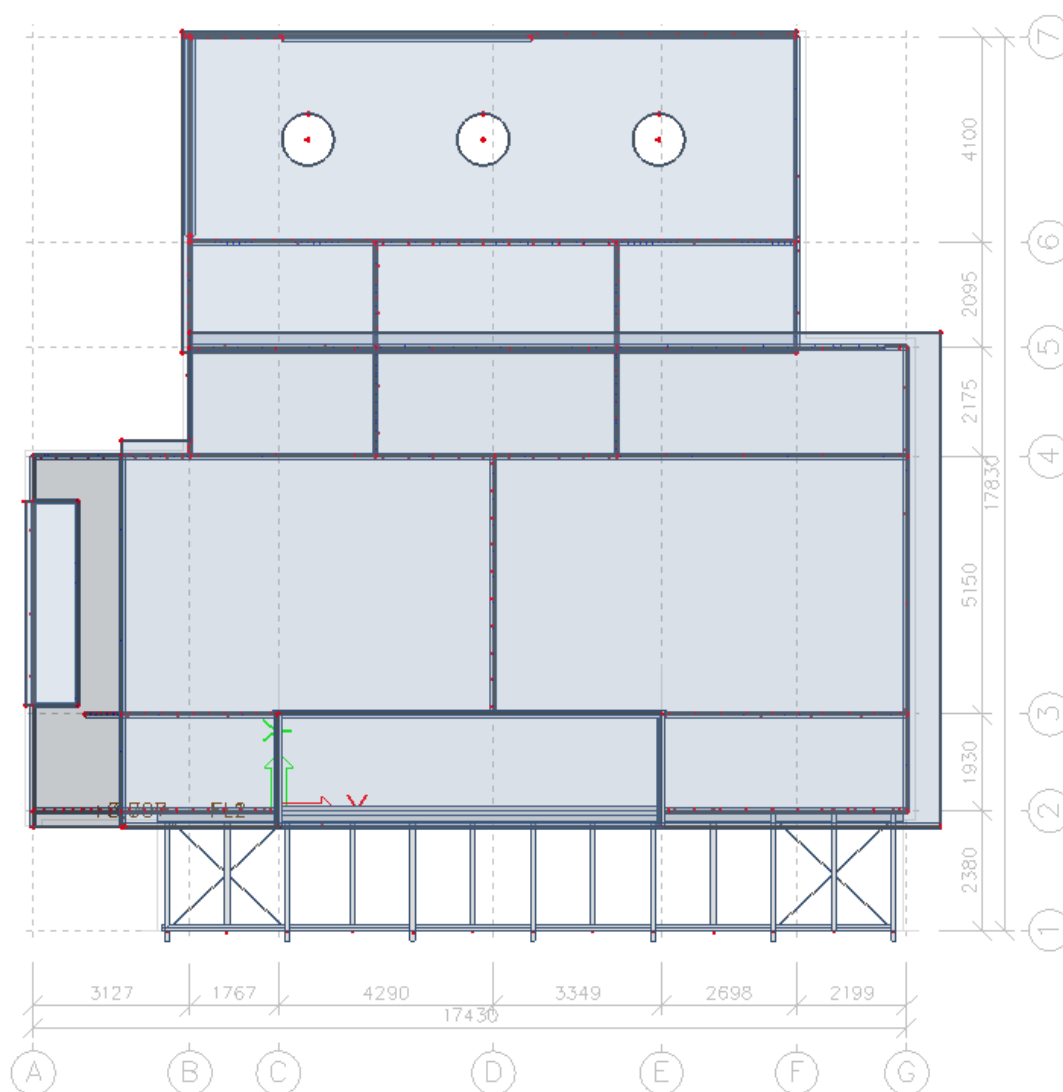
Name	Type	ρ [kg/m ³]	E_{mod} [MPa]	G_{mod} [MPa]	α [m/mK]	$f_{y,k}$ [MPa]
B 500B	Reinforcement steel	7850,0	2,0000e+05	8,3333e+04	0,00	500,0

Les EC5

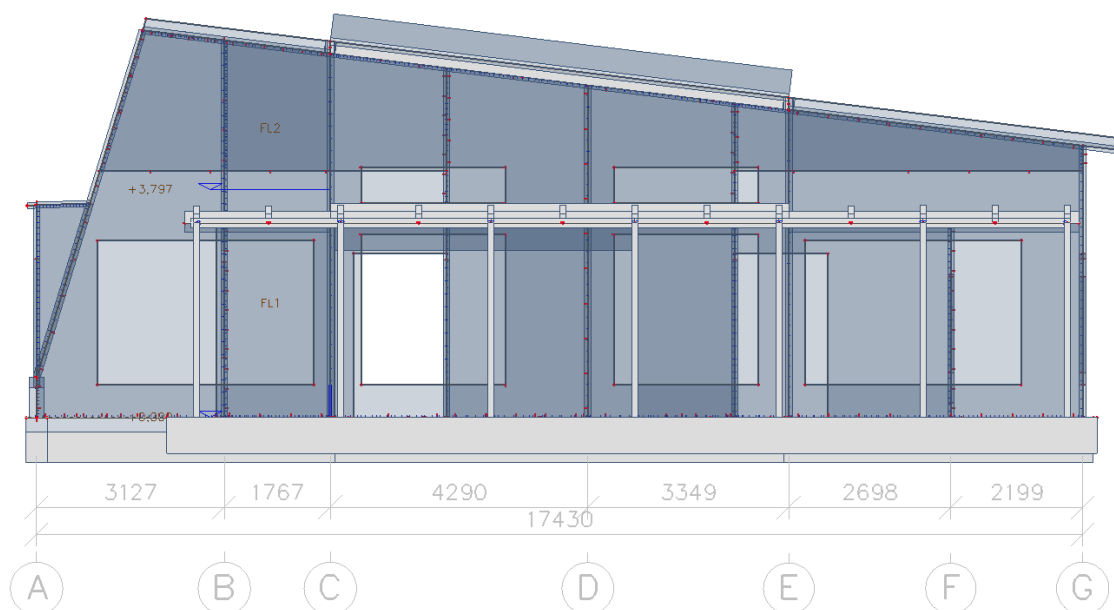
Name	Type of timber	μ	E_{mod} [MPa]	$f_{m,k}$ [MPa]	$f_{t,0,k}$ [MPa]	$f_{t,90,k}$ [MPa]	$f_{c,0,k}$ [MPa]	$f_{c,90,k}$ [MPa]	$f_{v,k}$ [MPa]
	ρ [kg/m ³]	α [m/mK]	G_{mod} [MPa]						
C24 (EN 338)	Solid 420,0	0 0,00	1,1000e+04 6,9000e+02	24,0	14,5	0,4	21,0	2,5	4,0
GL 24h (EN 14080)	Glued, laminated 420,0	0 0,00	1,1500e+04 6,5000e+02	24,0	19,2	0,5	24,0	2,5	3,5

Jeklo EC3

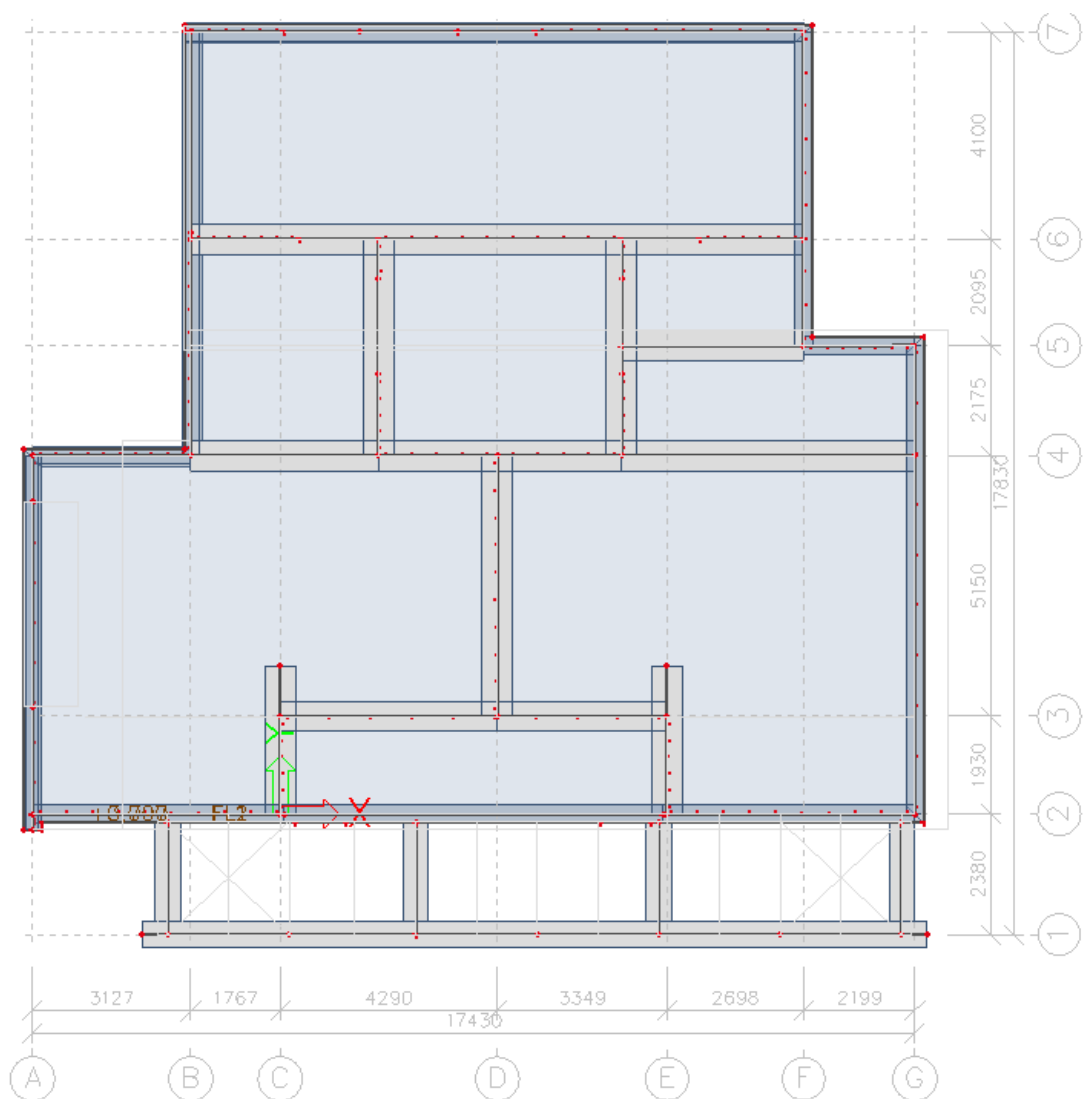
Name	ρ [kg/m ³]	E_{mod} [MPa]	μ	Lower limit [mm]	Upper limit [mm]	F_y [MPa]	F_u [MPa]
		G_{mod} [MPa]	α [m/mK]				
S 235	7850,0	2,1000e+05 8,0769e+04	0,3 0,00	0 40	40 80	235,0 215,0	360,0 360,0



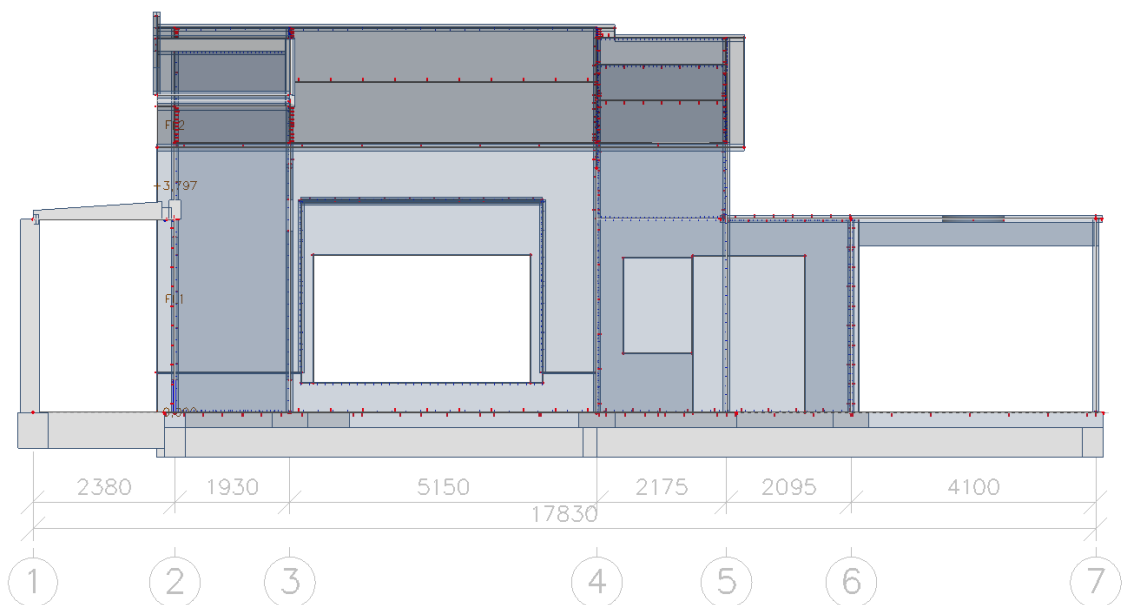
Tloris nosilne lesene konstrukcije



Karakteristični vzdolžni prerez



Tloris nosilne AB konstrukcije - temeljenje



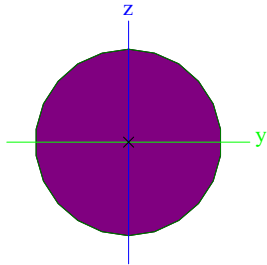
Karakteristični prečni prerez

1.2 PREČNI PREREZI

CS1				
Type	2 Rect 50; 400			
Detailed				
Item material	C24 (EN 338)			
Fabrication	timber			
Colour				
A [m ²]		4,0000e-02		
A _y [m ²], A _z [m ²]		3,3543e-02	3,3346e-02	
A _L [m ² /m], A _D [m ² /m]		1,0000e+00	1,0000e+00	
I _y [m ⁴], I _z [m ⁴]		5,3333e-04	3,3333e-05	
i _y [mm], i _z [mm]		115	29	
W _{el,y} [m ³], W _{el,z} [m ³]		2,6667e-03	6,6667e-04	
W _{pl,y} [m ³], W _{pl,z} [m ³]		3,2676e-03	8,1690e-04	
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]		6,86e+04	6,86e+04	
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]		1,72e+04	1,72e+04	
CS2				
Detailed	250; 600			
Item material	C25/30			
Fabrication	concrete			
A [m ²]		1,5000e-01		
A _y [m ²], A _z [m ²]		1,2506e-01	1,2535e-01	
A _L [m ² /m], A _D [m ² /m]		1,7000e+00	1,7000e+00	
I _y [m ⁴], I _z [m ⁴]		7,8125e-04	4,5000e-03	
i _y [mm], i _z [mm]		72	173	
W _{el,y} [m ³], W _{el,z} [m ³]		6,2500e-03	1,5000e-02	
CS5				
Type	2 Rect 50; 150			
Item material	C24 (EN 338)			
Fabrication	timber			
A [m ²]		1,5000e-02		
A _y [m ²], A _z [m ²]		1,2520e-02	1,2509e-02	
A _L [m ² /m], A _D [m ² /m]		5,0000e-01	5,0000e-01	
I _y [m ⁴], I _z [m ⁴]		2,8125e-05	1,2500e-05	
i _y [mm], i _z [mm]		43	29	
W _{el,y} [m ³], W _{el,z} [m ³]		3,7500e-04	2,5000e-04	
W _{pl,y} [m ³], W _{pl,z} [m ³]		4,5951e-04	3,0634e-04	
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]		9,65e+03	9,65e+03	
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]		6,43e+03	6,43e+03	
CS6				
Detailed	100; 150			
Item material	C24 (EN 338)			
Fabrication	timber			
A [m ²]		1,5000e-02		
A _y [m ²], A _z [m ²]		1,2520e-02	1,2509e-02	
A _L [m ² /m], A _D [m ² /m]		5,0000e-01	5,0000e-01	
I _y [m ⁴], I _z [m ⁴]		2,8125e-05	1,2500e-05	
i _y [mm], i _z [mm]		43	29	
W _{el,y} [m ³], W _{el,z} [m ³]		3,7500e-04	2,5000e-04	
W _{pl,y} [m ³], W _{pl,z} [m ³]		4,5951e-04	3,0634e-04	
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]		9,65e+03	9,65e+03	
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]		6,43e+03	6,43e+03	
CS7				
Detailed	100; 320			
Item material	C24 (EN 338)			
Fabrication	timber			
A [m ²]		3,2000e-02		
A _y [m ²], A _z [m ²]		2,6741e-02	2,6674e-02	
A _L [m ² /m], A _D [m ² /m]		8,4000e-01	8,4000e-01	
I _y [m ⁴], I _z [m ⁴]		2,7307e-04	2,6667e-05	
i _y [mm], i _z [mm]		92	29	
W _{el,y} [m ³], W _{el,z} [m ³]		1,7067e-03	5,3333e-04	
W _{pl,y} [m ³], W _{pl,z} [m ³]		2,0913e-03	6,5352e-04	
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]		4,39e+04	4,39e+04	
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]		1,37e+04	1,37e+04	

CS8				
Detailed	100; 320			
Item material	C24 (EN 338)			
Fabrication	timber			
A [m ²]	6,4000e-02			
A _y [m ²], A _z [m ²]	5,3417e-02	5,3366e-02		
A _L [m ² /m], A _D [m ² /m]	1,0400e+00	1,0400e+00		
I _y [m ⁴], I _z [m ⁴]	5,4613e-04	2,1333e-04		
i _y [mm], i _z [mm]	92	58		
W _{el,y} [m ³], W _{el,z} [m ³]	3,4133e-03	2,1333e-03		
W _{pl,y} [m ³], W _{pl,z} [m ³]	4,1825e-03	2,6141e-03		
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	8,78e+04	8,78e+04		
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	5,49e+04	5,49e+04		
CS9				
Detailed	600; 500			
Item material	C25/30			
Fabrication	concrete			
A [m ²]	3,0000e-01			
A _y [m ²], A _z [m ²]	2,5034e-01	2,5024e-01		
A _L [m ² /m], A _D [m ² /m]	2,2000e+00	2,2000e+00		
I _y [m ⁴], I _z [m ⁴]	9,0000e-03	6,2500e-03		
i _y [mm], i _z [mm]	173	144		
W _{el,y} [m ³], W _{el,z} [m ³]	3,0000e-02	2,5000e-02		
CS10				
Detailed	500; 350			
Item material	C25/30			
Fabrication	concrete			
A [m ²]	1,7500e-01			
A _y [m ²], A _z [m ²]	1,4604e-01	1,4593e-01		
A _L [m ² /m], A _D [m ² /m]	1,7000e+00	1,7000e+00		
I _y [m ⁴], I _z [m ⁴]	3,6458e-03	1,7865e-03		
i _y [mm], i _z [mm]	144	101		
W _{el,y} [m ³], W _{el,z} [m ³]	1,4583e-02	1,0208e-02		
CS11				
Type	2 Rect 60; 400			
Item material	C24 (EN 338)			
Fabrication	timber			
A [m ²]	4,8000e-02			
A _y [m ²], A _z [m ²]	4,0174e-02	4,0016e-02		
A _L [m ² /m], A _D [m ² /m]	1,0400e+00	1,0400e+00		
I _y [m ⁴], I _z [m ⁴]	6,4000e-04	5,7600e-05		
i _y [mm], i _z [mm]	115	35		
W _{el,y} [m ³], W _{el,z} [m ³]	3,2000e-03	9,6000e-04		
W _{pl,y} [m ³], W _{pl,z} [m ³]	3,9211e-03	1,1763e-03		
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	8,23e+04	8,23e+04		
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	2,47e+04	2,47e+04		
CS12				
Detailed	200; 160			
Item material	C24 (EN 338)			
Fabrication	timber			
A [m ²]	3,2000e-02			
A _y [m ²], A _z [m ²]	2,6685e-02	2,6696e-02		
A _L [m ² /m], A _D [m ² /m]	7,2000e-01	7,2000e-01		
I _y [m ⁴], I _z [m ⁴]	6,8267e-05	1,0667e-04		
i _y [mm], i _z [mm]	46	58		
W _{el,y} [m ³], W _{el,z} [m ³]	8,5333e-04	1,0667e-03		
W _{pl,y} [m ³], W _{pl,z} [m ³]	1,0456e-03	1,3070e-03		
M _{pl,y,+} [Nm], M _{pl,y,-} [Nm]	2,20e+04	2,20e+04		
M _{pl,z,+} [Nm], M _{pl,z,-} [Nm]	2,74e+04	2,74e+04		

CS13			
Type	RD12		
Item material	S 235		
Fabrication	rolled		
Flexural buckling y-y, Flexural buckling z-z	c	c	
A [m ²]	1,1304e-04		
A _y [m ²], A _z [m ²]	1,0163e-04	1,0163e-04	
A _L [m ² /m], A _D [m ² /m]	3,7600e-02	3,7697e-02	
I _y [m ⁴], I _z [m ⁴]	9,9655e-10	9,9655e-10	
i _y [mm], i _z [mm]	3	3	



1.3 ELEMENTI

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B3	CS1 - 2 Rect (50; 400)	C24 (EN 338)	4,970	N316	N381	plate rib (92)
B4	CS1 - 2 Rect (50; 400)	C24 (EN 338)	3,969	N341	N387	plate rib (92)
B5	CS10 - Rectangle (500; 350)	C25/30	7,380	N449	N28	plate rib (92)
B6	CS10 - Rectangle (500; 350)	C25/30	3,127	N28	N27	plate rib (92)
B7	CS10 - Rectangle (500; 350)	C25/30	8,369	N27	N423	plate rib (92)
B8	CS10 - Rectangle (500; 350)	C25/30	12,230	N609	N20	plate rib (92)
B9	CS10 - Rectangle (500; 350)	C25/30	6,195	N20	N15	plate rib (92)
B10	CS10 - Rectangle (500; 350)	C25/30	2,199	N15	N14	plate rib (92)
B11	CS10 - Rectangle (500; 350)	C25/30	9,254	N14	N9	plate rib (92)
B12	CS10 - Rectangle (500; 350)	C25/30	4,978	N9	N413	plate rib (92)
B13	CS2 - Rectangle (250; 600)	C25/30	2,929	N6	N607	plate rib (92)
B15	CS2 - Rectangle (250; 600)	C25/30	2,929	N608	N34	plate rib (92)
B16	CS10 - Rectangle (500; 350)	C25/30	4,974	N410	N31	plate rib (92)
B17	CS2 - Rectangle (250; 600)	C25/30	5,151	N223	N37	plate rib (92)
B18	CS2 - Rectangle (250; 600)	C25/30	4,803	N38	N45	plate rib (92)
B19	CS2 - Rectangle (250; 600)	C25/30	5,797	N45	N424	plate rib (92)
B20	CS2 - Rectangle (250; 600)	C25/30	3,704	N27	N38	plate rib (92)
B21	CS2 - Rectangle (250; 600)	C25/30	12,105	N25	N62	plate rib (92)
B22	CS2 - Rectangle (250; 600)	C25/30	4,267	N45	N52	plate rib (92)
B23	CS2 - Rectangle (250; 600)	C25/30	4,267	N38	N49	plate rib (92)
B24	CS10 - Rectangle (500; 350)	C25/30	7,479	N413	N410	plate rib (92)
B26	CS8 - 2 Rect (100; 320)	C24 (EN 338)	7,639	N594	N595	beam (80)
B28	CS6 - RECT (100; 150)	C24 (EN 338)	2,240	N556	N654	beam (80)
B29	CS7 - RECT (100; 320)	C24 (EN 338)	3,240	N555	N556	secondary column (60)
B31	CS6 - RECT (100; 150)	C24 (EN 338)	2,380	N559	N560	beam (80)
B32	CS7 - RECT (100; 320)	C24 (EN 338)	3,240	N561	N562	secondary column (60)
B33	CS6 - RECT (100; 150)	C24 (EN 338)	2,380	N562	N563	beam (80)
B35	CS6 - RECT (100; 150)	C24 (EN 338)	2,240	N565	N655	beam (80)
B36	CS7 - RECT (100; 320)	C24 (EN 338)	3,240	N567	N568	secondary column (60)
B37	CS6 - RECT (100; 150)	C24 (EN 338)	2,240	N568	N656	beam (80)
B39	CS6 - RECT (100; 150)	C24 (EN 338)	2,240	N571	N657	beam (80)
B40	CS7 - RECT (100; 320)	C24 (EN 338)	3,240	N573	N574	secondary column (60)
B41	CS6 - RECT (100; 150)	C24 (EN 338)	2,240	N574	N658	beam (80)
B43	CS6 - RECT (100; 150)	C24 (EN 338)	2,240	N577	N659	beam (80)
B44	CS7 - RECT (100; 320)	C24 (EN 338)	3,240	N579	N580	secondary column (60)
B45	CS6 - RECT (100; 150)	C24 (EN 338)	2,240	N580	N660	beam (80)
B47	CS6 - RECT (100; 150)	C24 (EN 338)	2,380	N583	N584	beam (80)
B48	CS7 - RECT (100; 320)	C24 (EN 338)	3,240	N585	N586	secondary column (60)
B49	CS6 - RECT (100; 150)	C24 (EN 338)	2,380	N586	N587	beam (80)
B51	CS6 - RECT (100; 150)	C24 (EN 338)	2,380	N589	N590	beam (80)
B52	CS7 - RECT (100; 320)	C24 (EN 338)	3,240	N591	N592	secondary column (60)
B53	CS6 - RECT (100; 150)	C24 (EN 338)	2,380	N592	N593	beam (80)
B54	CS5 - 2 Rect (50; 150)	C24 (EN 338)	2,400	N562	N556	beam (80)
B56	CS5 - 2 Rect (50; 150)	C24 (EN 338)	2,500	N556	N568	beam (80)
B58	CS5 - 2 Rect (50; 150)	C24 (EN 338)	2,400	N568	N574	beam (80)
B60	CS5 - 2 Rect (50; 150)	C24 (EN 338)	2,400	N574	N580	beam (80)
B62	CS5 - 2 Rect (50; 150)	C24 (EN 338)	2,400	N580	N586	beam (80)
B64	CS5 - 2 Rect (50; 150)	C24 (EN 338)	2,400	N586	N592	beam (80)
B65	CS9 - Rectangle (600; 500)	C25/30	15,500	N600	N601	beam (80)
B66	CS9 - Rectangle (600; 500)	C25/30	2,205	N561	N602	beam (80)
B67	CS9 - Rectangle (600; 500)	C25/30	2,205	N591	N603	beam (80)

Name	Cross-section	Material	Length [m]	Beg. node	End node	Type
B68	CS9 - Rectangle (600; 500)	C25/30	2,205	N579	N604	beam (80)
B69	CS9 - Rectangle (600; 500)	C25/30	2,205	N567	N605	beam (80)
B70	CS2 - Rectangle (250; 600)	C25/30	3,598	N606	N15	plate rib (92)
B71	CS2 - Rectangle (250; 600)	C25/30	4,290	N35	N223	plate rib (92)
B72	CS2 - Rectangle (250; 600)	C25/30	3,349	N223	N226	plate rib (92)
B73	CS11 - 2 Rect (60; 400)	C24 (EN 338)	7,696	N638	N640	plate rib (92)
B74	CS12 - RECT (200; 160)	C24 (EN 338)	2,229	N643	N644	plate rib (92)
B75	CS12 - RECT (200; 160)	C24 (EN 338)	7,696	N644	N645	plate rib (92)
B76	CS12 - RECT (200; 160)	C24 (EN 338)	2,229	N645	N646	plate rib (92)
B77	CS12 - RECT (200; 160)	C24 (EN 338)	2,425	N597	N594	plate rib (92)
B78	CS12 - RECT (200; 160)	C24 (EN 338)	4,836	N595	N598	plate rib (92)
B79	CS12 - RECT (200; 160)	C24 (EN 338)	7,639	N652	N653	beam (80)
B80	CS13 - RD12	S 235	3,283	N586	N663	roof bracing (0)
B81	CS13 - RD12	S 235	3,283	N592	N664	roof bracing (0)
B82	CS13 - RD12	S 235	3,283	N562	N654	roof bracing (0)
B83	CS13 - RD12	S 235	3,283	N556	N665	roof bracing (0)

1.4 2D ELEMENTI

Name	Layer	Type	Element type	Material	Thickness type	Th. [mm]
S2	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S3	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S5	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S12	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S14	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S18	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S20	PLOŠČE	plate (90)	Standard	GL 24h (EN 14080)		100
S21	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S22	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S26	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S27	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S28	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S30	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S32	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S33	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S34	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S35	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S36	PLOŠČE	plate (90)	Standard	GL 24h (EN 14080)		120
S37	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S38	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S39	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S40	TEMELJI	plate (90)	Standard	C25/30	constant	250
S42	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S45	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S46	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S47	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S50	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S51	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S52	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S53	TEMELJI	wall (80)	Standard	C25/30	constant	250
S54	STENE	wall (80)	Standard	GL 24h (EN 14080)		100
S55	PLOŠČE	plate (90)	Standard	GL 24h (EN 14080)		120
S56	PLOŠČE	wall (80)	Standard	GL 24h (EN 14080)		120
S57	PLOŠČE	wall (80)	Standard	GL 24h (EN 14080)		120
S58	PLOŠČE	wall (80)	Standard	GL 24h (EN 14080)		120
S59	STENE	plate (90)	Standard	GL 24h (EN 14080)		120
S60	STENE	wall (80)	Standard	GL 24h (EN 14080)		120
S61	STENE	wall (80)	Standard	GL 24h (EN 14080)		120

1.5 LOAD PANELI

Name	Panel type	Load transfer direction	Selection of entities
LP1	To panel edges and beams	X (LCS panel)	Auto selection

1.6 PODPORE - 2D podpore elementa

Sub1			
Sigma oc [MPa], C1y [MN/m ³], Togost [MN/m ³]	3,500E+01	3,5000e-00	3,5000e-00
C2x [MN/m], C2y [MN/m], Fi' [deg]	0,0000e+00	0,0000e+00	26,00
Sigma oc [MPa], c' [MPa], cu [MPa]	0,250	0,000	0,000
Tip, Specifična teža [kg/m ³], Nelinearna funkcija C1z	Dreniran	1850,0	

Name	Type	Subsoil	2D member
SS1	Individual	Gravel/Slightly silty/Moderate - NEN 6740	S40

Name	C1x [MN/m ³]	C1z	C1y [MN/m ³]	Stiffness [MN/m ³]	C2x [MN/m]	C2y [MN/m]
Gravel/Slightly silty/Moderate	3,5000e-00	Flexible	3,5000e-00	3,5000e+01	0,0000e+00	0,0000e+00

1.7 PODPORE - 1D (pasovni temelji)

Name	Type	Member System	Pos x ₁ Pos x ₂	Coor Orig
Slb1	Foundation strip	B66	0.000	Rela
		LCS	1.000	From start
Slb2	Foundation strip	B65	0.000	Rela
		LCS	1.000	From start
Slb3	Foundation strip	B67	0.000	Rela
		LCS	1.000	From start
Slb4	Foundation strip	B68	0.000	Rela
		LCS	1.000	From start
Slb5	Foundation strip	B69	0.000	Rela
		LCS	1.000	From start

2.0 OBREMENILNI SLUČAJI IN OBREMENITVE

2.1 OBREMENILNI SLUČAJI

Name	Description	Action type	Load group	Direction	Duration	Master load case
Spec		Load type				
LC1	SILA MASE	Permanent Self weight	LG1	-Z		
LC2	STALNA OBREMENITEV	Permanent Standard	LG1			
LC3	SPREM. OBREMENITEV_S1 Standard	Variable Static	LG3		Medium	None
LC4	SPREM. OBREMENITEV_V1 Standard	Variable Static	LG4		Short	None
LC5	SPREM. OBREMENITEV_V2 Standard	Variable Static	LG4		Short	None
LC6	SPREM. OBREMENITEV_K1 Standard	Variable Static	LG2		Short	None
LC7	SPREM. OBREMENITEV_K2 Standard	Variable Static	LG2		Short	None
LC8	SPREM. OBREMENITEV_K3 Standard	Variable Static	LG2		Short	None
LC9	SPREM. OBREMENITEV_K4 Standard	Variable Static	LG2		Short	None
LC10	POTRES_X Seismicity	Variable Static equivalent	LG5			None
LC10_AE	Accidental eccentricity for LC10 Seismic accidental eccentricity	Variable Static	LC10_AE		Short	LC10 - POTRES_X
LC11	POTRES_Y Seismicity	Variable Static equivalent	LG5			None
LC11_AE	Accidental eccentricity for LC11 Seismic accidental eccentricity	Variable Static	LC11_AE		Short	LC11 - POTRES_Y

2.2 SKUPINE OBREMENITEV

Name	Load	Relation	Type
LG1	Permanent		
LG2	Variable	Exclusive	Cat A : Domestic
LG3	Variable	Standard	Snow
LG4	Variable	Exclusive	Wind
LG5	Seismic	Together	
LC10_AE	Seismic Accidental Eccentricity	Exclusive	
LC11_AE	Seismic Accidental Eccentricity	Exclusive	

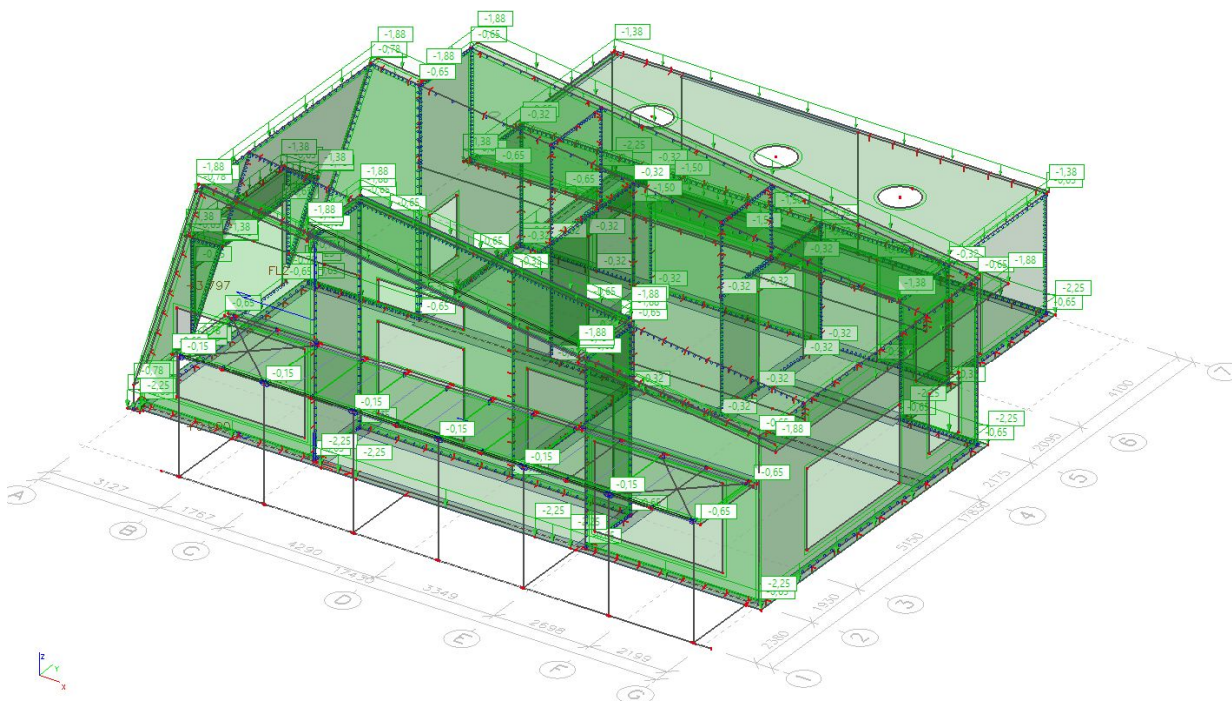
2.3 OBREMENITVE

2.3.1 STALNA OBREMENITEV

Linijske in ploskovne obremenitve

Ime	Obremenilni slučaj	Sistem	Dir	Type	Value - F [kN/m2]	Type
G0	LC2 - STALNA	GCS	Z	Plane load	-1.5	KLIMAT – 340 ka

Name	Load case	Dir	Type	Distribution	q [kN/m ²]	Validity	Select	System	Location
FF10	LC2 - STALNA OBREMENITEV	Z	Force	Uniform	-1.50	All	Select	GCS	Length



Name	Dir	Type	Coeff	Value [kN/m ²]	2D member	Load case	System	Loc
SF1	Z	Force		-2,32	S55	LC2 - STALNA OBREMENITEV	GCS	Length
SF2	Z	Force		-1,82	S36	LC2 - STALNA OBREMENITEV	GCS	Length
SF3	Z	Force		-1,38	S20	LC2 - STALNA OBREMENITEV	GCS	Length
SF4	Z	Force		-0,78	S3	LC2 - STALNA OBREMENITEV	GCS	Length
SF6	Z	Force		-2,25	S40	LC2 - STALNA OBREMENITEV	GCS	Length
SF8	Z	Force		-0,65	S14	LC2 - STALNA OBREMENITEV	GCS	Length
SF9	Z	Force		-0,65	S2	LC2 - STALNA OBREMENITEV	GCS	Length
SF10	Z	Force		-0,65	S18	LC2 - STALNA OBREMENITEV	GCS	Length
SF11	Z	Force		-0,65	S32	LC2 - STALNA OBREMENITEV	GCS	Length
SF12	Z	Force		-0,65	S35	LC2 - STALNA OBREMENITEV	GCS	Length
SF13	Z	Force		-0,65	S45	LC2 - STALNA OBREMENITEV	GCS	Length
SF14	Z	Force		-0,65	S5	LC2 - STALNA OBREMENITEV	GCS	Length
SF15	Z	Force		-0,65	S12	LC2 - STALNA OBREMENITEV	GCS	Length
SF16	Z	Force		-0,32	S26	LC2 - STALNA OBREMENITEV	GCS	Length
SF17	Z	Force		-0,32	S33	LC2 - STALNA OBREMENITEV	GCS	Length

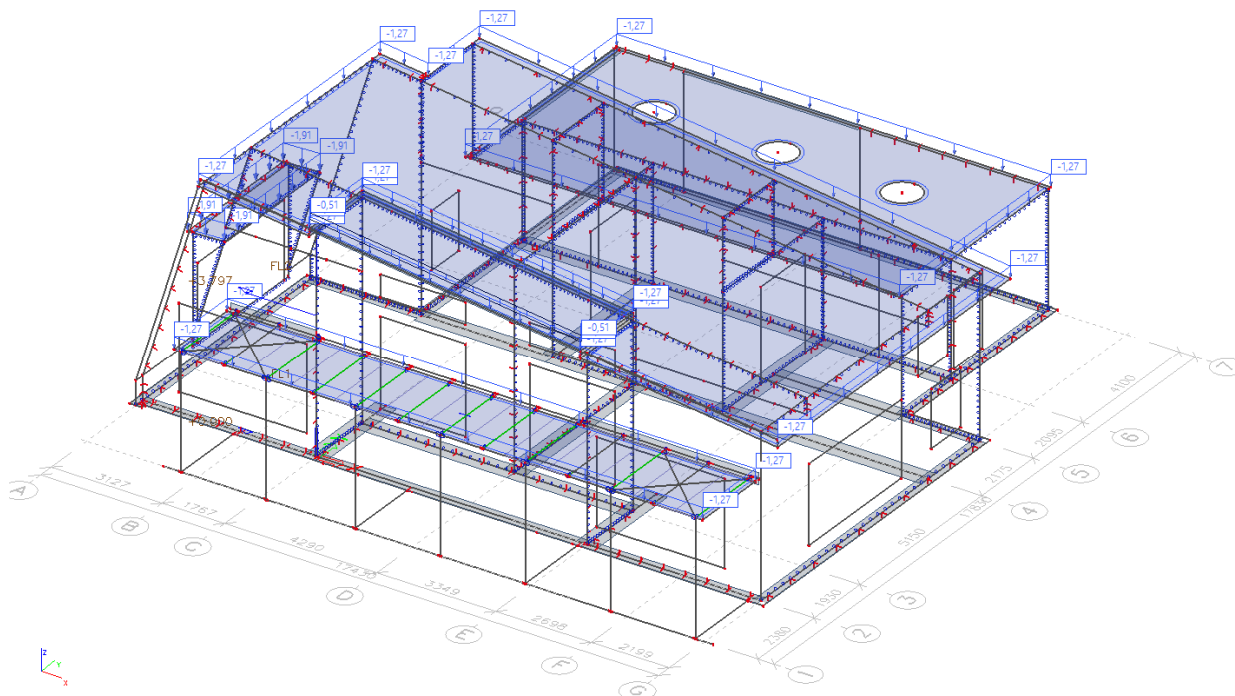
Name	Dir	Type	Coeff	Value [kN/m²]	2D member	Load case	System	Loc
SF18	Z	Force		-0,32	S34	LC2 - STALNA OBREMENITEV	GCS	Length
SF20	Z	Force		-0,32	S28	LC2 - STALNA OBREMENITEV	GCS	Length
SF21	Z	Force		-0,32	S30	LC2 - STALNA OBREMENITEV	GCS	Length
SF22	Z	Force		-0,65	S21	LC2 - STALNA OBREMENITEV	GCS	Length
SF23	Z	Force		-0,65	S22	LC2 - STALNA OBREMENITEV	GCS	Length
SF60	Z	Force		-0,65	S50	LC2 - STALNA OBREMENITEV	GCS	Length
SF61	Z	Force		-0,65	S51	LC2 - STALNA OBREMENITEV	GCS	Length
SF66	Z	Force		-0,65		LC2 - STALNA OBREMENITEV	GCS	Length
SF70	Z	Force		-0,32	S52	LC2 - STALNA OBREMENITEV	GCS	Length
SF71	Z	Force		-0,65	S54	LC2 - STALNA OBREMENITEV	GCS	Length
SF72	Z	Force		-1,88	S59	LC2 - STALNA OBREMENITEV	GCS	Length

2.3.2 SPREMENLJIVA OBREMENITEV (Sneg - S1)

Linijske in ploskovne obremenitve

Ime	Obremenilni slučaj	Sistem	Dir	Type	Value - F [kN/m²]	Type
S1	LC3 – SPREMENLJIVA-S1	GCS	Z	Plane load	-1,58	Sk – 350 m.n.v.

Name	Dir	Type	Coeff	Value [kN/m²]	2D member	Load case	System	Loc
SF24	Z	Snow	-0.800	-1,27	S55	LC3 - SPREM. OBREMENITEV_S1	GCS	Length
SF25	Z	Snow	-0.800	-1,27	S36	LC3 - SPREM. OBREMENITEV_S1	GCS	Length
SF26	Z	Snow	-1.200	-1,91	S20	LC3 - SPREM. OBREMENITEV_S1	GCS	Length
SF73	Z	Snow	-0.800	-1,27	S59	LC3 - SPREM. OBREMENITEV_S1	GCS	Length
SF67	Z	Snow	-0.800	-1,27		LC3 - SPREM. OBREMENITEV_S1	GCS	Length



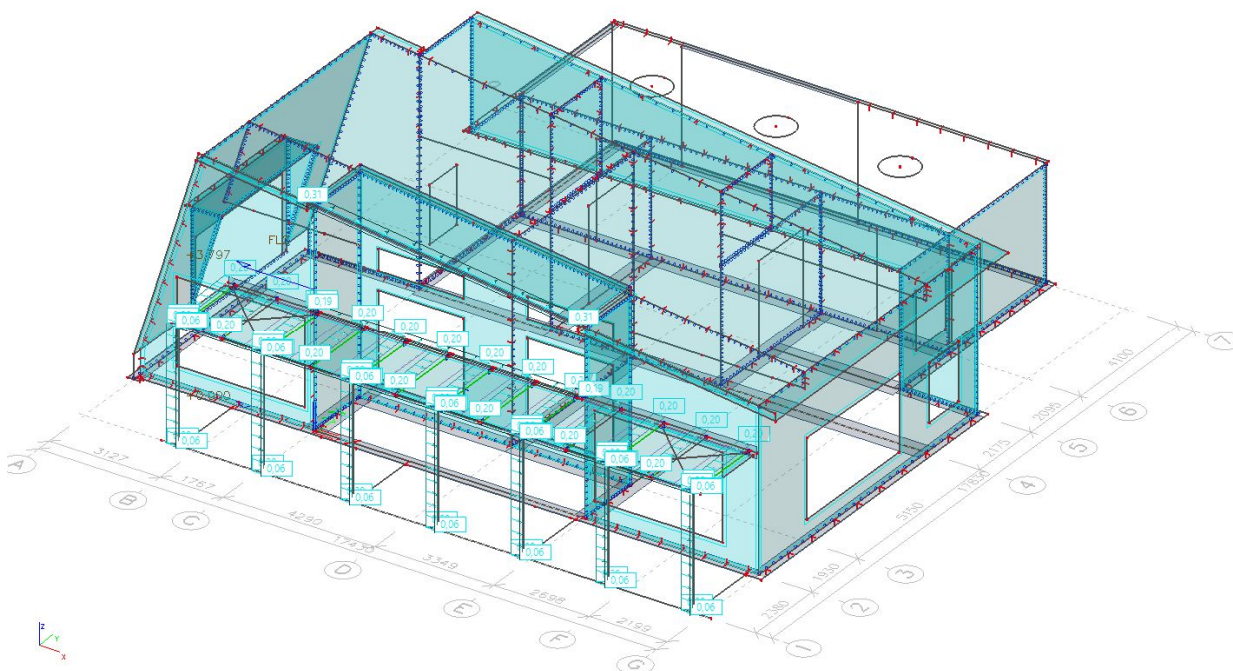
2.3.3 SPREMENLJIVA OBREMENITEV (Veter – V1)

Linijske in ploskovne obremenitve

Ime	Obremenilni slučaj	Sistem	Dir	Type	Value - F [kN/m²]	Type
P1	LC4 – SPREMENLJIVA-V1	GCS	Z	Plane load	-0,52	qp – tlak vetra

Name	Dir	Type	Coeff	Value [kN/m²]	2D member	Load case	System	Loc
SF27	X	Wind	0.800		S3	LC4 - SPREM. OBREMENITEV_V1	GCS	Length

Name	Dir	Type	Coeff	Value [kN/m ²]	2D member	Load case	System	Loc
SF29	X	Wind	0.800		S12	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF30	X	Wind	0.500		S2	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF31	X	Wind	0.500		S18	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF32	X	Wind	0.500		S5	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF33	Y	Wind	0.500		S32	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF36	Y	Wind	0.800		S14	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF37	Z	Wind	0.200		S55	LC4 - SPREM. OBREMENITEV_V1	LCS	Length
SF62	Y	Wind	0.800		S50	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF63	Y	Wind	0.800		S51	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF79	Y	Wind	0.500		S22	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF80	Y	Wind	0.800		S21	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF81	X	Wind	0.800		S54	LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF82	Z	Wind	0.200		S20	LC4 - SPREM. OBREMENITEV_V1	LCS	Length
SF68	Z	Wind	1.600			LC4 - SPREM. OBREMENITEV_V1	GCS	Length
SF74	Z	Wind	1.600		S59	LC4 - SPREM. OBREMENITEV_V1	GCS	Length



2.3.4 SPREMENLJIVA OBREMENITEV (Veter – V2)

Linijske in ploskovne obremenitve

Ime	Obremenilni slučaj	Sistem	Dir	Type	Value - F [kN/m ²]	Type
P1	LC5 – SPREMENLJIVA-V2	GCS	Z	Plane load	-0,52	qp – tlak vetra

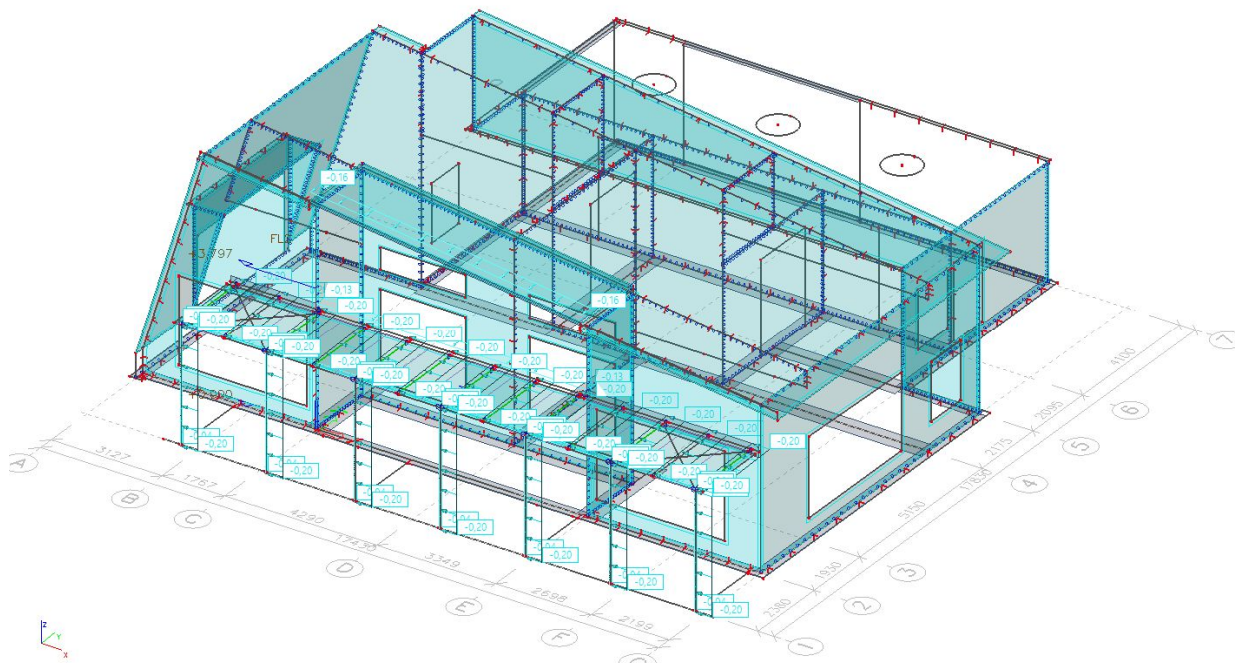
2.3.5 SPREMENLJIVA OBREMENITEV (Veter V1)

Ploskovne ter linijske obremenitve

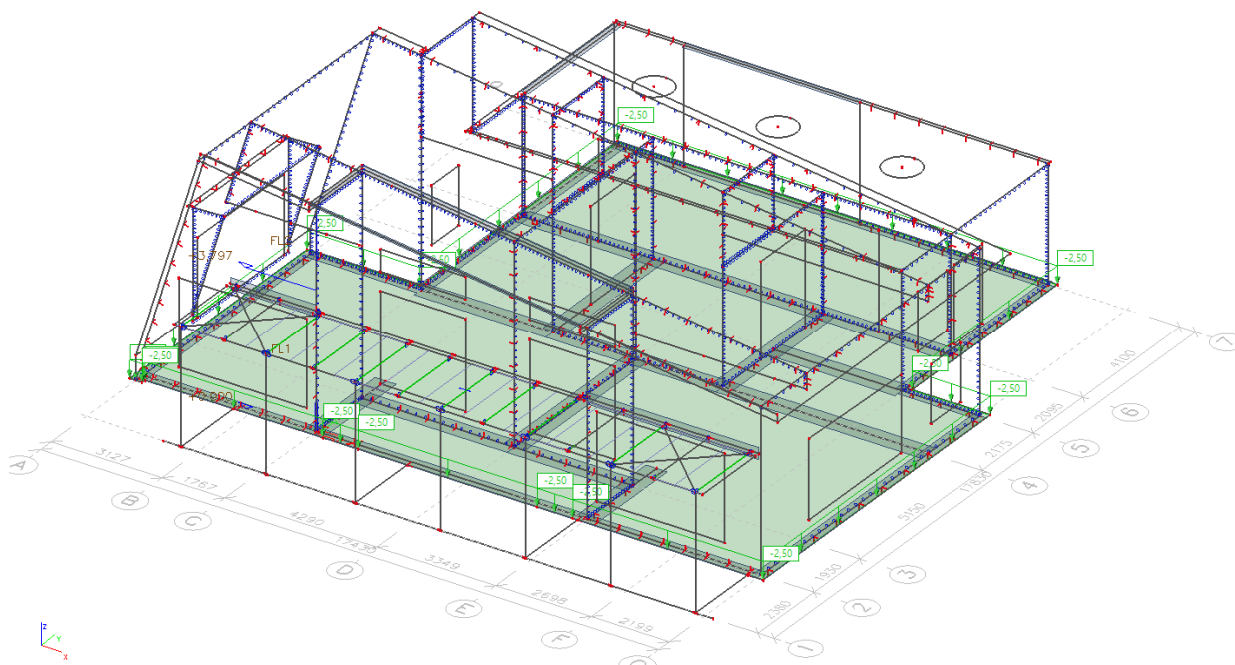
Ime	Obremenilni slučaj	Sistem	Dir	Type	Value - F [kN/m ²]	Type
W0	LC6 – SPREMENLJIVA-V1	GCS	X,y	Plane load	-0,50/+0,80	Obremenitev zaradi vetra / pritisk- srk

Name	Dir	Type	Coeff	Value [kN/m ²]	2D member	Load case	System	Loc
SF38	X	Wind	-0.500		S3	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF40	X	Wind	-0.500		S12	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF41	X	Wind	-0.800		S2	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF42	X	Wind	-0.800		S18	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF43	X	Wind	-0.800		S5	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF44	Y	Wind	-0.800		S32	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF47	Y	Wind	-0.500		S14	LC5 - SPREM. OBREMENITEV_V2	GCS	Length

Name	Dir	Type	Coeff	Value [kN/m ²]	2D member	Load case	System	Loc
SF48	Z	Wind	-0.600		S55	LC5 - SPREM. OBREMENITEV_V2	LCS	Length
SF64	Y	Wind	-0.500		S50	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF65	Y	Wind	-0.500		S51	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF69	Z	Wind	0.800			LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF75	Z	Wind	-0.600		S59	LC5 - SPREM. OBREMENITEV_V2	LCS	Length
SF76	Y	Wind	-0.500		S21	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF77	Y	Wind	-0.800		S22	LC5 - SPREM. OBREMENITEV_V2	GCS	Length
SF78	Z	Wind	-0.600		S20	LC5 - SPREM. OBREMENITEV_V2	LCS	Length
SF83	X	Wind	-0.500		S54	LC5 - SPREM. OBREMENITEV_V2	GCS	Length



2.3.6 SPREMENLJIVA OBREMENITEV (Koristna – K1)



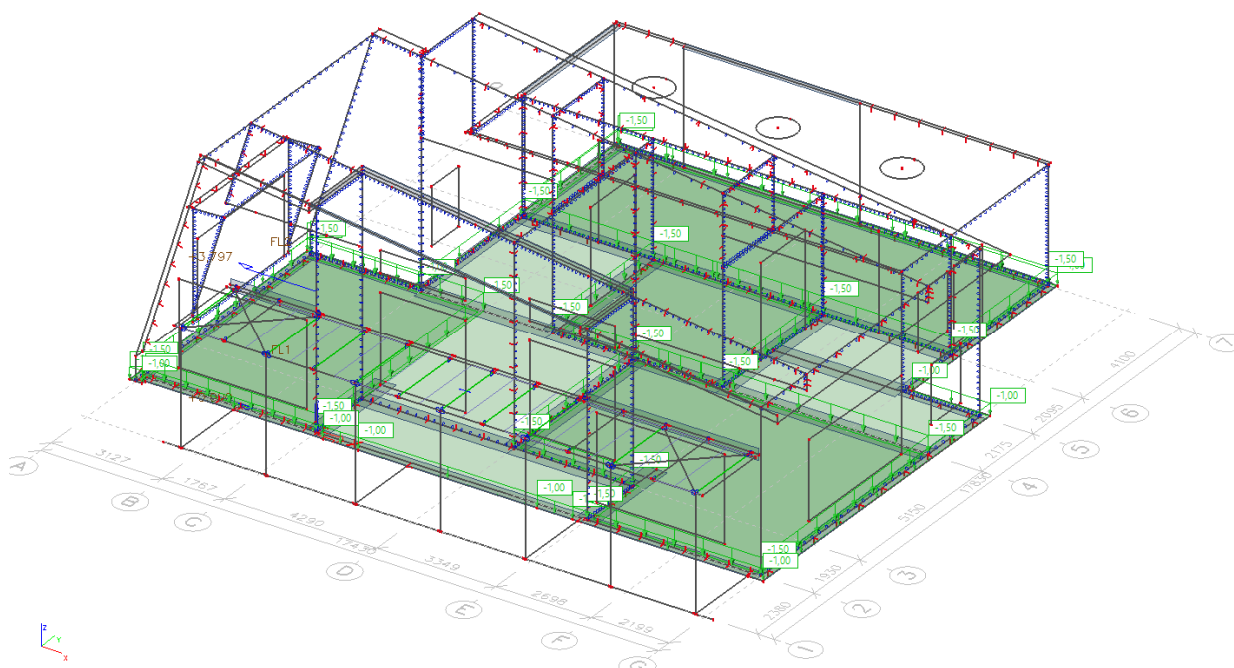
Name	Dir	Type	Coeff	Value [kN/m ²]	2D member	Load case	System	Loc
SF49	Z	Force		-2,50	S40	LC6 - SPREM. OBREMENITEV_K1	GCS	Length

2.3.7 SPREMENLJIVA OBREMENITEV (Koristna – K2)

Ploskovne ter linijske obremenitve

Name	Dir	Type	Coeff	Value [kN/m ²]	2D member	Load case	System	Loc
SF50	Z	Force		-1,00	S40	LC7 - SPREM. OBREMENITEV_K2	GCS	Length

Name	Load case	Dir	Type	Distribution	q [kN/m ²]	Validity	Select	System	Location
FF1	LC7 - SPREM. OBREMENITEV_K2	Z	Force	Uniform	-1,50	All	Select	GCS	Length
FF2	LC7 - SPREM. OBREMENITEV_K2	Z	Force	Uniform	-1,50	All	Select	GCS	Length
FF3	LC7 - SPREM. OBREMENITEV_K2	Z	Force	Uniform	-1,50	All	Select	GCS	Length
FF4	LC7 - SPREM. OBREMENITEV_K2	Z	Force	Uniform	-1,50	All	Select	GCS	Length

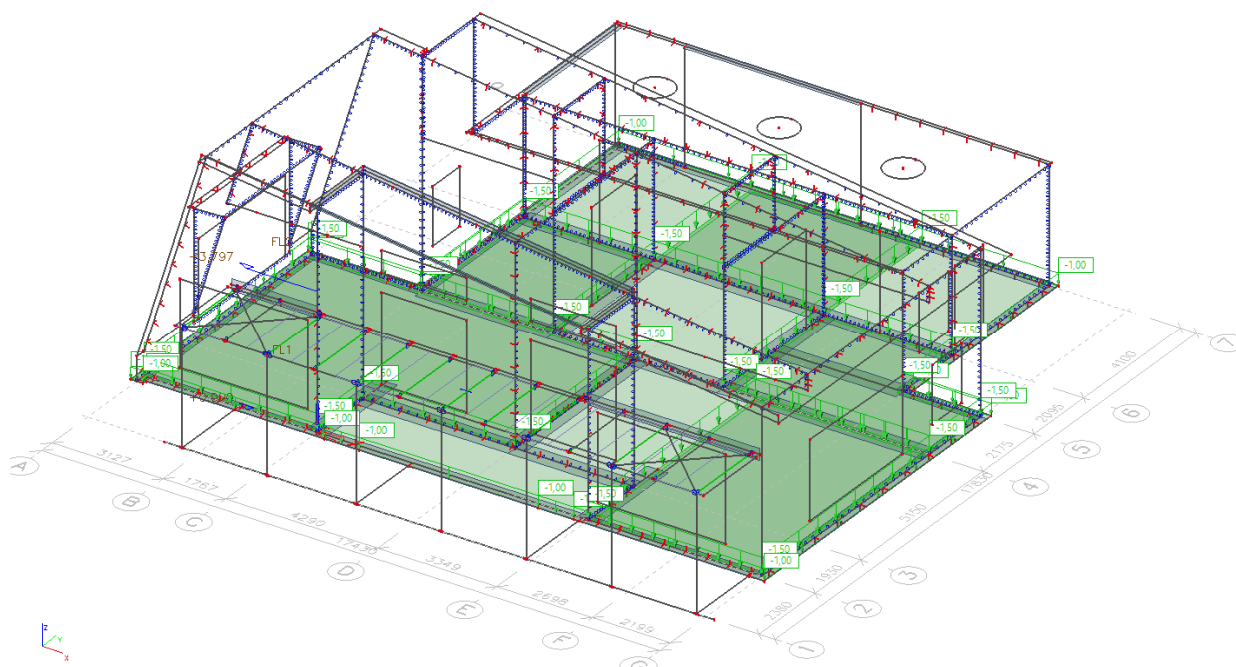


2.3.8 SPREMENLJIVA OBREMENITEV (Koristna – K3)

Ploskovne ter linijske obremenitve

Name	Dir	Type	Coeff	Value [kN/m ²]	2D member	Load case	System	Loc
SF51	Z	Force		-1,00	S40	LC8 - SPREM. OBREMENITEV_K3	GCS	Length

Name	Load case	Dir	Type	Distribution	q [kN/m ²]	Validity	Select	System	Location
FF5	LC8 - SPREM. OBREMENITEV_K3	Z	Force	Uniform	-1,50	All	Select	GCS	Length
FF6	LC8 - SPREM. OBREMENITEV_K3	Z	Force	Uniform	-1,50	All	Select	GCS	Length
FF7	LC8 - SPREM. OBREMENITEV_K3	Z	Force	Uniform	-1,50	All	Select	GCS	Length
FF8	LC8 - SPREM. OBREMENITEV_K3	Z	Force	Uniform	-1,50	All	Select	GCS	Length
FF9	LC8 - SPREM. OBREMENITEV_K3	Z	Force	Uniform	-1,50	All	Select	GCS	Length



2.3.9 POTRESNA OBREMENITEV

PROJEKTNI POTRESNI SPEKTER

Name	Info	Drawing
UniqueID		
FS1	Type code - EN 1998-1:2004 – Eurocode Subsoil type - C Direction - Horizontal Spectrum type - type 1 coeff accel. ag - 0.25 ag - design acceleration - 2.4525 beta - 0.2 q - behaviour factor - 2	

MASNE SKUPINE

Name	Load case
MG1	LC1 - Sila mase
MG2	LC2 - Stalnaobremenitev
MG3	LC9 - Sprem. obremenitev_K4

KOMBINACIJE MASNIH SKUPIN

Name	Mass group	Coeff. [-]
CM1	MG1	1,00
	MG2	1,00
	MG3	1,00

NIHAJNE OBLIKE

N	f [Hz]	ω [1/s]	ω^2 [1/s ²]	T [s]
Mass combination : CM1				
1	6,23	39,12	1530,58	0,16
2	6,75	42,40	1797,53	0,15
3	7,15	44,90	2015,99	0,14
4	10,32	64,83	4203,37	0,10
5	10,55	66,29	4394,25	0,09

N	f [Hz]	ω [1/s]	ω^2 [1/s ²]	T [s]
Mass combination : CM1				
6	11,52	72,40	5242,20	0,09
7	12,08	75,88	5757,74	0,08
8	12,88	80,96	6553,76	0,08
9	14,61	91,76	8420,55	0,07
10	22,83	143,45	20576,77	0,04

REZULTATI MODALNE ANALIZE

Solution of Free vibration

Sum of masses

	Mass type	X [kg]	Y [kg]	Z [kg]
1	Moving mass	402998,5	402998,5	402998,5
1	Total mass	402998,5	402998,5	402998,5

Relative modal masses

Mode	Omega [rad/s]	Period [s]	Freq. [Hz]	W_{xi}/W_{xtot}	W_{yi}/W_{ytot}	W_{zi}/W_{ztot}	W_{xi_R}/W_{xtot_R}	W_{yi_R}/W_{ytot_R}	W_{zi_R}/W_{ztot_R}
1	39.1237	0,16	6,23	0,4605	0,0232	0,0000	0,0022	0,0304	0,3187
2	42.3985	0,15	6,75	0,0259	0,8548	0,0000	0,0248	0,0008	0,0049
3	44.9011	0,14	7,15	0,3555	0,0021	0,0000	0,0000	0,0031	0,6116
4	64.8353	0,10	10,32	0,0712	0,0067	0,0303	0,0222	0,1296	0,0198
5	66.2911	0,09	10,55	0,0698	0,0074	0,0277	0,0003	0,0099	0,0278
6	72.4051	0,09	11,52	0,0070	0,0951	0,0020	0,2378	0,0314	0,0005
7	75.882	0,08	12,08	0,0003	0,0067	0,0520	0,0016	0,0439	0,0013
8	80.9577	0,08	12,88	0,0001	0,0038	0,0189	0,0435	0,0008	0,0000
9	91.7663	0,07	14,61	0,0096	0,0001	0,0007	0,0000	0,0683	0,0153
10	143.45	0,04	22,83	0,0000	0,0000	0,0327	0,0198	0,6238	0,0000
				0,9999	1,0000	0,1643	0,3522	0,9418	1,0000

3.0 KOMBINACIJE OBREMENILNIH SLUČAJEV IN SKUPINE ZA REZULTATE

3.1 KOMBINACIJE (linearne)

Name	Description	Type	Load cases	Coeff. [-]
ULS-Set B (auto)		EN-ULS (STR/GEO) Set B	LC1 - SILA MASE	1,00
			LC2 - STALNA OBREMENITEV	1,00
			LC3 - SPREM. OBREMENITEV_S1	1,00
			LC4 - SPREM. OBREMENITEV_V1	1,00
			LC5 - SPREM. OBREMENITEV_V2	1,00
			LC6 - SPREM. OBREMENITEV_K1	1,00
			LC7 - SPREM. OBREMENITEV_K2	1,00
			LC8 - SPREM. OBREMENITEV_K3	1,00
			LC9 - SPREM. OBREMENITEV_K4	1,00
SLS-Char (auto)		EN-SLS Characteristic	LC1 - SILA MASE	1,00
			LC2 - STALNA OBREMENITEV	1,00
			LC3 - SPREM. OBREMENITEV_S1	1,00
			LC4 - SPREM. OBREMENITEV_V1	1,00
			LC5 - SPREM. OBREMENITEV_V2	1,00
			LC6 - SPREM. OBREMENITEV_K1	1,00
			LC7 - SPREM. OBREMENITEV_K2	1,00
			LC8 - SPREM. OBREMENITEV_K3	1,00
			LC9 - SPREM. OBREMENITEV_K4	1,00
SLS-Quasi (auto)		EN-SLS Quasi-permanent	LC1 - SILA MASE	1,00
			LC2 - STALNA OBREMENITEV	1,00
			LC3 - SPREM. OBREMENITEV_S1	1,00
			LC4 - SPREM. OBREMENITEV_V1	1,00
			LC5 - SPREM. OBREMENITEV_V2	1,00
			LC6 - SPREM. OBREMENITEV_K1	1,00
			LC7 - SPREM. OBREMENITEV_K2	1,00
			LC8 - SPREM. OBREMENITEV_K3	1,00
			LC9 - SPREM. OBREMENITEV_K4	1,00
ULS-Seis (auto)		EN-Seismic	LC1 - SILA MASE	1,00
			LC2 - STALNA OBREMENITEV	1,00
			LC9 - SPREM. OBREMENITEV_K4	1,00
			LC10 - POTRES_X	1,00
			LC10_AE - Accidental eccentricity for LC10	1,00
			LC11 - POTRES_Y	1,00
			LC11_AE - Accidental eccentricity for LC11	1,00
LC10	Seismic load case "LC10" with accidental eccentricity effects	Envelope - ultimate	LC10 - POTRES_X	1,00
			LC10_AE - Accidental eccentricity for LC10	1,00

Name	Description	Type	Load cases	Coeff. [-]
LC11	Seismic load case "LC11" with accidental eccentricity effects	Envelope - ultimate	LC11 - POTRES_Y	1,00
			LC11 AE - Accidental eccentricity for LC11	1.00

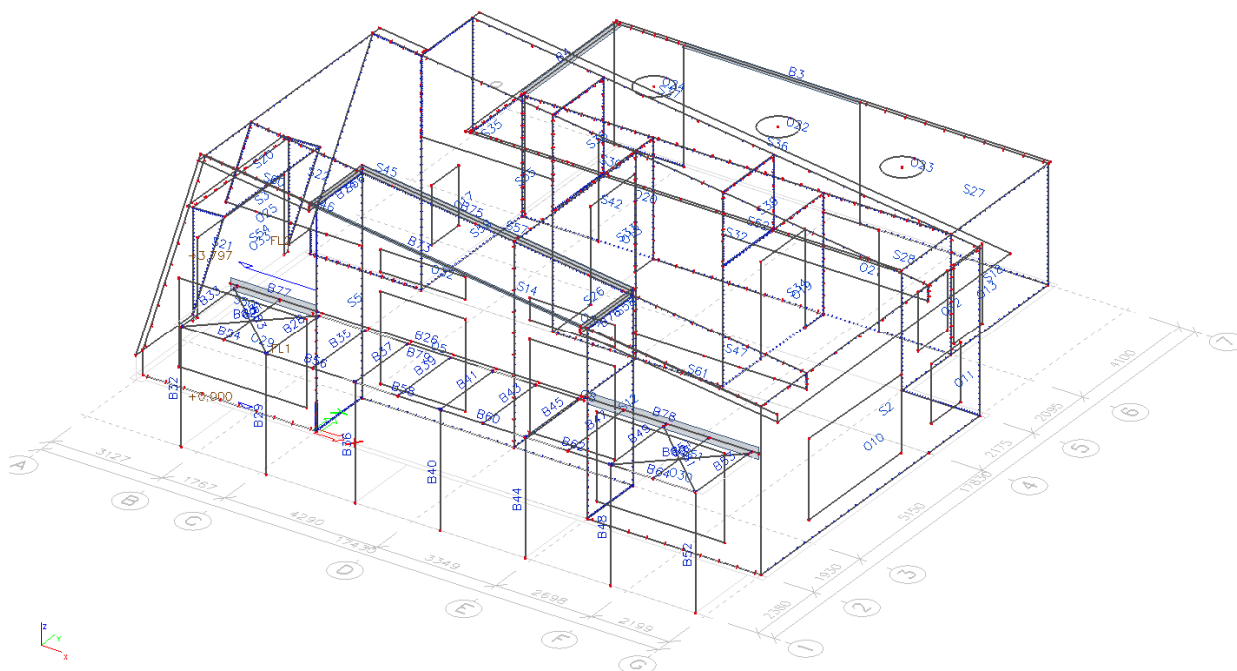
SKUPINE ZA PRIKAZ REZULTATOV

Name	List
All ULS	ULS-Set B (auto) - EN-ULS (STR/GEO) Set B
	ULS-Seis (auto) - EN-Seismic
	LC10 - Envelope - ultimate
	LC11 - Envelope - ultimate
All SLS	SLS-Char (auto) - EN-SLS Characteristic
	SLS-Quasi (auto) - EN-SLS Quasi-permanent
All ULS+SLS	ULS-Set B (auto) - EN-ULS (STR/GEO) Set B
	ULS-Seis (auto) - EN-Seismic
	LC10 - Envelope - ultimate
	LC11 - Envelope - ultimate
	SLS-Char (auto) - EN-SLS Characteristic
	SLS-Quasi (auto) - EN-SLS Quasi-permanent

4.0) DIMENZIONIRANJE ELEMENTOV LESENE KONSTRUKCIJE

4.1.OSNOVNI PODATKI

4.1.1 Geometrija, vozlišča, elementi



4.2.DEFORMACIJE IN POMIKI

4.2.1 Pomiki vozlišč

Linear calculation

Class: All SLS; Extreme: Global; Selection: All

Name	Case	U_x [mm]	U_y [mm]	U_z [mm]	Φ_x [mrad]	Φ_y [mrad]	Φ_z [mrad]	U_{total} [mm]
N568	SLS-Char (auto)/1	-0,7	-0,3	-0,5	0,1	0,2	-0,1	0,9
N246	SLS-Char (auto)/2	1,0	0,3	-0,8	0,2	-0,2	0,1	1,3
N568	SLS-Char (auto)/3	-0,7	-0,3	-0,5	0,1	0,2	-0,1	0,9
N572	SLS-Char (auto)/4	0,3	1,6	-6,5	2,7	-0,1	0,0	6,7
N657	SLS-Char (auto)/5	0,1	1,5	-8,6	3,7	-0,1	0,0	8,7
N49	SLS-Char (auto)/6	0,0	0,0	-0,4	0,0	0,0	0,0	0,4
N465	SLS-Char (auto)/7	0,0	-0,1	-0,9	-1,2	0,3	0,2	0,9
N572	SLS-Char (auto)/8	0,1	1,5	-8,0	3,7	-0,1	0,0	8,1

Name	Case	U _x [mm]	U _y [mm]	U _z [mm]	Φ _x [mrad]	Φ _y [mrad]	Φ _z [mrad]	U _{total} [mm]
N578	SLS-Char (auto)/5	0,5	0,7	-4,3	2,3	-2,5	-0,5	4,4
N655	SLS-Char (auto)/5	-0,2	0,8	-4,9	2,5	2,5	0,5	5,0
N578	SLS-Char (auto)/4	0,6	0,8	-3,5	1,7	-2,0	-0,5	3,6
N291	SLS-Char (auto)/2	0,9	0,1	-1,0	0,3	0,0	0,6	1,4

Name	Combination key
SLS-Char (auto)/1	LC1 + LC2 + LC5 + 0.70*LC8
SLS-Char (auto)/2	LC1 + LC2 + 0.50*LC3 + LC4 + 0.70*LC7
SLS-Char (auto)/3	LC1 + LC2 + LC5
SLS-Char (auto)/4	LC1 + LC2 + LC3 + 0.60*LC4 + 0.70*LC6
SLS-Char (auto)/5	LC1 + LC2 + LC3 + 0.70*LC6
SLS-Char (auto)/6	LC1 + LC2
SLS-Char (auto)/7	LC1 + LC2 + LC3 + 0.60*LC5 + 0.70*LC7
SLS-Char (auto)/8	LC1 + LC2 + LC3

4.2.2 Deformacije elementov – 1D

Linear calculation

Class: All SLS; Coordinate system: Global

Extreme 1D: Global; Selection: All

Deformations

Name	dx [m]	Case	u _x [mm]	u _y [mm]	u _z [mm]	Φ _x [mrad]	Φ _y [mrad]	Φ _z [mrad]	U _{total} [mm]
B29	2,268-	SLS-Char (auto)/1	-0,8	-0,2	-0,5	0,1	-0,1	-0,1	1,0
B44	2,592-	SLS-Char (auto)/2	1,0	0,1	-0,5	0,0	0,0	0,0	1,1
B73	3,972-	SLS-Char (auto)/3	-0,5	-0,7	-4,4	1,6	-0,1	-0,2	4,5
B79	3,755-	SLS-Char (auto)/4	0,3	1,3	-6,8	2,7	0,1	0,0	7,0
B49	0,714-	SLS-Char (auto)/5	0,9	0,1	-0,4	0,0	-0,2	0,1	1,0
B37	0,000	SLS-Char (auto)/6	0,1	0,7	-0,6	-4,6	0,1	0,1	0,9
B26	3,875-	SLS-Char (auto)/7	0,1	0,9	-8,0	3,7	-0,1	0,0	8,1
B56	2,500	SLS-Char (auto)/8	0,1	0,6	-0,6	-0,4	-4,0	0,1	0,9
B56	0,000	SLS-Char (auto)/6	0,1	-0,1	-0,6	0,0	3,9	0,0	0,6
B60	1,800-	SLS-Char (auto)/6	0,1	0,2	-2,6	1,2	-2,6	-0,7	2,6
B56	0,650-	SLS-Char (auto)/6	0,1	0,2	-3,0	1,3	2,8	0,7	3,0
B79	3,875-	SLS-Char (auto)/6	0,1	1,1	-8,6	3,7	-0,1	0,0	8,6

1D deformations

Values: ttx

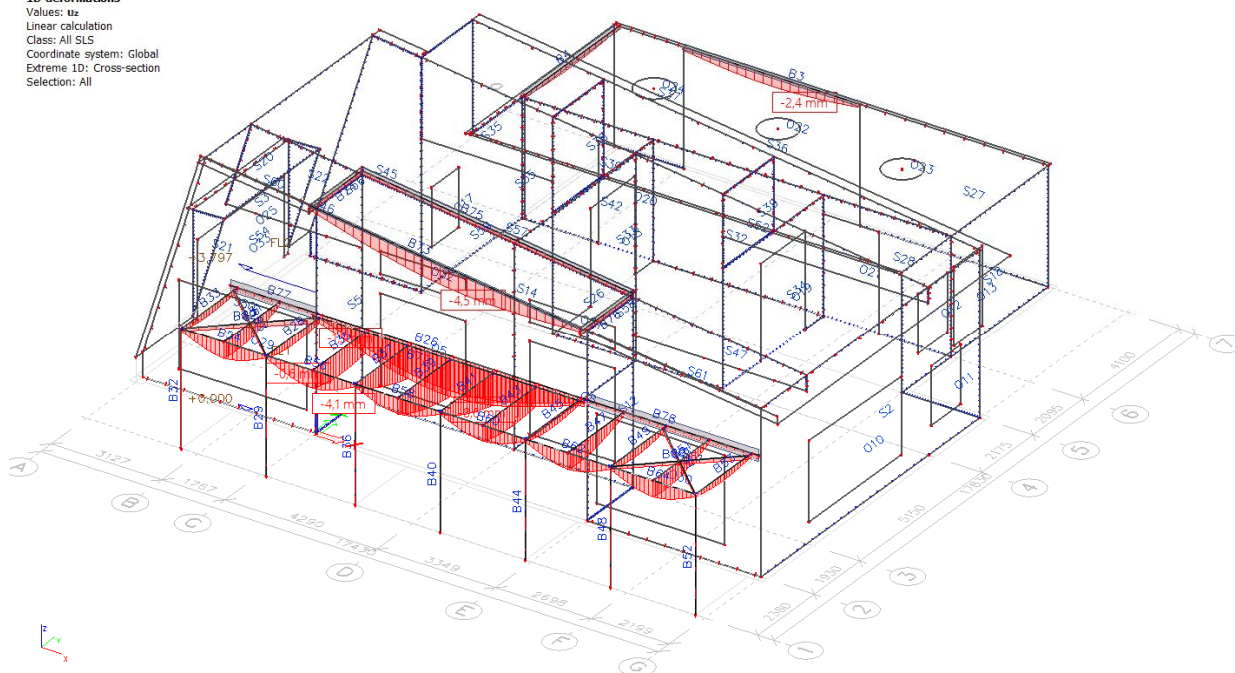
Linear calculation

Class: All SLS

Coordinate system: Global

Extreme 1D: Cross-section

Selection: All



Deformacije Uz [mm]

Name	Combination key
SLS-Char (auto)/1	LC1 + LC2 + 0.50*LC3 + LC5 + 0.70*LC8
SLS-Char (auto)/2	LC1 + LC2 + 0.50*LC3 + LC4 + 0.70*LC6
SLS-Char (auto)/3	LC1 + LC2 + LC3 + 0.60*LC5
SLS-Char (auto)/4	LC1 + LC2 + LC3 + 0.60*LC4 + 0.70*LC6
SLS-Char (auto)/5	LC1 + LC2 + LC4
SLS-Char (auto)/6	LC1 + LC2 + LC3 + 0.70*LC6
SLS-Char (auto)/7	LC1 + LC2 + LC3
SLS-Char (auto)/8	LC1 + LC2 + LC3 + 0.70*LC8

4.2.2 Deformacije elementov – 2D

Linear calculation

Combination: SLS-Char (auto); Extreme: Global; Selection: All

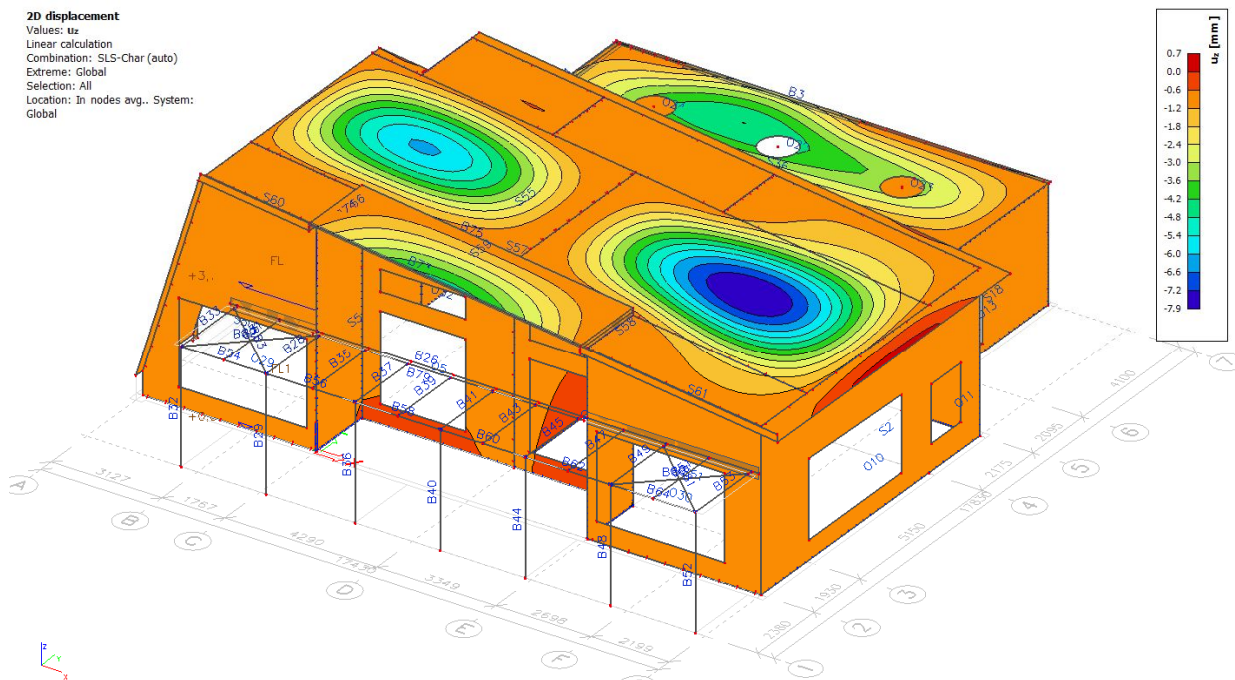
Location: In nodes avg.. System: Global

Name	Mesh	Case	u _x [mm]	u _y [mm]	u _z [mm]	φ _x [mrad]	φ _y [mrad]	φ _z [mrad]	U _{total} [mm]
S55	Node: 12434	SLS-Char (auto)/1	-0,9	-0,2	-6,9	0,1	-0,1	0,0	6,9
S2	Node: 5039	SLS-Char (auto)/2	1,2	0,3	-1,0	0,1	-0,4	0,0	1,6
S14	Node: 1669	SLS-Char (auto)/3	-0,2	-0,4	-0,7	0,0	0,0	0,0	0,8
S27	Node: 3172	SLS-Char (auto)/4	0,0	1,4	-0,6	0,1	0,0	-0,1	1,5
S55	Node: 12434	SLS-Char (auto)/5	-0,9	-0,1	-7,9	0,1	-0,1	0,0	7,9
S55	Node: 12866	SLS-Char (auto)/6	0,2	-0,1	0,7	0,0	-2,6	0,0	0,7
S55	Node: 12487	SLS-Char (auto)/7	-0,4	-0,1	-4,4	-3,3	0,7	0,3	4,4
S55	Node: 12481	SLS-Char (auto)/7	-0,4	-0,1	-4,3	3,1	0,5	-0,3	4,3
S55	Node: 12214	SLS-Char (auto)/7	-0,2	-0,1	-2,7	0,1	-3,2	0,0	2,7
S55	Node: 661	SLS-Char (auto)/5	0,0	-0,1	-1,1	0,1	3,0	0,0	1,1
S27	Node: 15487	SLS-Char (auto)/5	0,0	-0,1	-0,6	0,0	0,0	-0,5	0,6
S3	Node: 639	SLS-Char (auto)/2	0,1	0,1	-0,7	0,3	0,1	0,9	0,7
S55	Node: 12875	SLS-Char (auto)/6	0,1	-0,1	0,0	-0,3	-1,2	0,1	0,1

Name	Combination key
SLS-Char (auto)/1	LC1 + LC2 + 0.50*LC3 + LC5 + 0.70*LC8
SLS-Char (auto)/2	LC1 + LC2 + 0.50*LC3 + LC4 + 0.70*LC7
SLS-Char (auto)/3	LC1 + LC2 + 0.50*LC3 + LC5
SLS-Char (auto)/4	LC1 + LC2 + LC3 + 0.60*LC4 + 0.70*LC7
SLS-Char (auto)/5	LC1 + LC2 + LC3 + 0.60*LC5 + 0.70*LC6
SLS-Char (auto)/6	LC1 + LC2 + LC3 + 0.60*LC5
SLS-Char (auto)/7	LC1 + LC2 + LC3 + 0.60*LC5 + 0.70*LC7

2D displacement

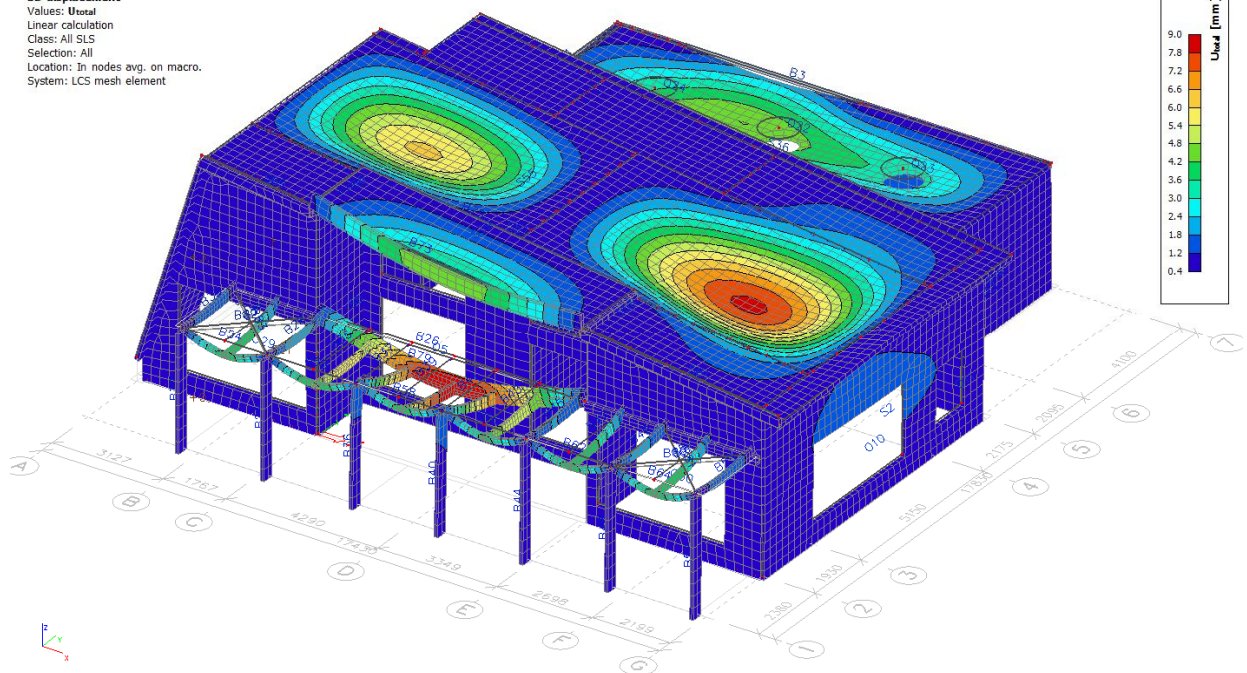
Values: uz
 Linear calculation
 Combination: SLS-Char (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg.. System: Global



Deformacije Uz [mm]

3D displacement

Values: Utot
 Linear calculation
 Class: All SLS
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element



Deformacije Utot [mm]

4.3. NOTRANJE STATIČNE KOLIČINE

4.3.1 Notranje statične količine – 1D

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Principal; Extreme 1D: Cross-section; Selection: All

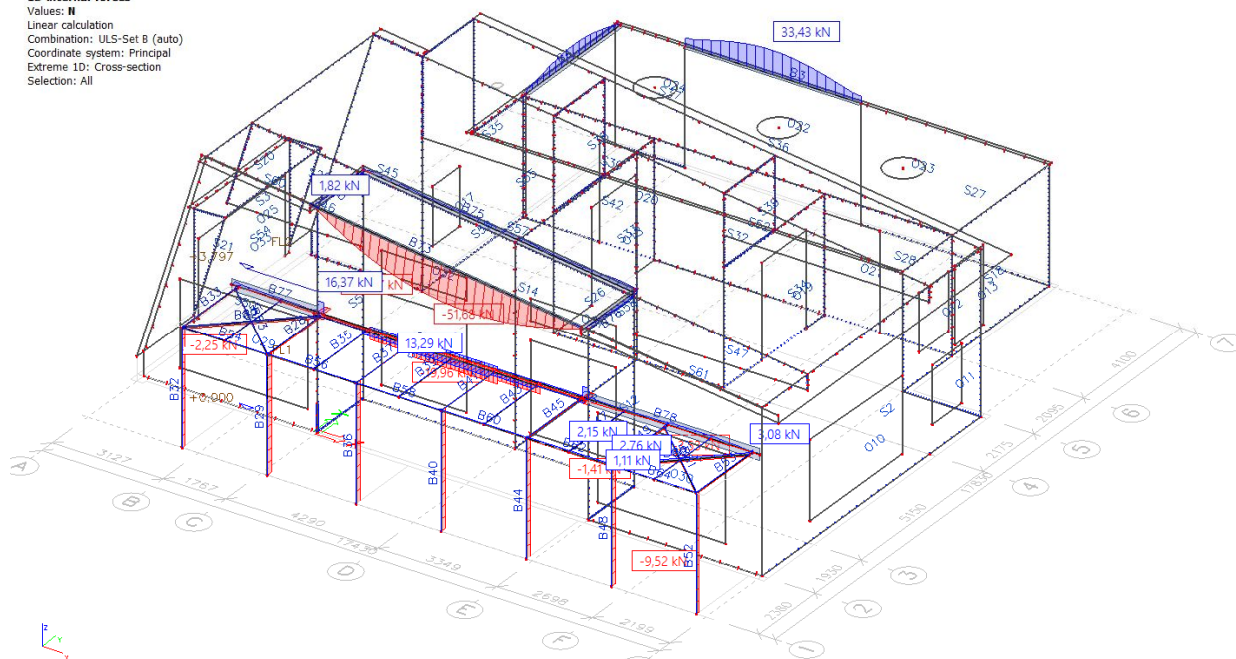
Name	Case	Cross-section	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	V _r [kN/m]
B3	ULS-Set B (auto)/2	CS1 - 2 Rect (50; 400)	33,43	0,07	0,35	-0,03	12,68	-0,08	0,87
B3	ULS-Set B (auto)/3	CS1 - 2 Rect (50; 400)	11,55	-1,39	-10,44	-0,17	-2,98	0,06	-26,05
B4	ULS-Set B (auto)/4	CS1 - 2 Rect (50; 400)	8,88	2,29	-5,58	0,32	3,38	0,05	-13,93
B3	ULS-Set B (auto)/2	CS1 - 2 Rect (50; 400)	11,73	-1,38	-10,46	-0,17	-2,99	0,06	-26,11
B3	ULS-Set B (auto)/4	CS1 - 2 Rect (50; 400)	32,75	0,07	0,33	-0,03	12,74	-0,08	0,81
B4	ULS-Set B (auto)/4	CS1 - 2 Rect (50; 400)	18,41	0,51	-1,86	0,16	7,79	-0,09	-4,64
B4	ULS-Set B (auto)/4	CS1 - 2 Rect (50; 400)	2,28	0,59	-6,20	0,35	0,19	0,34	-15,48
B3	ULS-Set B (auto)/6	CS1 - 2 Rect (50; 400)	12,60	-1,26	-11,88	0,04	0,59	0,13	-29,67
B3	ULS-Set B (auto)/5	CS1 - 2 Rect (50; 400)	11,07	1,18	12,33	-0,22	0,54	0,13	30,79
B26	ULS-Set B (auto)/7	CS8 - 2 Rect (100; 320)	-19,96	0,40	1,56	-0,12	10,36	-1,06	-
B26	ULS-Set B (auto)/8	CS8 - 2 Rect (100; 320)	15,46	-2,50	-2,17	-0,02	0,00	0,00	-
B26	ULS-Set B (auto)/8	CS8 - 2 Rect (100; 320)	16,37	2,49	2,05	0,07	0,00	0,00	-
B26	ULS-Set B (auto)/9	CS8 - 2 Rect (100; 320)	-4,35	-0,77	-7,79	0,70	-6,88	-0,15	-
B26	ULS-Set B (auto)/7	CS8 - 2 Rect (100; 320)	-3,65	0,81	7,80	-0,70	-6,67	-0,37	-
B26	ULS-Set B (auto)/6	CS8 - 2 Rect (100; 320)	-4,46	-0,76	-7,79	0,70	-6,88	-0,14	-
B26	ULS-Set B (auto)/10	CS8 - 2 Rect (100; 320)	-19,74	0,40	1,13	-0,12	11,98	-0,59	-
B26	ULS-Set B (auto)/10	CS8 - 2 Rect (100; 320)	-19,74	0,40	1,56	-0,12	10,37	-1,06	-
B26	ULS-Set B (auto)/8	CS8 - 2 Rect (100; 320)	-2,07	-1,04	-6,53	0,61	2,07	0,90	-
B49	ULS-Set B (auto)/11	CS6 - RECT (100; 150)	-3,53	2,00	-1,53	0,23	0,22	0,22	-
B53	ULS-Set B (auto)/12	CS6 - RECT (100; 150)	-2,76	-2,05	0,50	-0,24	0,00	-0,51	-
B35	ULS-Set B (auto)/9	CS6 - RECT (100; 150)	0,76	0,23	-4,08	-0,05	0,00	0,32	-
B49	ULS-Set B (auto)/10	CS6 - RECT (100; 150)	-1,89	0,04	4,16	0,00	0,00	-0,04	-
B49	ULS-Set B (auto)/10	CS6 - RECT (100; 150)	-1,89	0,04	0,05	0,00	2,45	0,00	-
B53	ULS-Set B (auto)/15	CS6 - RECT (100; 150)	3,08	2,50	-1,35	0,30	0,00	0,58	-
B48	ULS-Set B (auto)/10	CS7 - RECT (100; 320)	-9,52	0,00	-0,24	0,00	0,40	-0,01	-
B48	ULS-Set B (auto)/13	CS7 - RECT (100; 320)	1,11	-0,35	-0,15	0,00	-0,04	-0,02	-
B29	ULS-Set B (auto)/16	CS7 - RECT (100; 320)	-4,86	-0,64	-0,37	0,00	0,56	0,47	-
B52	ULS-Set B (auto)/11	CS7 - RECT (100; 320)	-2,98	-0,63	-0,43	0,00	0,81	0,47	-
B36	ULS-Set B (auto)/18	CS7 - RECT (100; 320)	-3,12	0,63	0,42	0,00	-1,01	-0,48	-
B44	ULS-Set B (auto)/14	CS7 - RECT (100; 320)	-3,08	0,65	0,12	0,00	-0,01	-0,50	-
B62	ULS-Set B (auto)/12	CS5 - 2 Rect (50; 150)	-1,41	-0,12	0,37	-0,01	-0,30	0,04	-

Name	Case	Cross-section	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	V _r [kN/m]
B62	ULS-Set B (auto)/15	CS5 - 2 Rect (50; 150)	2,15	0,20	-0,91	0,03	1,30	-0,10	-
B56	ULS-Set B (auto)/10	CS5 - 2 Rect (50; 150)	0,75	0,21	-2,48	0,08	0,00	0,11	-
B54	ULS-Set B (auto)/7	CS5 - 2 Rect (50; 150)	0,45	-0,26	2,39	-0,07	0,00	0,11	-
B56	ULS-Set B (auto)/10	CS5 - 2 Rect (50; 150)	0,75	0,21	-2,13	0,08	2,76	-0,14	-
B73	ULS-Set B (auto)/21	CS11 - 2 Rect (60; 400)	1,82	-1,32	3,71	-0,39	-0,65	-0,01	-5,77
B73	ULS-Set B (auto)/8	CS11 - 2 Rect (60; 400)	-13,82	1,40	-9,59	0,32	-0,78	-0,08	14,90
B73	ULS-Set B (auto)/22	CS11 - 2 Rect (60; 400)	1,33	-2,15	7,13	-0,68	-1,61	-0,05	-11,08
B73	ULS-Set B (auto)/4	CS11 - 2 Rect (60; 400)	-3,24	1,89	-7,45	0,59	-2,92	0,00	11,58
B73	ULS-Set B (auto)/23	CS11 - 2 Rect (60; 400)	-3,34	1,88	-7,45	0,59	-2,95	0,00	11,58
B73	ULS-Set B (auto)/23	CS11 - 2 Rect (60; 400)	-51,66	0,06	-0,37	0,03	9,06	-0,30	0,57
B73	ULS-Set B (auto)/8	CS11 - 2 Rect (60; 400)	-51,68	-0,04	0,43	-0,01	9,02	-0,30	-0,67
B73	ULS-Set B (auto)/8	CS11 - 2 Rect (60; 400)	-10,90	-1,53	9,27	-0,36	0,01	-0,10	-14,40
B79	ULS-Set B (auto)/22	CS12 - RECT (200; 160)	-23,27	12,00	2,28	0,02	-2,09	-9,69	-
B79	ULS-Set B (auto)/8	CS12 - RECT (200; 160)	13,29	0,74	-0,01	-0,03	0,19	1,53	-
B78	ULS-Set B (auto)/10	CS12 - RECT (200; 160)	-4,48	-13,65	0,25	0,34	-0,11	4,74	1,32
B77	ULS-Set B (auto)/10	CS12 - RECT (200; 160)	-4,16	14,23	-0,65	-0,37	-0,27	4,84	-3,46
B79	ULS-Set B (auto)/2	CS12 - RECT (200; 160)	-13,03	10,87	3,65	0,00	-2,19	-8,72	-
B79	ULS-Set B (auto)/10	CS12 - RECT (200; 160)	-21,74	-13,54	-3,12	-0,01	-2,59	-11,21	-
B77	ULS-Set B (auto)/20	CS12 - RECT (200; 160)	4,51	-1,40	1,49	0,30	1,23	-0,55	7,99
B79	ULS-Set B (auto)/6	CS12 - RECT (200; 160)	-21,89	-13,54	-3,12	-0,01	-2,59	-11,22	-
B78	ULS-Set B (auto)/10	CS12 - RECT (200; 160)	-5,94	-7,09	-0,17	0,37	-0,12	8,48	-0,92
B78	ULS-Set B (auto)/15	CS12 - RECT (200; 160)	1,91	0,54	-3,50	0,21	0,41	0,06	-18,75
B78	ULS-Set B (auto)/12	CS12 - RECT (200; 160)	-1,52	-0,62	2,92	-0,14	-0,50	-0,06	15,64
B82	ULS-Set B (auto)/14	CS13 - RD12	-2,25	0,00	0,00	0,00	0,00	0,00	-
B80	ULS-Set B (auto)/15	CS13 - RD12	2,76	0,00	0,00	0,00	0,00	0,00	-

Name	Combination key
ULS-Set B (auto)/1	LC1 + LC2 + 1.50*LC5 + 1.05*LC7
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC6
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC8
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC8
ULS-Set B (auto)/5	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC7
ULS-Set B (auto)/6	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC8
ULS-Set B (auto)/7	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC7
ULS-Set B (auto)/8	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5
ULS-Set B (auto)/9	1.35*LC1 + 1.35*LC2 + 1.50*LC3
ULS-Set B (auto)/10	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC6
ULS-Set B (auto)/11	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5 + 1.05*LC6
ULS-Set B (auto)/12	LC1 + LC2 + 1.50*LC4 + 1.05*LC7
ULS-Set B (auto)/13	LC1 + LC2 + 1.50*LC4
ULS-Set B (auto)/14	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC4 + 1.05*LC6
ULS-Set B (auto)/15	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5
ULS-Set B (auto)/16	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5 + 1.05*LC8
ULS-Set B (auto)/17	LC1 + LC2 + 0.75*LC3 + 1.50*LC4
ULS-Set B (auto)/18	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC4
ULS-Set B (auto)/19	LC1 + LC2 + 0.75*LC3 + 1.50*LC5 + 1.05*LC8
ULS-Set B (auto)/20	LC1 + LC2 + 1.50*LC4 + 1.05*LC6
ULS-Set B (auto)/21	1.35*LC1 + 1.35*LC2 + 1.50*LC7
ULS-Set B (auto)/22	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC7
ULS-Set B (auto)/23	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6
ULS-Set B (auto)/24	1.35*LC1 + 1.35*LC2

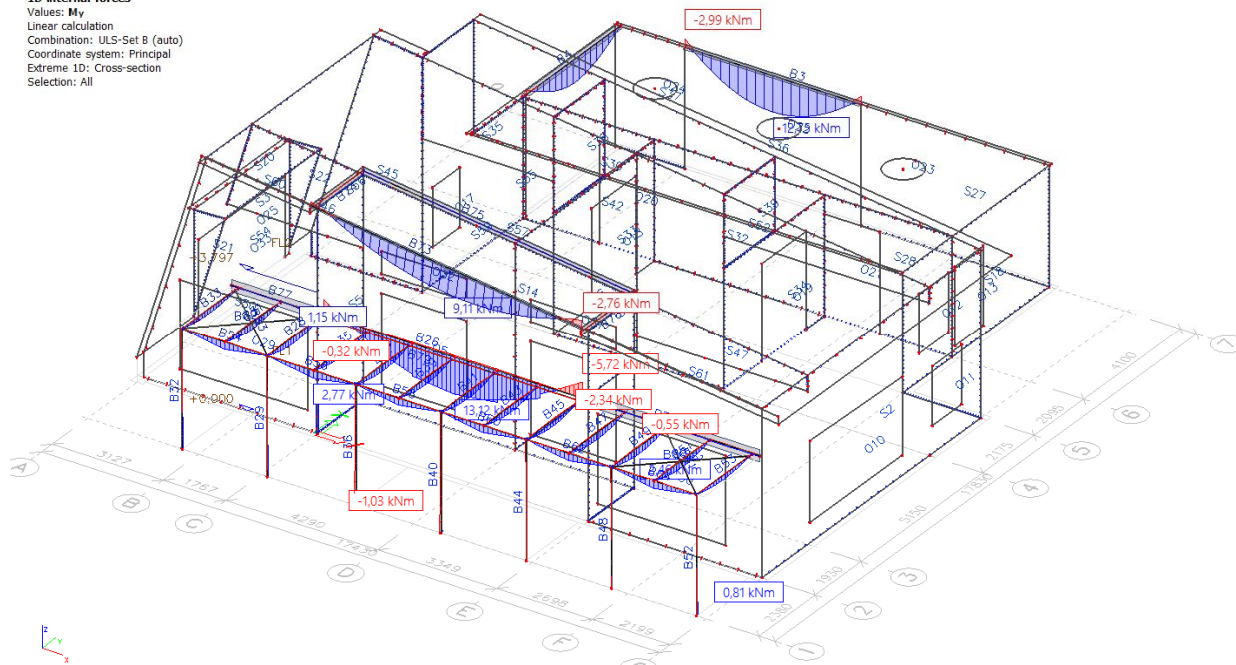
1D internal forces

Values: N
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All

Osne sile N_x [kN]

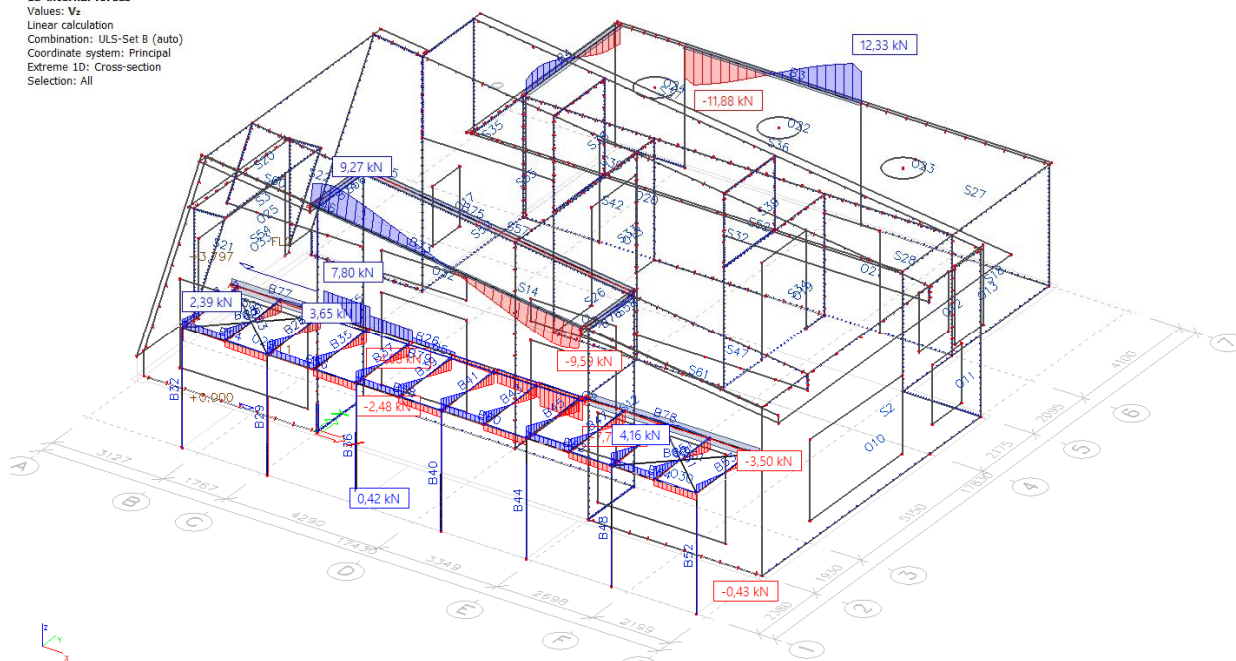
1D internal forces

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

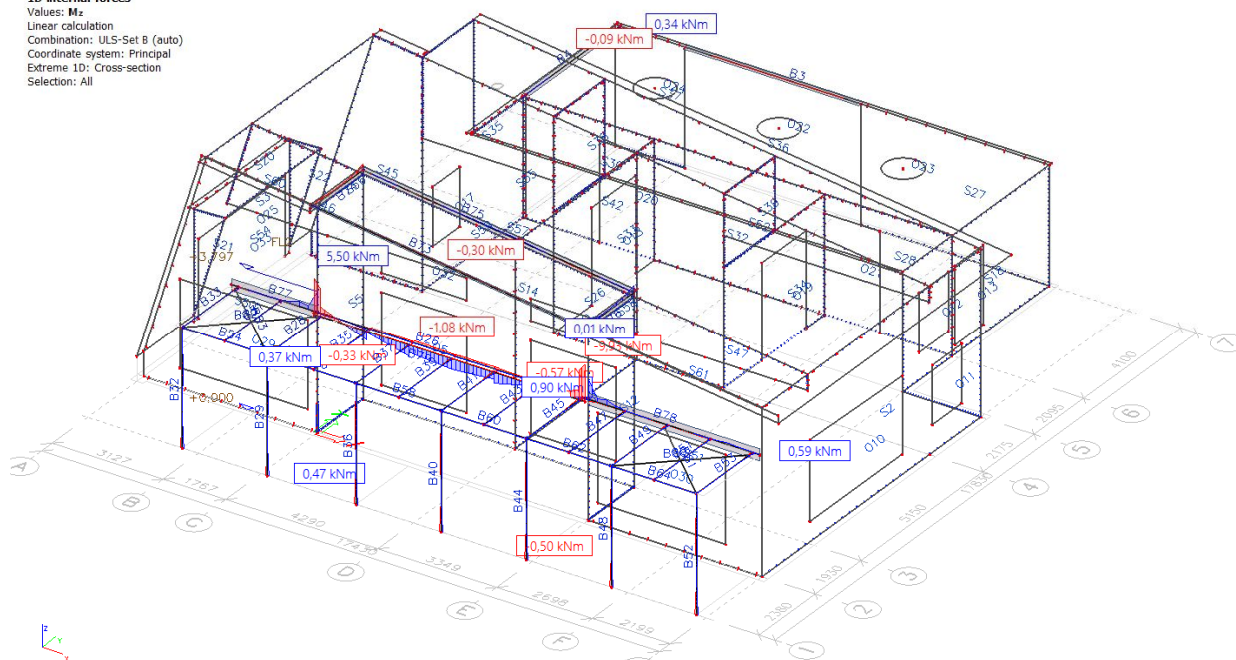
Upogibni momenti M_y [kNm]

1D internal forces

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

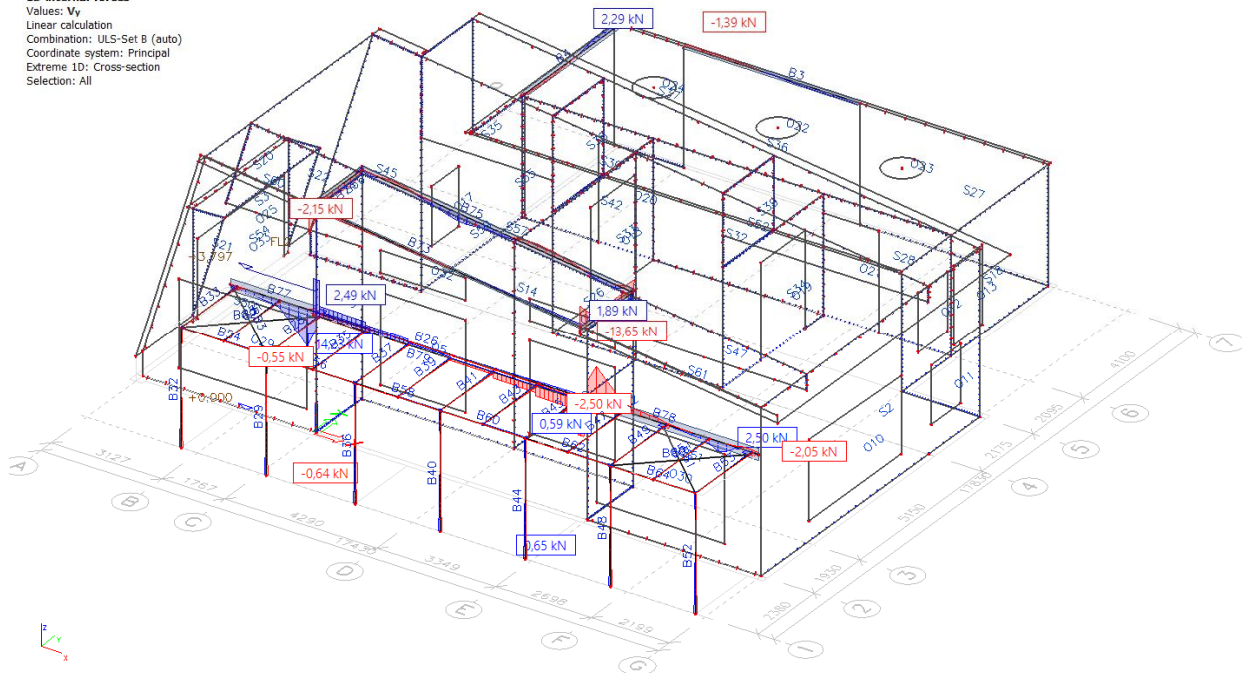
Prečne sile V_z [kN]**1D internal forces**

Values: M_z
 Linear calculation
 Combination: ULS-Set B (auto)
 Coordinate system: Principal
 Extreme 1D: Cross-section
 Selection: All

Upogibni momenti M_z [kNm]

1D internal forces

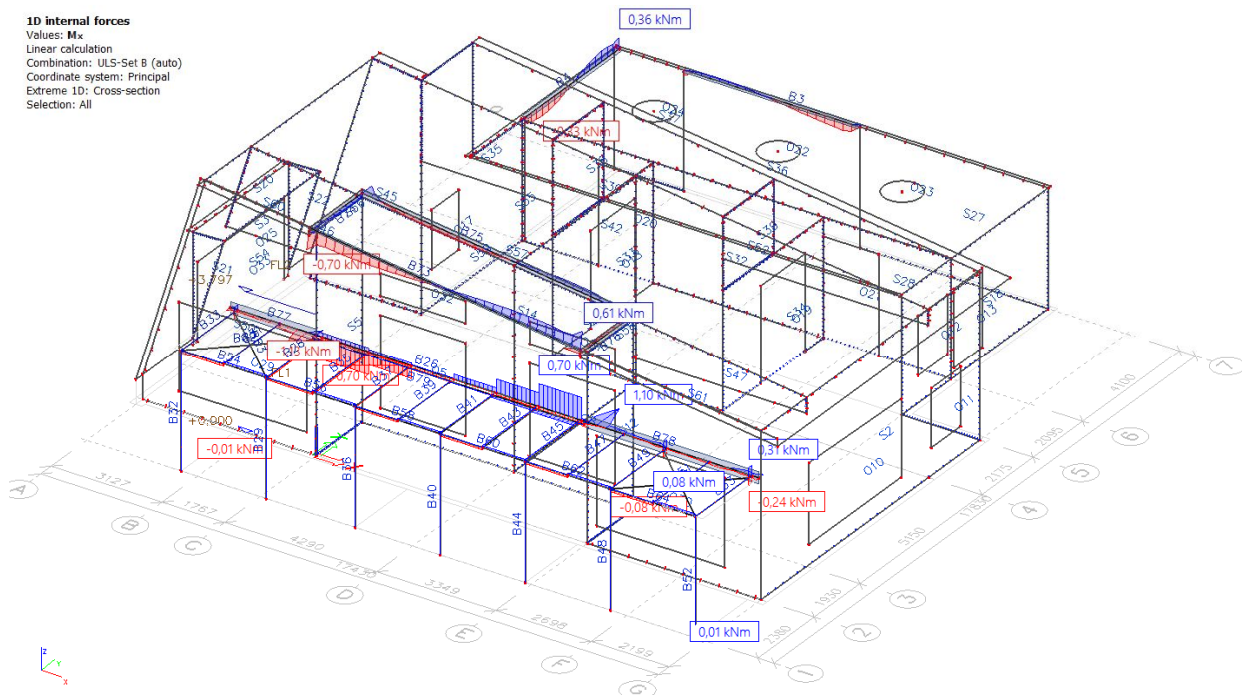
Values: Vy
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



Prečne sile Vy [kN]

1D internal forces

Values: Mx
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



Torzijski momenti Mx [kNm]

4.3.2 Notranje statične količine – 2D (stene)

Linear calculation

Combination: ULS-Set B (auto); Extreme: Global; Selection: Named selection - stene

Location: In nodes avg. on macro. System: LCS mesh element

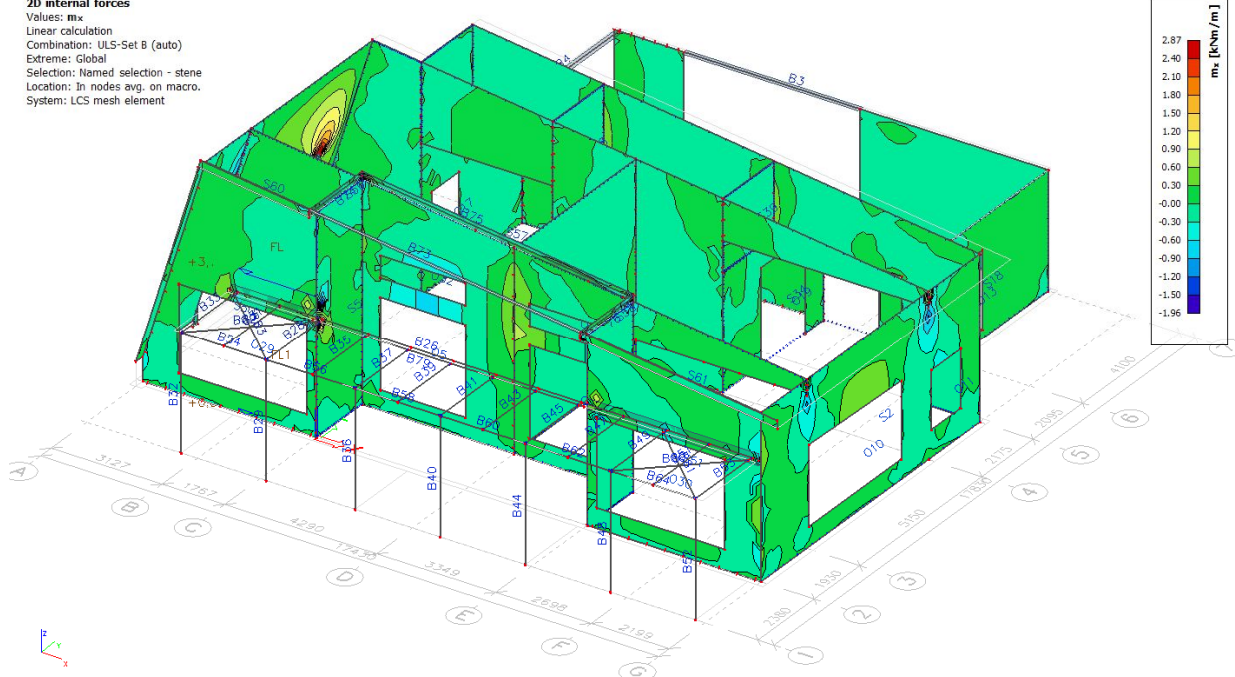
Basic magnitudes

Name	Mesh	Case	m_x [kNm/m] m_y [kNm/m]	m_{xy} [kNm/m]	v_x [kN/m] v_y [kN/m]	n_x [kN/m] n_y [kN/m]	n_{xy} [kN/m]
S12	Element: 1257 Node: 15956	ULS-Set B (auto)/1	-1,96 5,18	3,34	-0,69 -40,01	-1,66 27,84	26,56
S57	Element: 14140 Node: 16500	ULS-Set B (auto)/2	2,87 -14,42	-0,93	6,55 -35,34	82,48 80,34	-12,59
S57	Element: 14180 Node: 16501	ULS-Set B (auto)/3	0,53 -16,37	1,98	-11,62 -53,92	96,28 101,81	28,86
S56	Element: 14139 Node: 221	ULS-Set B (auto)/2	0,10 11,98	-2,12	-15,18 56,00	31,62 -109,95	30,77
S5	Element: 1096 Node: 15896	ULS-Set B (auto)/1	-0,19 -0,01	-9,04	-1,10 68,03	-5,47 -50,53	7,94
S51	Element: 11243 Node: 4379	ULS-Set B (auto)/4	0,88 -1,50	-0,53	-25,00 0,04	20,03 -17,88	0,82
S51	Element: 11243 Node: 4379	ULS-Set B (auto)/5	-1,03 1,22	0,79	21,23 0,45	-16,40 10,35	0,01
S12	Element: 1258 Node: 15957	ULS-Set B (auto)/1	-0,11 -0,74	9,52	3,99 -69,76	-1,28 -47,09	6,93
S42	Element: 10456 Node: 153	ULS-Set B (auto)/6	0,14 0,09	-0,09	-1,03 1,45	-483,51 -232,60	108,20
S42	Element: 10415 Node: 10704	ULS-Set B (auto)/2	-0,01 0,00	0,00	0,01 0,00	352,39 2,04	0,66
S27	Element: 2903 Node: 83	ULS-Set B (auto)/7	-0,05 -4,07	-0,66	0,49 4,52	-47,13 -242,51	-37,26
S61	Element: 14543 Node: 14539	ULS-Set B (auto)/6	0,01 -1,25	-0,68	3,80 5,57	84,95 175,34	9,83
S42	Element: 10407 Node: 15334	ULS-Set B (auto)/2	-0,01 -0,02	-0,01	-0,37 0,20	85,29 143,60	-91,48

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC6
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC7
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5
ULS-Set B (auto)/5	LC1 + LC2 + 1.50*LC4 + 1.05*LC7
ULS-Set B (auto)/6	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC8
ULS-Set B (auto)/7	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC7

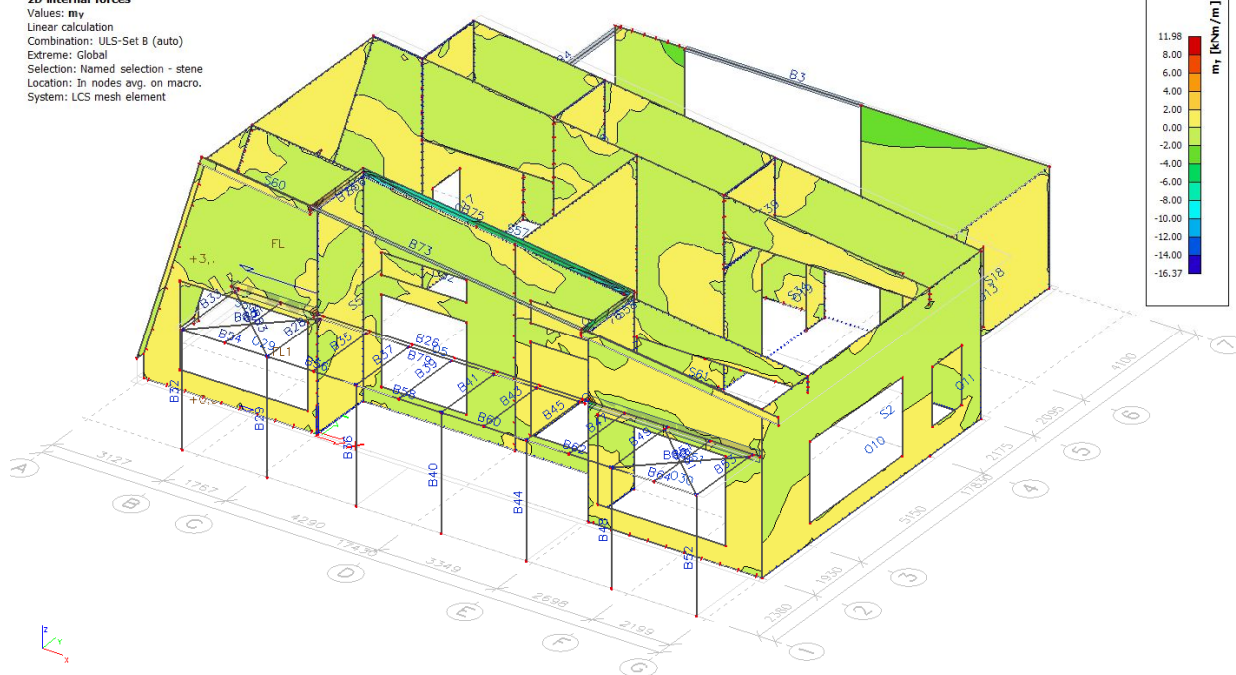
2D internal forces

Values: m_x
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - stene
 Location: In nodes avg. on macro.
 System: LCS mesh element

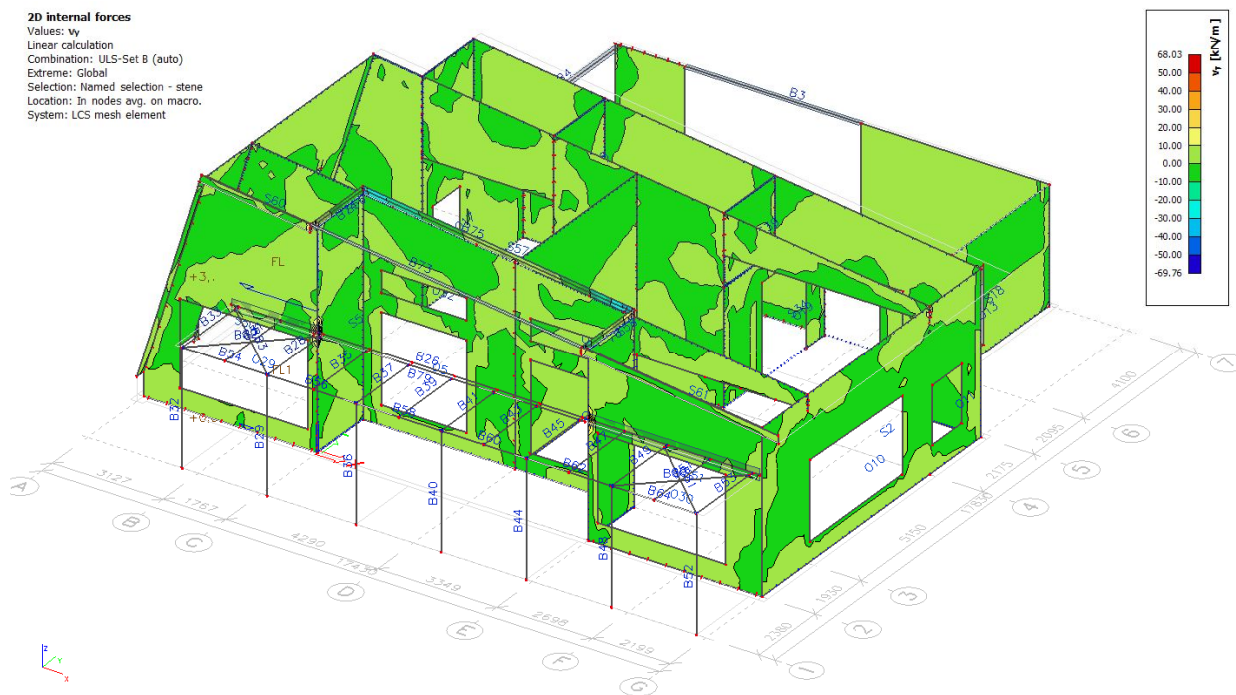


2D internal forces

Values: m_y
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - stene
 Location: In nodes avg. on macro.
 System: LCS mesh element

**2D internal forces**

Values: m_y
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - stene
 Location: In nodes avg. on macro.
 System: LCS mesh element

**4.3.3 Notranje statične količine – 2D (plošče)**

Linear calculation

Combination: ULS-Set B (auto); Extreme: Global; Selection: Named selection - plošče

Location: In nodes avg. on macro. System: LCS mesh element

Basic magnitudes

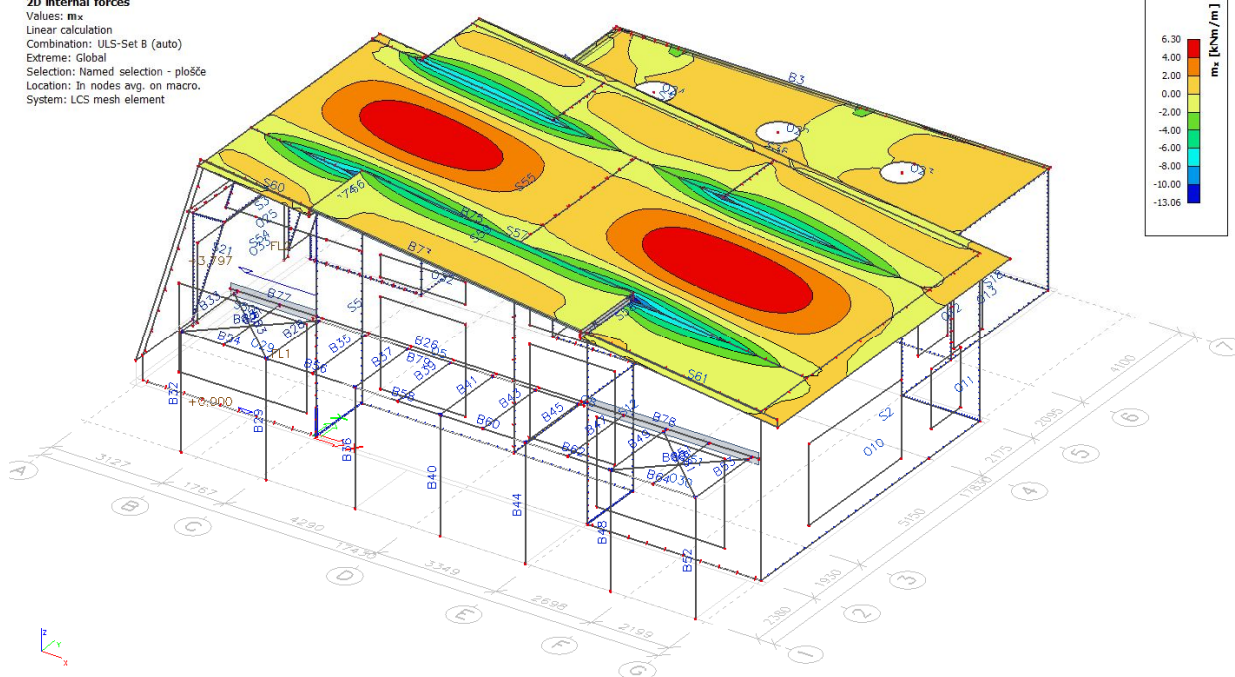
Name	Mesh	Case	m_x [kNm/m] m_y [kNm/m]	m_{xy} [kNm/m]	v_x [kN/m] v_y [kN/m]	n_x [kN/m] n_y [kN/m]	n_{xy} [kN/m]
S55	Element: 12368 Node: 37	ULS-Set B (auto)/1	-13,06 -1,94	2,10	37,73 -6,57	-27,08 129,59	-12,85
S55	Element: 12294 Node: 12494	ULS-Set B (auto)/2	6,30 2,11	0,00	-0,29 -0,66	-1,64 0,35	-1,48

Name	Mesh	Case	m_x [kNm/m] m_y [kNm/m]	m_{xy} [kNm/m]	v_x [kN/m] v_y [kN/m]	n_x [kN/m] n_y [kN/m]	n_{xy} [kN/m]
S36	Element: 5604 Node: 91	ULS-Set B (auto)/1	-0,92 -9,81	0,41	9,54 -40,62	17,78 1,41	-6,52
S36	Element: 4598 Node: 5035	ULS-Set B (auto)/2	0,00 7,11	0,13	3,22 4,77	-1,50 -2,48	0,56
S59	Element: 14478 Node: 221	ULS-Set B (auto)/1	-1,61 -1,53	-3,81	-15,62 -11,03	20,02 -31,88	-27,82
S59	Element: 14508 Node: 226	ULS-Set B (auto)/3	-1,76 -1,61	3,74	-16,85 12,26	15,90 -74,63	21,45
S55	Element: 11809 Node: 37	ULS-Set B (auto)/2	-10,94 -4,84	2,42	-57,25 -24,62	-63,13 123,68	13,12
S55	Element: 13923 Node: 152	ULS-Set B (auto)/3	-10,12 -2,48	-0,82	40,92 -15,28	0,74 118,39	-2,02
S55	Element: 12992 Node: 119	ULS-Set B (auto)/4	0,28 4,59	1,27	34,20 -68,88	-1,40 7,13	1,91
S55	Element: 12992 Node: 118	ULS-Set B (auto)/2	-7,22 -0,23	-0,40	34,17 31,55	-1,45 13,05	3,25
S36	Element: 4373 Node: 4998	ULS-Set B (auto)/3	1,25 0,16	0,08	-0,39 -0,24	-100,19 0,04	0,07
S36	Element: 4383 Node: 144	ULS-Set B (auto)/5	-3,08 -0,39	0,68	10,73 8,67	77,37 10,73	-7,23
S55	Element: 14058 Node: 10690	ULS-Set B (auto)/2	-4,69 1,44	1,42	6,80 -2,27	4,26 -106,08	-2,16
S55	Element: 12368 Node: 37	ULS-Set B (auto)/3	-13,05 -1,95	2,10	37,75 -6,56	-27,15 129,90	-12,85
S59	Element: 14478 Node: 221	ULS-Set B (auto)/2	-1,61 -1,52	-3,81	-15,67 -11,02	20,09 -30,92	-28,01
S55	Element: 11989 Node: 10696	ULS-Set B (auto)/2	-0,05 0,26	2,38	0,26 -1,59	-2,37 -10,29	27,46

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC7
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC8
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6
ULS-Set B (auto)/5	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC6

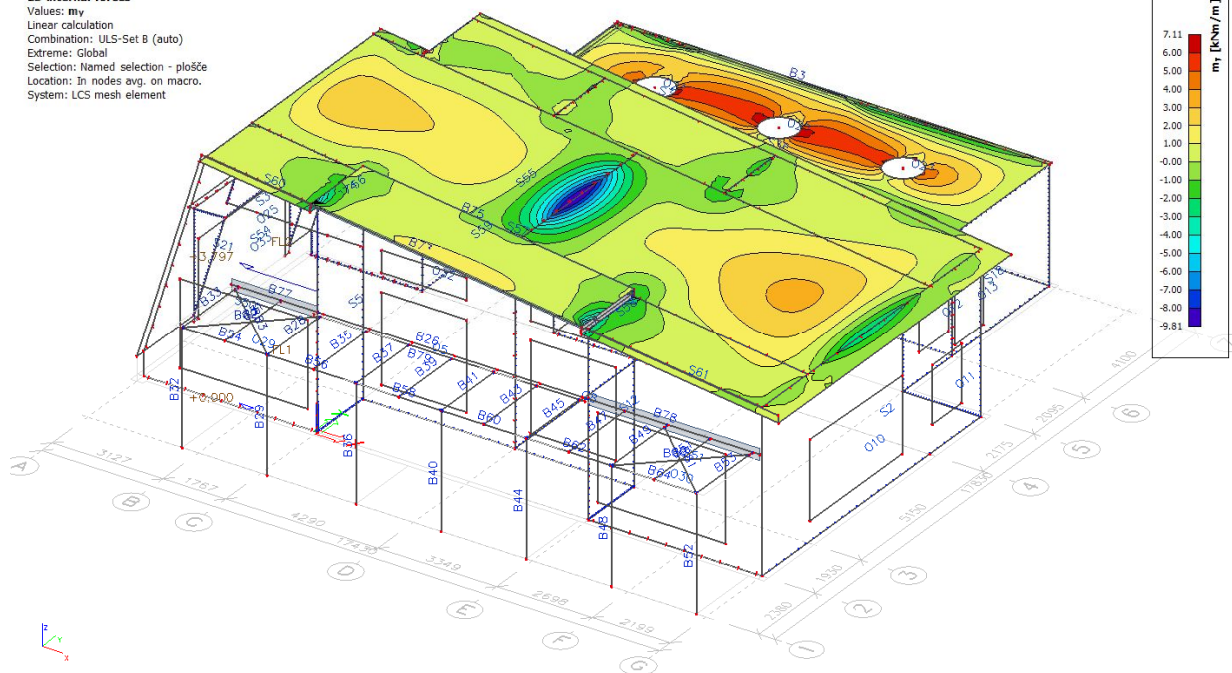
2D internal forces

Values: m_x
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - plošče
 Location: In nodes avg. on macro.
 System: LCS mesh element

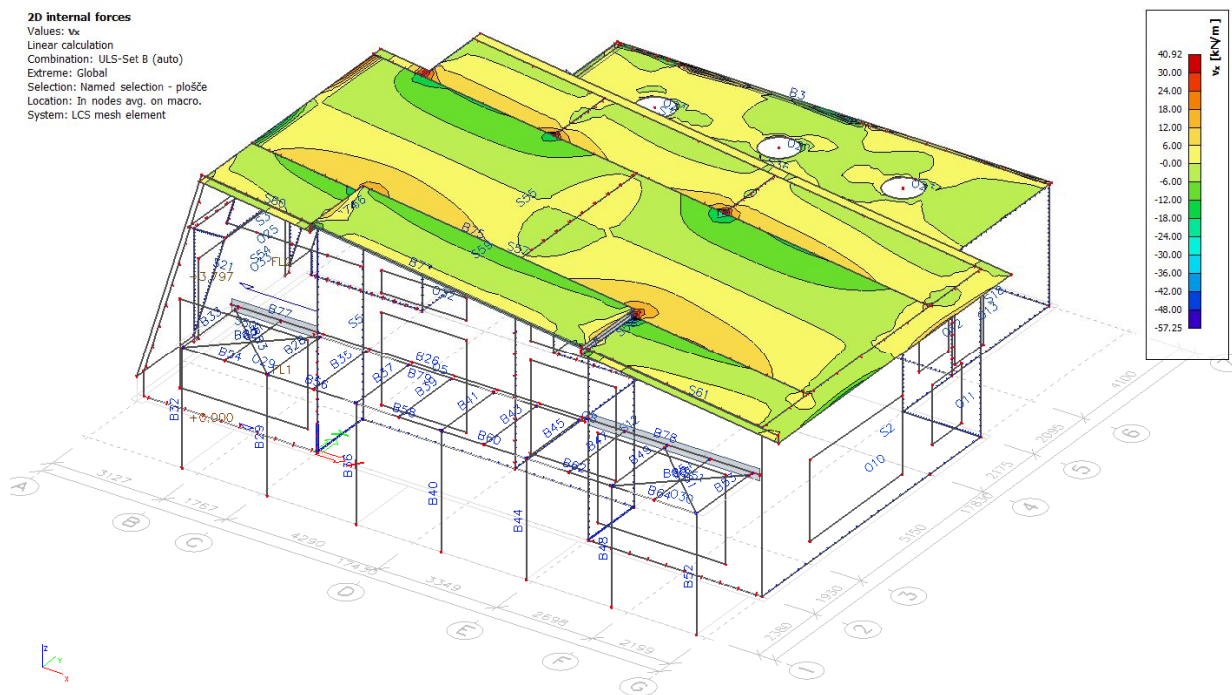


2D internal forces

Values: m_y
Linear calculation
Combination: ULS-Set B (auto)
Extreme: Global
Selection: Named selection - plošče
Location: In nodes avg. on macro.
System: LCS mesh element

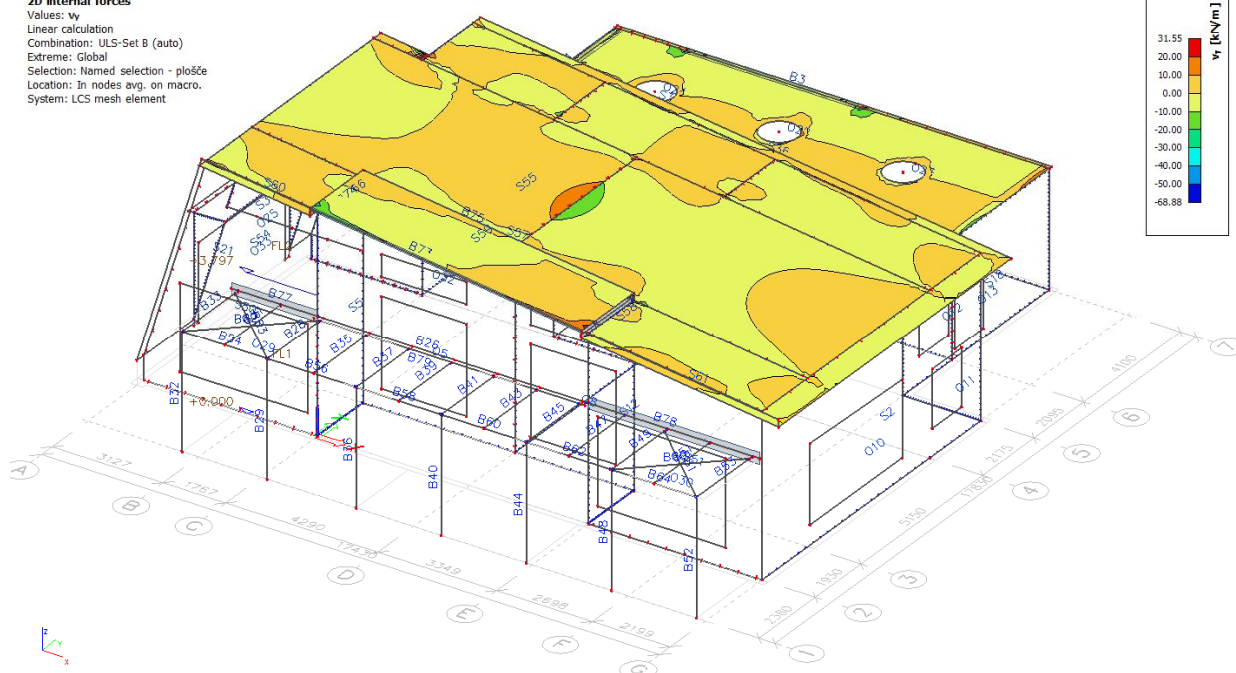
**2D internal forces**

Values: m_x
Linear calculation
Combination: ULS-Set B (auto)
Extreme: Global
Selection: Named selection - plošče
Location: In nodes avg. on macro.
System: LCS mesh element



2D internal forces

Values: v_y
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - plošče
 Location: In nodes avg. on macro.
 System: LCS mesh element



4.4. NAPETOSTI V ELEMENTIH

4.4.1 Napetosti – 1D

Linear calculation

Combination: ULS-Set B (auto)

Coordinate system: Principal; Extreme 1D: Cross-section

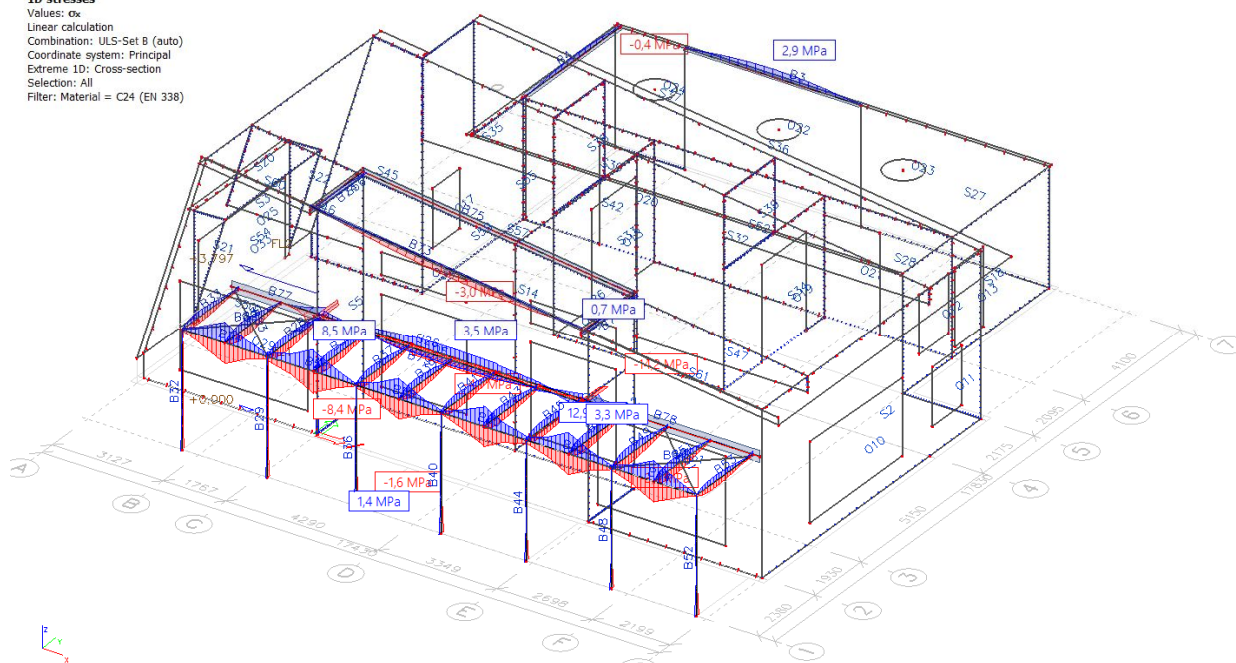
Selection: All; Filter: Material = C24 (EN 338)

Name	dx [m]	Fibre	Case	Cross-section	Material	σ_x [MPa]	τ_{xy} [MPa]	τ_{xz} [MPa]	τ_{tor} [MPa]
B4	3,969	7	ULS-Set B (auto)/1	CS1 - 2 Rect (50; 400)	C24 (EN 338)	-0,4	0,0	0,0	0,0
B3	2,485-	7	ULS-Set B (auto)/2	CS1 - 2 Rect (50; 400)	C24 (EN 338)	2,9	0,0	0,0	0,0
B26	3,875-	4	ULS-Set B (auto)/3	CS8 - 2 Rect (100; 320)	C24 (EN 338)	-4,1	0,0	0,0	0,0
B26	3,875-	7	ULS-Set B (auto)/3	CS8 - 2 Rect (100; 320)	C24 (EN 338)	3,5	0,0	0,0	0,0
B49	0,833-	5	ULS-Set B (auto)/3	CS6 - RECT (100; 150)	C24 (EN 338)	-3,4	0,0	0,0	0,0
B47	0,714-	1	ULS-Set B (auto)/4	CS6 - RECT (100; 150)	C24 (EN 338)	3,3	0,0	0,0	0,0
B36	0,000	7	ULS-Set B (auto)/5	CS7 - RECT (100; 320)	C24 (EN 338)	-1,6	0,0	0,0	0,0
B36	0,000	3	ULS-Set B (auto)/6	CS7 - RECT (100; 320)	C24 (EN 338)	1,4	0,0	0,0	0,0
B56	1,300-	4	ULS-Set B (auto)/3	CS5 - 2 Rect (50; 150)	C24 (EN 338)	-8,4	0,0	0,0	0,0
B56	1,300-	7	ULS-Set B (auto)/3	CS5 - 2 Rect (50; 150)	C24 (EN 338)	8,5	0,0	0,0	0,0
B73	3,972-	9	ULS-Set B (auto)/7	CS11 - 2 Rect (60; 400)	C24 (EN 338)	-3,0	0,0	0,0	0,0
B73	7,696	9	ULS-Set B (auto)/7	CS11 - 2 Rect (60; 400)	C24 (EN 338)	0,7	0,0	0,0	0,0
B79	7,639	7	ULS-Set B (auto)/8	CS12 - RECT (200; 160)	C24 (EN 338)	-14,2	0,0	0,0	0,0
B79	7,639	3	ULS-Set B (auto)/8	CS12 - RECT (200; 160)	C24 (EN 338)	12,9	0,0	0,0	0,0

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC8
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC7
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC6
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 1.50*LC3
ULS-Set B (auto)/5	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC4
ULS-Set B (auto)/6	LC1 + LC2 + 0.75*LC3 + 1.50*LC4
ULS-Set B (auto)/7	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6
ULS-Set B (auto)/8	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC8

1D stresses

Values: σ_x
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All
Filter: Material = C24 (EN 338)



Normalne napetosti – Sig,X (Mpa)

Filter: Material = S 235

Name	dx [m]	Fibre	Case	Cross-section	Material	σ_x [MPa]	τ_{xy} [MPa]	τ_{xz} [MPa]	τ_{tor} [MPa]
B82	0,000	1	ULS-Set B (auto)/1	CS13 - RD12	S 235	-19,9	0,0	0,0	0,0
B80	0,000	1	ULS-Set B (auto)/2	CS13 - RD12	S 235	24,4	0,0	0,0	0,0

Name	Combination key
ULS-Set B (auto)/1	$1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC4 + 1.05*LC6$
ULS-Set B (auto)/2	$1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5$

4.4.2 Napetosti – 2D (stene)

Linear calculation

Combination: ULS-Set B (auto); Extreme: Global; Selection: Named selection - stene

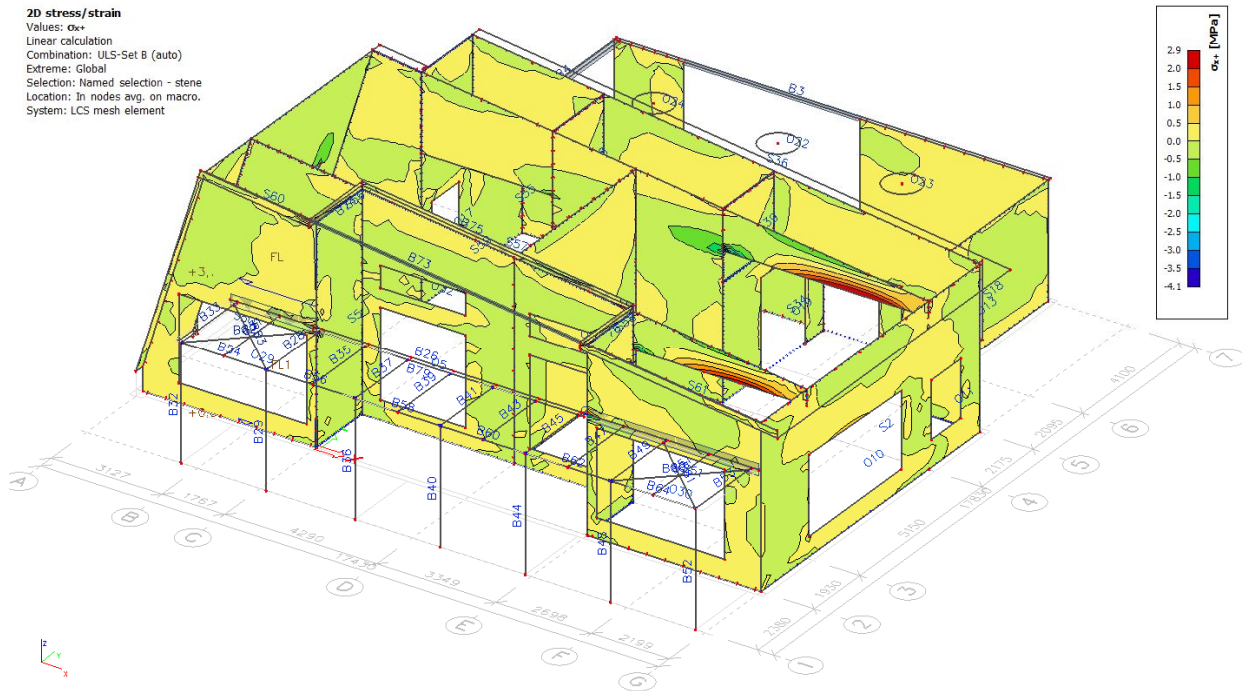
Location: In nodes avg. on macro. System: LCS mesh element

Basic stress

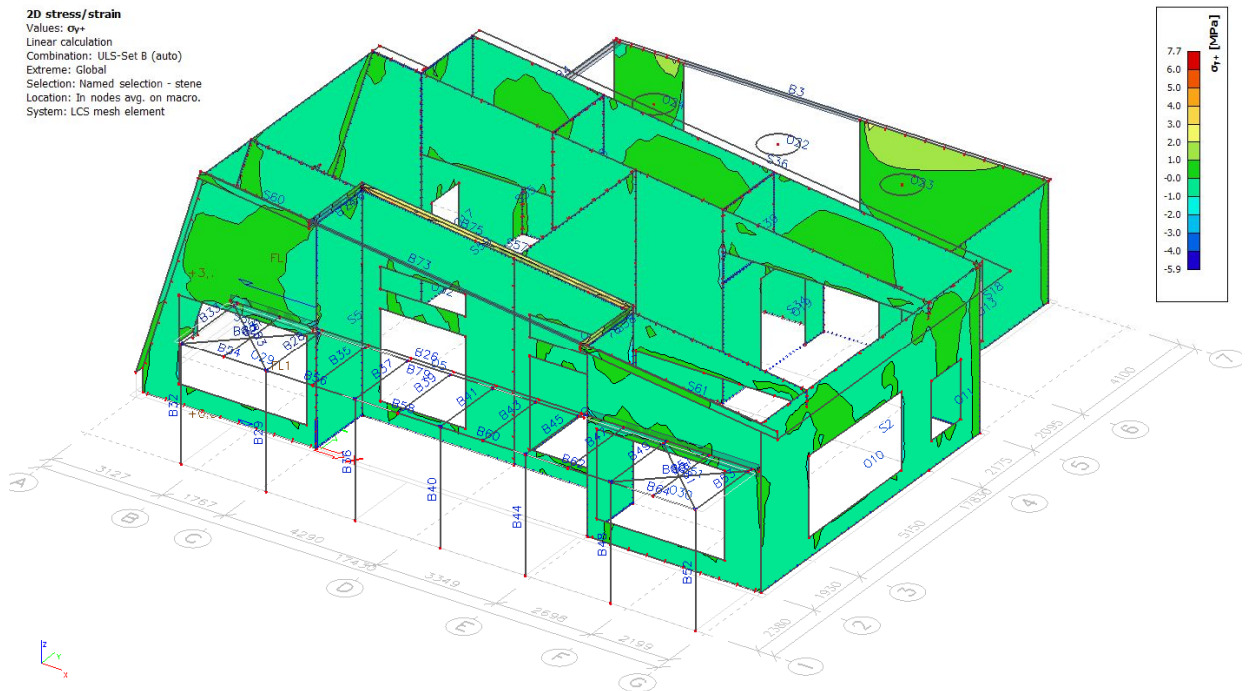
Name	Mesh	Case	σ_{x+} [MPa] σ_{x-} [MPa]	σ_{y+} [MPa] σ_{y-} [MPa]	τ_{xy+} [MPa] τ_{xy-} [MPa]	τ_{xz} [MPa]	τ_{yz} [MPa]
S42	Element: 10456 Node: 153	ULS-Set B (auto)/1	-4,1 -4,0	-2,0 -1,9	0,9 0,9	0,0	0,0
S42	Element: 10415 Node: 10704	ULS-Set B (auto)/2	2,9 2,9	0,0 0,0	0,0 0,0	0,0	0,0
S56	Element: 14139 Node: 221	ULS-Set B (auto)/2	0,2 0,3	-5,9 4,1	1,1 -0,6	0,2	-0,7
S57	Element: 14180 Node: 16501	ULS-Set B (auto)/3	0,6 1,0	7,7 -6,0	-0,6 1,1	0,1	0,7
S57	Element: 14180 Node: 16501	ULS-Set B (auto)/2	0,6 1,0	7,7 -6,0	-0,6 1,1	0,1	0,7
S56	Element: 14139 Node: 221	ULS-Set B (auto)/4	0,2 0,3	-5,9 4,1	1,1 -0,6	0,2	-0,7
S12	Element: 1258 Node: 15957	ULS-Set B (auto)/5	0,0 -0,1	-0,1 -0,7	-3,9 4,0	0,0	0,9
S51	Element: 11243 Node: 4379	ULS-Set B (auto)/6	0,3 -0,6	-0,4 0,6	-0,3 0,3	-0,3	0,0
S5	Element: 1096 Node: 15896	ULS-Set B (auto)/5	0,0 -0,1	-0,4 -0,4	3,8 -3,7	0,0	-0,9

Name	Combination key
ULS-Set B (auto)/1	$1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC8$
ULS-Set B (auto)/2	$1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC7$
ULS-Set B (auto)/3	$1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5$
ULS-Set B (auto)/4	$1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6$
ULS-Set B (auto)/5	$1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC6$
ULS-Set B (auto)/6	$LC1 + LC2 + 1.50*LC4 + 1.05*LC7$
ULS-Set B (auto)/7	$1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5$

2D stress/strain
 Values: σ_x
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - stene
 Location: In nodes avg. on macro.
 System: LCS mesh element

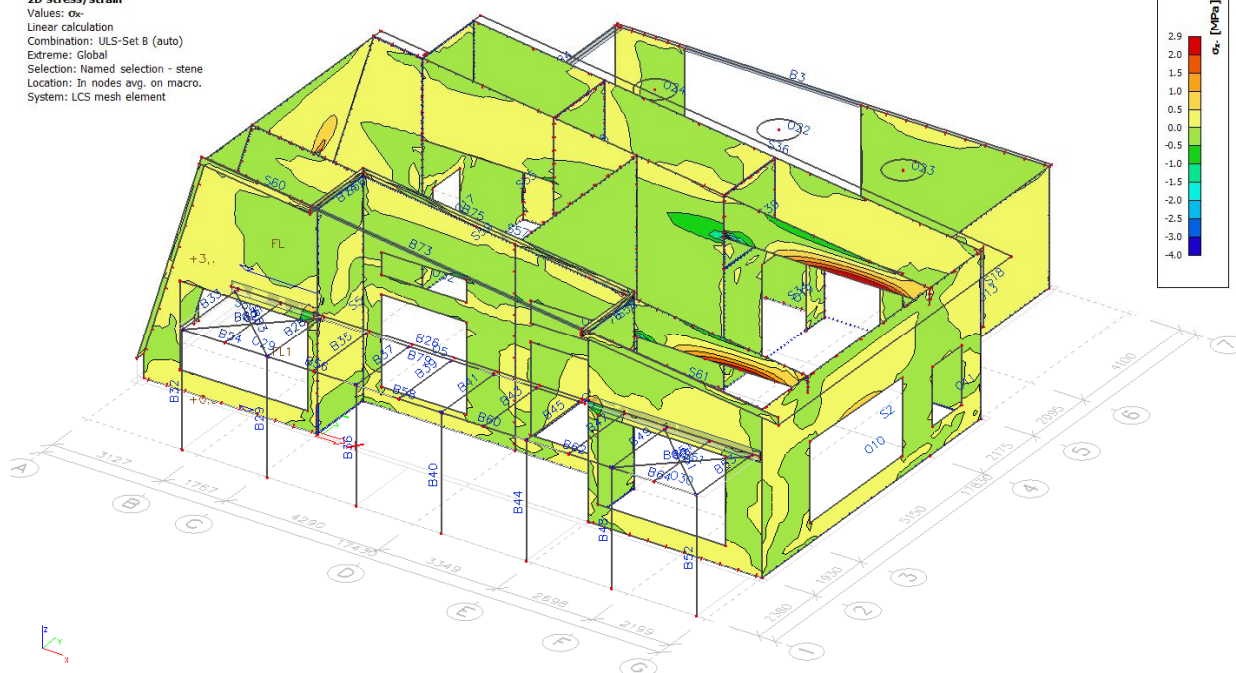


2D stress/strain
 Values: σ_y
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - stene
 Location: In nodes avg. on macro.
 System: LCS mesh element

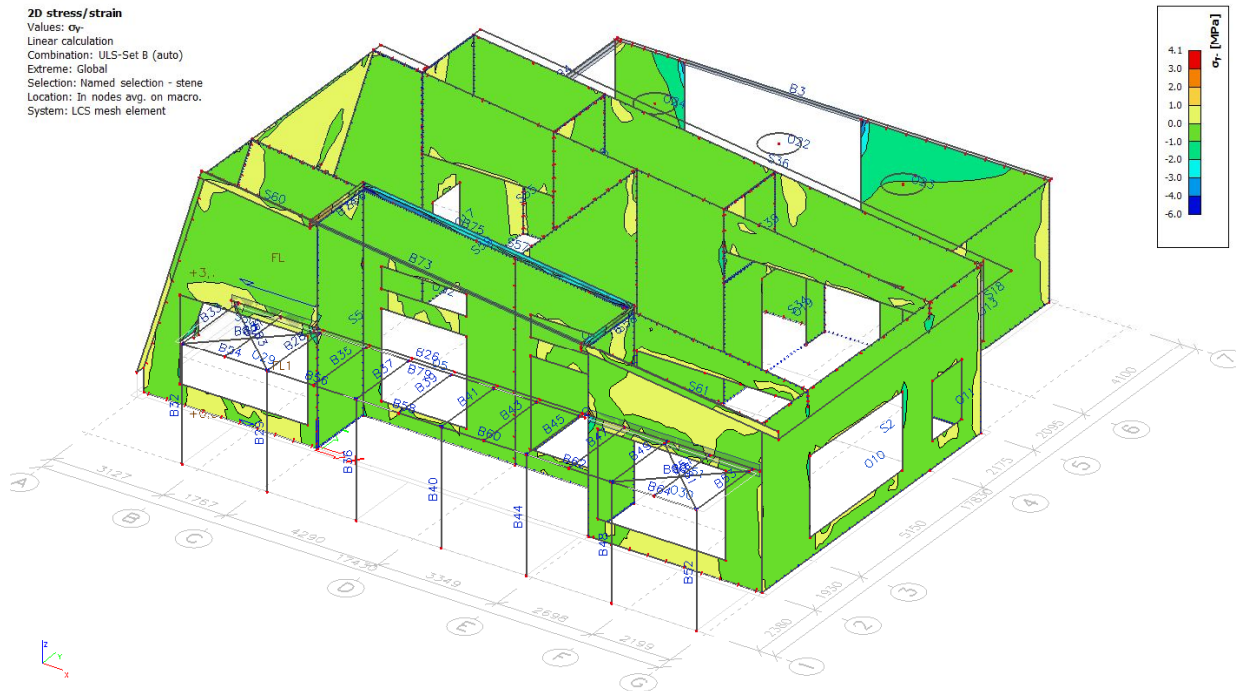


2D stress/strain

Values: σ_x
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - stene
 Location: In nodes avg. on macro.
 System: LCS mesh element

**2D stress/strain**

Values: σ_y
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - stene
 Location: In nodes avg. on macro.
 System: LCS mesh element

**4.4.3 Napetosti – 2D (plošče)**

Linear calculation

Combination: ULS-Set B (auto); Extreme: Global; Selection: Named selection - plošče

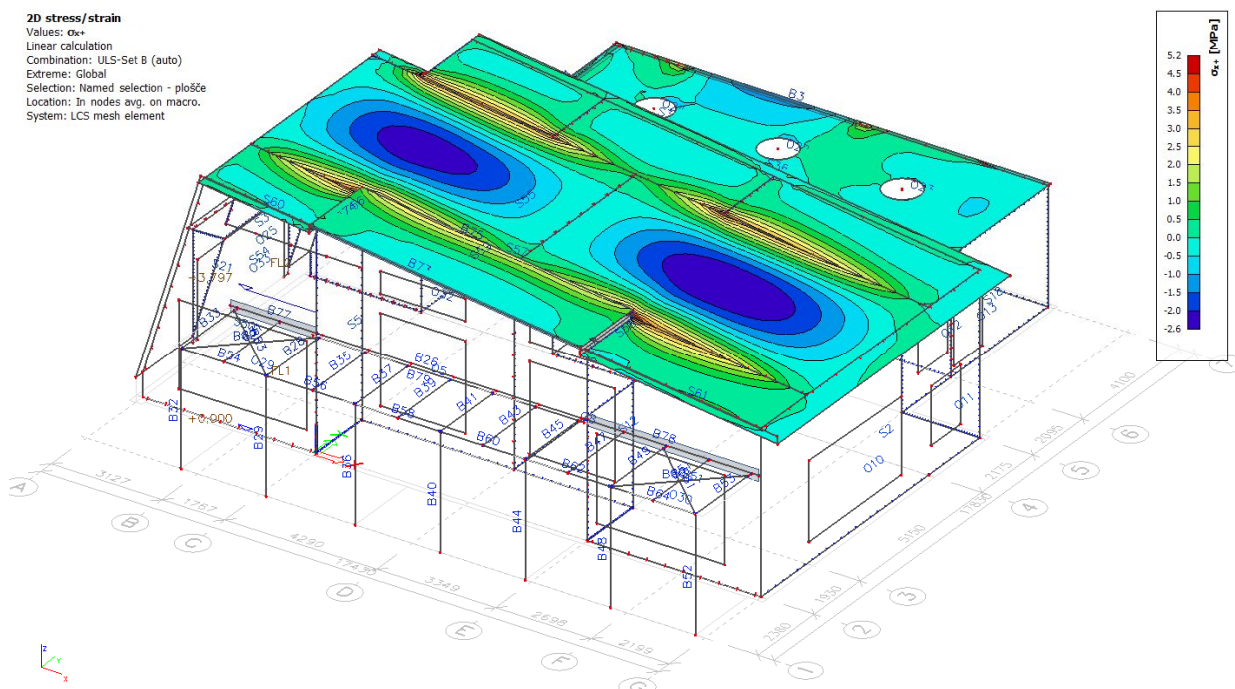
Location: In nodes avg. on macro. System: LCS mesh element

Basic stress

Name	Mesh	Case	σ_{x+} [MPa]	σ_{y+} [MPa]	T_{xy+} [MPa]	T_{xz} [MPa]	T_{yz} [MPa]
			σ_{x-} [MPa]	σ_{y-} [MPa]	T_{xy-} [MPa]		
S55	Element: 12294 Node: 12494	ULS-Set B (auto)/1	-2,6 2,6	-0,9 0,9	0,0 0,0	0,0	0,0
S55	Element: 12368 Node: 37	ULS-Set B (auto)/2	5,2 -5,7	1,9 0,3	-1,0 0,8	-0,5	0,1

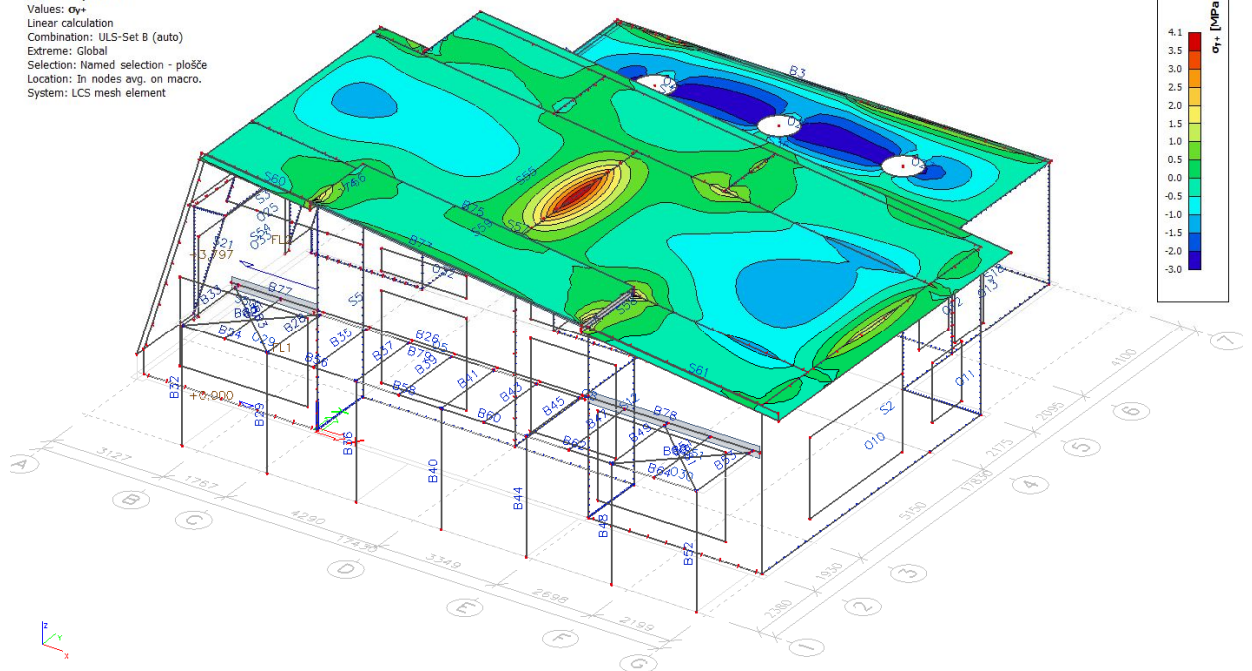
Name	Mesh	Case	σ_{x+} [MPa] σ_{x-} [MPa]	σ_{y+} [MPa] σ_{y-} [MPa]	T_{xy+} [MPa] T_{xy-} [MPa]	T_{xz} [MPa]	T_{yz} [MPa]
S55	Element: 12368 Node: 37	ULS-Set B (auto)/1	5,2 -5,7	1,9 0,3	-1,0 0,8	-0,5	0,1
S36	Element: 4598 Node: 5035	ULS-Set B (auto)/3	0,0 0,0	-3,0 2,9	0,0 0,1	0,0	-0,1
S36	Element: 5470 Node: 91	ULS-Set B (auto)/2	0,5 0,0	4,1 -4,0	0,2 -0,2	0,2	0,5
S36	Element: 5604 Node: 91	ULS-Set B (auto)/2	0,5 -0,2	4,1 -4,1	-0,2 0,1	-0,1	0,5
S36	Element: 4598 Node: 5035	ULS-Set B (auto)/1	0,0 0,0	-3,0 2,9	0,0 0,1	0,0	-0,1
S55	Element: 12999 Node: 13176	ULS-Set B (auto)/1	0,0 -0,1	-0,4 0,4	-1,4 1,4	0,0	0,0
S55	Element: 12997 Node: 13161	ULS-Set B (auto)/4	-0,1 0,0	-0,4 0,4	1,5 -1,4	0,0	0,0
S59	Element: 14478 Node: 221	ULS-Set B (auto)/1	0,8 -0,5	0,4 -0,9	1,4 -1,8	0,2	0,1
S59	Element: 14508 Node: 226	ULS-Set B (auto)/4	0,9 -0,6	0,0 -1,3	-1,4 1,7	0,2	-0,2
S55	Element: 13923 Node: 152	ULS-Set B (auto)/4	4,2 -4,2	2,0 0,0	0,3 -0,4	-0,5	0,2
S55	Element: 11809 Node: 37	ULS-Set B (auto)/1	4,0 -5,1	3,0 -1,0	-0,9 1,1	0,7	0,3
S55	Element: 12992 Node: 118	ULS-Set B (auto)/1	3,0 -3,0	0,2 0,0	0,2 -0,1	-0,4	-0,4
S55	Element: 12992 Node: 119	ULS-Set B (auto)/5	-0,1 0,1	-1,9 2,0	-0,5 0,5	-0,4	0,9

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC7
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC7
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC8
ULS-Set B (auto)/5	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6

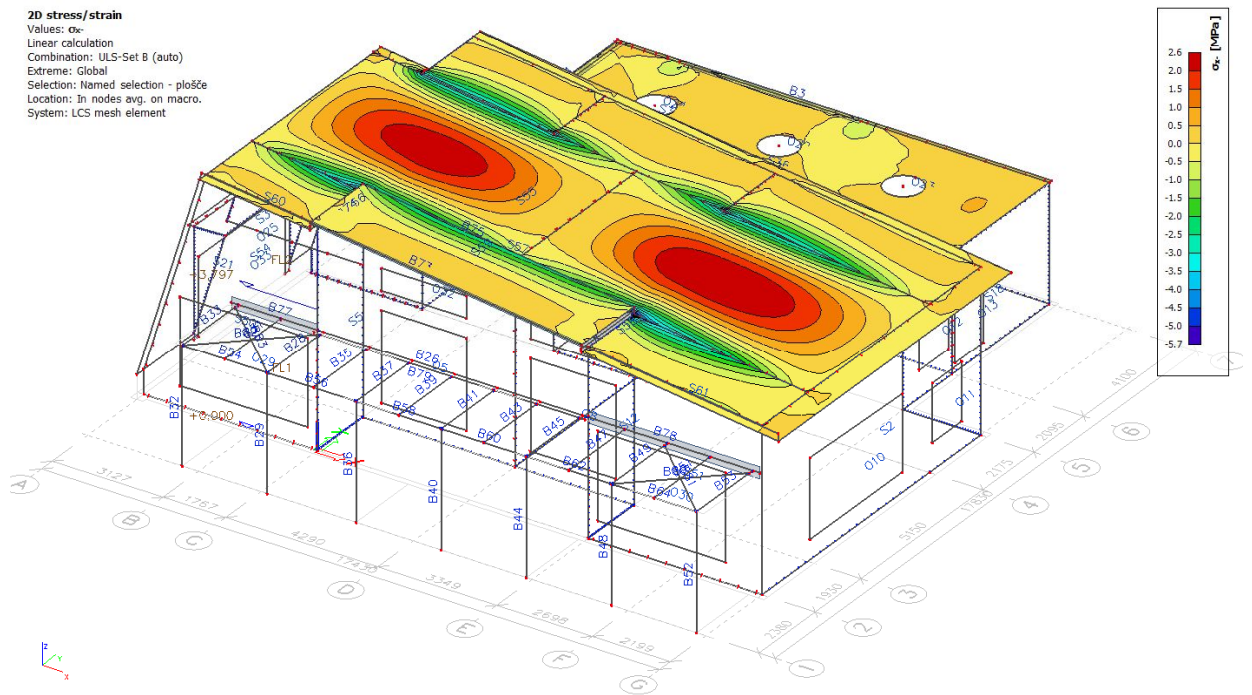


2D stress/strain

Values: σ_y
Linear calculation
Combination: ULS-Set B (auto)
Extreme: Global
Selection: Named selection - plošče
Location: In nodes avg. on macro.
System: LCS mesh element

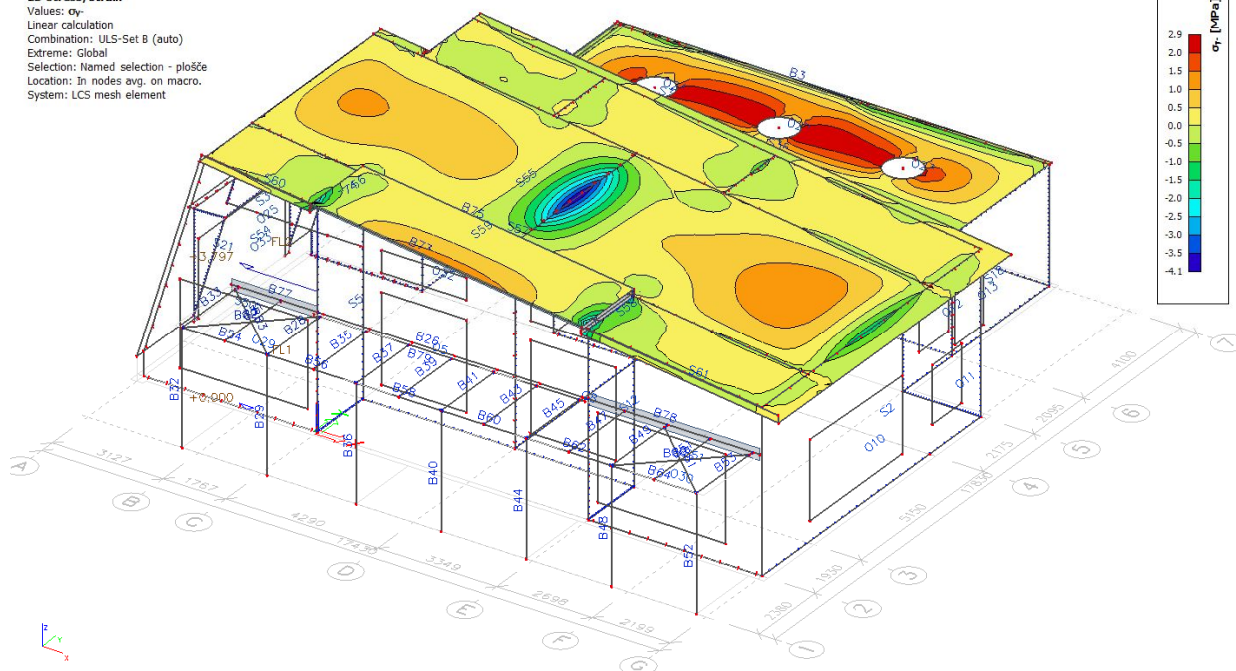
**2D stress/strain**

Values: σ_x
Linear calculation
Combination: ULS-Set B (auto)
Extreme: Global
Selection: Named selection - plošče
Location: In nodes avg. on macro.
System: LCS mesh element

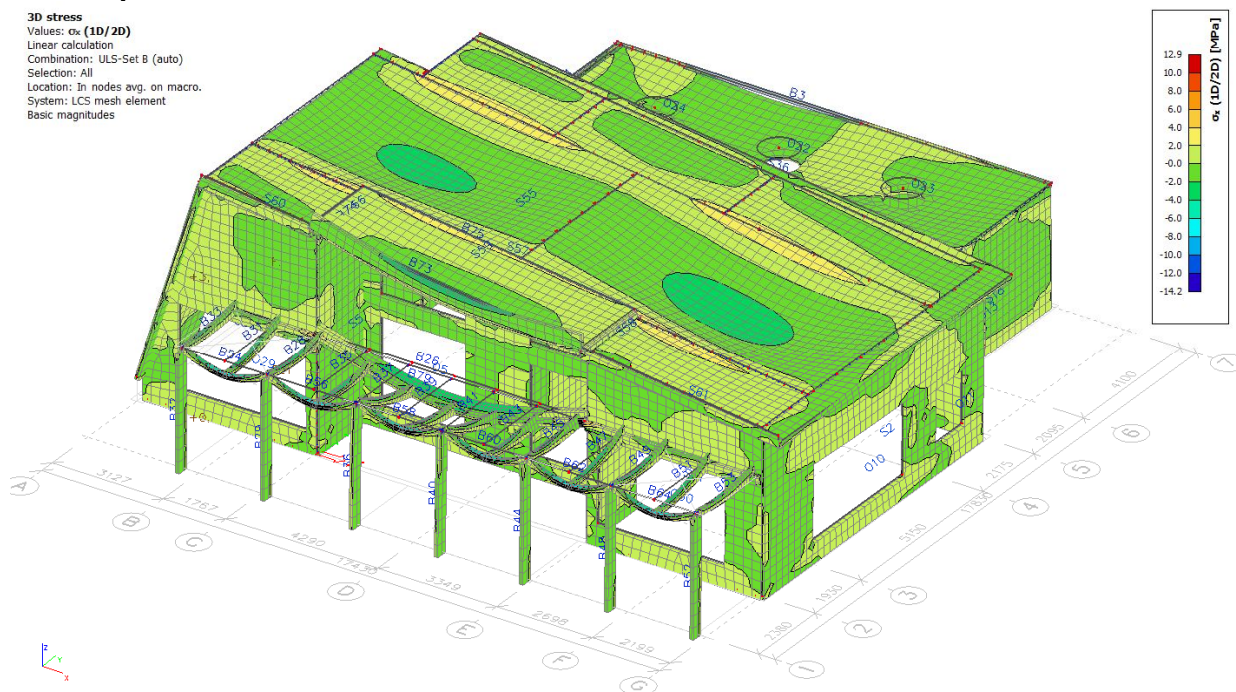


2D stress/strain

Values: σ_y
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: Named selection - plošče
 Location: In nodes avg. on macro.
 System: LCS mesh element

**4.4.4 Napetosti – 3D****3D stress**

Values: $\alpha_x (1D/2D)$
 Linear calculation
 Combination: ULS-Set B (auto)
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element
 Basic magnitudes



5.0) DIMENZIONIRANJE ELEMENTOV LESENE KONSTRUKCIJE

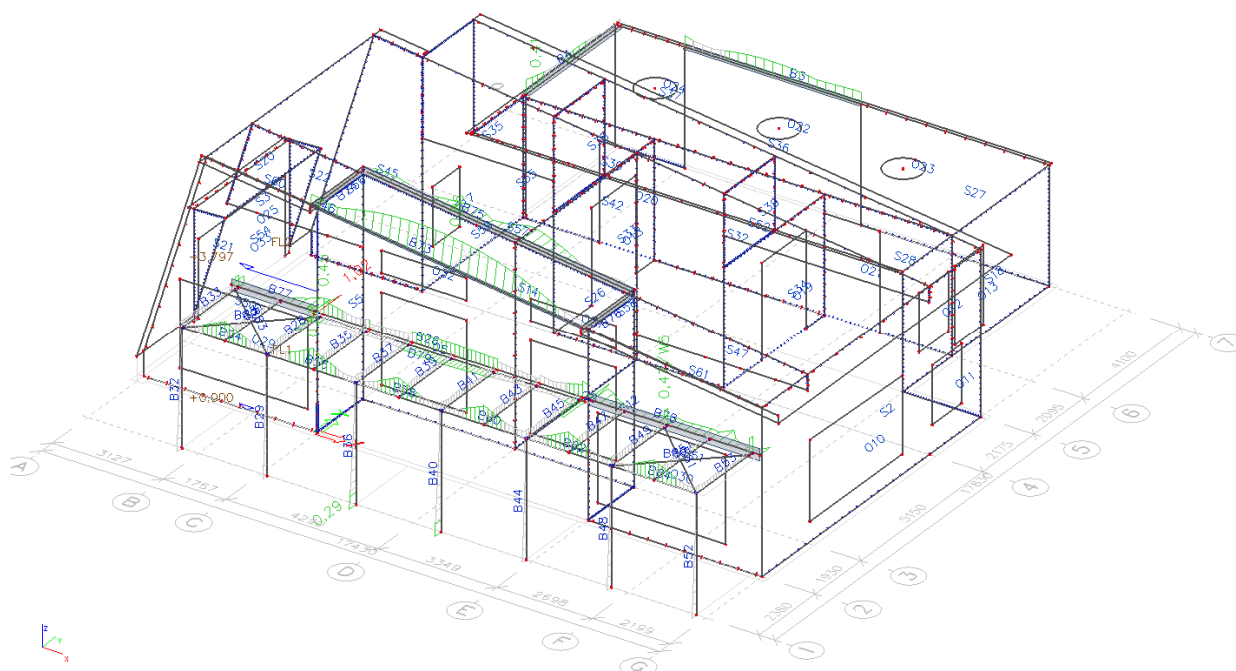
5.1. LESENI NOSILCI

Linear calculation, Extreme : Cross-section

Selection : All; Class : All ULS

Timber ULS check

Beam	Cross-section	Material	dx [m]	Load case	Unity check [-]	Section check [-]	Stability check [-]
B4	CS1 - 2 Rect	C24 (EN 338)	0,000	All ULS/1	0,41	0,12	0,41
B26	CS8 - 2 Rect	C24 (EN 338)	0,175	All ULS/2	0,45	0,08	0,45
B49	CS6 - RECT	C24 (EN 338)	2,240	All ULS/3	0,47	0,47	0,16
B36	CS7 - RECT	C24 (EN 338)	0,000	All ULS/4	0,29	0,29	0,29
B56	CS5 - 2 Rect	C24 (EN 338)	1,300	All ULS/5	0,58	0,58	0,48
B73	CS11 - 2 Rect	C24 (EN 338)	3,972	All ULS/6	0,86	0,19	0,86
B79	CS12 - RECT	C24 (EN 338)	7,639	All ULS/5	0,95	0,95	0,79



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	

Timber ULS check

EN 1995-1-1 Code Check

Beam B77	2,425 m	CS12 - RECT (200; 160)	C24 (EN 338)	All ULS	1,02 -
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Combination key

All ULS / 1.35*LC1 + 1.35*LC2 + 1.50*LC3

The critical check is on position **2,425 m**.

Internal forces		
N _{Ed}	13,27	kN
V _{y,Ed}	1,31	kN
V _{z,Ed}	-22,56	kN
T _{Ed}	1,80	kNm
M _{y,Ed}	-1,29	kNm
M _{z,Ed}	-0,85	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	1
Load duration	Medium term
Modification factor k _{mod}	0,80

...: SECTION CHECK ...

Tension parallel to the grain

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

σ _{t,0,d}	0,4	MPa
k _h	1,00	
f _{t,0,d}	8,9	MPa
Unity check	0,05	-

Compression perpendicular to the grain

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

F _{c,90,d}	22,56	kN
l	100	mm
l _{ef}	100	mm
b	200	mm
A _{ef}	20000	mm ²
σ _{c,90,d}	1,1	MPa
Support condition	Discrete	
h	160	mm
k _{c,90}	1,00	-
f _{c,90,d}	1,5	MPa
Unity check	0,73	-

Bending

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

σ _{m,y,d}	1,2	MPa
k _{h,y}	1,00	
f _{m,y,d}	14,8	MPa
σ _{m,z,d}	1,0	MPa
k _{h,z}	1,00	
f _{m,z,d}	14,8	MPa
k _m	0,70	

Unity check (6.11) = 0,08 + 0,05 = 0,13 -

Unity check (6.12) = 0,06 + 0,07 = 0,12 -

Shear

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

k _{cr}	0,67	
τ _{y,d}	0,1	MPa
τ _{z,d}	1,6	MPa
f _{v,d}	2,5	MPa
Unity check τ _y	0,04	-
Unity check τ _z	0,64	-
Unity check Interaction	0,41	-

Note: The interaction equation has been added as a NCCI.

Torsion

According to EN 1995-1-1 article 6.1.8 and formula (6.14)

τ _{tor,d}	1,6	MPa
k _{shape}	1,06	
f _{v,d}	2,5	MPa
Unity check	0,61	-
Unity check Interaction Shear	1,02	-

Note: The interaction equation has been added as a NCCI.

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}	8,9	MPa
f _{m,y,d}	14,8	MPa
f _{m,z,d}	14,8	MPa
k _m	0,70	

Unity check (6.17) = 0,05 + 0,08 + 0,05 = 0,18 -

Unity check (6.18) = 0,05 + 0,06 + 0,07 = 0,17 -

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}	5692,45	kNm
Critical bending stress σ _{m,crit}	5336,7	MPa
Relative slenderness λ _{rel,m}	0,07	-
Reduction factor k _{crit}	1,00	-

Unity check (6.33) = 0,08 -

M _{y,crit} Parameters		
G _{0,05}	462,5	MPa
LTB length L	0,100	m
L _{ef} /L	1,00	
Effective length L _{ef}	0,100	m
Influence of load position	no influence	

The member satisfies the stability check.

Timber ULS check

EN 1995-1-1 Code Check

Beam B73	7,696 m	CS11 - 2 Rect (60; 400)	C24 (EN 338)	All ULS	0,86 -
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Combination key

All ULS / 1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5

The critical check is on position **3,972 m**.

Internal forces

NEd	-52,09	kN
Vy,Ed	0,06	kN
Vz,Ed	-0,37	kN
TEd	0,03	kNm
My,Ed	9,01	kNm
Mz,Ed	-0,30	kNm

Modification factor

Service Class	1
Load duration	Short term
Modification factor kmod	0,90

...: SECTION CHECK ...:

Compression parallel to the grain

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

$\sigma_{c,0,d}$	1,1	MPa
$f_{c,0,d}$	14,5	MPa
Unity check	0,07	-

Bending

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

$\sigma_{m,y,d}$	2,8	MPa
$k_{h,y}$	1,00	
$f_{m,y,d}$	16,6	MPa
$\sigma_{m,z,d}$	0,3	MPa
$k_{h,z}$	1,00	
$f_{m,z,d}$	16,6	MPa
k_m	1,00	

Unity check (6.11) = 0,17 + 0,02 = 0,19 -

Unity check (6.12) = 0,17 + 0,02 = 0,19 -

Shear

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

k_{cr}	0,67	
$\tau_{y,d}$	0,0	MPa
$\tau_{z,d}$	0,0	MPa
$f_{v,d}$	2,8	MPa
Unity check τ_y	0,00	-
Unity check τ_z	0,01	-
Unity check Interaction	0,00	-

Note: The interaction equation has been added as a NCCI.

Torsion

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
$f_{m,z,d}$	16,6	MPa
k_m	1,00	

Unity check (6.19) = 0,01 + 0,17 + 0,02 = 0,19 -

Unity check (6.20) = 0,01 + 0,17 + 0,02 = 0,19 -

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	7,696	7,696	m
Buckling factor k	1,34	0,77	
Buckling length L _{cr}	10,280	5,938	m
Slenderness λ	89,02	171,40	-
Relative slenderness λ	1,51	2,91	-
Limit slenderness	0,30	0,30	-
Imperfection β_c	0,20	0,20	-
Reduction factor k_c	0,38	0,11	-

Unity check (6.23) = 0,20 + 0,17 + 0,02 = 0,39 -

Unity check (6.24) = 0,67 + 0,17 + 0,02 = 0,86 -

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 $M_{y,crit}$	86,92	kNm
Critical bending stress $\sigma_{m,crit}$	27,2	MPa
Relative slenderness $\lambda_{rel,m}$	0,94	-
Reduction factor k_{crit}	0,86	-

Unity check (6.33) = 0,20 -

Unity check (6.35) = 0,04 + 0,67 = 0,71 -

$M_{y,crit}$ Parameters

G0,05	462,5	MPa
LTB length L	7,696	m
L _{ef} /L	0,90	
Effective length L _{ef}	6,927	m
Influence of load position	no influence	

The member satisfies the stability check.

Timber ULS check

EN 1995-1-1 Code Check

Beam B56	2,500 m	CS5 - 2 Rect (50; 150)	C24 (EN 338)	All ULS	0,58 -
----------	---------	------------------------	--------------	---------	--------

Combination key

All ULS / 1.35*LC1 + 1.35*LC2 + 1.50*LC3

The critical check is on position **1,300 m**.

Internal forces

N _{Ed}	0,74	kN
V _{y,Ed}	-0,54	kN
V _{z,Ed}	1,88	kN
T _{Ed}	-0,06	kNm
M _{y,Ed}	2,68	kNm
M _{z,Ed}	-0,33	kNm

Modification factor

Service Class	1
Load duration	Medium term
Modification factor k _{mod}	0,80

...: SECTION CHECK ...:

Tension parallel to the grain

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

σ _{t,0,d}	0,0	MPa
kh	1,00	
f _{t,0,d}	8,9	MPa
Unity check	0,01	-

Compression perpendicular to the grain

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

F _{c,90,d}	4,01	kN
l	100	mm
l _{ef}	160	mm
b	100	mm
A _{ef}	16000	mm ²
σ _{c,90,d}	0,3	MPa
Support condition	Discrete	
h	150	mm
k _{c,90}	1,50	-
f _{c,90,d}	1,5	MPa
Unity check	0,11	-

Bending

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

σ _{m,y,d}	7,2	MPa
kh _y	1,00	
f _{m,y,d}	14,8	MPa
σ _{m,z,d}	1,3	MPa
kh _z	1,00	
f _{m,z,d}	14,8	MPa
km	1,00	

Unity check (6.11) = 0,48 + 0,09 = 0,57 -

Unity check (6.12) = 0,48 + 0,09 = 0,57 -

Shear

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

k _{cr}	0,67	
τ _{y,d}	0,1	MPa
τ _{z,d}	0,3	MPa
f _{v,d}	2,5	MPa
Unity check τ _y	0,03	-
Unity check τ _z	0,11	-

Note: The interaction equation has been added as a NCCI.

Torsion

According to EN 1995-1-1 article 6.1.8 and formula (6.14)

τ _{tor,d}	0,2	MPa
k _{shape}	1,00	
f _{v,d}	2,5	MPa
Unity check	0,07	-
Unity check Interaction Shear	0,09	-

Note: The interaction equation has been added as a NCCI.

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}	8,9	MPa
f _{m,y,d}	14,8	MPa
f _{m,z,d}	14,8	MPa
km	1,00	

Unity check (6.17) = 0,01 + 0,48 + 0,09 = 0,58 -

Unity check (6.18) = 0,01 + 0,48 + 0,09 = 0,58 -

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}	55,64	kNm
Critical bending stress σ _{m,crit}	148,4	MPa
Relative slenderness λ _{rel,m}	0,40	-
Reduction factor k _{crit}	1,00	-

Unity check (6.33) = 0,48 -

My,crit Parameters

G _{0,05}	462,5	MPa
LTB length L	2,500	m
L _{ef} /L	0,80	
Effective length L _{ef}	2,000	m
Influence of load position	no influence	

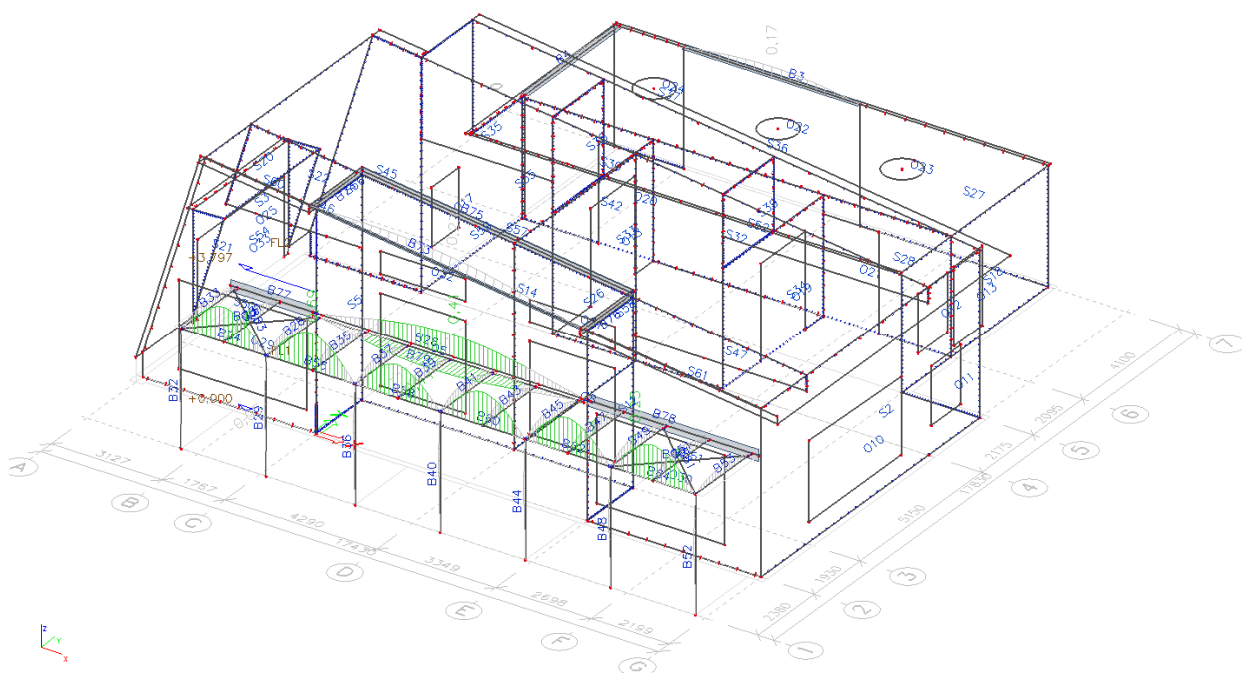
The member satisfies the stability check.

5.2. DEFORMACIJE Z UPOŠTEVANJEM LEZENJA

Linear calculation, Extreme : Cross-section

Selection : All; Class : All SLS

Member	Cross-section	dx [m]	Load case	Unity check [-]	uy inst [mm]	Rel uy inst [1/xx]	Check uy inst [-]	uy fin [mm]	Rel uy fin [1/xx]	Check uy fin [-]
	Material		k _{def} [-]		uz inst [mm]	Rel uz inst [1/xx]	Check uz inst [-]	uz fin [mm]	Rel uz fin [1/xx]	Check uz fin [-]
B3	CS1 - 2 Rect C24 (EN 338)	2,485	All SLS/1 0,60	0,17	0,0 -1,7	1/10000 1/3003	0,00 0,17	0,1 -2,3	1/10000 1/2206	0,00 0,14
B26	CS8 - 2 Rect C24 (EN 338)	3,875	All SLS/2 0,60	0,41	1,1 -6,3	1/7105 1/1209	0,07 0,41	1,4 -8,0	1/5545 1/950	0,05 0,32
B49	CS6 - RECT C24 (EN 338)	1,071	All SLS/2 0,60	0,25	0,0 -1,2	1/10000 1/1971	0,00 0,25	0,0 -1,5	1/10000 1/1616	0,00 0,19
B29	CS7 - RECT C24 (EN 338)	1,944	All SLS/3 0,60	0,05	0,3 0,0	1/9843 1/10000	0,05 0,00	0,4 0,0	1/9158 1/10000	0,03 0,00
B56	CS5 - 2 Rect C24 (EN 338)	1,300	All SLS/4 0,60	0,69	0,3 -3,5	1/7487 1/721	0,07 0,69	0,4 -4,4	1/6111 1/573	0,05 0,52
B73	CS11 - 2 Rect C24 (EN 338)	3,972	All SLS/1 0,60	0,23	-0,4 -3,6	1/10000 1/2161	0,03 0,23	-0,6 -4,8	1/10000 1/1609	0,02 0,19
B79	CS12 - RECT C24 (EN 338)	3,875	All SLS/2 0,60	0,44	-6,4 -1,2	1/1136 1/6083	0,44 0,08	-8,2 -1,5	1/894 1/4776	0,34 0,06

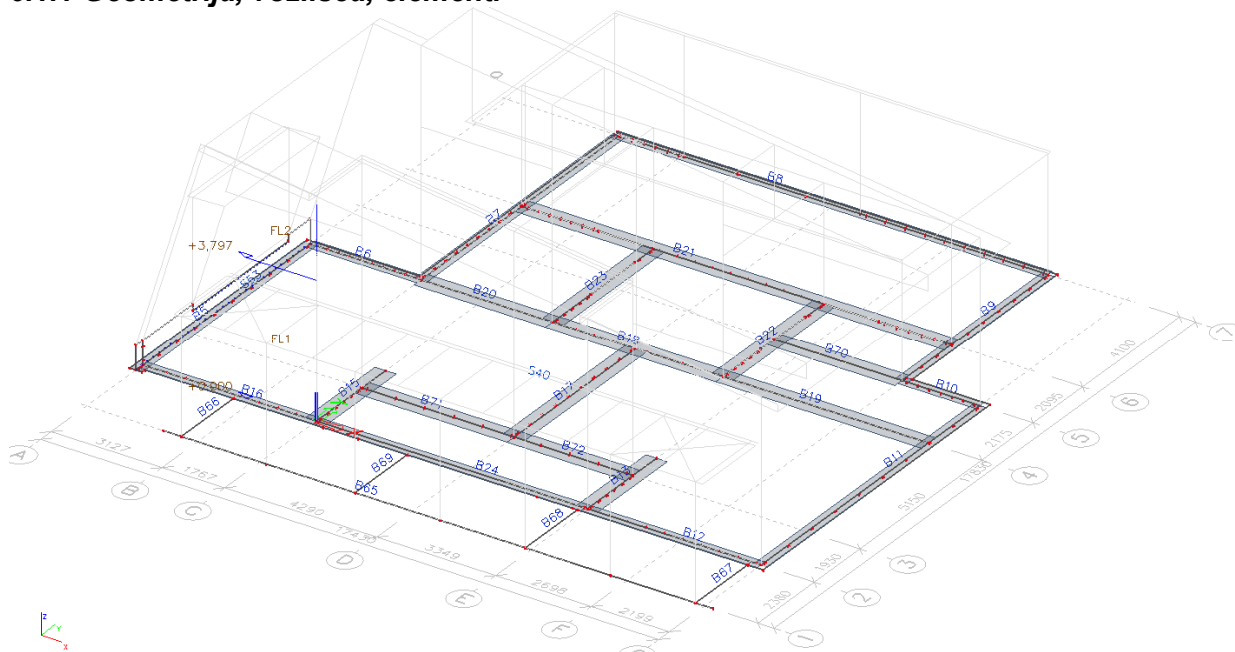


Deformacije Uz,fin [mm]

6.0) DIMENZIONIRANJE ELEMENTOV AB KONSTRUKCIJE

6.1.OSNOVNI PODATKI

6.1.1 Geometrija, vozlišča, elementi



6.2.DEFORMACIJE IN POMIKI

6.2.1 Pomiki vozlišč

Linear calculation

Class: All SLS; Extreme: Global; Selection: All

Name	Case	U _x [mm]	U _y [mm]	U _z [mm]	Φ _x [mrad]	Φ _y [mrad]	Φ _z [mrad]	U _{total} [mm]
N402	SLS-Char (auto)/1	0,1	0,1	-0,7	0,0	0,1	0,0	0,7
N9	SLS-Char (auto)/2	-0,1	-0,1	-0,7	0,0	0,1	0,0	0,7
N601	SLS-Char (auto)/3	0,1	0,1	-0,5	-0,1	0,0	0,0	0,5
N409	SLS-Char (auto)/4	-0,1	0,0	-0,9	0,0	-0,1	0,0	0,9
N608	SLS-Char (auto)/5	0,1	0,0	-0,3	0,1	0,0	0,0	0,4
N23	SLS-Char (auto)/6	0,0	0,0	-0,5	-0,2	0,0	0,0	0,5
N607	SLS-Char (auto)/6	-0,1	0,0	-0,4	0,1	-0,1	0,0	0,4
N265	SLS-Char (auto)/7	-0,3	0,0	-0,8	0,0	-0,2	0,0	0,8
N424	SLS-Char (auto)/8	0,1	0,1	-0,7	0,0	0,2	0,0	0,8
N142	SLS-Char (auto)/7	-0,1	0,0	-0,8	0,0	-0,1	0,0	0,8
N142	SLS-Char (auto)/9	0,1	0,0	-0,7	0,0	0,0	0,0	0,7

Name	Combination key
SLS-Char (auto)/1	LC1 + LC2 + 0.50*LC3 + LC4
SLS-Char (auto)/2	LC1 + LC2 + LC5
SLS-Char (auto)/3	LC1 + LC2 + 0.50*LC3 + LC4 + 0.70*LC6
SLS-Char (auto)/4	LC1 + LC2 + LC3 + 0.60*LC5 + 0.70*LC6
SLS-Char (auto)/5	LC1 + LC2 + LC4
SLS-Char (auto)/6	LC1 + LC2 + LC3 + 0.60*LC5
SLS-Char (auto)/7	LC1 + LC2 + 0.50*LC3 + LC5 + 0.70*LC8
SLS-Char (auto)/8	LC1 + LC2 + LC3 + 0.60*LC4
SLS-Char (auto)/9	LC1 + LC2 + LC4 + 0.70*LC7

6.2.2 Deformacije elementov – 1D

Linear calculation

Class: All SLS; Coordinate system: Global

Extreme 1D: Global; Selection: All

Deformations

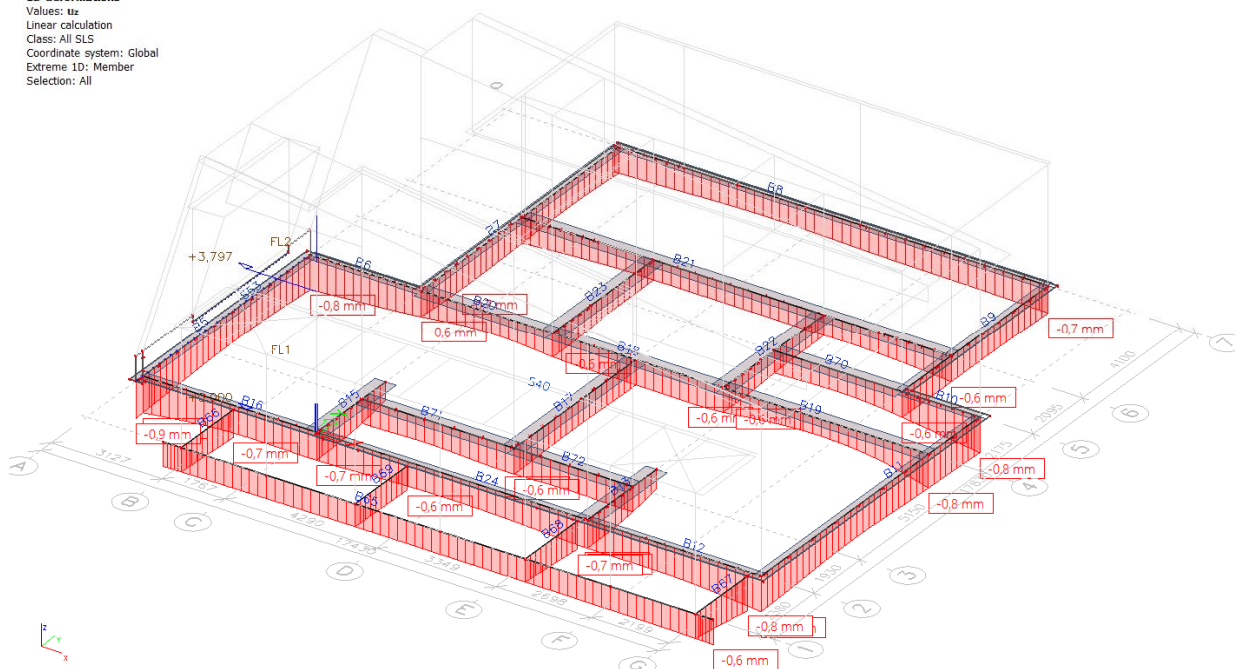
Name	dx [m]	Case	u _x [mm]	u _y [mm]	u _z [mm]	Φ _x [mrad]	Φ _y [mrad]	Φ _z [mrad]	U _{total} [mm]
B11	5,714-	SLS-Char (auto)/1	-0,2	-0,1	-0,6	0,0	0,2	0,0	0,7
B5	3,334-	SLS-Char (auto)/2	0,1	0,0	-0,6	0,0	-0,2	0,0	0,6

Name	dx [m]	Case	u _x [mm]	u _y [mm]	u _z [mm]	φ _x [mrad]	φ _y [mrad]	φ _z [mrad]	U _{total} [mm]
B8	8,444-	SLS-Char (auto)/3	0,0	-0,1	-0,6	-0,2	0,0	0,0	0,6
B12	2,204-	SLS-Char (auto)/2	0,1	0,1	-0,5	0,1	0,0	0,0	0,6
B5	0,000	SLS-Char (auto)/4	0,0	0,0	-0,9	0,0	-0,1	0,0	0,9
B19	2,520-	SLS-Char (auto)/5	0,0	0,0	-0,3	-0,1	0,0	0,0	0,3
B8	7,939-	SLS-Char (auto)/6	0,0	0,0	-0,6	-0,2	0,0	0,0	0,6
B12	2,449-	SLS-Char (auto)/7	-0,1	0,0	-0,6	0,1	0,0	0,0	0,6
B5	3,587-	SLS-Char (auto)/7	0,0	0,0	-0,7	0,0	-0,2	0,0	0,7
B11	4,703-	SLS-Char (auto)/7	-0,1	0,0	-0,7	0,0	0,3	0,0	0,7
B11	0,966-	SLS-Char (auto)/1	-0,1	-0,1	-0,7	0,0	0,1	0,0	0,7
B11	8,495-	SLS-Char (auto)/8	0,0	0,1	-0,7	0,0	0,1	0,0	0,7

Name	Combination key
SLS-Char (auto)/1	LC1 + LC2 + 0.50*LC3 + LC5
SLS-Char (auto)/2	LC1 + LC2 + 0.50*LC3 + LC4
SLS-Char (auto)/3	LC1 + LC2 + 0.50*LC3 + LC5 + 0.70*LC6
SLS-Char (auto)/4	LC1 + LC2 + LC3 + 0.60*LC5 + 0.70*LC6
SLS-Char (auto)/5	LC1 + LC2
SLS-Char (auto)/6	LC1 + LC2 + LC3 + 0.60*LC4 + 0.70*LC6
SLS-Char (auto)/7	LC1 + LC2 + LC3 + 0.60*LC5
SLS-Char (auto)/8	LC1 + LC2 + LC3 + 0.60*LC4

1D deformations

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



Deformacije Uz [mm]

6.2.2 Deformacije elementov – 2D

Linear calculation

Combination: SLS-Char (auto); Extreme: Global; Selection: All

Location: In nodes avg.. System: Global

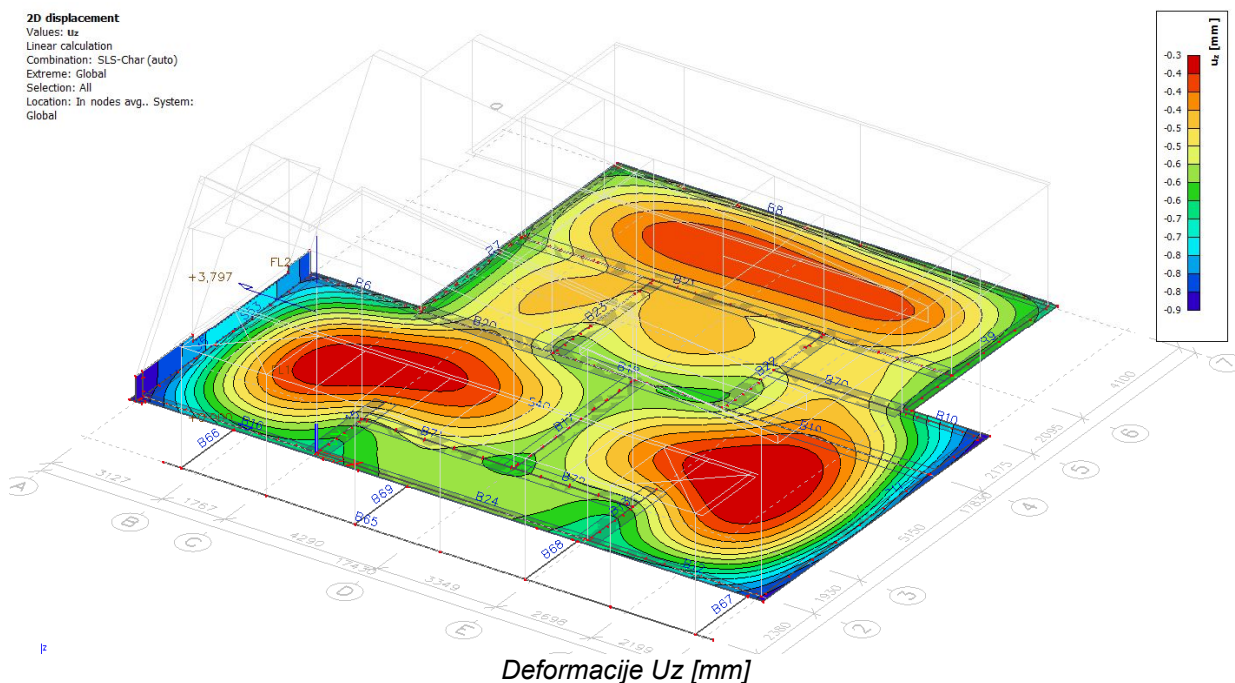
Name	Mesh	Case	u _x [mm]	u _y [mm]	u _z [mm]	φ _x [mrad]	φ _y [mrad]	φ _z [mrad]	U _{total} [mm]
S53	Node: 689	SLS-Char (auto)/1	-0,3	0,0	-0,8	0,0	-0,2	0,0	0,8
S40	Node: 160	SLS-Char (auto)/2	0,1	0,1	-0,7	0,0	0,1	0,0	0,7
S40	Node: 6464	SLS-Char (auto)/2	0,1	0,1	-0,7	0,0	0,2	0,0	0,7
S40	Node: 167	SLS-Char (auto)/4	-0,1	0,0	-0,9	0,0	-0,1	0,0	0,9
S40	Node: 8343	SLS-Char (auto)/5	0,0	0,0	-0,2	0,0	0,0	0,0	0,2
S40	Node: 3016	SLS-Char (auto)/6	0,0	0,1	-0,6	-0,2	0,0	0,0	0,6
S40	Node: 7067	SLS-Char (auto)/5	-0,1	0,0	-0,6	0,0	-0,3	0,0	0,6
S40	Node: 1380	SLS-Char (auto)/5	0,0	0,0	-0,7	0,0	0,3	0,0	0,7

Name	Mesh	Case	u_x [mm]	u_y [mm]	u_z [mm]	φ_x [mrad]	φ_y [mrad]	φ_z [mrad]	U_{total} [mm]
S40	Node: 8342	SLS-Char (auto)/8	0,0	0,0	-0,2	0,0	0,0	0,0	0,2

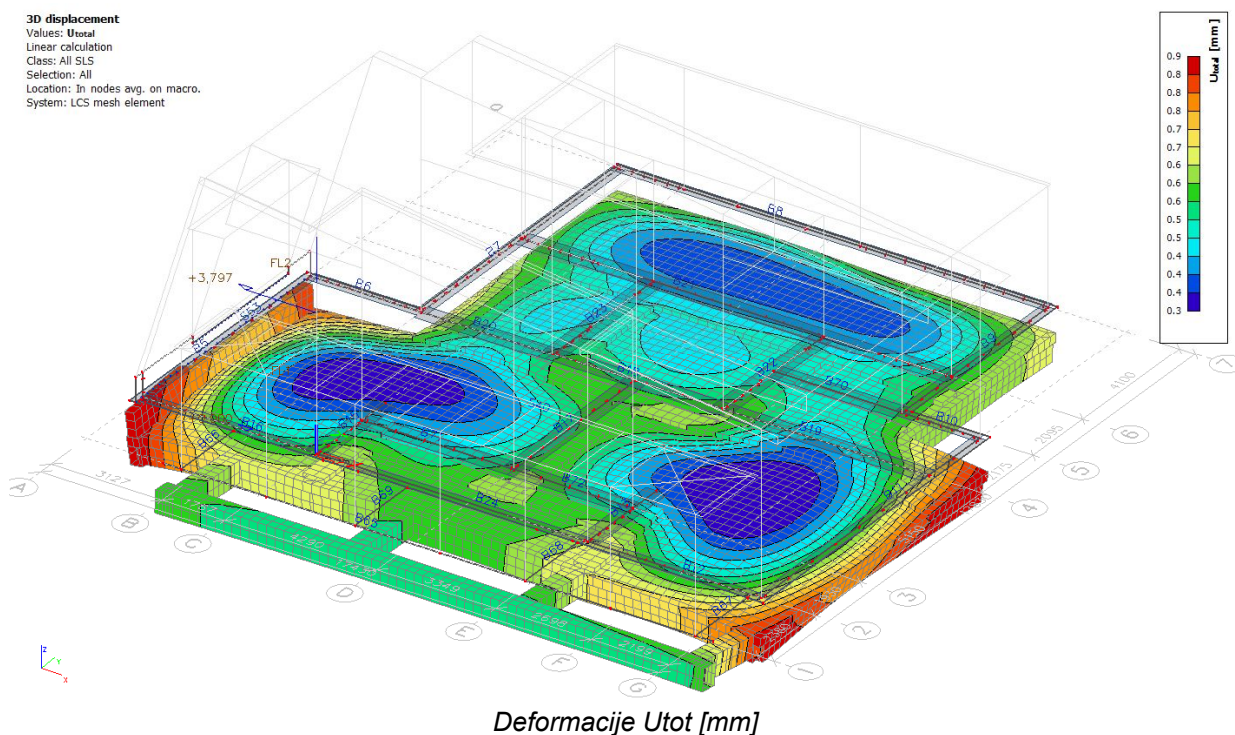
Name	Combination key
SLS-Char (auto)/1	LC1 + LC2 + 0.50*LC3 + LC5 + 0.70*LC8
SLS-Char (auto)/2	LC1 + LC2 + 0.50*LC3 + LC4
SLS-Char (auto)/3	LC1 + LC2 + 0.50*LC3 + LC5
SLS-Char (auto)/4	LC1 + LC2 + LC3 + 0.60*LC5 + 0.70*LC6
SLS-Char (auto)/5	LC1 + LC2 + LC3 + 0.60*LC5
SLS-Char (auto)/6	LC1 + LC2 + LC3 + 0.60*LC4 + 0.70*LC6
SLS-Char (auto)/7	LC1 + LC2 + LC3 + 0.60*LC4
SLS-Char (auto)/8	LC1 + LC2

2D displacement

Values: u_z
 Linear calculation
 Combination: SLS-Char (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg.. System:
 Global

**3D displacement**

Values: U_{total}
 Linear calculation
 Class: All SLS
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element



6.3. NOTRANJE STATIČNE KOLIČINE

6.3.1 Notranje statične količine – 1D

Linear calculation

Combination: ULS-Set B (auto)

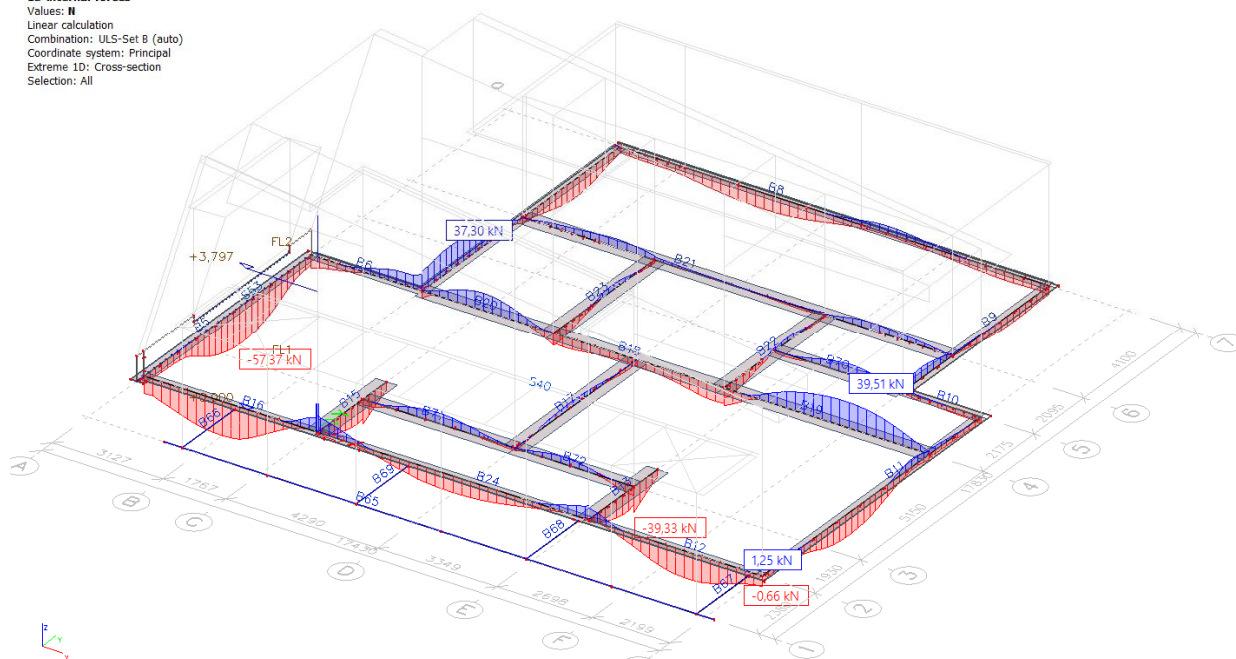
Coordinate system: Principal; Extreme 1D: Cross-section; Selection: All

Name	dx [m]	Case	Cross-section	N [kN]	V _y [kN]	V _z [kN]	M _x [kNm]	M _y [kNm]	M _z [kNm]	V _r [kN/m]
B5	4,346-	ULS-Set B (auto)/1	CS10 - Rectangle (500; 350)	-57,37	-5,26	-2,67	-2,34	-12,40	0,64	-4,74
B7	1,004-	ULS-Set B (auto)/2	CS10 - Rectangle (500; 350)	37,30	1,82	-2,92	2,70	11,71	0,05	-5,03
B5	7,127-	ULS-Set B (auto)/1	CS10 - Rectangle (500; 350)	-16,08	-19,72	0,28	-8,30	-4,93	-2,42	0,49
B5	0,553-	ULS-Set B (auto)/1	CS10 - Rectangle (500; 350)	-12,29	26,07	6,39	7,09	-2,66	-2,33	11,34
B6	3,127	ULS-Set B (auto)/1	CS10 - Rectangle (500; 350)	24,64	-17,72	-14,13	-13,20	7,86	-6,59	-25,08
B12	0,490-	ULS-Set B (auto)/3	CS10 - Rectangle (500; 350)	-18,81	12,81	-1,43	9,04	-7,27	-2,85	-2,53
B16	2,282-	ULS-Set B (auto)/3	CS10 - Rectangle (500; 350)	-49,20	3,55	-23,38	-2,38	-24,41	-0,83	-41,51
B16	0,080+	ULS-Set B (auto)/2	CS10 - Rectangle (500; 350)	22,90	5,07	-7,93	2,94	19,63	-2,09	-14,07
B11	9,254	ULS-Set B (auto)/1	CS10 - Rectangle (500; 350)	-8,63	-16,94	-13,84	-7,26	-0,22	-6,62	-24,56
B11	2,174-	ULS-Set B (auto)/1	CS10 - Rectangle (500; 350)	4,35	5,43	16,28	3,93	8,10	3,09	28,90
B16	0,814-	ULS-Set B (auto)/3	CS10 - Rectangle (500; 350)	0,76	8,43	-32,50	2,88	3,85	0,27	-57,68
B12	4,163-	ULS-Set B (auto)/4	CS10 - Rectangle (500; 350)	0,93	-8,69	24,80	-5,07	4,20	0,02	44,02
B13	1,929+	ULS-Set B (auto)/5	CS2 - Rectangle (250; 600)	-39,33	-15,44	-31,47	2,38	14,65	2,98	106,64
B19	3,529-	ULS-Set B (auto)/6	CS2 - Rectangle (250; 600)	39,51	-2,21	-1,16	0,08	-10,71	-0,20	3,94
B19	0,000	ULS-Set B (auto)/2	CS2 - Rectangle (250; 600)	-22,12	-18,02	-25,09	2,81	12,11	3,04	85,00
B20	0,000	ULS-Set B (auto)/6	CS2 - Rectangle (250; 600)	-9,04	18,74	-33,27	3,47	11,54	-3,42	112,72
B70	3,598	ULS-Set B (auto)/2	CS2 - Rectangle (250; 600)	-3,41	-9,11	20,22	-3,38	2,55	-2,25	-68,51
B20	0,000	ULS-Set B (auto)/7	CS2 - Rectangle (250; 600)	-8,60	19,44	-32,59	3,79	11,18	-3,62	110,43
B19	4,033-	ULS-Set B (auto)/8	CS2 - Rectangle (250; 600)	37,08	-2,76	0,63	-0,74	-11,11	-0,45	-2,12
B20	0,000	ULS-Set B (auto)/2	CS2 - Rectangle (250; 600)	-4,51	19,61	-31,70	3,78	9,51	-3,91	107,39
B15	1,000-	ULS-Set B (auto)/1	CS2 - Rectangle (250; 600)	-36,64	13,27	28,32	-1,86	12,14	2,38	-95,97
B67	1,985+	ULS-Set B (auto)/9	CS9 - Rectangle (600; 500)	-0,66	-0,61	7,53	-1,29	4,80	-0,03	-
B67	1,985+	ULS-Set B (auto)/10	CS9 - Rectangle (600; 500)	1,25	0,71	8,41	-2,81	3,71	-0,01	-
B65	12,600+	ULS-Set B (auto)/11	CS9 - Rectangle (600; 500)	0,08	-0,15	-5,29	2,76	1,28	0,16	-
B67	1,985+	ULS-Set B (auto)/3	CS9 - Rectangle (600; 500)	0,02	-0,22	13,36	-2,81	6,34	-0,02	-
B67	1,985+	ULS-Set B (auto)/8	CS9 - Rectangle (600; 500)	0,95	0,50	9,83	-3,17	3,83	-0,02	-
B65	14,760+	ULS-Set B (auto)/2	CS9 - Rectangle (600; 500)	-0,22	0,13	2,44	2,96	-2,60	0,11	-
B67	0,000	ULS-Set B (auto)/2	CS9 - Rectangle (600; 500)	0,15	0,05	0,17	-2,86	-4,02	0,16	-
B67	2,205	ULS-Set B (auto)/12	CS9 - Rectangle (600; 500)	-0,43	-0,53	12,38	-2,25	9,52	-0,15	-
B65	15,000-	ULS-Set B (auto)/10	CS9 - Rectangle (600; 500)	0,55	-0,71	0,72	2,02	-2,94	-0,76	-
B67	0,000	ULS-Set B (auto)/13	CS9 - Rectangle (600; 500)	-0,27	-0,06	1,44	-1,40	-2,60	0,59	-

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC8
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 1.50*LC3
ULS-Set B (auto)/5	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC6
ULS-Set B (auto)/6	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC7
ULS-Set B (auto)/7	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC8
ULS-Set B (auto)/8	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4
ULS-Set B (auto)/9	LC1 + LC2 + 1.50*LC5
ULS-Set B (auto)/10	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC4 + 1.05*LC6
ULS-Set B (auto)/11	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 1.05*LC8
ULS-Set B (auto)/12	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5 + 1.05*LC6
ULS-Set B (auto)/13	LC1 + LC2 + 1.50*LC5 + 1.05*LC8

1D internal forces

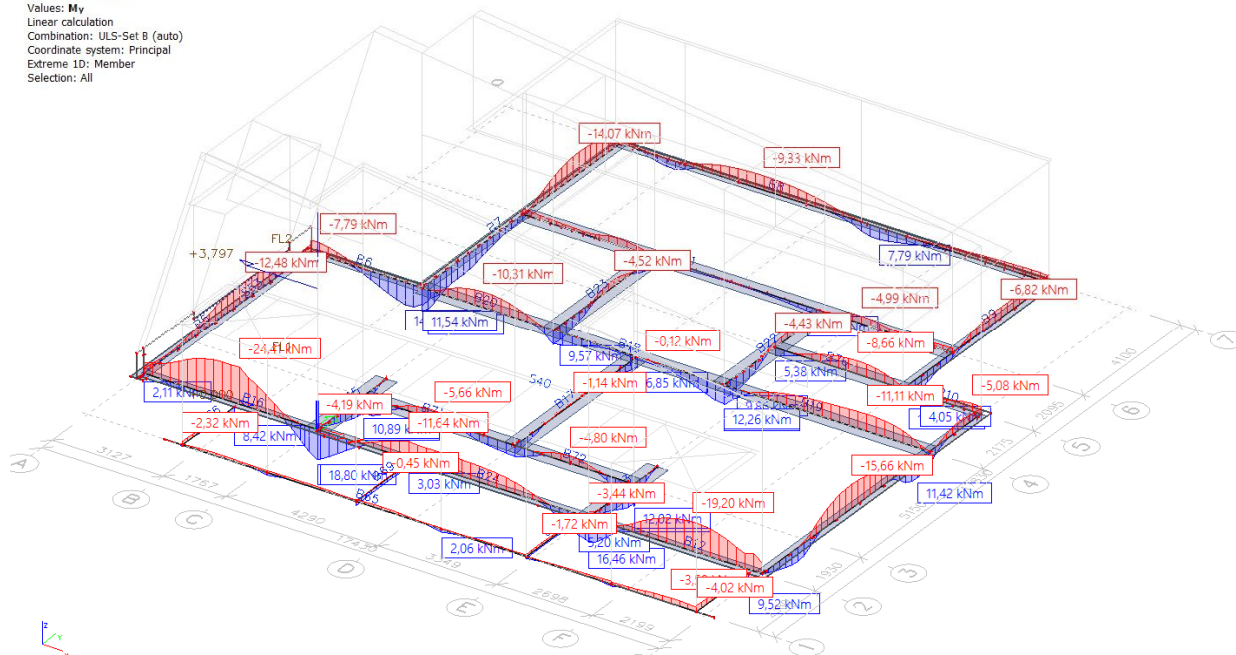
1D internal forces
Values: **N**
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



Osne sile N_x [kN]

1D internal forces

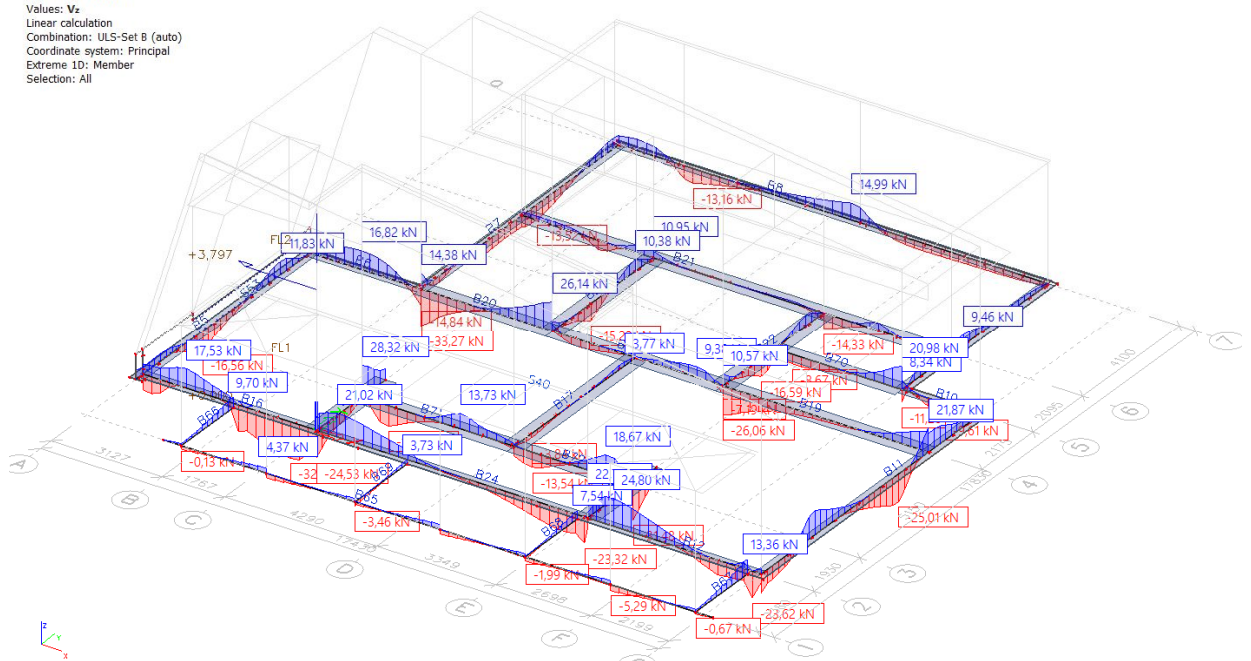
Values: My
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Member
Selection: All



Upogibni momenti M_y [kNm]

1D internal forces

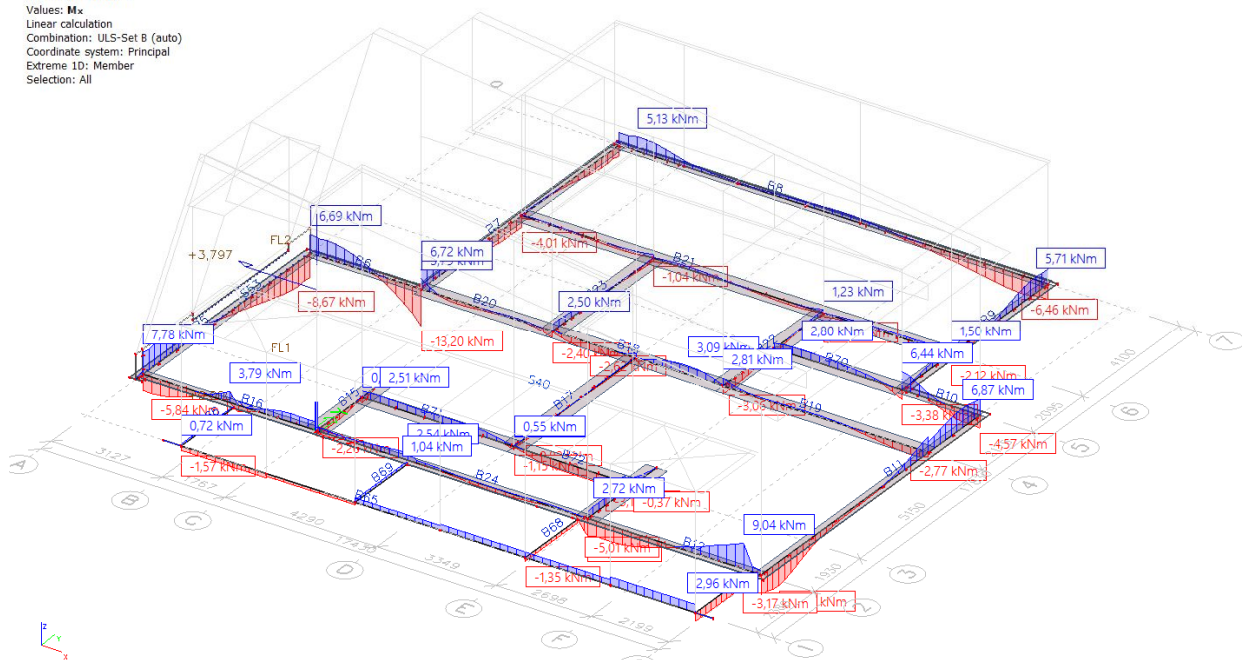
Values: Vz
 Linear calculation
 Combination: ULS-Set B (auto)
 Coordinate system: Principal
 Extreme 1D: Member
 Selection: All



Prečne sile Vz [kN]

1D internal forces

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



Torzijski momenti Mx [kNm]

6.3.2 Notranje statične količine – 2D

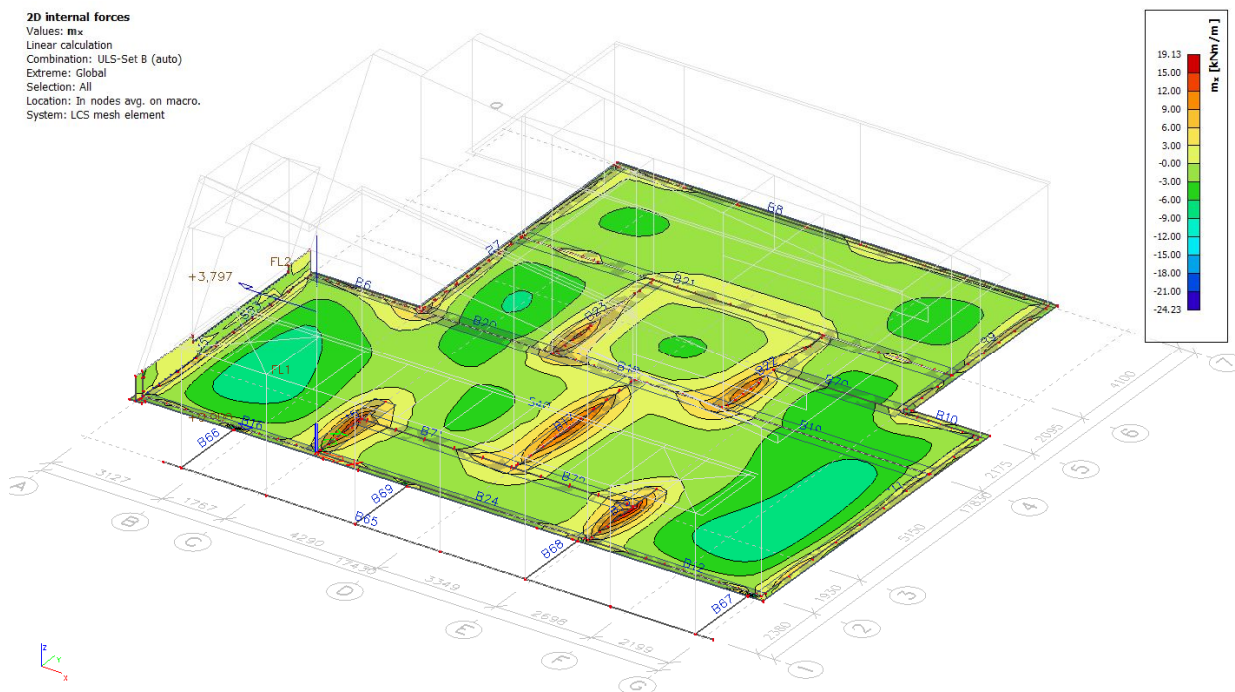
Linear calculation
 Combination: ULS-Set B (auto); Extreme: Global; Selection: Named selection - stene
 Location: In nodes avg. on macro. System: LCS mesh element

Basic magnitudes

Name	Mesh	Case	m_x [kNm/m] m_y [kNm/m]	m_{xy} [kNm/m]	v_x [kN/m] v_y [kN/m]	n_x [kN/m] n_y [kN/m]	n_{xy} [kN/m]
S40	Element: 5964 Node: 179	ULS-Set B (auto)/1	-24,23 24,34	14,38	186,52 -40,15	23,74 4,40	-53,30
S40	Element: 7519 Node: 35	ULS-Set B (auto)/2	19,13 9,38	1,08	-59,33 -23,49	-33,68 55,90	-17,71
S40	Element: 9531 Node: 9839	ULS-Set B (auto)/3	-1,62 -6,91	-0,26	-0,61 0,20	0,30 -3,45	2,18
S40	Element: 5963 Node: 6602	ULS-Set B (auto)/1	-13,14 31,80	-6,25	2,64 -18,75	30,69 -0,51	7,34
S40	Element: 5963 Node: 179	ULS-Set B (auto)/1	-2,32 23,36	-20,46	-122,85 -2,38	28,61 7,80	20,17
S40	Element: 5901 Node: 178	ULS-Set B (auto)/4	-10,61 19,39	20,19	118,80 -49,43	61,54 -10,19	-25,90
S40	Element: 5900 Node: 178	ULS-Set B (auto)/1	-13,58 21,44	-14,33	-167,89 -9,59	74,77 20,05	-0,64
S40	Element: 5901 Node: 178	ULS-Set B (auto)/5	-9,43 18,54	19,21	106,52 -50,06	56,37 -11,96	-26,38
S40	Element: 6367 Node: 122	ULS-Set B (auto)/6	6,57 23,35	-0,55	-29,63 72,65	34,51 7,60	-52,41
S40	Element: 6344 Node: 28	ULS-Set B (auto)/7	3,09 -1,39	-1,53	9,58 28,16	-100,89 -56,86	10,34
S53	Element: 11718 Node: 11942	ULS-Set B (auto)/6	-0,13 0,12	0,57	-16,61 0,56	169,58 0,95	0,00
S53	Element: 11708 Node: 17	ULS-Set B (auto)/6	0,86 3,48	-0,84	-9,72 36,42	-46,15 -157,37	-8,75
S53	Element: 11672 Node: 16472	ULS-Set B (auto)/8	0,51 -2,36	-0,11	-33,75 8,62	39,42 85,87	-27,69
S40	Element: 6367 Node: 122	ULS-Set B (auto)/9	7,25 22,25	-0,83	-30,41 69,78	32,37 7,45	-64,57
S40	Element: 8413 Node: 89	ULS-Set B (auto)/10	-2,02 -0,57	-0,49	1,58 -10,69	-41,79 -28,27	41,64

2D internal forces

Values: m_x
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element

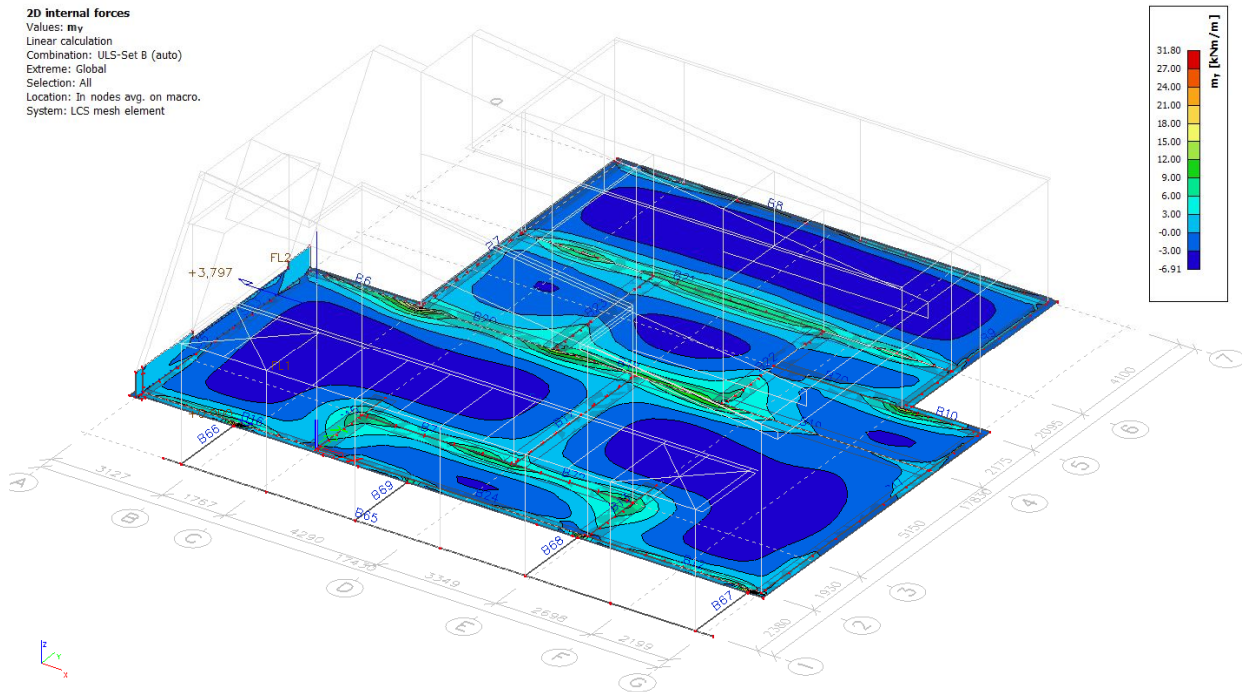


Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC6
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 0.90*LC5 + 1.50*LC6

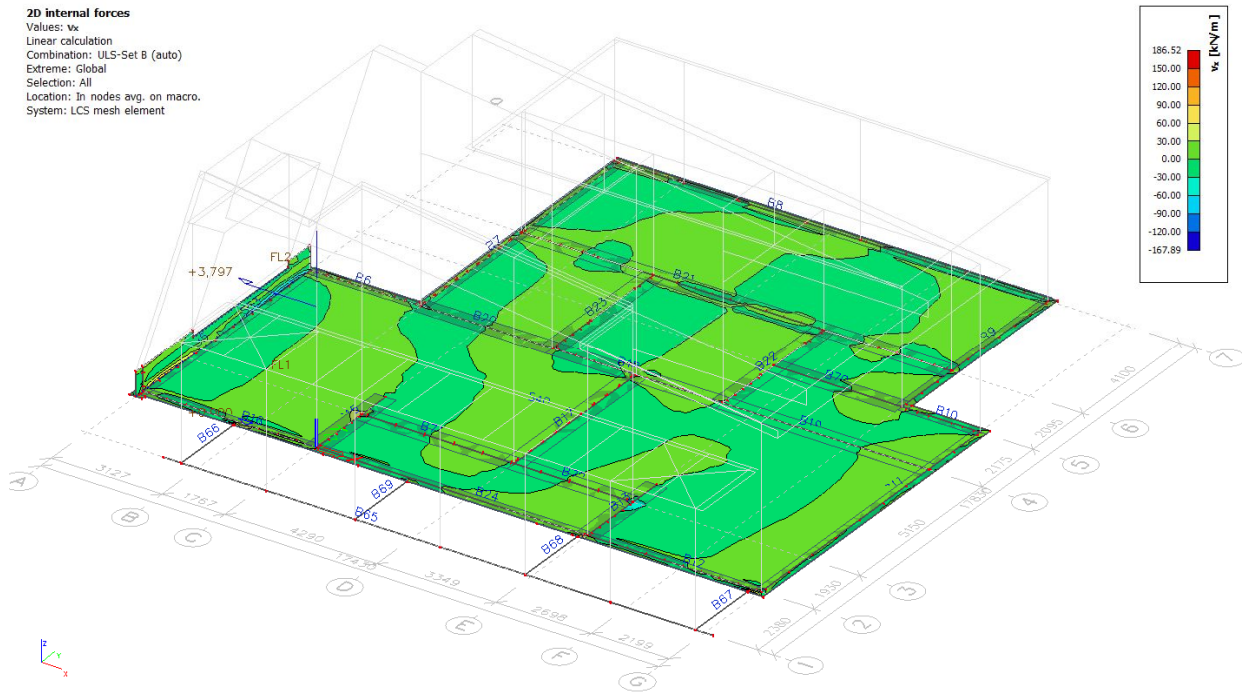
Name	Combination key
ULS-Set B (auto)/5	1.35*LC1 + 1.35*LC2 + 1.50*LC5 + 1.05*LC6
ULS-Set B (auto)/6	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5
ULS-Set B (auto)/7	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC8
ULS-Set B (auto)/8	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC4
ULS-Set B (auto)/9	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC7
ULS-Set B (auto)/10	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC7

2D internal forces

Values: m_y
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element

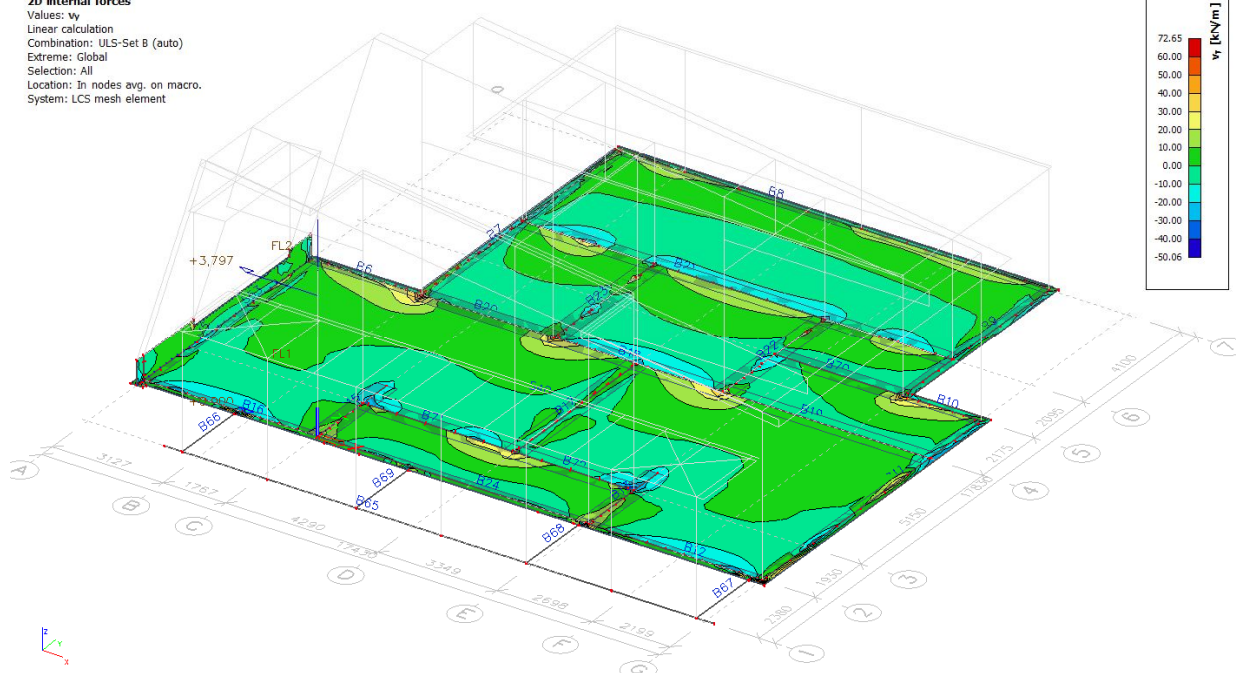
**2D internal forces**

Values: v_x
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element



2D internal forces

2D internal forces
Values: v_y
Linear calculation
Combination: ULS-Set B (auto)
Extreme: Global
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element



6.4. NAPETOSTI V ELEMENTIH

6.4.1 Napetosti – 1D

Linear calculation

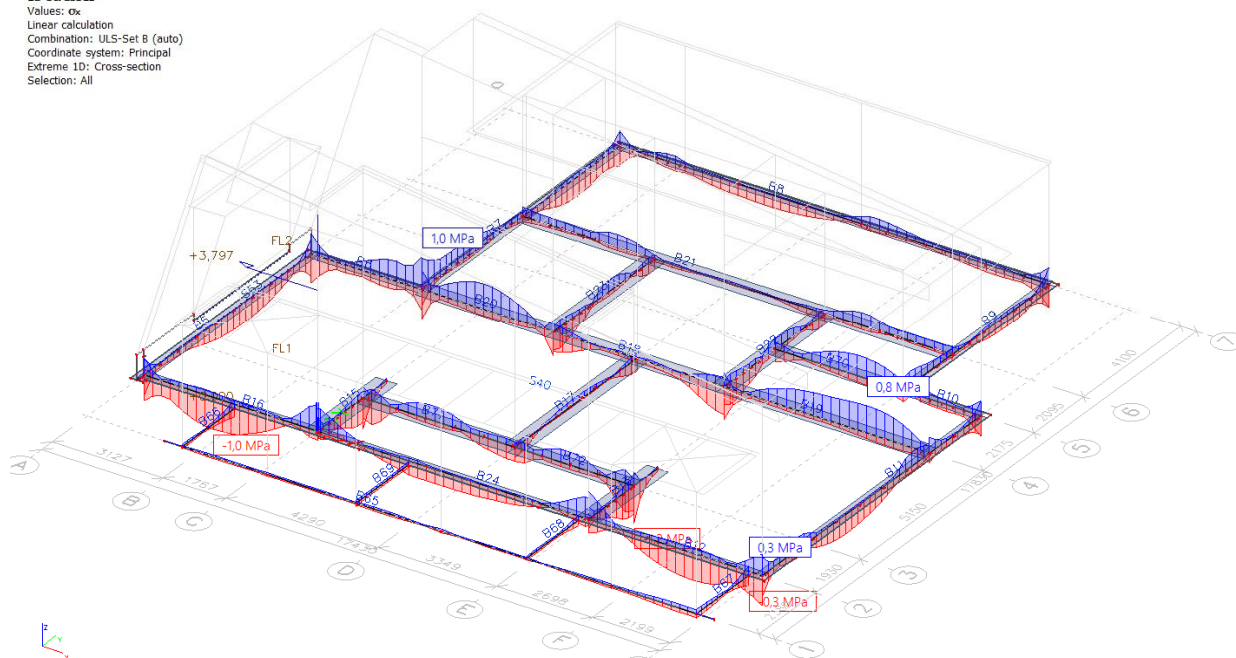
Combination: ULS-Set B (auto)

Coordinate system: Principal; Extreme 1D: Cross-section

Name	dx [m]	Fibre	Case	Cross-section	σ_x [MPa]	T_{xy} [MPa]	T_{xz} [MPa]	T_{tor} [MPa]
B16	3,016-	1	ULS-Set B (auto)/1	CS10 - Rectangle (500; 350)	-1,0	0,0	0,0	0,0
B6	3,127	1	ULS-Set B (auto)/2	CS10 - Rectangle (500; 350)	1,0	0,0	0,0	0,0
B13	1,929+	3	ULS-Set B (auto)/3	CS2 - Rectangle (250; 600)	-1,2	0,0	0,0	0,0
B19	4,033-	3	ULS-Set B (auto)/4	CS2 - Rectangle (250; 600)	0,8	0,0	0,0	0,0
B67	2,205	5	ULS-Set B (auto)/5	CS9 - Rectangle (600; 500)	-0,3	0,0	0,0	0,0
B67	2,205	1	ULS-Set B (auto)/5	CS9 - Rectangle (600; 500)	0,3	0,0	0,0	0,0

1D stresses

1D stresses
Values: σ_x
Linear calculation
Combination: ULS-Set B (auto)
Coordinate system: Principal
Extreme 1D: Cross-section
Selection: All



Normalne napetosti – Sig,X (Mpa)

Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC7
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC6
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4
ULS-Set B (auto)/5	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5 + 1.05*LC6

6.4.2 Napetosti – 2D

Linear calculation

Combination: ULS-Set B (auto); Extreme: Global; Selection: Named selection - stene

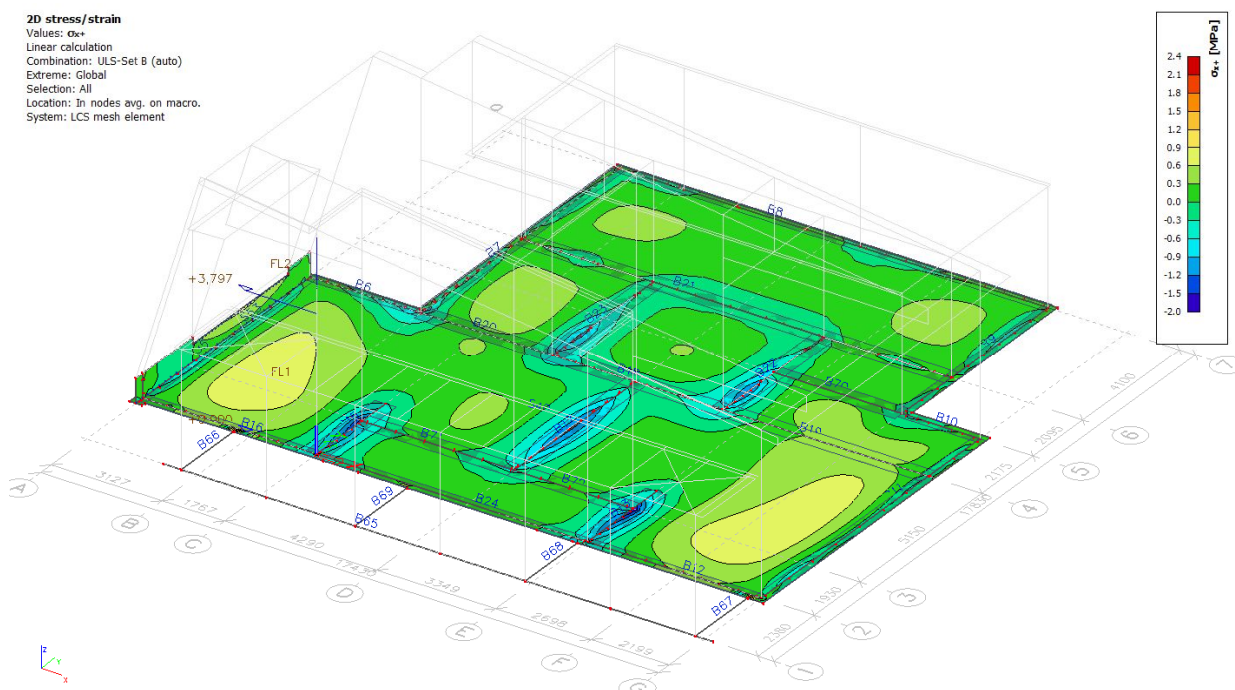
Location: In nodes avg. on macro. System: LCS mesh element

Basic stress

Name	Mesh	Case	σ_{x+} [MPa]	σ_{y+} [MPa]	T_{xy+} [MPa]	T_{xz} [MPa]	T_{yz} [MPa]
S40	Element: 7519 Node: 35	ULS-Set B (auto)/1	-2,0 1,7	-0,7 1,1	-0,2 0,0	0,4	0,1
S40	Element: 7518 Node: 1387	ULS-Set B (auto)/1	-1,8 1,7	-0,7 1,1	0,0 0,1	0,2	0,0
S40	Element: 5963 Node: 6602	ULS-Set B (auto)/2	1,4 -1,2	-3,1 3,0	0,6 -0,5	0,0	0,2
S40	Element: 9532 Node: 9840	ULS-Set B (auto)/3	0,2 -0,2	0,7 -0,7	0,0 0,0	0,0	0,0
S40	Element: 9530 Node: 9838	ULS-Set B (auto)/3	0,1 -0,1	0,6 -0,7	0,0 0,0	0,0	0,0
S40	Element: 5963 Node: 6602	ULS-Set B (auto)/4	1,4 -1,1	-3,1 3,1	0,6 -0,6	0,0	0,1
S40	Element: 5901 Node: 178	ULS-Set B (auto)/5	1,3 -0,8	-1,9 1,8	-2,0 1,8	-0,7	0,3
S40	Element: 5963 Node: 179	ULS-Set B (auto)/4	0,3 -0,1	-2,2 2,3	2,0 -1,9	0,7	0,0
S40	Element: 5964 Node: 179	ULS-Set B (auto)/4	2,4 -2,2	-2,3 2,4	-1,6 1,2	-1,1	0,2
S40	Element: 5900 Node: 178	ULS-Set B (auto)/4	1,6 -1,0	-2,0 2,1	1,4 -1,4	1,0	0,1
S40	Element: 6367 Node: 122	ULS-Set B (auto)/6	-0,5 0,8	-2,2 2,3	-0,2 -0,3	0,2	-0,4
S40	Element: 5901 Node: 178	ULS-Set B (auto)/7	1,1 -0,7	-1,8 1,7	-1,9 1,7	-0,6	0,3

2D stress/strain

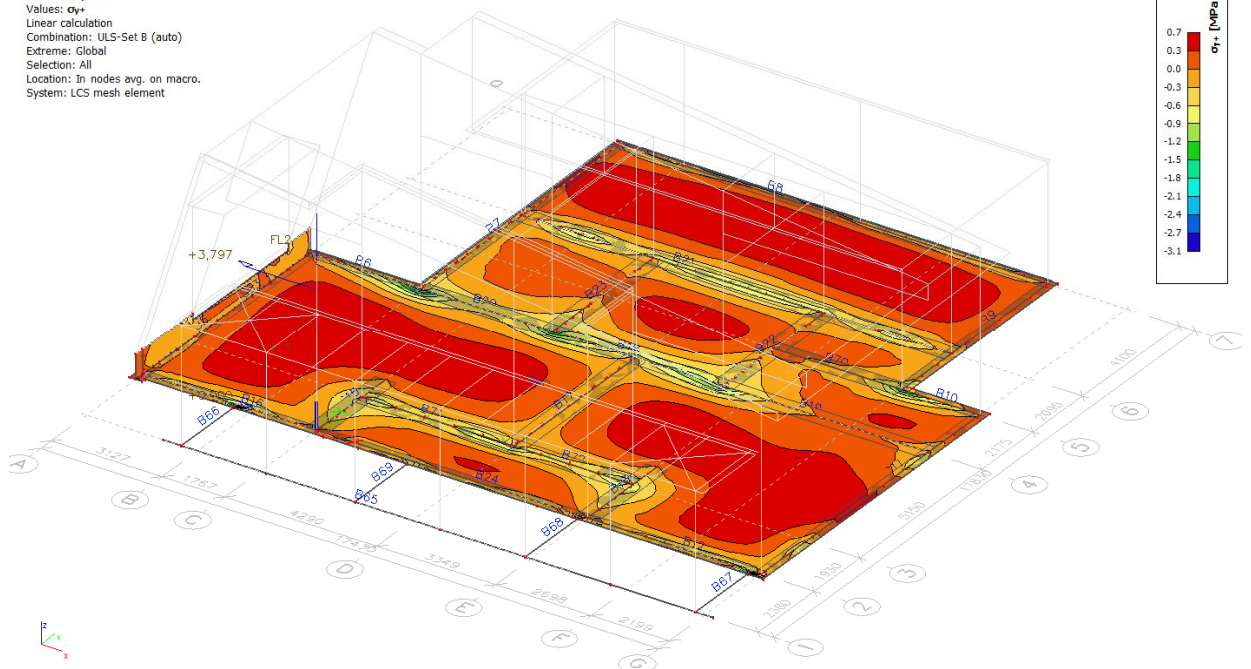
Values: σ_{x+}
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element



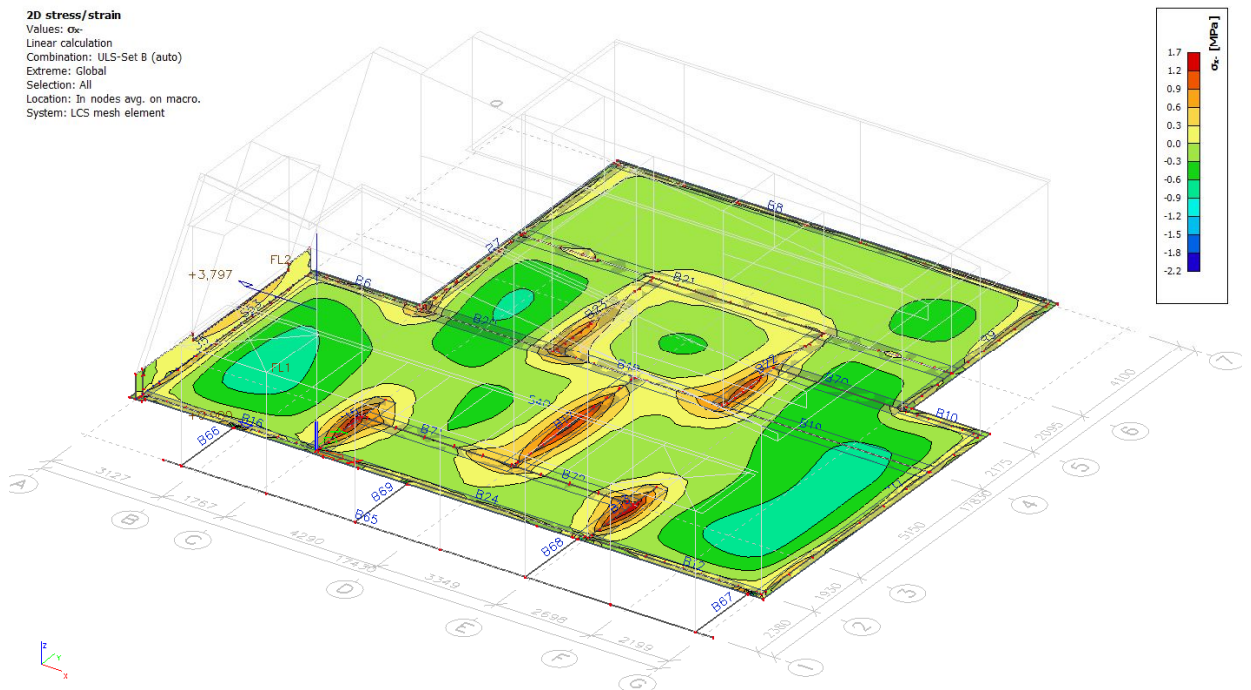
Name	Combination key
ULS-Set B (auto)/1	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4
ULS-Set B (auto)/2	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 1.50*LC5 + 1.05*LC6
ULS-Set B (auto)/3	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC4 + 1.05*LC6
ULS-Set B (auto)/4	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5 + 1.05*LC6
ULS-Set B (auto)/5	1.35*LC1 + 1.35*LC2 + 0.75*LC3 + 0.90*LC5 + 1.50*LC6
ULS-Set B (auto)/6	1.35*LC1 + 1.35*LC2 + 1.50*LC3 + 0.90*LC5
ULS-Set B (auto)/7	1.35*LC1 + 1.35*LC2 + 1.50*LC5 + 1.05*LC6

2D stress/strain

Values: σ_y
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element

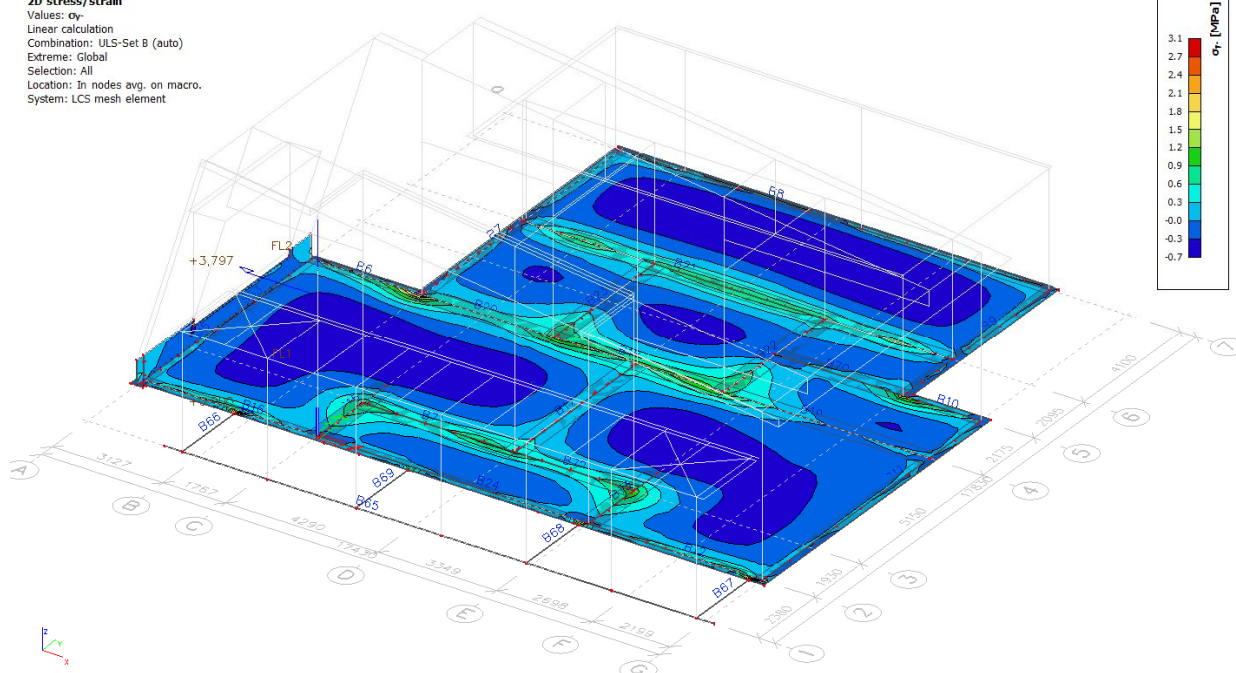
**2D stress/strain**

Values: σ_x
 Linear calculation
 Combination: ULS-Set B (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element



2D stress/strain

Values: σ_x
Linear calculation
Combination: ULS-Set B (auto)
Extreme: Global
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element



6.4.3 Kontaktne napetosti – 2D

Linear calculation

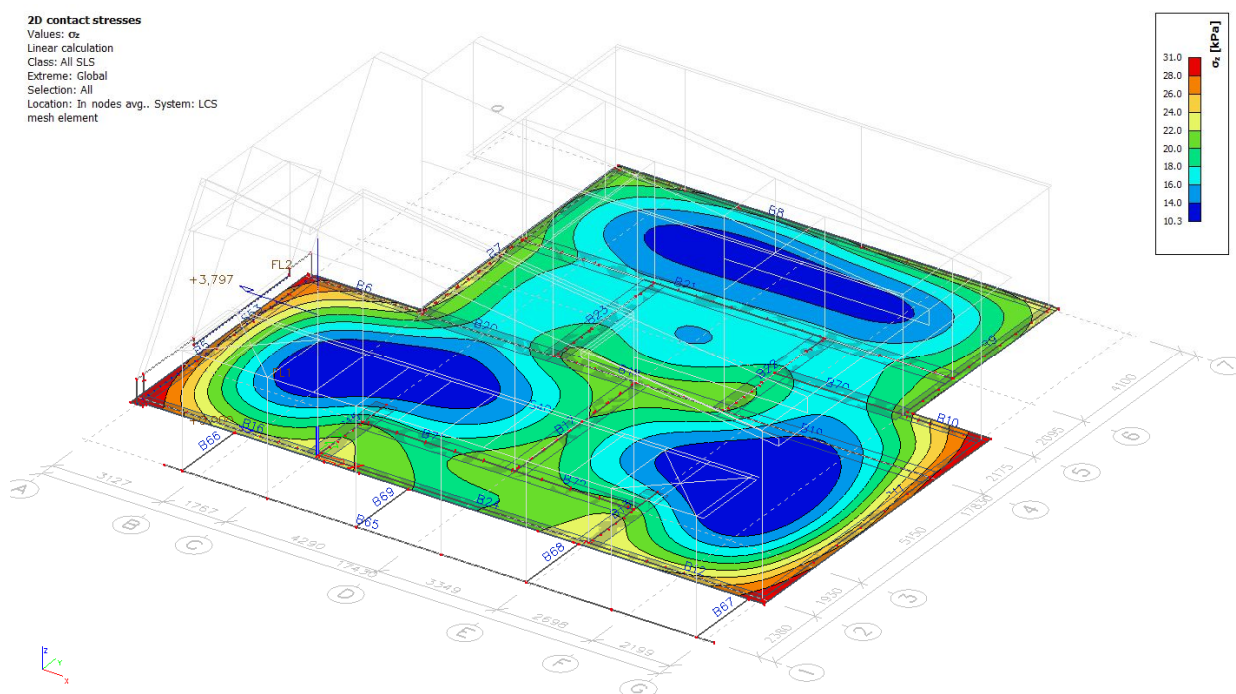
Class: All SLS; Extreme: Global

Selection: All; Location: In nodes avg.. System: LCS mesh element

Name	Mesh	Case	T_{zx} [kPa]	T_{yz} [kPa]	σ_z [kPa]
S40	Node: 6439	SLS-Char (auto)/1	-0,3	-0,3	23,8
S40	Node: 154	SLS-Char (auto)/2	0,4	0,0	29,7
S40	Node: 6464	SLS-Char (auto)/1	-0,2	-0,3	24,4
S40	Node: 6449	SLS-Char (auto)/2	0,3	0,3	26,4
S40	Node: 8343	SLS-Char (auto)/3	0,1	0,1	7,6
S40	Node: 167	SLS-Char (auto)/4	0,2	0,0	31,0

2D contact stresses

Values: σ_x
Linear calculation
Class: All SLS
Extreme: Global
Selection: All
Location: In nodes avg.. System: LCS
mesh element



Name	Combination key
SLS-Char (auto)/1	LC1 + LC2 + 0.50*LC3 + LC4
SLS-Char (auto)/2	LC1 + LC2 + 0.50*LC3 + LC5 + 0.70*LC6
SLS-Char (auto)/3	LC1 + LC2 + LC3 + 0.60*LC5
SLS-Char (auto)/4	LC1 + LC2 + LC3 + 0.60*LC5 + 0.70*LC6

Linear calculation

Combination: ULS-Seis (auto); Extreme: Global; Selection: All

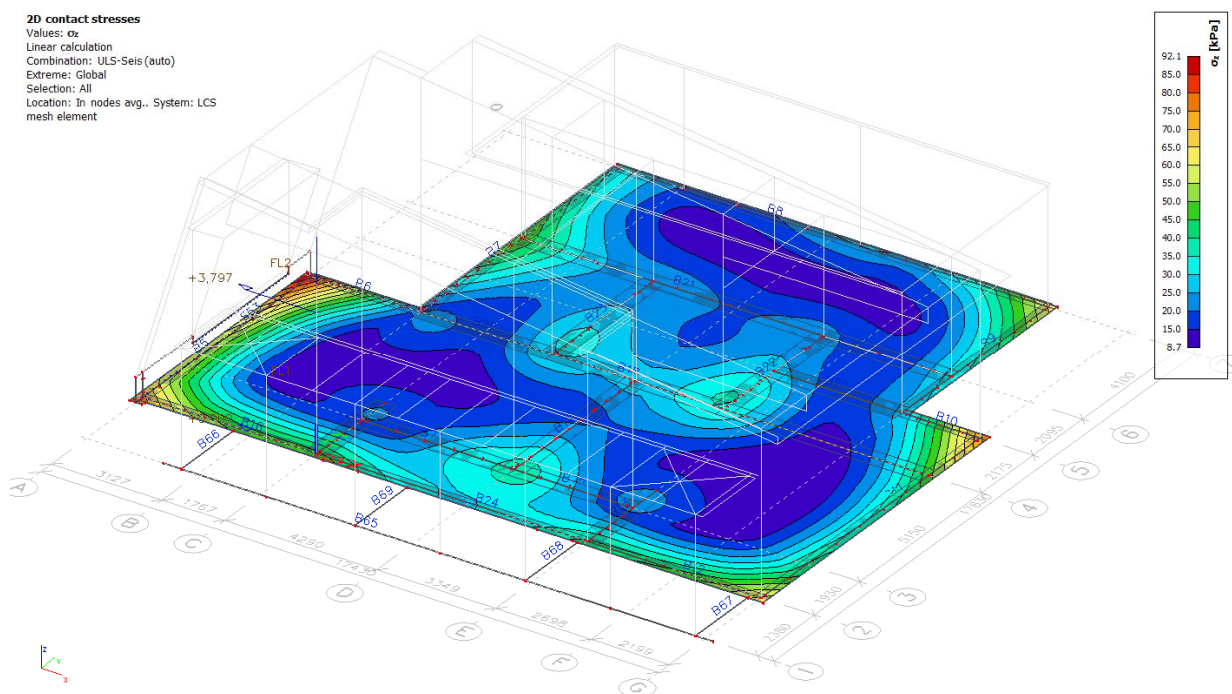
Location: In nodes avg.. System: LCS mesh element

Name	Mesh	Case	T _{zx} [kPa]	T _{yz} [kPa]	σ _z [kPa]
S40	Node: 160	ULS-Seis (auto)/1	-7,1	-3,4	25,4
S40	Node: 154	ULS-Seis (auto)/2	7,2	0,0	55,9
S40	Node: 6441	ULS-Seis (auto)/3	-2,7	-6,9	-5,1
S40	Node: 6442	ULS-Seis (auto)/4	2,6	6,9	49,7
S40	Node: 166	ULS-Seis (auto)/5	-5,7	3,3	-43,8
S40	Node: 166	ULS-Seis (auto)/6	5,6	-3,3	92,1

Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/2	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 + ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/4	LC1 + LC2 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/5	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/6	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11

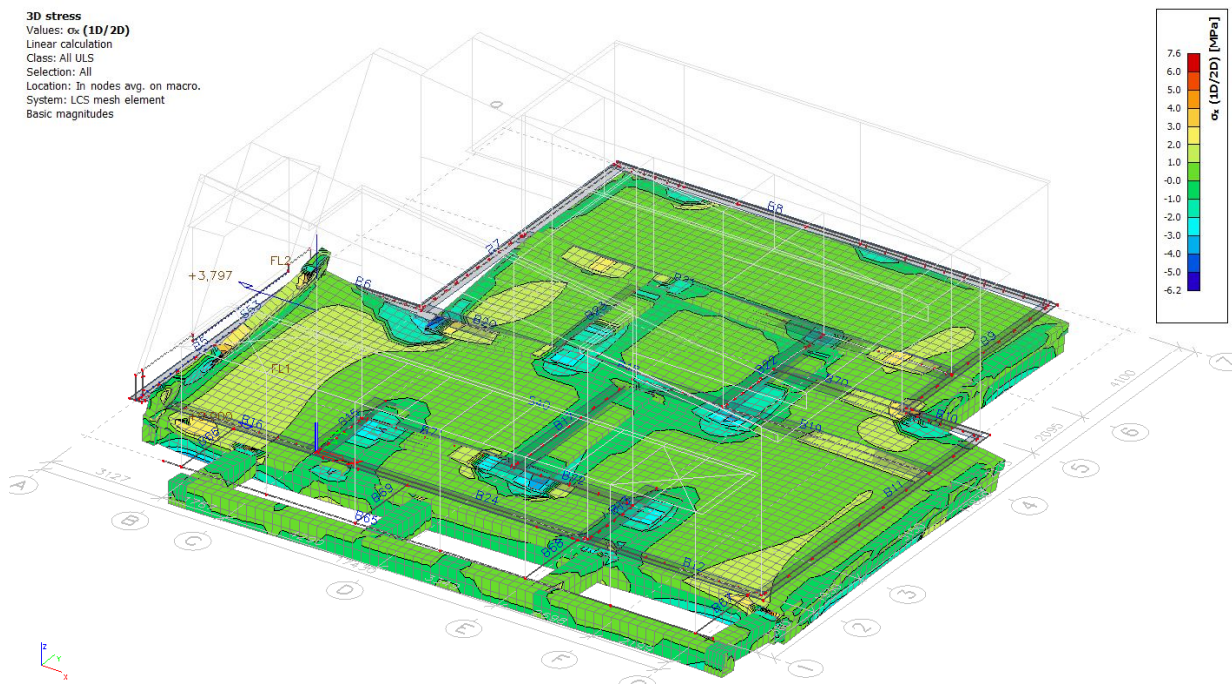
2D contact stresses

Values: σ_z
 Linear calculation
 Combination: ULS-Seis (auto)
 Extreme: Global
 Selection: All
 Location: In nodes avg.. System: LCS
 mesh element



6.4.4 Napetosti – 3D

3D stress
 Values: $\alpha_x (1D/2D)$
 Linear calculation
 Class: All ULS
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element
 Basic magnitudes



7.0) DIMENZIONIRANJE ELEMENTOV AB KONSTRUKCIJE

7.1. AB PASOVNI TEMELJI IN OJAČITVE

Linear calculation

Class: All ULS; Coordinate system: Member

Extreme 1D: Cross-section; Selection: All

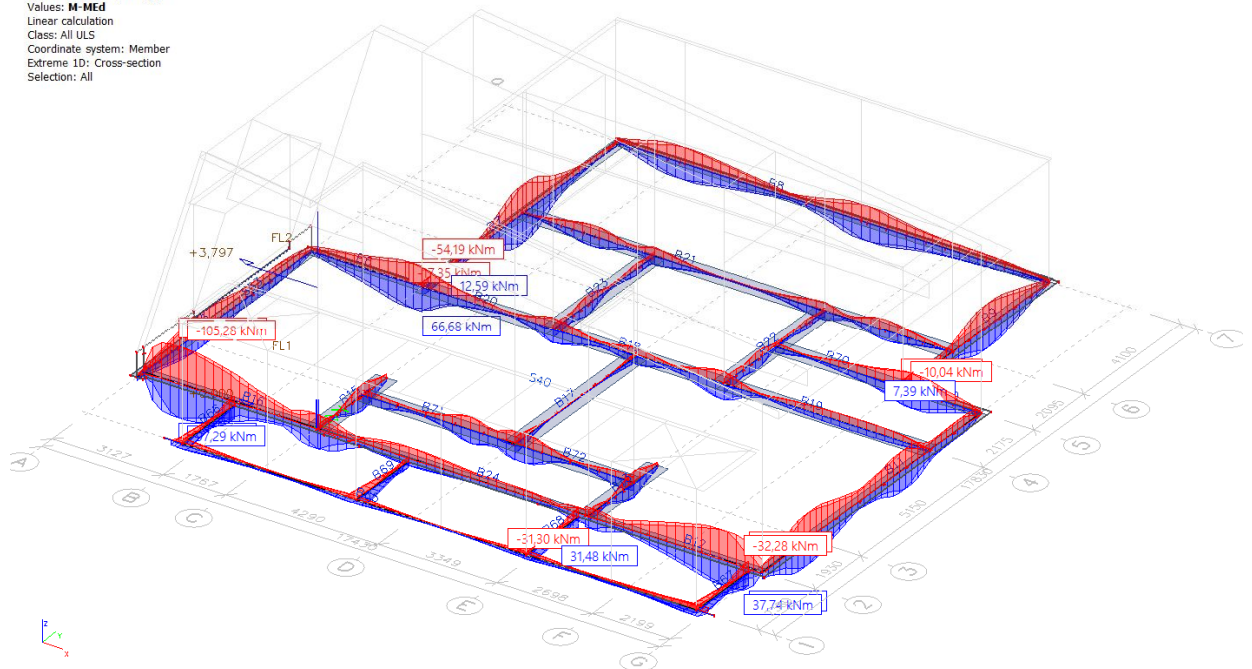
Name	dx [m]	Case	Cross-section	N [kN] N _{Ed} [kN]	V _y [kN] V _{Edy} [kN]	V _z [kN] V _{Edz} [kN]	M _x [kNm] M _{Edx} [kNm]	M _y [kNm] M _{Edy} [kNm]	M _z [kNm] M _{Edz} [kNm]
B5	2,576-	ULS-Seis (auto)/1	CS10 - Rectangle (500; 350)	-240,86 -240,86	0,86 0,00	-11,20 -11,20	-3,81 -3,81	-49,66 -50,49	1,57 0,00
B5	2,576-	ULS-Seis (auto)/2	CS10 - Rectangle (500; 350)	210,54 210,54	3,04 3,04	-6,07 -6,07	7,49 7,49	43,93 43,93	-0,55 -0,74
B7	0,000	ULS-Seis (auto)/3	CS10 - Rectangle (500; 350)	-1,54 -1,54	-93,03 -93,03	11,93 11,93	1,24 1,24	-0,34 -3,51	11,63 11,63
B16	4,729-	ULS-Seis (auto)/4	CS10 - Rectangle (500; 350)	98,01 98,01	0,00 0,00	-172,82 -172,82	-12,30 -12,30	18,80 69,57	-3,23 -5,75
B16	4,729-	ULS-Seis (auto)/3	CS10 - Rectangle (500; 350)	-123,15 -123,15	-14,07 0,00	169,84 169,84	5,02 5,02	-28,33 -78,29	-0,32 0,00
B12	4,898+	ULS-Seis (auto)/5	CS10 - Rectangle (500; 350)	-10,32 -10,32	11,45 11,45	-27,29 -27,29	-31,62 -31,62	29,18 33,81	2,06 2,06
B12	4,898+	LC11/6	CS10 - Rectangle (500; 350)	15,65 15,65	-10,83 -10,83	24,98 24,98	27,38 27,38	-20,15 -24,08	-2,25 -2,25
B16	3,995-	ULS-Seis (auto)/7	CS10 - Rectangle (500; 350)	-193,46 -193,46	-17,38 -17,38	35,48 35,48	2,22 2,22	-105,28 -105,28	-2,09 -2,09
B16	3,995-	LC10/8	CS10 - Rectangle (500; 350)	166,20 166,20	11,20 11,20	-16,03 -16,03	-3,78 -3,78	97,29 97,29	3,06 3,06
B7	0,000	ULS-Seis (auto)/4	CS10 - Rectangle (500; 350)	38,06 38,06	101,71 101,71	5,66 5,66	6,93 6,93	19,03 24,29	-17,35 -17,35
B7	0,000	LC10/9	CS10 - Rectangle (500; 350)	-18,34 -18,34	-85,78 -85,78	0,99 0,99	-3,24 -3,24	-5,47 -10,30	12,59 12,59
B19	0,000	ULS-Seis (auto)/4	CS2 - Rectangle (250; 600)	-137,88 -137,88	-40,27 -40,27	-78,00 -78,00	3,73 3,73	46,51 46,51	5,52 5,52
B19	0,000	LC10/9	CS2 - Rectangle (250; 600)	120,15 120,15	25,32 25,32	56,10 56,10	-1,33 -1,33	-35,38 -35,38	-2,56 -2,56
B17	0,000	ULS-Seis (auto)/7	CS2 - Rectangle (250; 600)	-2,05 -2,05	-42,85 -42,85	12,40 12,40	-4,84 -4,84	-2,26 -2,26	2,82 2,82
B71	4,290	ULS-Seis	CS2 - Rectangle (250; 600)	-72,72	41,96	45,15	-4,14	45,37	7,14

Name	dx [m]	Case	Cross-section	N [kN] N _{Ed} [kN]	V _y [kN] V _{Edy} [kN]	V _z [kN] V _{Edz} [kN]	M _x [kNm] M _{Edx} [kNm]	M _y [kNm] M _{Edy} [kNm]	M _z [kNm] M _{Edz} [kNm]
		(auto)/10		-72,72	41,96	45,15	-4,14	45,37	7,14
B20	0,000	ULS-Seis (auto)/4	CS2 - Rectangle (250; 600)	-58,31	16,40	-85,35	12,52	66,68	1,21
				-58,31	16,40	-85,35	12,52	66,68	1,54
B71	3,786-	ULS-Seis (auto)/4	CS2 - Rectangle (250; 600)	-17,37	1,06	82,28	2,10	5,94	-1,57
				-17,37	1,06	82,28	2,10	14,37	-1,57
B70	3,598	ULS-Seis (auto)/11	CS2 - Rectangle (250; 600)	-80,12	-14,52	53,43	-10,26	41,92	-0,35
				-80,12	-14,52	53,43	-10,26	41,92	-0,35
B20	0,000	ULS-Seis (auto)/3	CS2 - Rectangle (250; 600)	48,48	8,02	46,41	-7,88	-54,19	-5,87
				48,48	8,02	46,41	-7,88	-54,19	-5,87
B70	3,598	ULS-Seis (auto)/12	CS2 - Rectangle (250; 600)	-32,57	-34,22	0,11	-2,36	-22,01	-10,04
				-32,57	-34,22	0,11	-2,36	-22,01	-10,04
B70	3,598	LC11/13	CS2 - Rectangle (250; 600)	46,87	27,59	-0,56	2,66	9,99	7,39
				46,87	27,59	-0,56	2,66	9,99	7,39
B67	1,985+	ULS-Seis (auto)/14	CS9 - Rectangle (600; 500)	-18,87	-9,29	34,48	0,41	30,01	-0,35
				-18,87	-9,29	34,48	0,41	37,61	-2,40
B67	1,985+	ULS-Seis (auto)/12	CS9 - Rectangle (600; 500)	19,32	9,39	-22,61	-3,69	-24,17	0,29
				19,32	9,39	-22,61	-3,69	-29,16	2,37
B69	2,205	ULS-Seis (auto)/15	CS9 - Rectangle (600; 500)	-5,63	-19,71	-0,12	1,36	-2,07	-4,65
				-5,63	-19,71	-0,12	1,36	-2,09	-4,65
B69	2,205	ULS-Seis (auto)/16	CS9 - Rectangle (600; 500)	5,81	19,61	2,50	-0,34	4,61	4,51
				5,81	19,61	2,50	-0,34	4,61	4,51
B67	1,985+	ULS-Seis (auto)/17	CS9 - Rectangle (600; 500)	-13,14	-0,38	36,40	-6,16	28,30	0,20
				-13,14	0,00	36,40	-6,16	36,32	0,00
B67	1,985+	ULS-Seis (auto)/4	CS9 - Rectangle (600; 500)	7,94	15,73	15,33	-13,83	5,25	0,97
				7,94	15,73	15,33	-13,83	8,63	4,44
B67	1,985+	LC10/9	CS9 - Rectangle (600; 500)	-11,09	-16,02	-1,75	11,39	4,28	-0,97
				-11,09	-16,02	-1,75	11,39	4,48	-4,50
B67	2,205	LC11/6	CS9 - Rectangle (600; 500)	15,76	4,53	-29,15	1,36	-32,28	1,03
				15,76	4,53	-29,15	1,36	-32,28	1,03
B67	2,205	ULS-Seis (auto)/5	CS9 - Rectangle (600; 500)	-18,86	-9,28	34,65	0,41	37,74	-2,40
				-18,86	-9,28	34,65	0,41	37,74	-2,40
B68	0,000	ULS-Seis (auto)/16	CS9 - Rectangle (600; 500)	2,81	12,23	-6,17	1,53	6,73	-31,30
				2,81	12,23	-6,17	1,53	6,73	-31,30
B68	0,000	ULS-Seis (auto)/15	CS9 - Rectangle (600; 500)	-2,50	-12,22	5,42	-2,49	-6,94	31,48
				-2,50	-12,22	5,42	-2,49	-6,94	31,48

Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/2	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/4	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/5	LC1 + LC2 + 0.30*LC9 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
LC11/6	ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/7	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
LC10/8	ELF for LC10 + Accid. tors. moments for LC10
LC10/9	- ELF for LC10 - Accid. tors. moments for LC10
ULS-Seis (auto)/10	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/11	LC1 + LC2 + 0.30*LC9 - ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/12	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 + ELF for LC11 + Accid. tors. moments for LC11
LC11/13	- ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/14	LC1 + LC2 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/15	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/16	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/17	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11

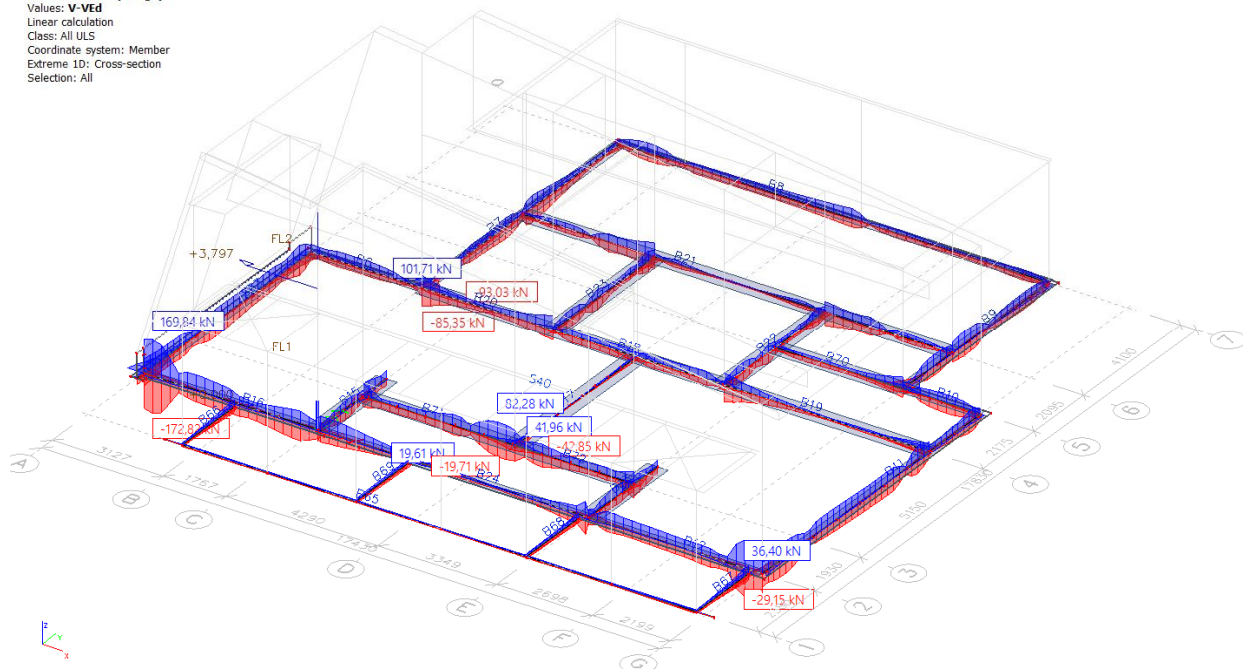
Internal forces (Design)

Values: **M-Med**
 Linear calculation
 Class: All ULS
 Coordinate system: Member
 Extreme 1D: Cross-section
 Selection: All



Internal forces (Design)

Values: **V-Ved**
 Linear calculation
 Class: All ULS
 Coordinate system: Member
 Extreme 1D: Cross-section
 Selection: All



Overall Design (ULS)

Linear calculation; Class: All ULS; Coordinate system: Member
 Extreme 1D: Member; Selection: All

Longitudinal required reinforcement

Name	dx [m]	Case	Member	Asz,req+ [mm ²]	Asz,req- [mm ²]	Asy,req+ [mm ²]	Asy,req- [mm ²]	Asz,req [mm ²]	Asy,req [mm ²]	As,req [mm ²]
B5	5,357-	All ULS	Rib	208	247	49	49	455	98	553
B5	1,817-	All ULS	Rib	25	201	214	176	226	390	616
B5	2,323-	All ULS	Rib	138	402	63	63	540	126	666
B6	2,405-	All ULS	Rib	25	264	138	151	289	289	578
B6	2,165-	All ULS	Rib	150	339	50	50	489	100	589
B6	3,127	All ULS	Rib	50	276	214	138	326	352	678
B7	0,000	All ULS	Rib	28	78	205	78	106	283	389
B7	6,880-	All ULS	Rib	56	56	145	145	112	290	402

Name	dx [m]	Case	Member	Asz,req+ [mm ²]	Asz,req- [mm ²]	Asy,req+ [mm ²]	Asy,req- [mm ²]	Asz,req [mm ²]	Asy,req [mm ²]	As,req [mm ²]
B7	3,765-	All ULS	Rib	165	490	38	38	655	76	731
B8	6,673-	All ULS	Rib	165	352	25	25	517	50	567
B8	11,220-	All ULS	Rib	19	79	138	138	98	276	374
B8	7,939-	All ULS	Rib	165	325	49	49	490	98	588
B9	4,363-	All ULS	Rib	53	104	115	115	157	230	387
B9	2,307-	All ULS	Rib	149	314	38	38	463	76	539
B9	2,563-	All ULS	Rib	40	239	103	138	279	241	520
B9	2,051-	All ULS	Rib	152	302	50	50	454	100	554
B10	1,711-	All ULS	Rib	79	69	167	63	148	230	378
B10	0,489-	All ULS	Rib	134	247	106	163	381	269	650
B10	0,244-	All ULS	Rib	120	205	134	198	325	332	657
B11	2,174+	All ULS	Rib	28	170	191	113	198	304	502
B11	6,978-	All ULS	Rib	152	364	38	38	516	76	592
B11	2,174-	All ULS	Rib	28	170	141	184	198	325	523
B11	7,990-	All ULS	Rib	113	264	101	151	377	252	629
B12	0,245-	All ULS	Rib	170	148	184	148	318	332	650
B12	1,224-	All ULS	Rib	75	302	88	176	377	264	641
B12	1,959-	All ULS	Rib	146	289	25	25	435	50	485
B12	4,898+	All ULS	Rib	148	156	233	205	304	438	742
B13	2,179-	All ULS	Beam	432	334	79	59	766	138	904
B13	1,929+	All ULS	Beam	471	452	39	20	923	59	982
B15	1,000+	All ULS	Beam	452	432	39	20	884	59	943
B15	1,000-	All ULS	Beam	491	412	59	39	903	98	1001
B16	4,729-	All ULS	Rib	75	302	239	103	377	342	719
B16	3,995-	All ULS	Rib	20	393	137	236	413	373	786
B16	2,527-	All ULS	Rib	38	276	201	214	314	415	729
B16	4,240-	All ULS	Rib	176	503	63	63	679	126	805
B17	2,698-	All ULS	Beam	138	13	42	42	151	84	235
B17	0,000	All ULS	Beam	327	214	38	50	541	88	629
B17	0,245-	All ULS	Beam	302	289	38	38	591	76	667
B18	0,261-	All ULS	Beam	471	295	59	79	766	138	904
B18	0,000	All ULS	Beam	491	295	79	59	786	138	924
B18	4,803	All ULS	Beam	569	412	59	39	981	98	1079
B19	4,537-	All ULS	Beam	377	138	63	63	515	126	641
B19	0,000	All ULS	Beam	569	452	59	39	1021	98	1119
B20	3,704	All ULS	Beam	589	334	59	59	923	118	1041
B20	0,000	All ULS	Beam	847	885	77	38	1732	115	1847
B21	2,150-	All ULS	Beam	390	289	25	25	679	50	729
B21	10,316-	All ULS	Beam	440	251	38	25	691	63	754
B21	3,704-	All ULS	Beam	390	188	50	50	578	100	678
B22	0,539-	All ULS	Beam	214	251	38	38	465	76	541
B22	1,348-	All ULS	Beam	314	289	13	13	603	26	629
B23	1,348-	All ULS	Beam	364	264	13	13	628	26	654
B23	0,000	All ULS	Beam	198	233	28	28	431	56	487
B23	1,617-	All ULS	Beam	402	251	13	13	653	26	679
B24	6,980-	All ULS	Rib	113	191	113	109	304	222	526
B24	0,000	All ULS	Rib	104	91	176	141	195	317	512
B24	4,986-	All ULS	Rib	42	134	127	198	176	325	501
B24	7,479	All ULS	Rib	75	276	108	126	351	234	585
B65	1,220-	All ULS	Beam	139	16	173	173	155	346	501
B65	15,400-	All ULS	Beam	2	304	2	2	306	4	310
B65	0,400+	All ULS	Beam	7	149	186	186	156	372	528
B66	1,985+	All ULS	Beam	141	163	88	88	304	176	480
B66	0,441-	All ULS	Beam	117	117	146	146	234	292	526
B67	0,220+	All ULS	Beam	69	35	177	134	104	311	415
B67	0,220-	All ULS	Beam	91	35	170	148	126	318	444
B67	1,985-	All ULS	Beam	170	177	104	104	347	208	555
B68	0,000	All ULS	Beam	90	90	148	148	180	296	476
B68	1,985+	All ULS	Beam	120	127	63	63	247	126	373
B68	0,661-	All ULS	Beam	108	108	135	163	216	298	514
B69	0,220-	All ULS	Beam	14	95	163	148	109	311	420
B69	2,205	All ULS	Beam	83	83	103	103	166	206	372
B69	0,220+	All ULS	Beam	14	93	170	148	107	318	425
B69	0,000	All ULS	Beam	79	79	141	163	158	304	462
B70	3,341-	All ULS	Beam	569	511	59	39	1080	98	1178
B70	3,598	All ULS	Beam	650	594	57	57	1244	114	1358

Name	dx [m]	Case	Member	A _{sz,req+} [mm ²]	A _{sz,req-} [mm ²]	A _{sy,req+} [mm ²]	A _{sy,req-} [mm ²]	A _{sz,req} [mm ²]	A _{sy,req} [mm ²]	A _{s,req} [mm ²]
B71	2,776-	All ULS	Beam	432	353	39	39	785	78	863
B71	4,290	All ULS	Beam	550	491	59	20	1041	79	1120
B72	0,515-	All ULS	Beam	530	452	20	20	982	40	1022
B72	0,258-	All ULS	Beam	511	471	39	20	982	59	1041
B72	2,834-	All ULS	Beam	239	276	50	50	515	100	615
B72	0,000	All ULS	Beam	491	452	79	20	943	99	1042

Shear required reinforcement

Name	dx [m]	Case	Member	A _{swm,req} [mm ² /m]	A _{swm,req} (ϕ /s)
B5	0,000	All ULS	Rib	366	$\phi 8/275\text{mm}, (ns=2)$
B5	5,357-	All ULS	Rib	777	$\phi 8/129\text{mm}, (ns=2)$
B6	0,722-	All ULS	Rib	366	$\phi 8/275\text{mm}, (ns=2)$
B6	0,000	All ULS	Rib	1233	$\phi 8/82\text{mm}, (ns=2)$
B7	7,624-	All ULS	Rib	297	$\phi 8/338\text{mm}, (ns=2)$
B7	0,000	All ULS	Rib	887	$\phi 8/113\text{mm}, (ns=2)$
B8	0,000	All ULS	Rib	366	$\phi 8/275\text{mm}, (ns=2)$
B8	0,125+	All ULS	Rib	4157	$\phi 8/24\text{mm}, (ns=2)$
B9	5,934-	All ULS	Rib	352	$\phi 8/286\text{mm}, (ns=2)$
B9	2,563-	All ULS	Rib	604	$\phi 8/166\text{mm}, (ns=2)$
B10	0,000	All ULS	Rib	335	$\phi 8/300\text{mm}, (ns=2)$
B10	1,955-	All ULS	Rib	426	$\phi 8/236\text{mm}, (ns=2)$
B11	3,185-	All ULS	Rib	348	$\phi 8/289\text{mm}, (ns=2)$
B11	0,242-	All ULS	Rib	563	$\phi 8/179\text{mm}, (ns=2)$
B12	0,735-	All ULS	Rib	269	$\phi 8/373\text{mm}, (ns=2)$
B12	4,653-	All ULS	Rib	1005	$\phi 8/100\text{mm}, (ns=2)$
B13	0,241-	All ULS	Beam	473	$\phi 8/213\text{mm}, (ns=2)$
B13	0,964-	All ULS	Beam	1019	$\phi 8/99\text{mm}, (ns=2)$
B15	1,000-	All ULS	Beam	473	$\phi 8/213\text{mm}, (ns=2)$
B15	2,688-	All ULS	Beam	1045	$\phi 8/96\text{mm}, (ns=2)$
B16	0,000	All ULS	Rib	366	$\phi 8/275\text{mm}, (ns=2)$
B16	2,037-	All ULS	Rib	20381	$\phi 8/5\text{mm}, (ns=2)$
B17	0,491-	All ULS	Beam	303	$\phi 8/332\text{mm}, (ns=2)$
B17	0,736-	All ULS	Beam	751	$\phi 8/134\text{mm}, (ns=2)$
B18	2,353+	All ULS	Beam	372	$\phi 8/270\text{mm}, (ns=2)$
B18	2,092-	All ULS	Beam	39818	$\phi 8/3\text{mm}, (ns=2)$
B19	4,537-	All ULS	Beam	459	$\phi 8/219\text{mm}, (ns=2)$
B19	5,041-	All ULS	Beam	22563	$\phi 8/4\text{mm}, (ns=2)$
B20	1,729-	All ULS	Beam	473	$\phi 8/213\text{mm}, (ns=2)$
B20	0,000	All ULS	Beam	1482	$\phi 8/68\text{mm}, (ns=2)$
B21	6,738-	All ULS	Beam	374	$\phi 8/269\text{mm}, (ns=2)$
B21	7,243-	All ULS	Beam	3960	$\phi 8/25\text{mm}, (ns=2)$
B22	0,000	All ULS	Beam	459	$\phi 8/219\text{mm}, (ns=2)$
B22	2,701-	All ULS	Beam	1024	$\phi 8/98\text{mm}, (ns=2)$
B23	0,539-	All ULS	Beam	587	$\phi 8/171\text{mm}, (ns=2)$
B23	3,492-	All ULS	Beam	1598	$\phi 8/63\text{mm}, (ns=2)$
B24	0,249-	All ULS	Rib	366	$\phi 8/275\text{mm}, (ns=2)$
B24	0,000	All ULS	Rib	492	$\phi 8/204\text{mm}, (ns=2)$
B65	5,150+	All ULS	Beam	260	$\phi 8/387\text{mm}, (ns=2)$
B65	13,800-	All ULS	Beam	533	$\phi 8/189\text{mm}, (ns=2)$
B66	0,000	All ULS	Beam	366	$\phi 8/275\text{mm}, (ns=2)$
B66	1,323-	All ULS	Beam	493	$\phi 8/204\text{mm}, (ns=2)$
B67	0,000	All ULS	Beam	366	$\phi 8/275\text{mm}, (ns=2)$
B67	1,543-	All ULS	Beam	399	$\phi 8/252\text{mm}, (ns=2)$
B68	0,000	All ULS	Beam	247	$\phi 8/407\text{mm}, (ns=2)$
B68	1,103+	All ULS	Beam	745	$\phi 8/135\text{mm}, (ns=2)$
B69	0,000	All ULS	Beam	366	$\phi 8/275\text{mm}, (ns=2)$
B69	1,764-	All ULS	Beam	451	$\phi 8/223\text{mm}, (ns=2)$
B70	0,257-	All ULS	Beam	460	$\phi 8/219\text{mm}, (ns=2)$
B70	0,514-	All ULS	Beam	2392	$\phi 8/42\text{mm}, (ns=2)$
B71	1,767-	All ULS	Beam	623	$\phi 8/161\text{mm}, (ns=2)$
B71	3,786-	All ULS	Beam	1122	$\phi 8/90\text{mm}, (ns=2)$
B72	0,258-	All ULS	Beam	572	$\phi 8/176\text{mm}, (ns=2)$
B72	2,061-	All ULS	Beam	1053	$\phi 8/95\text{mm}, (ns=2)$

Overall Design (ULS)Values: $A_{s,req}$

Linear calculation

Class: All ULS

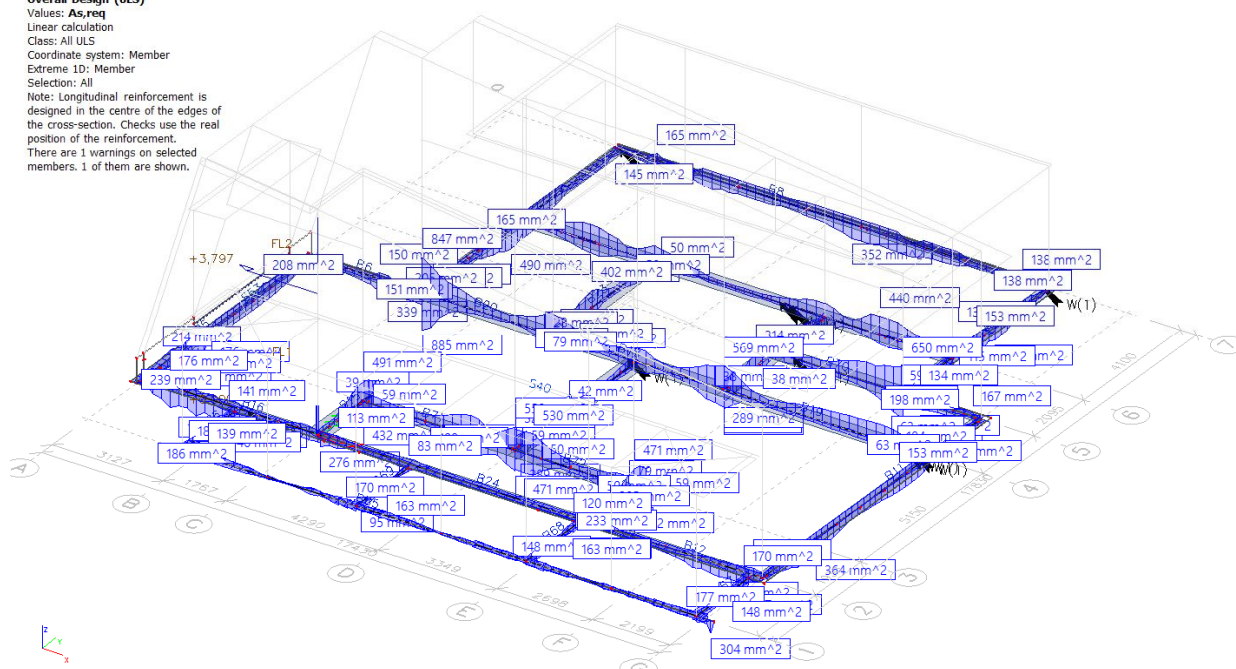
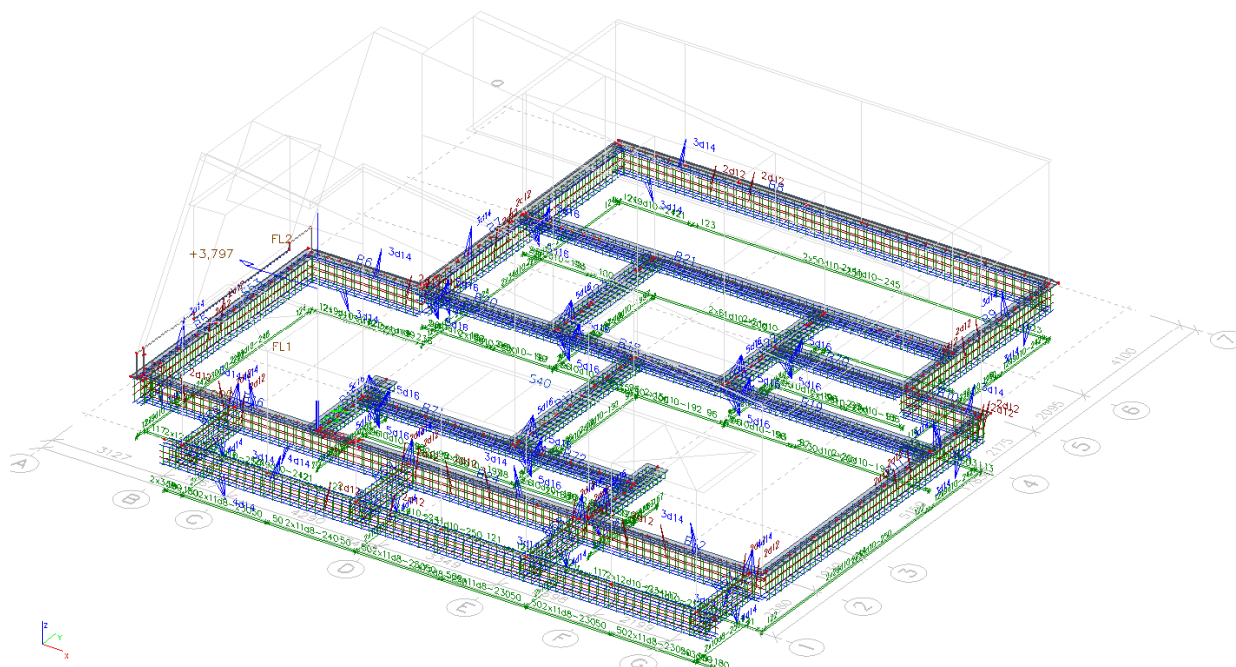
Coordinate system: Member

Extreme 1D: Member

Selection: All

Note: Longitudinal reinforcement is designed in the centre of the edges of the cross-section. Checks use the real position of the reinforcement.

There are 1 warnings on selected members. 1 of them are shown.

*Potrebna armatura**Izbrana armatura***Check capacity-response**

Linear calculation

Class: All ULS; Coordinate system: Member

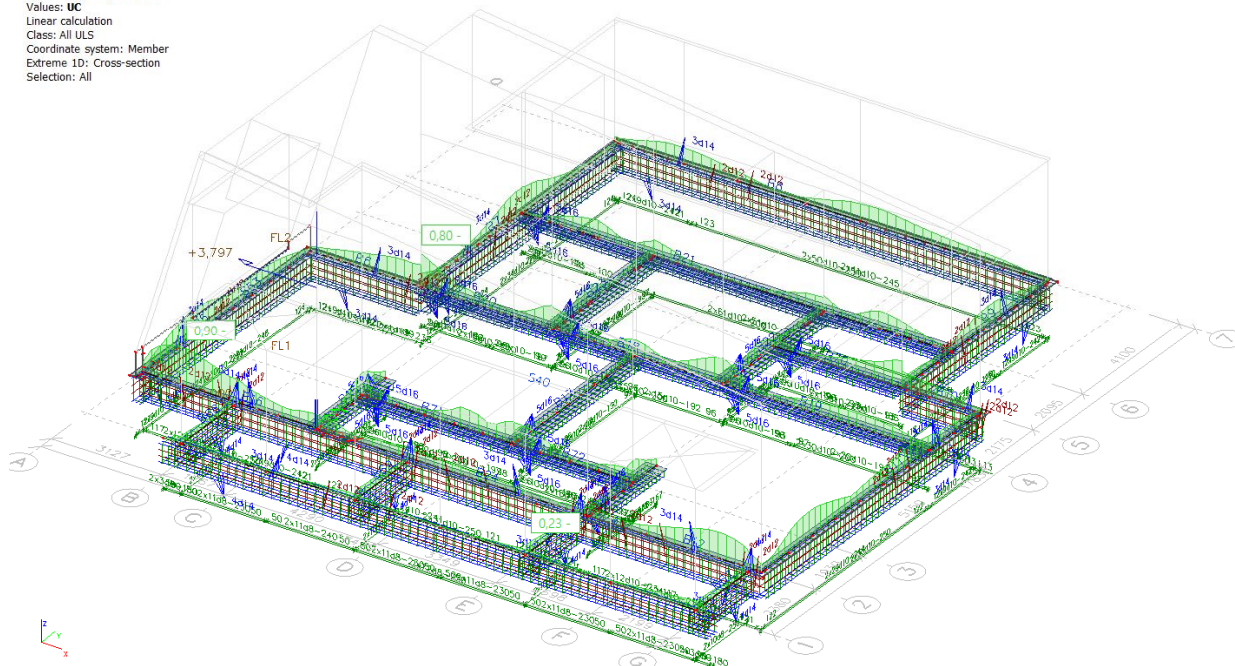
Extreme 1D: Cross-section; Selection: All

Name	Case	Cross-section	N_{Ed} [kN]	M_{Edy} [kNm] M_{Edz} [kNm]	Fibre Bar	x [mm]	d [mm] z [mm]	ε_{cc} [1e-4] σ_{cc} [MPa]	ε_{sc} [1e-4] σ_{sc} [MPa]	ε_{st} [1e-4] σ_{st} [MPa]	UC [-] Check
B6	LC11/1	CS10 - Rectangle (500; 350)	-27,30	2,99 0,26	3 4	827	744 670	-0,1 -0,19	-0,2 -3,6	0,0 0,0	0,01 OK

Name	Case	Cross-section	N _{Ed} [kN]	M _{Edy} [kNm] M _{Edz} [kNm]	Fibre Bar	x [mm]	d [mm] z [mm]	ε _{cc} [1e-4] σ _{cc} [MPa]	ε _{sc} [1e-4] σ _{sc} [MPa]	ε _{st} [1e-4] σ _{st} [MPa]	UC [-] Check
B16	LC10/2	CS10 - Rectangle (500; 350)	151,56	97,29 2,89	3 1	143	627 564	-5,0 -4,74	-2,7 -54,9	20,2 403,2	0,87 OK
B16	ULS-Seis (auto)/3	CS10 - Rectangle (500; 350)	-168,37	-104,50 -2,93	7 4	266	658 560	-2,3 -5,86	-3,7 -74,7	8,5 169,4	0,32 OK
B16	LC10/4	CS10 - Rectangle (500; 350)	-170,28	-97,29 -3,03	7 4	294	668 558	-2,4 -5,02	-4,1 -82,1	7,7 154,6	0,33 OK
B16	LC10/2	CS10 - Rectangle (500; 350)	170,28	97,29 3,03	3 1	138	626 564	-4,9 -4,70	-2,6 -52,6	21,0 419,2	0,90 OK
B17	ULS-Seis (auto)/5	CS2 - Rectangle (250; 600)	-11,39	0,15 -1,49	5 10	499	565 359	-0,1 -0,17	-0,1 -2,4	0,0 0,4	0,01 OK
B13	ULS-Seis (auto)/3	CS2 - Rectangle (250; 600)	-21,67	-0,09 -0,68	7 1	627	565 508	-0,1 -0,17	-0,1 -2,6	0,0 0,0	0,01 OK
B20	ULS-Seis (auto)/6	CS2 - Rectangle (250; 600)	-58,31	66,68 1,54	3 1	80	192 161	-13,3 -15,85	-3,6 -71,8	19,1 381,4	0,76 OK
B20	LC10/2	CS2 - Rectangle (250; 600)	-60,28	53,76 3,02	3 1	87	194 158	-12,4 -11,77	-4,1 -81,2	15,5 310,4	0,71 OK
B20	LC10/4	CS2 - Rectangle (250; 600)	60,28	-53,76 -3,02	7 6	78	194 161	-12,2 -11,60	-3,0 -60,1	18,6 372,9	0,80 OK
B69	ULS-Seis (auto)/7	CS9 - Rectangle (600; 500)	-15,18	4,36 2,59	3 1	343	597 428	-0,4 -0,43	-0,3 -5,5	0,4 7,5	0,02 OK
B65	ULS-Seis (auto)/8	CS9 - Rectangle (600; 500)	1,25	-0,18 -0,05	7 5	81	518 475	0,0 -0,01	0,0 0,0	0,1 1,5	0,00 OK
B68	ULS-Seis (auto)/5	CS9 - Rectangle (600; 500)	-2,50	-6,94 31,48	1 8	144	422 355	-2,5 -2,93	-1,4 -27,6	6,0 120,4	0,22 OK
B65	LC10/4	CS9 - Rectangle (600; 500)	-7,16	9,50 22,71	3 1	183	456 366	-2,3 -2,22	-1,5 -29,3	4,6 91,8	0,20 OK
B68	ULS-Seis (auto)/8	CS9 - Rectangle (600; 500)	3,04	6,73 -31,30	5 4	140	420 355	-2,4 -2,91	-1,3 -26,8	6,2 123,3	0,23 OK

Check capacity-response

Values: UC
 Linear calculation
 Class: All ULS
 Coordinate system: Member
 Extreme 1D: Cross-section
 Selection: All



Name	Combination key
LC11/1	- ELF for LC11 + Accid. tors. moments for LC11
LC10/2	ELF for LC10 + Accid. tors. moments for LC10
ULS-Seis (auto)/3	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
LC10/4	- ELF for LC10 - Accid. tors. moments for LC10
ULS-Seis (auto)/5	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/6	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11

Name	Combination key
ULS-Seis (auto)/7	LC1 + LC2 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/8	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11

Check capacity-interaction diagram

Linear calculation

Class: All ULS; Coordinate system: Member

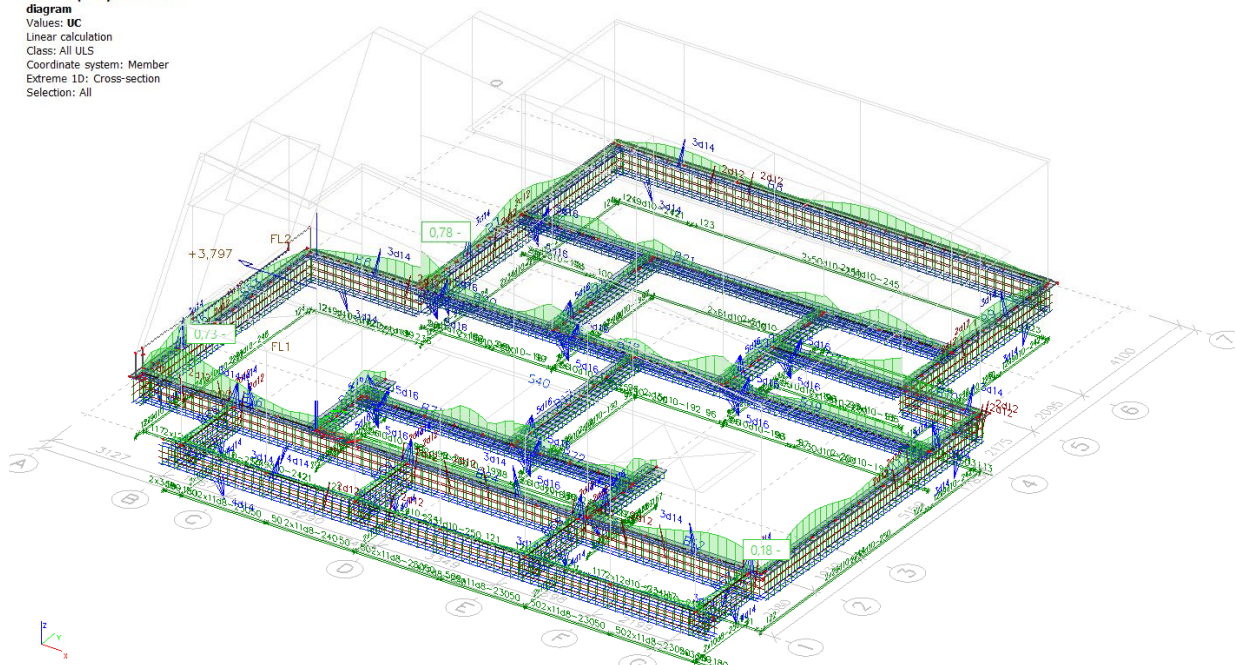
Extreme 1D: Cross-section; Selection: All

Name	Case	Cross-section	N _{Ed} [kN]	M _{Edy} [kNm] M _{Edz} [kNm]	Method	N _{Rd+} [kN] N _{Rd-} [kN]	M _{Rdy+} [kNm] M _{Rdy-} [kNm]	M _{Rdz+} [kNm] M _{Rdz-} [kNm]	UC [-] Check
B5	ULS-Seis (auto)/1	CS10 - Rectangle (500; 350)	-240,86	-50,49 0,00	NuMu	451,06 -2919,08	94,55 -611,92	0,00 0,00	0,08 OK
B5	ULS-Seis (auto)/2	CS10 - Rectangle (500; 350)	210,54	43,93 -0,74	NuMu	451,24 -2907,91	94,15 -606,72	10,23 -1,59	0,47 OK
B16	ULS-Seis (auto)/3	CS10 - Rectangle (500; 350)	-172,79	-105,28 -2,08	NuMu	259,25 -701,21	157,96 -427,26	3,12 -8,43	0,25 OK
B7	ULS-Seis (auto)/4	CS10 - Rectangle (500; 350)	38,06	24,29 -17,35	NuMu	160,91 -254,63	102,68 -162,49	116,06 -73,34	0,24 OK
B7	LC10/5	CS10 - Rectangle (500; 350)	-18,34	-10,30 12,59	NuMu	102,00 -144,77	57,25 -81,26	99,33 -69,99	0,13 OK
B7	ULS-Seis (auto)/6	CS10 - Rectangle (500; 350)	24,10	-1,46 0,18	NuMu	616,20 -4943,82	300,38 -37,44	4,65 -37,33	0,04 OK
B8	ULS-Seis (auto)/7	CS10 - Rectangle (500; 350)	-26,58	7,22 0,00	NuMu	405,10 -2336,79	634,78 -110,04	0,00 0,00	0,01 OK
B5	ULS-Seis (auto)/2	CS10 - Rectangle (500; 350)	135,51	37,05 0,00	NuMu	403,93 -2323,40	110,43 -635,22	0,00 0,00	0,34 OK
B7	ULS-Seis (auto)/8	CS10 - Rectangle (500; 350)	40,05	-3,28 -3,71	NuMu	434,26 -2486,31	203,81 -35,60	230,15 -40,20	0,09 OK
B11	ULS-Seis (auto)/9	CS10 - Rectangle (500; 350)	-16,69	1,04 -1,89	NuMu	404,27 -2192,71	136,80 -25,22	45,74 -248,07	0,01 OK
B16	LC10/10	CS10 - Rectangle (500; 350)	170,28	97,29 3,03	NuMu	233,31 -658,30	133,30 -376,12	4,15 -11,70	0,73 OK
B19	ULS-Seis (auto)/4	CS2 - Rectangle (250; 600)	-137,88	46,51 5,52	NuMu	210,12 -320,28	108,04 -70,88	12,81 -8,41	0,43 OK
B19	LC10/5	CS2 - Rectangle (250; 600)	120,15	-35,38 -2,56	NuMu	202,51 -326,90	96,25 -59,63	6,97 -4,32	0,59 OK
B20	ULS-Seis (auto)/8	CS2 - Rectangle (250; 600)	48,48	-54,19 -5,87	NuMu	72,41 -82,28	91,98 -80,94	9,97 -8,77	0,67 OK
B20	ULS-Seis (auto)/4	CS2 - Rectangle (250; 600)	-58,31	66,68 1,54	NuMu	71,49 -81,03	92,65 -81,74	2,14 -1,89	0,72 OK
B70	ULS-Seis (auto)/6	CS2 - Rectangle (250; 600)	-32,57	-22,01 -10,04	NuMu	111,79 -137,95	75,57 -93,25	34,46 -42,52	0,24 OK
B70	LC11/11	CS2 - Rectangle (250; 600)	46,87	9,99 7,39	NuMu	248,69 -436,44	53,01 -93,03	39,21 -68,82	0,19 OK
B13	ULS-Seis (auto)/12	CS2 - Rectangle (250; 600)	-21,67	-0,09 -0,68	NuMu	942,51 -3535,22	3,88 -14,57	29,69 -111,37	0,01 OK
B23	ULS-Seis (auto)/1	CS2 - Rectangle (250; 600)	35,78	-4,11 0,04	NuMu	463,84 -1212,90	139,32 -53,28	0,46 -1,21	0,08 OK
B23	ULS-Seis (auto)/2	CS2 - Rectangle (250; 600)	-28,73	-3,82 -0,05	NuMu	422,65 -1052,24	56,23 -139,99	0,73 -1,82	0,03 OK
B17	ULS-Seis (auto)/3	CS2 - Rectangle (250; 600)	-4,39	0,06 1,11	NuMu	518,72 -1267,92	17,91 -7,33	320,75 -131,22	0,00 OK
B17	ULS-Seis (auto)/4	CS2 - Rectangle (250; 600)	21,93	0,35 4,06	NuMu	599,26 -1630,10	9,47 -25,76	110,84 -301,51	0,04 OK
B20	LC10/5	CS2 - Rectangle (250; 600)	60,28	-53,76 -3,02	NuMu	77,05 -90,28	80,51 -68,71	4,52 -3,86	0,78 OK
B67	ULS-Seis (auto)/13	CS9 - Rectangle (600; 500)	-18,87	37,61 -2,40	NuMu	100,94 -127,98	255,08 -201,19	12,84 -16,28	0,15 OK
B67	ULS-Seis (auto)/6	CS9 - Rectangle (600; 500)	19,32	-29,16 2,37	NuMu	128,48 -175,84	265,38 -193,90	15,73 -21,53	0,15 OK
B67	ULS-Seis (auto)/14	CS9 - Rectangle (600; 500)	-18,16	37,74 -2,40	NuMu	97,21 -121,99	253,61 -202,09	12,84 -16,11	0,15 OK
B68	ULS-Seis (auto)/15	CS9 - Rectangle (600; 500)	2,81	6,73 -31,30	NuMu	15,91 -16,43	38,12 -39,37	183,08 -177,28	0,18 OK
B68	ULS-Seis	CS9 - Rectangle	-2,50	-6,94	NuMu	14,07	39,15	182,54	0,17

Name	Case	Cross-section	N _{Ed} [kN]	M _{Edy} [kNm] M _{Edz} [kNm]	Method	N _{Rd+} [kN] N _{Rd-} [kN]	M _{Rdy+} [kNm] M _{Rdy-} [kNm]	M _{Rdz+} [kNm] M _{Rdz-} [kNm]	UC [-] Check
	(auto)/16	(600; 500)		31,48		-14,47	-40,26	-177,51	OK
B65	ULS-Seis (auto)/15	CS9 - Rectangle (600; 500)	1,25	-0,18 -0,05	NuMu	567,61 -3352,51	494,03 -83,64	134,18 -22,72	0,00 OK
B65	ULS-Seis (auto)/15	CS9 - Rectangle (600; 500)	0,69	-0,18 -0,04	NuMu	437,25 -1895,06	502,67 -115,98	108,22 -24,97	0,00 OK
B65	ULS-Seis (auto)/6	CS9 - Rectangle (600; 500)	4,14	2,16 1,00	NuMu	281,36 -587,97	146,54 -306,23	68,24 -142,60	0,01 OK
B69	ULS-Seis (auto)/2	CS9 - Rectangle (600; 500)	14,78	1,74 -3,18	NuMu	430,66 -1639,36	50,59 -192,58	352,78 -92,67	0,03 OK
B69	LC11/17	CS9 - Rectangle (600; 500)	13,73	1,99 2,75	NuMu	385,09 -1374,03	55,82 -199,15	77,06 -274,95	0,04 OK
B67	LC11/18	CS9 - Rectangle (600; 500)	15,76	-32,28 1,03	NuMu	85,78 -108,10	221,40 -175,68	5,61 -7,07	0,18 OK

Check capacity-interaction diagram

Values: UC
 Linear calculation
 Class: All ULS
 Coordinate system: Member
 Extreme 1D: Cross-section
 Selection: All



Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/2	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/4	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
LC10/5	- ELF for LC10 - Accid. tors. moments for LC10
ULS-Seis (auto)/6	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 + ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/7	LC1 + LC2 + 0.30*LC9 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 + ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/8	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/9	LC1 + LC2 + ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
LC10/10	ELF for LC10 + Accid. tors. moments for LC10
LC11/11	- ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/12	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/13	LC1 + LC2 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/14	LC1 + LC2 + 0.30*LC9 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/15	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/16	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
LC11/17	ELF for LC11 - Accid. tors. moments for LC11
LC11/18	ELF for LC11 + Accid. tors. moments for LC11

Check shear+torsion (ULS)

Linear calculation; Class: All ULS; Coordinate system: Member

Extreme 1D: Cross-section; Selection: All

Shear check

Name	Case	Cross-section	V _{Ed} [kN]	d [m] z [m]	A _{swm} [mm ² /m] θ [deg]	b _w [mm] b _{w1} [mm]	V _{Rdc} [kN] V _{Rdmax} [kN]	V _{Rds} [kN]	UC _{shear} [-]
B11	ULS-Seis (auto)/1	CS10 - Rectangle (500; 350)	0,21	2,6702e-01 2,1628e-01	643 40,00	306 579	229,38 770,74	66,33	0,00
B16	ULS-Seis (auto)/2	CS10 - Rectangle (500; 350)	172,82	6,0858e-01 5,6266e-01	1129 40,00	350 350	98,94 1212,12	302,88	0,57
B16	ULS-Seis (auto)/3	CS10 - Rectangle (500; 350)	158,94	6,7500e-01 6,0750e-01	1129 40,00	350 350	291,75 1308,72	327,02	0,54
B8	LC11/4	CS10 - Rectangle (500; 350)	1,59	5,6400e-01 5,0760e-01	640 40,00	792 792	0,00 1980,78	154,97	0,01
B16	ULS-Seis (auto)/5	CS10 - Rectangle (500; 350)	158,21	7,0771e-01 6,3694e-01	1129 40,00	28 353	287,93 1381,98	342,87	0,55
B12	ULS-Seis (auto)/6	CS10 - Rectangle (500; 350)	112,84	6,0920e-01 5,5091e-01	650 40,00	351 351	113,13 1188,59	170,79	1,00
B17	LC11/7	CS2 - Rectangle (250; 600)	0,36	3,4456e-01 2,1841e-01	816 40,00	288 356	30,84 383,06	84,97	0,01
B19	ULS-Seis (auto)/2	CS2 - Rectangle (250; 600)	87,78	3,1054e-01 1,8131e-01	1691 40,00	353 399	99,24 445,37	146,19	0,88
B17	ULS-Seis (auto)/6	CS2 - Rectangle (250; 600)	5,83	4,5017e-01 4,0516e-01	814 40,00	478 478	150,27 1191,08	157,30	0,04
B20	ULS-Seis (auto)/8	CS2 - Rectangle (250; 600)	24,10	5,8225e-01 5,2403e-01	1511 40,00	46 262	159,16 843,49	377,50	0,15
B71	LC11/9	CS2 - Rectangle (250; 600)	46,33	3,6166e-01 2,3194e-01	1590 40,00	209 303	46,53 346,01	175,80	1,00
B65	ULS-Seis (auto)/3	CS9 - Rectangle (600; 500)	0,03	5,5008e-01 4,3563e-01	605 40,00	524 399	143,57 1070,92	125,62	0,00
B67	ULS-Seis (auto)/10	CS9 - Rectangle (600; 500)	36,40	5,0017e-01 4,5061e-01	443 40,00	500 500	159,75 1386,76	95,20	0,23
B69	ULS-Seis (auto)/11	CS9 - Rectangle (600; 500)	5,90	3,4488e-01 2,7935e-01	443 40,00	146 570	211,58 980,08	59,02	0,03
B67	ULS-Seis (auto)/10	CS9 - Rectangle (600; 500)	10,04	5,3895e-01 4,5405e-01	487 40,00	506 506	164,83 1414,17	105,34	0,06
B65	ULS-Seis (auto)/10	CS9 - Rectangle (600; 500)	1,13	5,7154e-01 4,5866e-01	605 40,00	546 271	151,18 764,15	132,31	0,01
B67	LC11/7	CS9 - Rectangle (600; 500)	29,50	5,3100e-01 4,4814e-01	443 40,00	506 506	108,76 1116,60	94,67	0,27

Torsion check

Name	dx [m]	Case	Cross-section	T _{Ed} [kNm]	U _k [mm] A _k [m ²]	A _{swtm} [mm ² /m] t _{ef} [mm]	T _{Rdc} [kNm] T _{Rdmax} [kNm]	T _{Rds} [kNm] T _{Rd} [kNm]	UC _{tor} [-]
B12	4,898+	ULS-Seis (auto)/12	CS10 - Rectangle (500; 350)	-31,62	1723 1,4549e-01	336 119	52,08 192,32	58,28 52,08	0,61
B16	4,729-	ULS-Seis (auto)/5	CS10 - Rectangle (500; 350)	5,53	1723 1,4549e-01	565 119	52,08 192,32	97,90 52,08	0,11
B12	4,898+	LC11/7	CS10 - Rectangle (500; 350)	27,38	1723 1,4549e-01	336 119	41,66 153,86	50,68 41,66	0,66
B70	3,598	ULS-Seis (auto)/13	CS2 - Rectangle (250; 600)	-10,26	1240 6,1875e-02	754 105	19,49 71,98	55,59 19,49	0,53
B19	0,504-	ULS-Seis (auto)/10	CS2 - Rectangle (250; 600)	3,12	1240 6,1875e-02	846 105	19,49 71,98	62,36 19,49	0,16
B20	0,000	ULS-Seis (auto)/2	CS2 - Rectangle (250; 600)	12,52	1240 6,1875e-02	785 105	19,49 71,98	57,92 19,49	0,64
B67	2,205	ULS-Seis (auto)/2	CS9 - Rectangle (600; 500)	-13,83	1655 1,6859e-01	222 136	68,97 254,71	44,52 68,97	0,20
B65	15,000-	ULS-Seis (auto)/2	CS9 - Rectangle (600; 500)	5,83	1655 1,6859e-01	315 136	68,97 254,71	63,20 68,97	0,08
B67	1,985+	LC10/14	CS9 - Rectangle (600; 500)	11,39	1655 1,6859e-01	222 136	55,18 203,77	38,71 55,18	0,21

Interaction shear and torsion

Name	dx [m]	Case	Cross-section	V _{Ed} [kN] T _{Ed} [kNm]	Equation _{6_29} [-] Equation _{6_31} [-]	UC _{int_con} [-]	UC _{int_shear} [-]	UC _{int} [-]
B11	5,208-	ULS-Seis (auto)/1	CS10 - Rectangle (500; 350)	0,21 -0,53	0,00 0,01	0,00	0,00	0,00
B16	4,729-	ULS-Seis (auto)/2	CS10 - Rectangle (500; 350)	172,82 -12,30	0,21 1,98	0,21	0,73	0,73
B12	4,898+	ULS-Seis (auto)/12	CS10 - Rectangle (500; 350)	29,60 -31,62	0,19 0,82	0,19	0,00	0,19
B12	4,898+	LC11/7	CS10 - Rectangle (500; 350)	27,23 27,38	0,21 0,96	0,21	0,00	0,21
B16	4,974	LC10/14	CS10 - Rectangle (500; 350)	156,68 7,02	0,24 0,93	0,24	0,00	0,24
B24	0,000	ULS-Seis (auto)/12	CS10 - Rectangle (500; 350)	83,09 -23,18	0,19 1,00	0,19	1,00	1,00
B17	1,717-	LC11/7	CS2 - Rectangle (250; 600)	0,36 0,90	0,02 0,07	0,02	0,00	0,02
B19	0,000	ULS-Seis (auto)/2	CS2 - Rectangle (250; 600)	87,78 3,73	0,25 1,08	0,25	0,68	0,68
B70	3,598	ULS-Seis (auto)/13	CS2 - Rectangle (250; 600)	55,36 -10,26	0,28 1,05	0,28	0,73	0,73
B20	0,000	ULS-Seis (auto)/2	CS2 - Rectangle (250; 600)	86,91 12,52	0,36 1,48	0,36	0,81	0,81
B15	2,929	ULS-Seis (auto)/15	CS2 - Rectangle (250; 600)	53,60 -2,62	0,13 1,38	0,13	0,85	0,85
B65	15,400+	ULS-Seis (auto)/3	CS9 - Rectangle (600; 500)	0,03 0,00	0,00 0,00	0,00	0,00	0,00
B67	1,985+	ULS-Seis (auto)/10	CS9 - Rectangle (600; 500)	36,40 -6,16	0,05 0,32	0,05	0,00	0,05
B67	2,205	ULS-Seis (auto)/2	CS9 - Rectangle (600; 500)	21,97 -13,83	0,09 0,36	0,09	0,00	0,09
B67	1,985+	LC10/14	CS9 - Rectangle (600; 500)	16,11 11,39	0,08 0,32	0,08	0,00	0,08
B67	1,985+	ULS-Seis (auto)/16	CS9 - Rectangle (600; 500)	22,09 -13,82	0,09 0,37	0,09	0,00	0,09

Overall table of shear and torsion check

Name	dx [m]	Case	Cross-section	UC _{shear} [-]	UC _{tor} [-]	UC _{int} [-]	UC [-]	Check
B12	4,898+	LC11/7	CS10 - Rectangle (500; 350)	0,30	0,66	0,21	0,66	OK
B24	0,000	ULS-Seis (auto)/12	CS10 - Rectangle (500; 350)	0,56	0,45	1,00	1,00	OK
B12	0,245-	ULS-Seis (auto)/6	CS10 - Rectangle (500; 350)	1,00	0,05	0,72	1,00	OK
B20	0,000	ULS-Seis (auto)/2	CS2 - Rectangle (250; 600)	0,84	0,64	0,81	0,84	OK
B15	2,929	ULS-Seis (auto)/15	CS2 - Rectangle (250; 600)	0,76	0,13	0,85	0,85	OK
B71	4,290	LC11/9	CS2 - Rectangle (250; 600)	1,00	0,24	0,34	1,00	OK
B67	1,985+	LC10/14	CS9 - Rectangle (600; 500)	0,11	0,21	0,08	0,21	OK
B67	1,985+	ULS-Seis (auto)/16	CS9 - Rectangle (600; 500)	0,17	0,20	0,09	0,20	OK
B67	1,985+	LC11/7	CS9 - Rectangle (600; 500)	0,27	0,02	0,03	0,27	OK

Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 + ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/2	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
LC11/4	- ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/5	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/6	LC1 + LC2 + 0.30*LC9 + ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
LC11/7	ELF for LC11 + Accid. tors. moments for LC11

Name	Combination key
ULS-Seis (auto)/8	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11
LC11/9	ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/10	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/11	LC1 + LC2 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/12	LC1 + LC2 + 0.30*LC9 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/13	LC1 + LC2 + 0.30*LC9 - ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
LC10/14	- ELF for LC10 - Accid. tors. moments for LC10
ULS-Seis (auto)/15	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/16	LC1 + LC2 + 0.30*LC9 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11

Check shear+torsion (ULS)

Values: UC

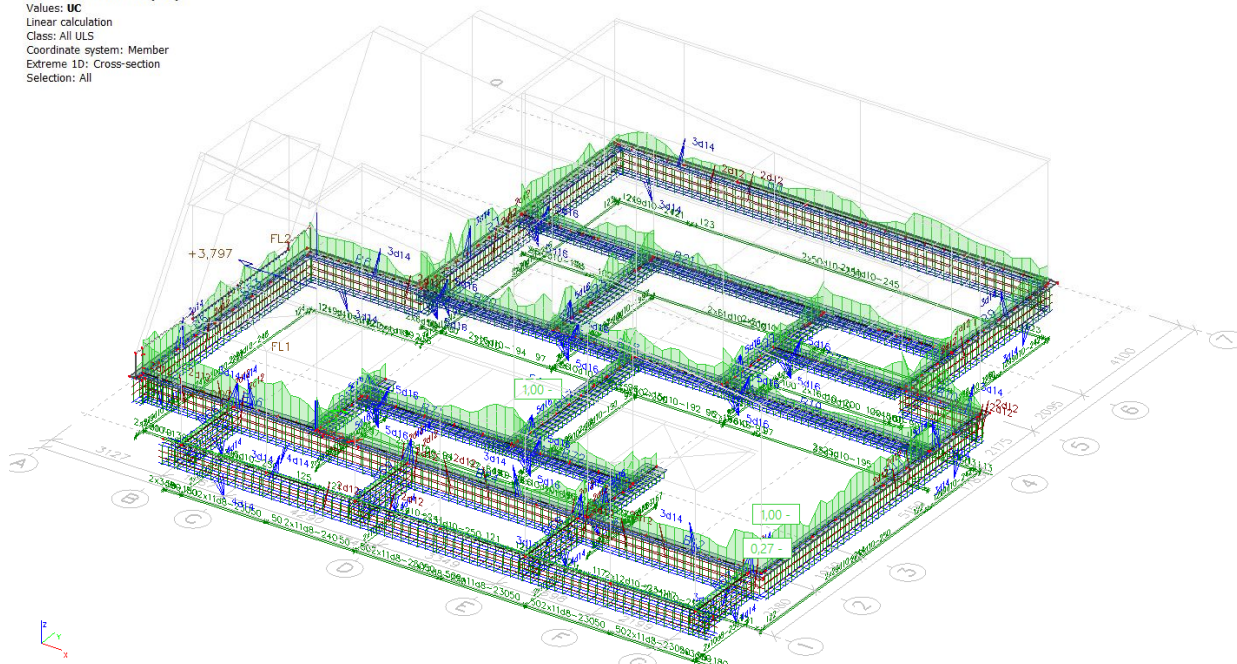
Linear calculation

Class: All ULS

Coordinate system: Member

Extreme 1D: Cross-section

Selection: All



Armatura po prerezih

Rib B16

SIST EN 1992-1-1:2005/A101:2006

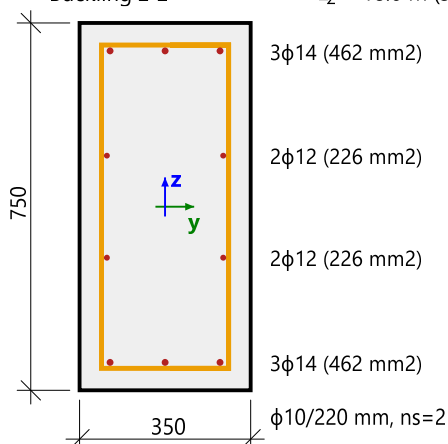
Member length:

L = 4.97 m

Buckling y-y

L_y = 8.72 m (sway)

Buckling z-z

L_z = 18.6 m (sway)

Rectangle (750; 350)

Section 31 [dx = 3.75 m]

Concrete: C25/30

Bi-linear stress-strain diagram

Exposure class: XC3

Longitudinal reinforcement: B 500B

Bi-linear with an inclined top branch

4φ12 mm + 6φ14 mm (A_s = 1376 mm²)ρ_l = 0,524 % (10.8 kg/m)

Shear reinforcement: B 500B

Bi-linear with an inclined top branch

φ10/167 mm (n_s = 2) (A_{sw} = 157 mm²)ρ_w = 0,272 % (5.6 kg/m) (A_{swm} = 713 mm²/m)

Cover (stirrup)

Top: 40 mm

Bottom: 40 mm

Left: 40 mm

Right: 40 mm

Summary of check

Type of component	Fibre / Bar	ϵ_{extr} [‰]	σ_{extr} [MPa]	Check strain [-]	Check stress [-]	UC [-]	Limit [-]	Status
Concrete	3	-0.493	-4.7	0,14	0,28	0,90	1	OK
Reinf.	1	2.1	419	0,05	0,90			

Summary of check

N	N _{Ed}	N _{Rd+}	M _y	M _{Edy}	M _{Rdy+}	M _{Rdy-}	UC	Status
		N _{Rd-}	M _z	M _{Edz}	M _{Rdz+}	M _{Rdz-}		
[kN]	[kN]	[kN]	[kNm]	[kNm]	[kNm]	[kNm]	[-]	
170	170	233	90.8	97.3	133	-376	0,73	OK
		-658	2.94	3.03	4.15	-11.7		M _{Edz} /M _{Rdz}

Forces

Content of combination: LC1+LC2+0.30*LC9+Equivalent lateral forces for LC10+Accidental torsional moments for LC10
 +0.30*Equivalent lateral forces for LC11+0.30*Accidental torsional moments for LC11

N_{Ed} = -17.2 kN M_{Edy} = -53.4 kNm M_{Edz} = -6.46 kNm V_{Edy} = 6.17 kN V_{Edz} = -113 kN T_{Ed} = 2.76 kNm

Resultant of shear force

Difference between angles α_M and α_V

$$V_{Ed} = \sqrt{V_{Edy}^2 + V_{Edz}^2} = \sqrt{6.17^2 + (-113)^2} = 113 \text{ kN}$$

$$\alpha_{MV} = \text{abs}(\alpha_M - \alpha_V) = \text{abs}(64.3 - 93.1) = 28.8^\circ$$

Summary of check

d = 609 mm z = 551 mm b_w = 351 mm b_{w1} = 351 mm V_{Rdc} = 113 kN V_{Rds} = 171 kN V_{Edmax} = 1201 kN V_{Rdmax} = 1189 kN

A_k = 145487 mm² u_k = 1723 mm T_{Rdc} = 52.1 kNm T_{Rds} = 56.4 kNm T_{Rdmax} = 192 kNm

Type of check	Forces	Resistances	UC [-]	Status
Check shear Vy+Vz	112,8 kN	113,1 kN	1,00	OK
Check torsion	2,8 kNm	52,1 kNm	0,05	OK
Interaction check Vy+Vz+T (concrete)			0,11	OK
Interaction check Vy+Vz+T (shear)	288,8 MPa	400,0 MPa	0,72	OK
Summary of check			1,00	OK

Rib B20

SIST EN 1992-1-1:2005/A101:2006

Rectangle (250; 600)

Section 0 [dx = 0 m]

Member length:

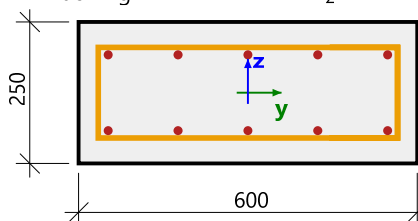
L = 3.7 m

Buckling y-y

L_y = 4.24 m (sway)

Buckling z-z

L_z = 19.1 m (sway)



5φ16 (1005 mm²)

5φ16 (1005 mm²)

φ10/100 mm, n_s=2

Concrete: C25/30

Bi-linear stress-strain diagram

Exposure class: XC3

Longitudinal reinforcement: B 500B

Bi-linear with an inclined top branch

10φ16 mm (A_s = 2011 mm²)

ρ_l = 1,340 % (15.8 kg/m)

Shear reinforcement: B 500B

Bi-linear with an inclined top branch

φ10/100 mm (n_s = 2) (A_{sw} = 157 mm²)

ρ_w = 1,047 % (12.3 kg/m) (A_{swm} = 1571 mm²/m)

Cover (stirrup)

Top: 40 mm

Bottom: 40 mm

Left: 30 mm

Right: 30 mm

Summary of check

Type of component	Fibre / Bar	ϵ_{extr} [‰]	σ_{extr} [MPa]	Check strain [-]	Check stress [-]	UC [-]	Limit [-]	Status
Concrete	7	-1.22	-11.6	0,35	0,70	0,80	1	OK
Reinf.	6	1.86	373	0,04	0,80			

Summary of check

N	N _{Ed}	N _{Rd+}	M _y	M _{Edy}	M _{Rdy+}	M _{Rdy-}	UC	Status
		N _{Rd-}	M _z	M _{Edz}	M _{Rdz+}	M _{Rdz-}		
[kN]	[kN]	[kN]	[kNm]	[kNm]	[kNm]	[kNm]	[-]	
60.3	60.3	77.1	-53.8	-53.8	80.5	-68.7	0,78	OK
		-90.3	-3.02	-3.02	4.52	-3.86	M _{Edy} /M _{Rdy}	

Forces

Content of combination: Equivalent lateral forces for LC11 - Accidental torsional moments for LC11

N_{Ed} = 56.8 kN M_{Edy} = -33.3 kNm M_{Edz} = -6.59 kNm V_{Edy} = -38.2 kN V_{Edz} = -26.2 kN T_{Ed} = 3.77 kNm

Resultant of shear force

Difference between angles α_M and α_V

$$V_{Ed} = \sqrt{V_{Edy}^2 + V_{Edz}^2} = \sqrt{-38.2^2 + -26.2^2} = 46.3 \text{ kN}$$

$$\alpha_{MV} = \text{abs}(\alpha_M - \alpha_V) = \text{abs}(88.5 - 34.4) = 54.1^\circ$$

Summary of check

d = 362 mm z = 232 mm b_w = 209 mm b_{w1} = 303 mm V_{Rdc} = 46.5 kN V_{Rds} = 176 kN V_{Edmax} = 493 kN V_{Rdmax} = 346 kN

A_k = 61875 mm² u_k = 1240 mm T_{Rdc} = 15.6 kNm T_{Rds} = 51 kNm T_{Rdmax} = 57.6 kNm

Type of check	Forces	Resistances	UC [-]	Status
Check shear Vy+Vz	46,3 kN	46,5 kN	1,00	OK
Check torsion	3,8 kNm	15,6 kNm	0,24	OK
Interaction check Vy+Vz+T (concrete)			0,20	OK
Interaction check Vy+Vz+T (shear)	137,6 MPa	400,0 MPa	0,34	OK
Summary of check			1,00	OK

Beam B68

SIST EN 1992-1-1:2005/A101:2006

Rectangle (600; 500)

Section 2 [dx = 0.221 m]

Member length:

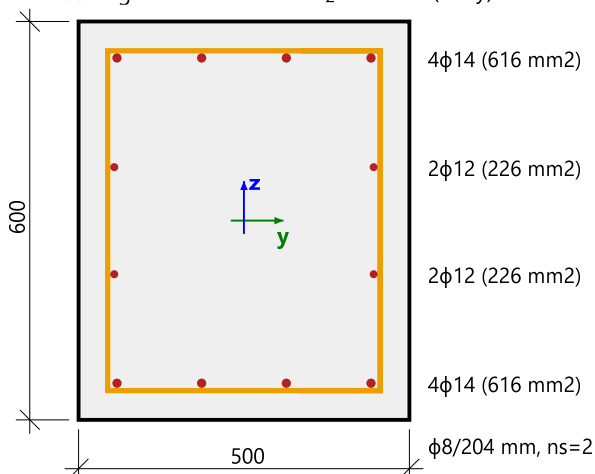
L = 2.21 m

Buckling y-y ⊥

L_y = 4.12 m (sway)

Buckling z-z ⊥

L_z = 5.22 m (sway)



Concrete: C25/30

Bi-linear stress-strain diagram

Exposure class: XC3

Longitudinal reinforcement: B 500B

Bi-linear with an inclined top branch

4φ12 mm + 8φ14 mm (A_s = 1684 mm²)

ρ_l = 0,561 % (13.2 kg/m)

Shear reinforcement: B 500B

Bi-linear with an inclined top branch

φ8/227 mm (n_s = 2) (A_{sw} = 101 mm²)

ρ_w = 0,164 % (3.86 kg/m) (A_{swm} = 492 mm²/m)

Cover (stirrup)

Top: 40 mm

Bottom: 40 mm

Left: 40 mm

Right: 40 mm

Summary of check

Type of component	Fibre / Bar	ϵ_{extr} [‰]	σ_{extr} [MPa]	Check strain [-]	Check stress [-]	UC [-]	Limit [-]	Status
Concrete	5	-0.244	-2.91	0,07	0,14	0,23	1	OK
Reinf.	4	0.616	123	0,01	0,23			

Summary of check

N	N _{Ed}	N _{Rd+}	M _y	M _{Edy}	M _{Rdy+}	M _{Rdy-}	UC	Status
		N _{Rd-}	M _z	M _{Edz}	M _{Rdz+}	M _{Rdz-}		
[kN]	[kN]	[kN]	[kNm]	[kNm]	[kNm]	[kNm]	[-]	
15.8	15.8	85.8	-25.9	-32.3	221	-176	0,18	OK
		-108	0.03	1.03	5.61	-7.07		M _{Edy} /M _{Rdy}

Forces

Content of combination: Equivalent lateral forces for LC11 + Accidental torsional moments for LC11

N_{Ed} = 15.8 kN M_{Edy} = -32.3 kNm M_{Edz} = 1.03 kNm V_{Edy} = 4.53 kN V_{Edz} = -29.2 kN T_{Ed} = 1.36 kNm

Resultant of shear force

Difference between angles α_M and α_V

$$V_{Ed} = \sqrt{V_{Edy}^2 + V_{Edz}^2} = \sqrt{4.53^2 + (-29.2)^2} = 29.5 \text{ kN}$$

$$\alpha_{MV} = \text{abs}(\alpha_M - \alpha_V) = \text{abs}(92.2 - 98.8) = 6.63^\circ$$

Summary of check

d = 531 mm z = 448 mm b_w = 506 mm b_{w1} = 506 mm V_{Rdc} = 109 kN V_{Rds} = 94.7 kN V_{Edmax} = 1209 kN V_{Rdmax} = 1117 kN

A_k = 168595 mm² u_k = 1655 mm T_{Rdc} = 55.2 kNm T_{Rds} = 38.7 kNm T_{Rdmax} = 204 kNm

Type of check	Forces	Resistances	UC [-]	Status
Check shear Vy+Vz	29,5 kN	108,8 kN	0,27	OK
Check torsion	1,4 kNm	55,2 kNm	0,02	OK
Interaction check Vy+Vz+T (concrete)			0,03	OK
Interaction check Vy+Vz+T (shear)	140,0 MPa	400,0 MPa	0,00	OK
Summary of check			0,27	OK

7.2. AB TEMELJNA PLOŠČA

Internal forces 2D

Linear calculation

Class: All ULS; Extreme: Global; Selection: All

Location: In nodes avg. on macro. System: LCS mesh element

Components of internal forces parallel with the rib are taken into account as zero within the effective width of the rib.

Design internal forces in centroidal plane

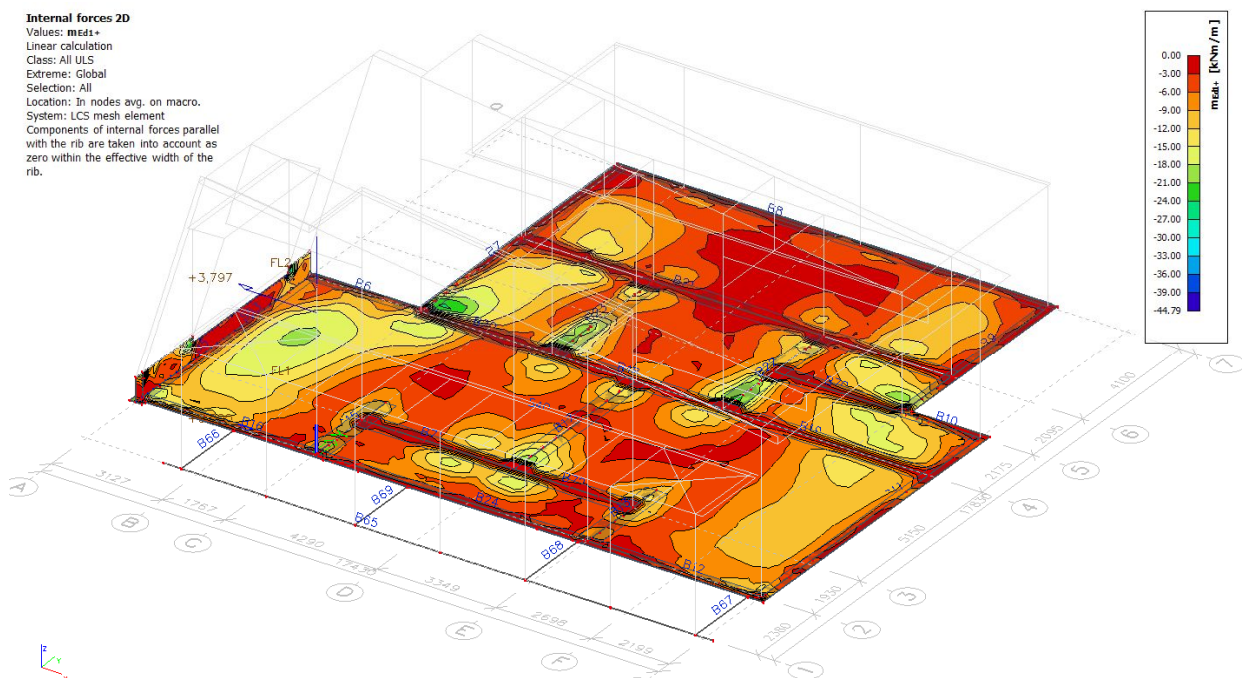
Name	Case	m _{Ed1+} [kNm/m] n _{Ed1+} [kN/m]	m _{Ed2+} [kNm/m] n _{Ed2+} [kN/m]	m _{Edc+} [kNm/m] n _{Edc+} [kN/m]	m _{Ed1-} [kNm/m] n _{Ed1-} [kN/m]	m _{Ed2-} [kNm/m] n _{Ed2-} [kN/m]	m _{Edc-} [kNm/m] n _{Edc-} [kN/m]	V _{Ed} [kN/m]
S53	ULS-Seis (auto)/1	-44,79 -86,56	-21,01 -185,28	0,00 -249,82	0,00 -86,56	0,00 -185,28	11,99 -249,82	328,64
S40	LC11/2	0,00 5,58	-99,00 -61,83	-0,13 -11,16	2,24 5,58	0,00 -61,83	0,00 -11,16	69,92
S53	ULS-Seis (auto)/3	0,00 258,08	0,00 124,98	-29,74 -580,54	14,25 258,08	11,71 124,98	0,00 -580,54	31,40
S40	ULS-Seis (auto)/4	0,00 -40,37	0,00 0,00	0,00 0,00	30,81 -40,37	0,00 0,00	0,00 0,00	84,97
S53	LC11/5	0,00 -743,72	0,00 -93,41	-6,88 -373,44	25,28 -743,72	4,81 -93,41	0,00 -373,44	129,10
S53	ULS-Seis (auto)/6	-5,17 1214,50	0,00 497,24	-12,18 -398,50	0,00 1214,50	8,91 497,24	0,00 -398,50	141,88

Name	Case	m_{Ed1+} [kNm/m] n_{Ed1+} [kN/m]	m_{Ed2+} [kNm/m] n_{Ed2+} [kN/m]	m_{Edc+} [kNm/m] n_{Edc+} [kN/m]	m_{Ed1-} [kNm/m] n_{Ed1-} [kN/m]	m_{Ed2-} [kNm/m] n_{Ed2-} [kN/m]	m_{Edc-} [kNm/m] n_{Edc-} [kN/m]	V_{Ed} [kN/m]
S40	ULS-Seis (auto)/7	-2,40 6,42	0,00 -93,30	0,00 -12,85	0,00 6,42	116,92 -93,30	0,15 -12,85	66,06
S40	ULS-Seis (auto)/8	0,00 1,66	0,00 -879,59	0,00 -3,32	0,43 1,66	21,73 -879,59	0,05 -3,32	3,00
S40	ULS-Seis (auto)/1	0,00 3,65	0,00 833,25	0,00 -7,29	1,04 3,65	5,46 833,25	0,00 -7,29	2,26
S53	ULS-Seis (auto)/9	-7,33 384,25	-6,30 -258,71	0,00 -528,48	0,00 384,25	0,00 -258,71	48,95 -528,48	346,15
S53	ULS-Seis (auto)/6	-31,17 152,80	-21,02 816,14	0,00 -906,95	0,00 152,80	0,00 816,14	32,76 -906,95	305,69
S40	ULS-Set B (auto)/10	0,00 25,28	0,00 25,28	0,00 -50,57	0,49 25,28	1,47 25,28	1,00 -50,57	0,00
S53	ULS-Seis (auto)/11	-40,28 120,12	-28,59 695,98	0,00 -571,47	0,00 120,12	0,00 695,98	41,77 -571,47	353,85

Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
LC11/2	ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/4	LC1 + LC2 + 0.30*LC9 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11
LC11/5	ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/6	LC1 + LC2 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/7	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/8	LC1 + LC2 + 0.30*LC9 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/9	LC1 + LC2 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Set B (auto)/10	1.35*LC1 + 1.35*LC2
ULS-Seis (auto)/11	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11

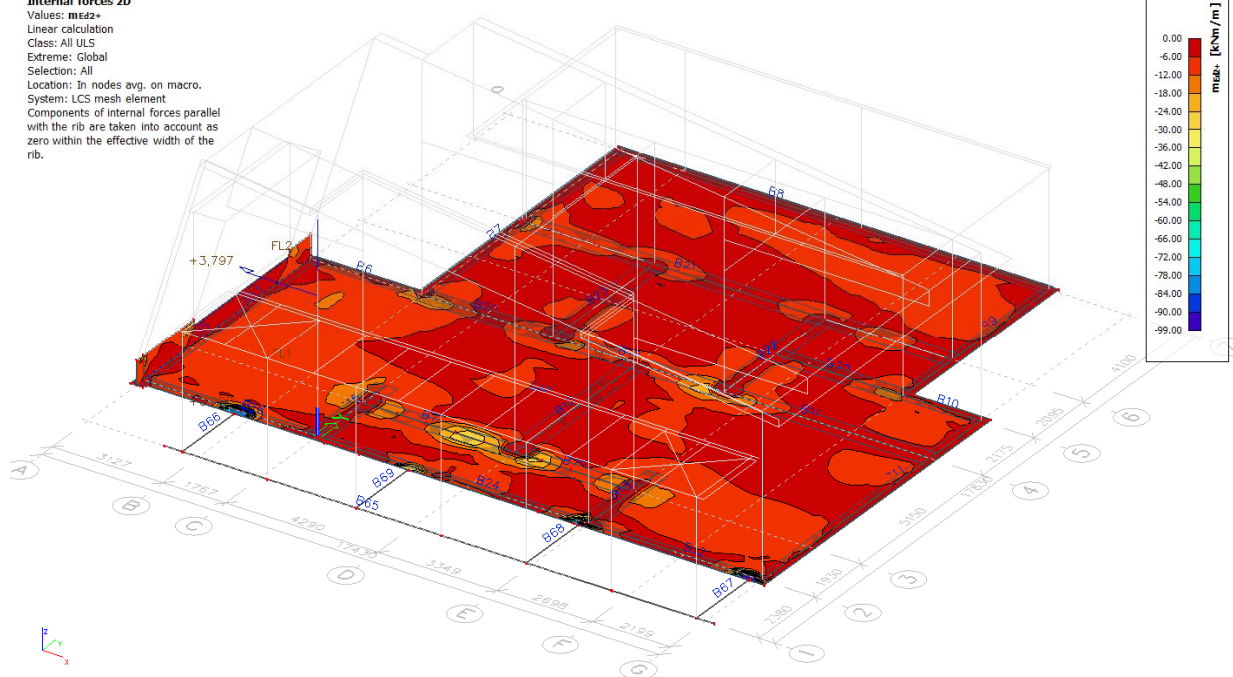
Internal forces 2D

Values: m_{Ed1+}
 Linear calculation
 Class: All ULS
 Extreme: Global
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element
 Components of internal forces parallel
 with the rib are taken into account as
 zero within the effective width of the
 rib.



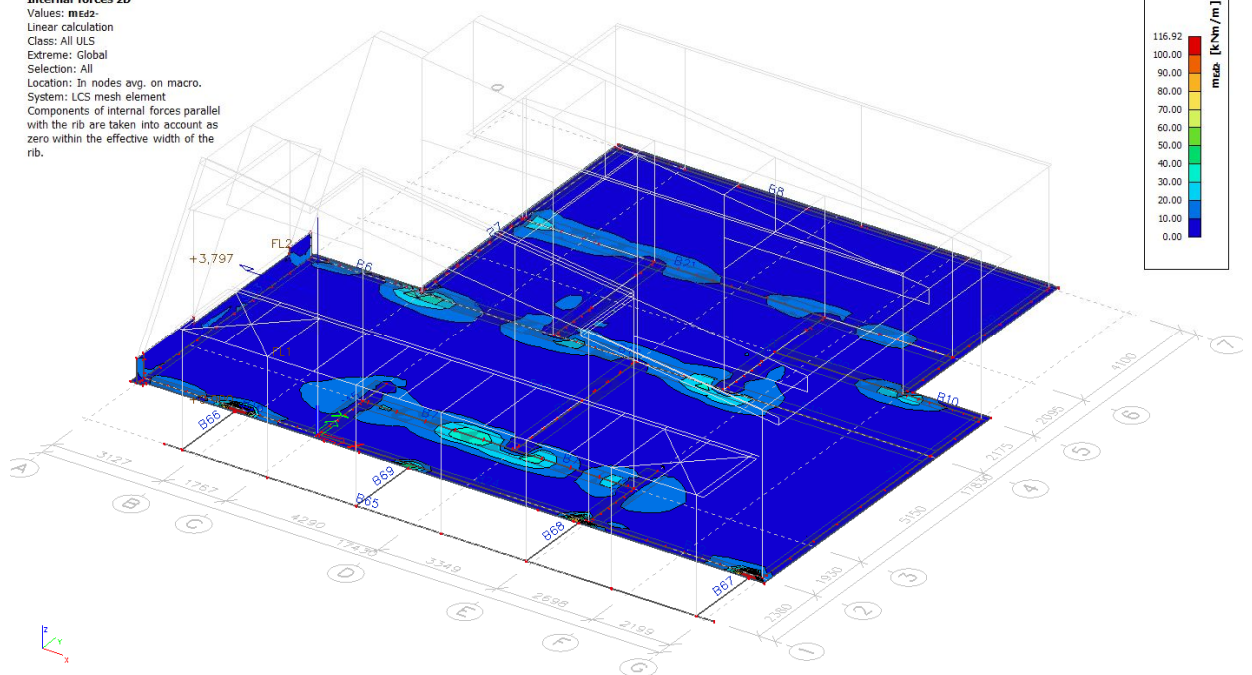
Internal forces 2D

Values: **med2+**
Linear calculation
Class: All ULS
Extreme: Global
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element
Components of internal forces parallel with the rib are taken into account as zero within the effective width of the rib.

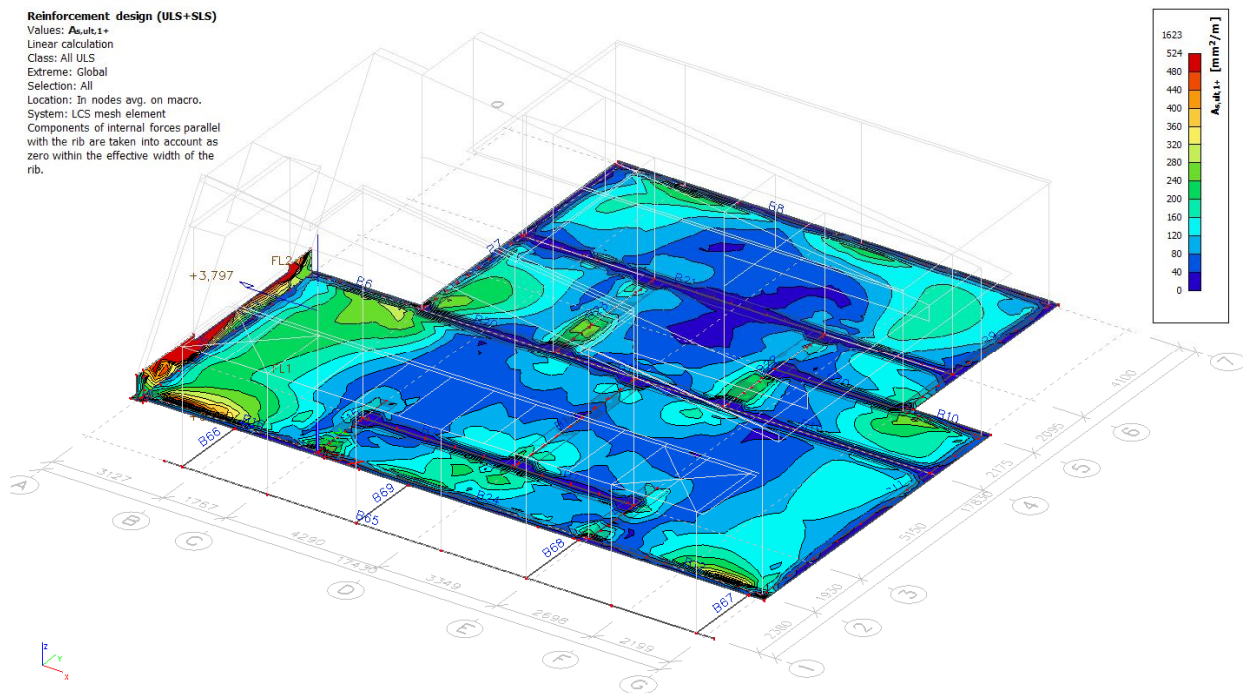


Internal forces 2D

Values: m_{ed2}
Linear calculation
Class: All ULS
Extreme: Global
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element
Components of internal forces parallel with the rib are taken into account as zero within the effective width of the rib.

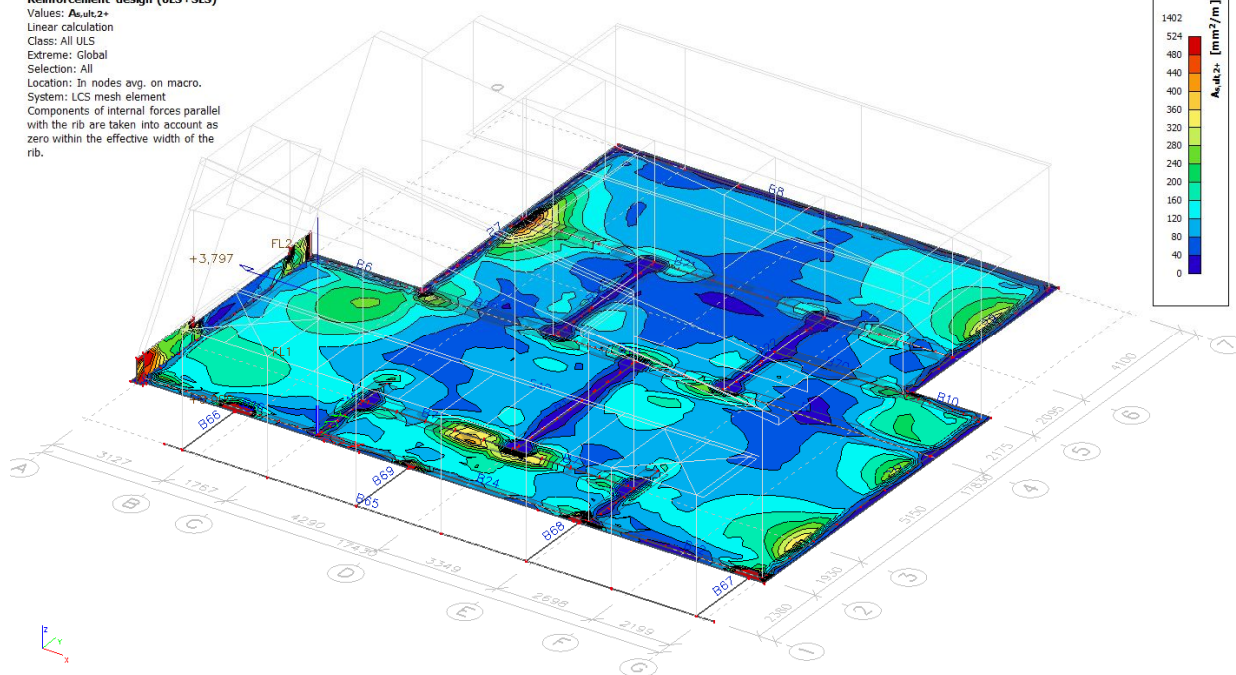
**Potrebna armatura v temeljni plošči in parapetnem zidcu****Reinforcement design (ULS+SLS)**

Values: $A_{s,ult,1}$
Linear calculation
Class: All ULS
Extreme: Global
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element
Components of internal forces parallel with the rib are taken into account as zero within the effective width of the rib.

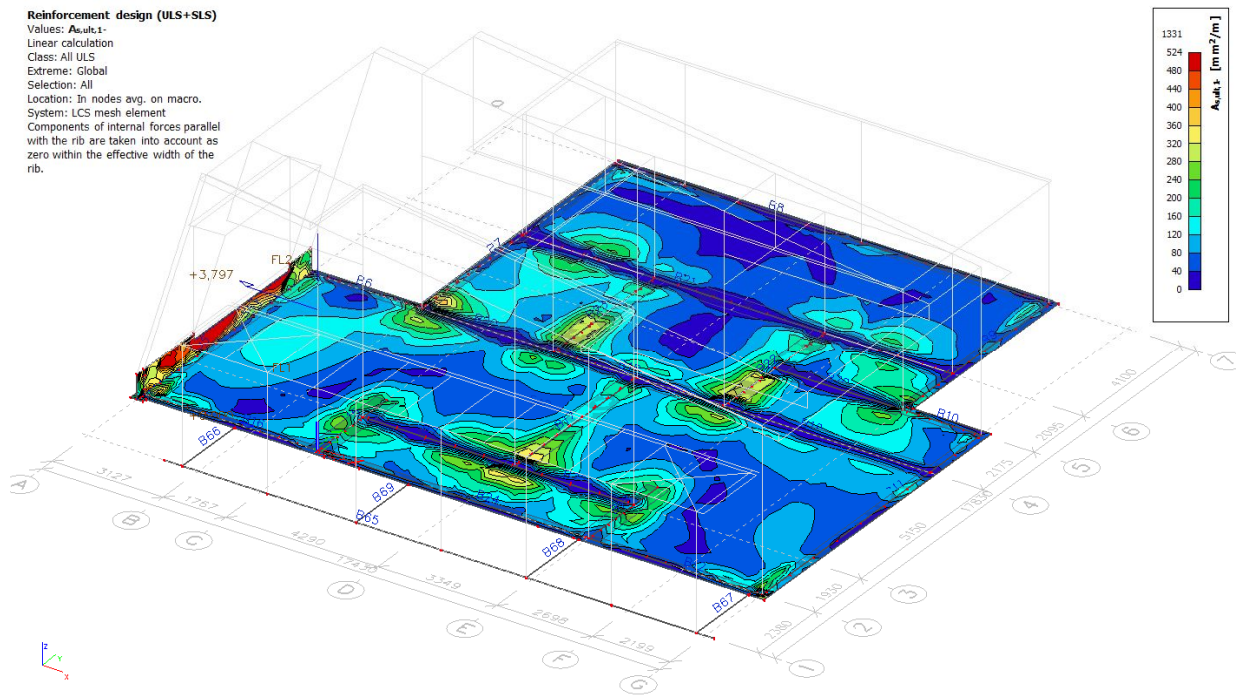


Reinforcement design (ULS+SLS)

Values: $A_{s,ult,2+}$
Linear calculation
Class: All ULS
Extreme: Global
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element
Components of internal forces parallel with the rib are taken into account as zero within the effective width of the rib.

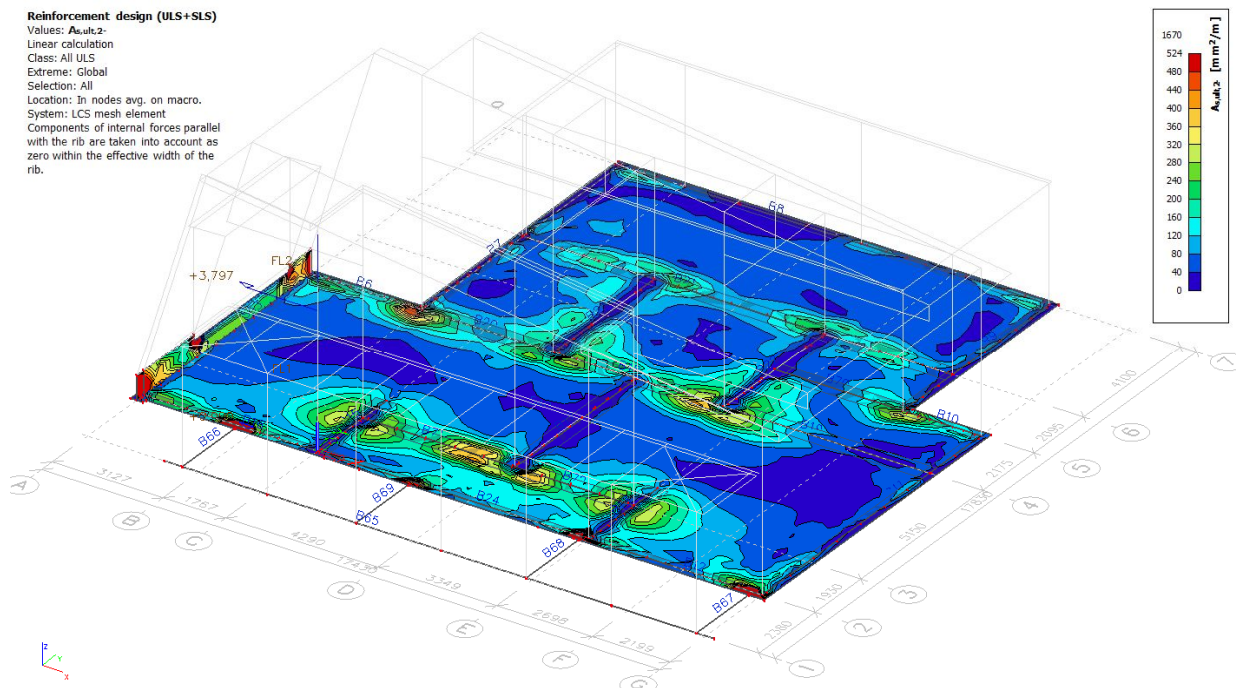
**Reinforcement design (ULS+SLS)**

Values: $A_{s,ult,1-}$
Linear calculation
Class: All ULS
Extreme: Global
Selection: All
Location: In nodes avg. on macro.
System: LCS mesh element
Components of internal forces parallel with the rib are taken into account as zero within the effective width of the rib.



Reinforcement design (ULS+SLS)

Values: $A_{s,ult,2}$
 Linear calculation
 Class: All ULS
 Extreme: Global
 Selection: All
 Location: In nodes avg. on macro.
 System: LCS mesh element
 Components of internal forces parallel with the rib are taken into account as zero within the effective width of the rib.



8.0) KONTROLA NAPETOSTI IN DEFORMACIJ – POTRESNO STANJE

8.1. DEFORMACIJE - LESENA KONSTRUKCIJA

Displacement of nodes

Linear calculation

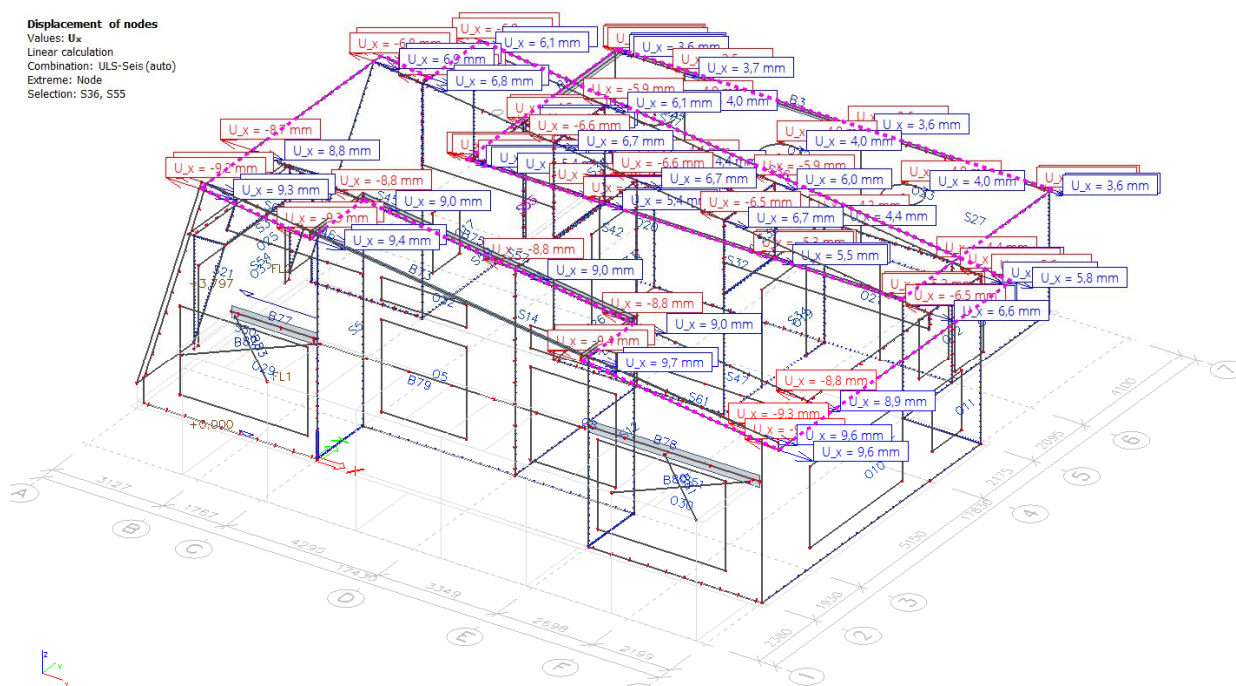
Combination: ULS-Seis (auto)

Extreme: Global; Selection: All

Name	Case	U_x [mm]	U_y [mm]	U_z [mm]	Φ_x [mrad]	Φ_y [mrad]	Φ_z [mrad]	U_{total} [mm]
N556	ULS-Seis (auto)/1	-12,6	2,5	-0,5	-1,0	-4,4	-0,3	12,9
N657	ULS-Seis (auto)/2	-1,2	-9,9	-3,9	1,7	0,0	0,1	10,7
N657	ULS-Seis (auto)/3	1,4	11,2	-3,5	0,9	-0,1	-0,1	11,8
N657	ULS-Seis (auto)/4	2,4	-9,6	-3,9	1,8	-0,1	0,0	10,6
N488	ULS-Seis (auto)/5	-5,4	-4,1	1,3	0,4	-0,4	-0,4	6,9
N562	ULS-Seis (auto)/6	-5,6	7,3	-0,4	-2,5	-2,1	-0,4	9,2
N562	ULS-Seis (auto)/7	5,7	-7,5	-0,6	2,6	2,2	0,5	9,4
N562	ULS-Seis (auto)/1	-12,6	4,9	-0,5	-1,8	-4,4	-0,3	13,5
N556	ULS-Seis (auto)/8	12,8	-2,6	-0,5	1,0	4,6	0,4	13,1
N291	ULS-Seis (auto)/9	-8,6	3,8	-0,5	-0,5	-0,3	-2,6	9,4
N291	ULS-Seis (auto)/10	9,3	-3,8	-1,1	0,9	0,3	3,1	10,1
N562	ULS-Seis (auto)/8	12,8	-5,0	-0,6	1,9	4,5	0,5	13,7

Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/2	LC1 + LC2 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/4	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/5	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/6	LC1 + LC2 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/7	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/8	LC1 + LC2 + 0.30*LC9 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/9	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/10	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11

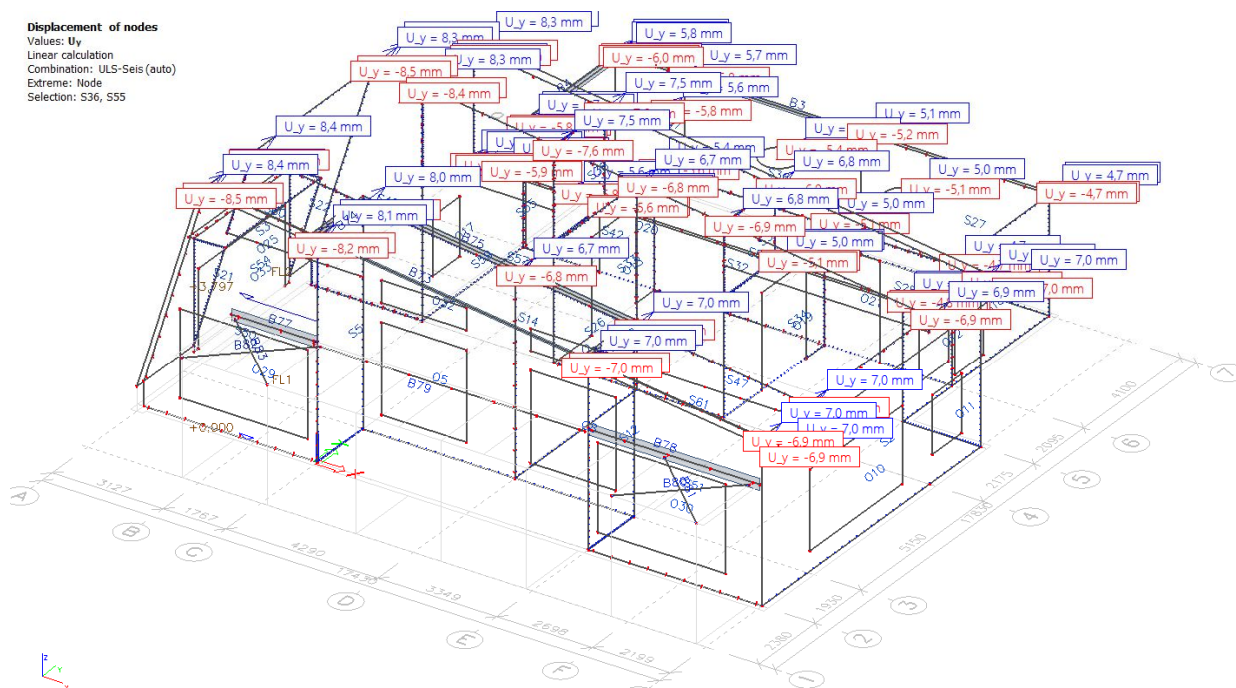
Displacement of nodes
 Values: Ux
 Linear calculation
 Combination: ULS-Seis (auto)
 Extreme: Node
 Selection: S36, S55



$$Dr,x1 = 9,6 \text{ mm} \times 2,0 = 19,2 \text{ mm} \rightarrow Dr,x1 * v = 9,6 \text{ mm} < 45,2 \text{ mm}$$

$$Dr,x1 = 6,0 \text{ mm} \times 2,0 = 12,0 \text{ mm} \rightarrow Dr,x1 * v = 6,0 \text{ mm} < 32,4 \text{ mm}$$

Displacement of nodes
 Values: Uy
 Linear calculation
 Combination: ULS-Seis (auto)
 Extreme: Node
 Selection: S36, S55



$$Dr,y1 = 8,4 \text{ mm} \times 2,0 = 16,8 \text{ mm} \rightarrow Dr,y1 * v = 8,4 \text{ mm} < 45,2 \text{ mm}$$

$$Dr,y1 = 5,1 \text{ mm} \times 2,0 = 10,2 \text{ mm} \rightarrow Dr,y1 * v = 5,1 \text{ mm} < 32,4 \text{ mm}$$

8.2. NAPETOSTI - LESENA KONSTRUKCIJA - NOSILCI

Linear calculation
 Combination: ULS-Seis (auto); Coordinate system: Principal
 Extreme 1D: Cross-section; Selection: All

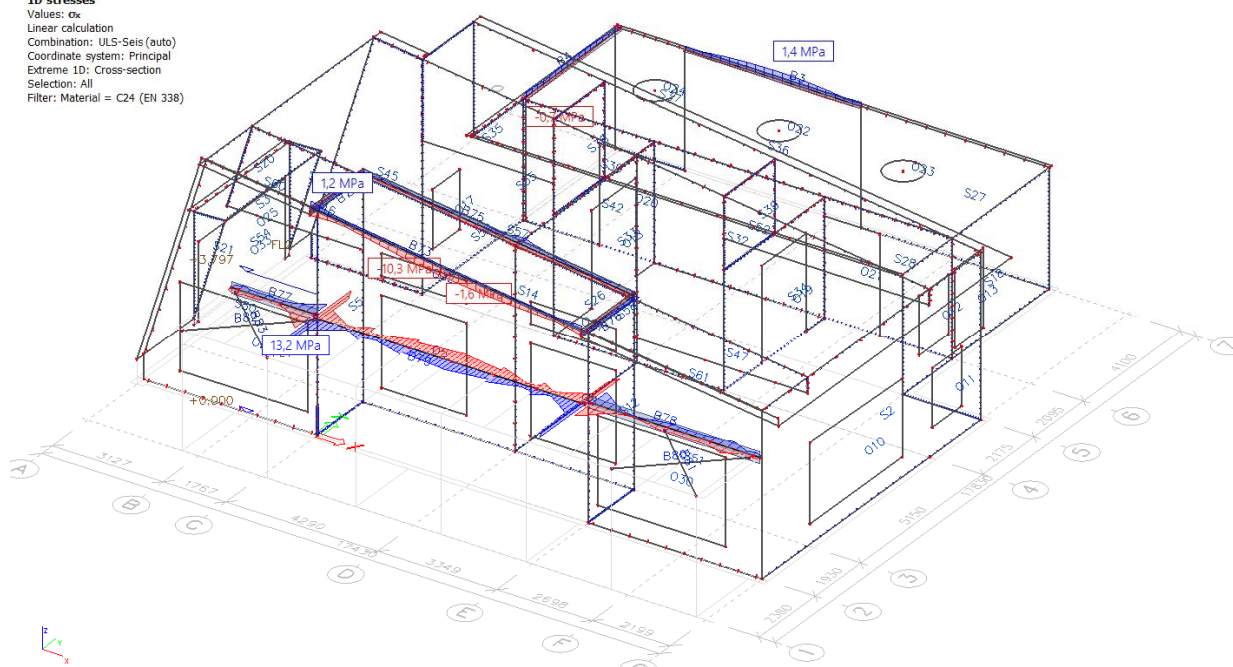
Filter: Material = C24 (EN 338)

Name	dx [m]	Fibre	Case	Cross-section	Material	σ_x [MPa]	T_{xy} [MPa]	T_{xz} [MPa]	T_{tor} [MPa]
B4	0,000	9	ULS-Seis (auto)/1	CS1 - 2 Rect (50; 400)	C24 (EN 338)	-0,7	0,0	0,0	0,0
B3	2,485-	7	ULS-Seis (auto)/2	CS1 - 2 Rect (50; 400)	C24 (EN 338)	1,4	0,0	0,0	0,0
B73	3,972-	9	ULS-Seis (auto)/3	CS11 - 2 Rect (60; 400)	C24 (EN 338)	-1,6	0,0	0,0	0,0
B73	0,000	6	ULS-Seis (auto)/4	CS11 - 2 Rect (60; 400)	C24 (EN 338)	1,2	0,0	0,0	0,0
B79	0,000	7	ULS-Seis (auto)/5	CS12 - RECT (200; 160)	C24 (EN 338)	-10,3	0,0	0,0	0,0
B79	0,000	3	ULS-Seis (auto)/5	CS12 - RECT (200; 160)	C24 (EN 338)	13,2	0,0	0,0	0,0

Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/2	LC1 + LC2 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/4	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/5	LC1 + LC2 + 0.30*LC9 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11

1D stresses

Values: σ_x
 Linear calculation
 Combination: ULS-Seis (auto)
 Coordinate system: Principal
 Extreme 1D: Cross-section
 Selection: All
 Filter: Material = C24 (EN 338)



8.3. NAPETOSTI - LESENA KONSTRUKCIJA – STENE

Linear calculation; Combination: ULS-Seis (auto); Extreme: Global

Selection: Named selection – stene; Location: In nodes avg. on macro. System: LCS mesh element

Basic stress

Name	Case	σ_{x+} [MPa] σ_{x-} [MPa]	σ_{y+} [MPa] σ_{y-} [MPa]	T_{xy+} [MPa] T_{xy-} [MPa]	T_{xz} [MPa]	T_{yz} [MPa]
S42	ULS-Seis (auto)/1	-5,5 -5,0	-2,0 -1,8	1,0 0,8	0,0	0,0
S46	ULS-Seis (auto)/2	-4,4 -5,5	-2,0 -1,9	-1,0 -1,0	0,1	0,0
S50	ULS-Seis (auto)/3	6,1 5,7	-1,3 -1,3	-0,6 -1,1	-0,2	0,0
S50	ULS-Seis (auto)/3	0,7 0,9	-7,4 -8,2	-0,7 -0,2	0,0	0,2
S50	ULS-Seis (auto)/4	-0,8 -0,9	6,3 7,1	0,7 0,1	0,0	-0,2
S51	ULS-Seis (auto)/5	-1,3 0,2	-2,5 1,4	-2,8 1,1	0,1	-0,7
S50	ULS-Seis (auto)/6	-1,5 0,0	-1,8 2,2	2,7 -0,9	-0,1	-0,7
S3	ULS-Seis (auto)/7	2,2 -4,0	-0,1 -3,3	1,4 -2,1	-0,2	0,4

Name	Case	σ_{x+} [MPa] σ_{x-} [MPa]	σ_{y+} [MPa] σ_{y-} [MPa]	T_{xy+} [MPa] T_{xy-} [MPa]	T_{xz} [MPa]	T_{yz} [MPa]
S3	ULS-Seis (auto)/2	-2,8 4,7	-0,6 3,2	-1,7 2,4	0,3	-0,4
S51	ULS-Seis (auto)/8	0,9 -1,7	0,3 3,9	-1,1 1,2	-1,0	0,0
S51	ULS-Seis (auto)/9	-0,6 1,5	-0,4 -3,9	1,2 -1,2	1,1	0,0
S3	ULS-Seis (auto)/10	-0,5 0,1	-6,7 -1,7	-0,4 1,2	0,1	-1,0
S3	ULS-Seis (auto)/11	0,5 -0,2	7,0 0,2	0,5 -1,4	-0,1	1,1

3D stress

Values: σ_x (1D/2D)

Linear calculation

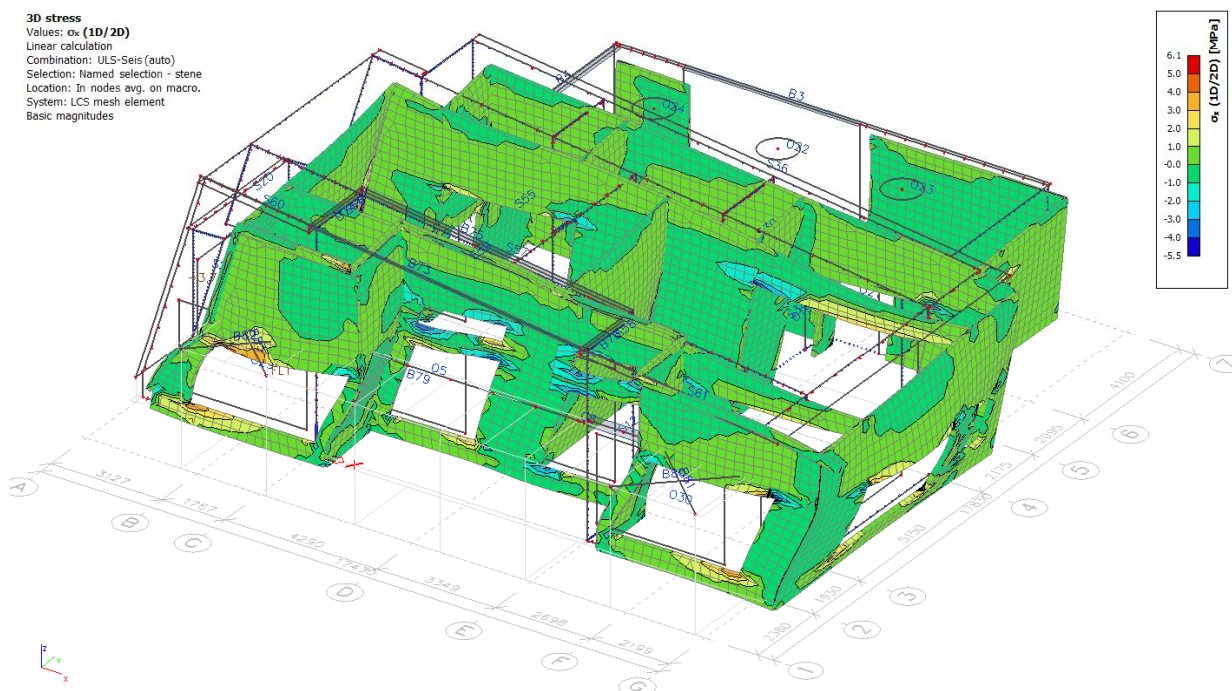
Combination: ULS-Seis (auto)

Selection: Named selection - stene

Location: In nodes avg. on macro.

System: LCS mesh element

Basic magnitudes



Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 + 0.30*LC9 - ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/2	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 + 0.30*LC9 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/4	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/5	LC1 + LC2 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/6	LC1 + LC2 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/7	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/8	LC1 + LC2 + 0.30*LC9 + ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/9	LC1 + LC2 - ELF for LC10 - Accid. tors. moments for LC10 - 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/10	LC1 + LC2 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/11	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11

8.4. NAPETOSTI - LESENA KONSTRUKCIJA – PLOŠČE

Linear calculation; Combination: ULS-Seis (auto)

Extreme: Global; Selection: Named selection - plošče

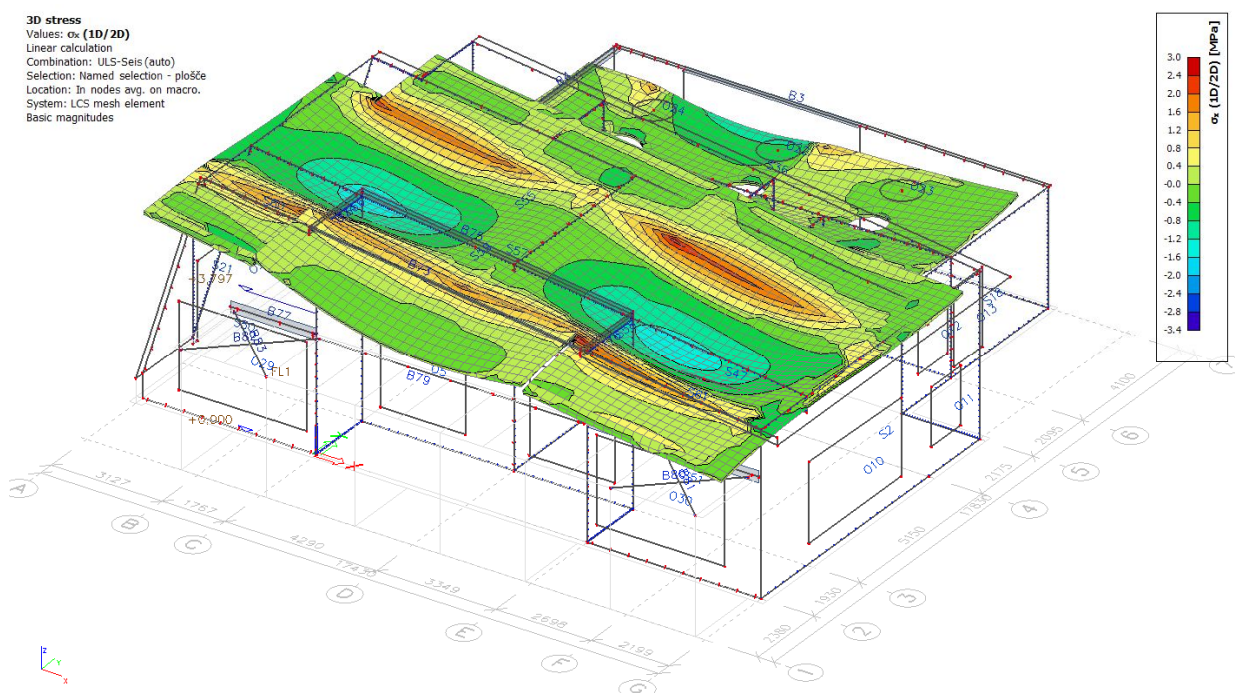
Location: In nodes avg. on macro. System: LCS mesh element

Basic stress

Name	Case	σ_{x+} [MPa] σ_{x-} [MPa]	σ_{y+} [MPa] σ_{y-} [MPa]	T_{xy+} [MPa] T_{xy-} [MPa]	T_{xz} [MPa]	T_{yz} [MPa]
S36	ULS-Seis (auto)/1	-2,4 0,5	-0,3 -0,8	-1,3 0,8	0,4	0,2
S55	ULS-Seis	3,0	-0,8	-0,1	-0,4	0,0

Name	Case	σ_{x+} [MPa]	σ_{y+} [MPa]	T_{xy+} [MPa]	T_{xz} [MPa]	T_{yz} [MPa]
	(auto)/2	-2,6	0,1	0,3		
S55	ULS-Seis	2,5	1,6	-0,6	-0,3	0,1
	(auto)/3	-3,4	0,3	0,3		
S36	ULS-Seis	1,7	-0,3	0,1	-0,3	-0,1
	(auto)/4	2,9	0,5	0,9		
S36	ULS-Seis	0,2	-3,8	0,0	0,0	0,4
	(auto)/5	-0,2	1,4	-0,2		
S36	ULS-Seis	0,2	3,0	-0,1	0,0	-0,3
	(auto)/6	-0,4	-1,2	0,2		
S36	ULS-Seis	-0,4	1,8	0,5	-0,1	0,8
	(auto)/7	0,7	-4,3	-0,5		
S36	ULS-Seis	0,4	-0,4	-0,3	0,1	-0,6
	(auto)/8	-0,7	3,7	0,2		
S36	ULS-Seis	-0,3	0,1	-1,7	0,1	0,3
	(auto)/7	-0,2	-0,6	1,3		
S36	ULS-Seis	2,5	-0,3	2,2	-0,5	-0,3
	(auto)/8	-0,6	1,1	-1,7		
S36	ULS-Seis	0,3	-0,1	2,2	-0,2	-0,4
	(auto)/8	0,3	0,6	-1,8		
S36	ULS-Seis	2,8	0,2	1,8	-0,5	-0,3
	(auto)/9	-0,8	0,8	-1,3		
S36	ULS-Seis	0,6	0,3	0,0	0,3	-0,8
	(auto)/8	-0,9	2,5	0,5		
S36	ULS-Seis	-0,6	0,7	-0,1	-0,3	1,0
	(auto)/7	1,0	-2,9	-0,3		

Name	Combination key
ULS-Seis (auto)/1	LC1 + LC2 + ELF for LC10 + Accid. tors. moments for LC10 - 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/2	LC1 + LC2 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/3	LC1 + LC2 + 0.30*LC9 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/4	LC1 + LC2 + 0.30*LC9 - ELF for LC10 + Accid. tors. moments for LC10 + 0.30*ELF for LC11 + 0.30*Accid. tors. moments for LC11
ULS-Seis (auto)/5	LC1 + LC2 + 0.30*LC9 - 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 + ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/6	LC1 + LC2 + 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 - ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/7	LC1 + LC2 + 0.30*ELF for LC10 + 0.30*Accid. tors. moments for LC10 - ELF for LC11 + Accid. tors. moments for LC11
ULS-Seis (auto)/8	LC1 + LC2 + 0.30*LC9 - 0.30*ELF for LC10 - 0.30*Accid. tors. moments for LC10 + ELF for LC11 - Accid. tors. moments for LC11
ULS-Seis (auto)/9	LC1 + LC2 + 0.30*LC9 - ELF for LC10 - Accid. tors. moments for LC10 + 0.30*ELF for LC11 - 0.30*Accid. tors. moments for LC11



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Cesta Komandanta Staneta 12, 1215 Medvode

OBJEKT: Novogradnja prizidka k obstoječemu vrtcu Smlednik
Viški vrtci, enota Rožna dolina


FAZA: PZI

ŠT. NAČRTA: DMM-025/21

ŠT. PROJEKTA: 136

3.3 DETAJLI STIKOVANJA ELEMENTOV LESENE KONSTRUKCIJE Z IZRAČUNI

Ljubljana, September 2021

Odgovorni projektant:
Matjaž ŽABKAR, dipl. inž. gradb.


LESENA KONSTRUKCIJA: Izračun po SIST EN 1995-1-1:2005**Stalne obremenitve:****Streha**

- Kritina "HI+Vegetacija"	1,660 kN/m ²
- Toplotna izolacija (KV 16 cm) + podkon.	0,216 kN/m ²
- Toplotna izolacija (KV 16 cm) + podkon.	0,216 kN/m ²
- Parna zapora	0,010 kN/m ²
- Križno lepljena plošča (d = 120 mm)	0,600 kN/m ²
- Strop + instalacije	0,500 kN/m ²

Stalna obremenitev skupaj: 3,202 kN/m²**Stene**

- Fasadna obloga 12 mm + podkonstrukcija	0,222 kN/m ²
- Toplotna izolacija (KV 16 cm + membrana)	0,216 kN/m ²
- Križno lepljena plošča (d = 120 mm)	0,600 kN/m ²
- Toplotna izolacija (KV 4 cm)	0,048 kN/m ²
- KNAUF (dvoslojni s podkonstrukcijo)	0,325 kN/m ²

Stalna obremenitev skupaj: 1,411 kN/m²**Spremenljive obremenitve:****Obremenitev zaradi snega:** SIST EN 1991-3:2004 (Januar 2008)n.m.v. = **350** m α = **6,80 °** Cona: **A2**

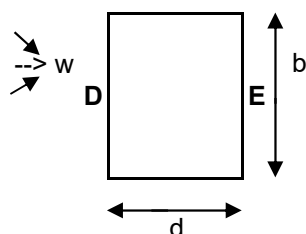
$$s_k = 1,293 \times \left[1 + \left(\frac{350}{728} \right)^2 \right] = 1,592 \text{ kN/m}^2$$

Redukcijski faktor μ1: 0,800 → **q_s = s_k × μ1 = 1,273 kN/m²****Obremenitev zaradi vetra:** SIST EN 1991-4:2005 (Januar 2008)**4.0 Hitrost in tlak vetra**

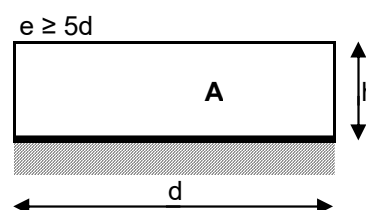
4.1 Osnovne računanja: (upoštevana je vetrna klima za posamezno območje)

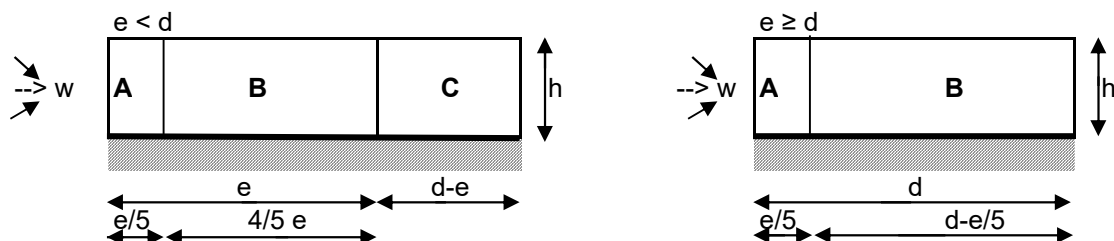
4.2 Osnovna hitrost vetra: **v_b = 20,0 m/s** (C_{DIR} = 1,0; C_{Season} = 1,0; V_{b,0})4.3 Srednja hitrost vetra: **v_m (z) = 12,37 m/s** (C₀ (z) = 1,0; z_{max} = 200 m)C_r (z) = 0,619 z = **5,3** mK_r = 0,19 × $\left(\frac{0,300}{0,05} \right)^{0,07} = 0,215$ Z_{min} = **5** m
Z_{0,cona} = **0,300** m4.4 Vetrna turbulenca: **σ_v = 4,308 m/s** (k_l = 1,0) I_v (z) = 0,3484.5 Tlak pri največji hitrosti ob sunkih vetra: **q_p (z)** (ρ = 1,25 kg/m³); C_e (z) = 1,32

$$q_p(z) = \left[1 + 7 \times 0,348 \right] \times \frac{1}{2} \times 1,25 \times 12,37^2 = 0,329 \text{ kN/m}^2$$

5.0 Vplivi vetra - pritisk5.2 Tlak vetra na ploskve: **q_p (ze) = 0,329 × 1,0 = 0,329 kN/m²**5.3 Stene: h ≤ b; z_e = h; q_p (z) = q_p (z_e) γ_w = **1,5**

d = **9,20** m
b = **16,50** m
h = **5,46** m
e = **10,92** m
h' = **0,35** m





Stena	b [m]	h [m]	As [m ²]	Ap [m ²]	cp (z)	Fs [kN]	Fp [kN]	F _{tot,i} [kN]
Stena 7	9,21	4,57	42,1		0,80	11,07		11,07
	9,21	0,35		3,2	0,80		2,58	2,58
Stena 8	6,35	3,46	22,0		0,80	5,78		5,78
	6,35	0,35		2,2	0,80		1,78	1,78
Streha PL2	15,90	1,00	15,90		0,80	4,18		4,18
	15,90	0,91		14,5	0,60		8,68	8,68
Stena 12	7,35	3,00	22,05		0,50	3,62		3,62
	7,35	2,60		19,1	0,40		7,64	7,64

Skupna sila vetra z upoštevanjem varnostnim faktorjem γ_w : Σ : 45,34

Stena	b [m]	h [m]	As [m ²]	Ap [m ²]	cp (z)	Fs [kN]	Fp [kN]	F _{tot,i} [kN]
Stena 6	16,50	5,46		90,1	0,00		0,00	0,00
A	2,18	4,43	9,7	0,8	0,80	2,54	0,31	2,85
B	8,74	5,33	46,6	3,1	0,80	12,25	1,22	13,47
C	5,58	5,05	28,2	2,0	0,80	7,41	0,78	8,19
Stena 3+	16,50	1,95		32,2	0,00	2,51	0,00	2,51
A	2,18	2,48	5,4	0,8	0,50	0,89	0,54	1,43
B	8,74	3,38	29,5	3,1	0,50	4,85	2,14	6,99
C	5,58	3,10	17,3	2,0	0,50	2,84	1,37	4,21

Skupna sila vetra z upoštevanjem varnostnim faktorjem γ_w : Σ : 39,65**6.0 Potresna obremenitev :**6.1 Pospešek temeljnih tal : $a_g = 0,25$ g

6.2 Klasifikacija temeljnih tal : kategorija C

$$\left(\begin{array}{l} S = 1,15 \\ \beta = 0,2 \end{array} \right. \quad \left. \begin{array}{l} T_b = 0,20 \text{ s} \\ T_c = 0,60 \text{ s} \\ T_d = 2,00 \text{ s} \end{array} \right)$$

6.3 Faktor pomembnosti stavbe : $\gamma_{ii} = 1,2$ Faktor redukcije potresnih sil : $q = 2,5$

6.4 Višina stavbe : 6,0 m

6.5 Osnovna nihajna doba stavbe : $T_o = 0,05 \times H^{3/4} = 0,19 \text{ s}$

Last. in stalna obrem.	A [m ²]	G [kN]	ψ	ρ	$\psi_2 \cdot \rho$	M [t]
Od atike	20,5	15,0	1,0			1,5
Od strehe+nadstr.	233,1	629,8	1,0			64,2
Od stropa+inst.	143,8	71,9	1,0			7,3
Od sten ZUN.12	255,5	360,5	0,5			18,4
Od sten NOT.12	95,9	119,8	0,5			6,1
Od sten ZUN.10	26,8	35,1	0,5			1,8
Od sten NOT.10	122,3	140,6	0,5			7,2
Spremenljiva obrem.	A	Q	ψ_2	ρ	$\psi_2 \cdot \rho$	M
Koristna	0,0	0	0,0	1,0	0	0,0
Sneg	233,1	296,9	0,2			6,1

 Σ : 112,5 $M_{tot} = 112,5$ tIzberemo vrednost v spektru pospeška: 3,338 m/s²

$$S_d = 2,943 \times 1,15 \times \left(\frac{2}{3} + \frac{0,19}{0,2} \times \left(\frac{2,5}{2,5} - \frac{2}{3} \right) \right) = 3,338 \text{ m/s}^2$$

$$S_d = 2,943 \times 1,15 \times \frac{2,5}{2,5} = 3,38445 \text{ m/s}^2$$

$$S_d = \begin{cases} 2,943 \times 1,15 \times \frac{2,5}{2,5} \times \left(\frac{0,6}{0,19} \right) \\ \geq 0,589 \end{cases} = 10,59 \text{ m/s}^2$$

Celotna potresna sila **Fb = 375,64 kN**

6.6 Potresna obremenitev je v primerjavi z vetrom merodajna!

7.0 DOLOČITEV SISTEMA SIDRANJA LESENE KONSTRUKCIJE

7.1 Določitev strižne nosilnosti kotnika obremenjenega v strigu:

L 105 x 3

Vijaki: (preduvrtani)

$F_{u,min} = 500 \text{ N/mm}^2$

$t_1 = 47,0 \text{ mm}$

$\phi 5 / 50 \text{ mm}$

$d_0 = 3,2 \text{ mm}$

$t = 100,0 \text{ mm}$

$$f_{h,0,k} = 0,082 \times \left(1 - 0,01 \times 3,20 \right) \times 350 = 27,78 \text{ N/mm}^2$$

$$k_{90} = 1,35 + 0,015 \times 5,0 = 1,43 \text{ mm}$$

$$f_{h,\alpha,k} = \frac{27,78}{1,43 \times \sin^2 90 + \cos^2 90} = 19,50 \text{ N/mm}^2$$

$$M_{Y,Rk} = \frac{500}{600} \times 180 \times 3,2^{2,6} = 3086,6 \text{ Nmm}$$

7.2 Enostrizni stik les - pločevina - debela pločevina :

$$F_{v,Rk} = 19,50 \times 47,0 \times 3,2 \times \sqrt{2 + \frac{3086,6 \times 4}{62,4 \times 47,0^2} - 1} = 1306,4 \text{ N}$$

$$F_{v,Rk} = 2,3 \times \sqrt{3086,6 \times 19,50 \times 3,2} = 1009,3 \text{ N}$$

$$F_{v,Rk} = 19,50 \times 47,0 \times 3,2 = 2932,2 \text{ N}$$

7.3 Potres:

$k_{mod} = 1,1$

$\gamma_M = 1,0$

$$F_{v,Rd} = \frac{1,1}{1,0} \times 1009,3 = 1,110 \text{ kN}$$

7.4 Nosilnost zveze:

(št. vrst) = **2**

n (št. vijakov v vrsti) = **5**

$$\text{Potres: } F_{v,Rd,VZ} = 2 \times 5 \times 1,11 = 11,10 \text{ kN}$$

7.5 Določitev strižne nosilnosti kotnika obremenjenega v nategu:

L 105 x 3

Vijaki: (preduvrtani)

$F_{u,min} = 500 \text{ N/mm}^2$

$t_1 = 47,0 \text{ mm}$

$\phi 5 / 50 \text{ mm}$

$d_0 = 3,2 \text{ mm}$

$t = 100,0 \text{ mm}$

$$f_{h,0,k} = 0,082 \times \left(1 - 0,01 \times 3,20 \right) \times 350 = 27,78 \text{ N/mm}^2$$

$$k_{90} = 1,35 + 0,015 \times 5,0 = 1,43 \text{ mm}$$

$$M_{Y,Rk} = \frac{500}{600} \times 180 \times 3,2^{2,6} = 3086,6 \text{ Nmm}$$

7.6 Enostrizni stik les - pločevina - debela pločevina :

$$F_{v,Rk} = 27,78 \times 47,0 \times 3,2 \times \left(\sqrt{2 + \frac{3086,6 \times 4}{88,9 \times 47,0^2}} - 1 \right) = 1822,9 \text{ N}$$

$$F_{v,Rk} = 2,3 \times \sqrt{3086,6 \times 27,78 \times 3,2} = 1204,8 \text{ N}$$

$$F_{v,Rk} = 27,78 \times 47,0 \times 3,2 = 4178,35 \text{ N}$$

7.7 Potres: $k_{mod} = 1,1$ $\gamma_M = 1,0$

$$F_{v,Rd} = \frac{1,1}{1,0} \times 1204,8 = 1,3253 \text{ kN}$$

7.8 Nosilnost zveze: (št. vrst) = 2 n (št. vijakov v vrsti) = 5

$$\text{Potres: } F_{v,Rd,VZ} = 2 \times 3,30 \times 1,33 = 8,74 \text{ kN}$$

$$n_{ef} = \min \left(5^{0,9} \sqrt[4]{\frac{n=5}{3,2 \times 13}} \right) = \min \left(\frac{5}{3,30} \right) = 3,30$$

7.9 Stenski segmenti so sidrani z navedenimi kotniki na predpisanih razmakih :
Potrebna strižna nosilnost stenskih elementov :

- Pritličje: Sidranje stenskih elementov vzdolžno = 45,45 m

$$F_{v,d,vzdolž.} = 375,6 \text{ kN} / 45,5 \text{ m} = 8,3 \text{ kN/m}$$

$$\text{Število kotnikov na m' } \rightarrow e = 11,1 \text{ kN} / 8,3 \text{ kN/m} = 1,34 \text{ m}$$

--> kotniki na razmiku vsaj 120 cm.

- Pritličje: Sidranje stenskih elementov prečno = 40,36 m

$$F_{v,d,preč.} = 375,6 \text{ kN} / 40,4 \text{ m} = 9,3 \text{ kN/m}$$

$$\text{Število kotnikov na m' } \rightarrow e = 11,1 \text{ kN} / 9,3 \text{ kN/m} = 1,19 \text{ m}$$

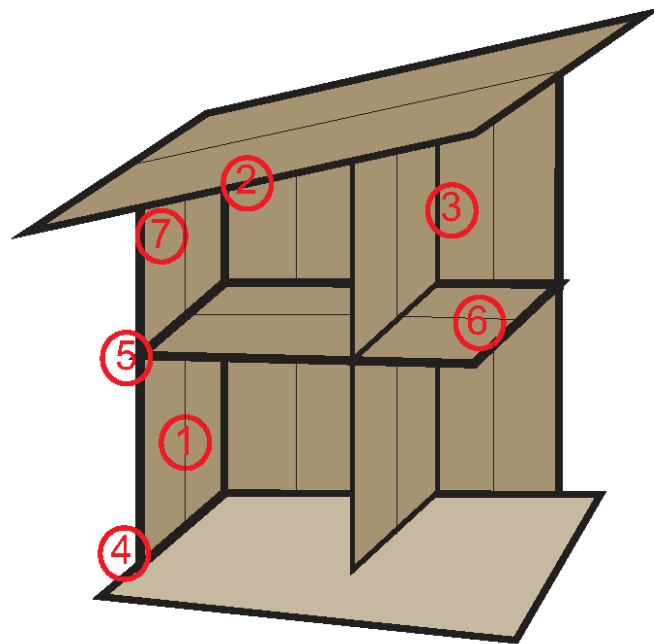
--> kotniki na razmiku vsaj 100 cm.

Dodatne opombe

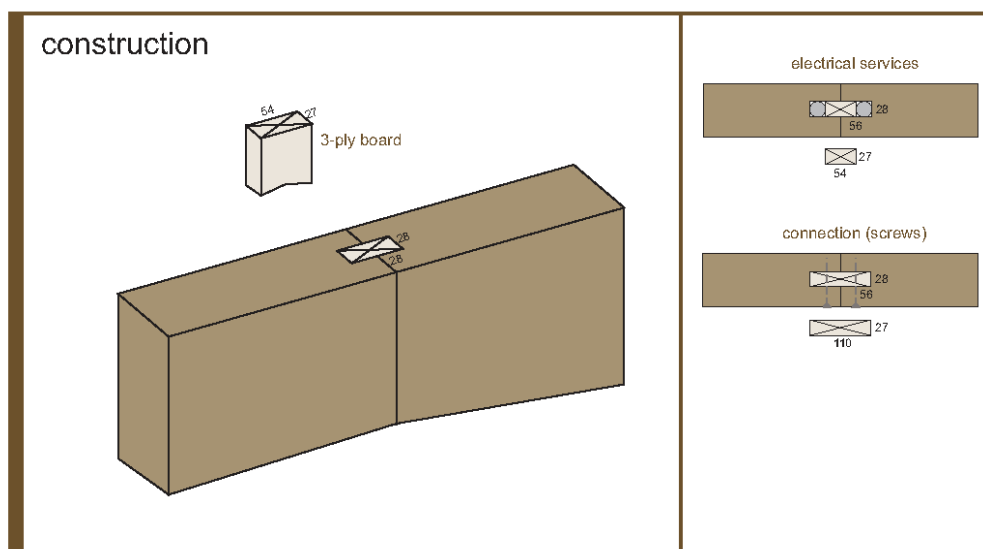
- Stene glavnega dela objekta so izvedene iz BBS 3s 120 mm, razen sten razširjenega dela katere so izvedene kot 3s 100 mm. (razen če so zaradi požara zahtevani 5s CLT)
- Stenski elementi se med seboj vijačijo s samoureznimi lenimi vijaki $\varnothing 8/200/80$ mm na medsebojnem razmaku < 30 cm.
- Stik medetažnih plošč se izvede ali preko vtopljene vezane plošče ali pa v obliki 5 cm preklopne zoba. V obeh primerih mora biti stik vijačen z vijaki $\varnothing 8$ ustrezne dolžine na medsebojnem razmaku max. 15 cm.
- Strešna plošča je v spodnje stene vijačena s samoureznimi vijaki $\varnothing 8/280/120$ mm na medsebojnem razmaku max. 15 cm.

TIPSKI DETAJLI STIKOVANJA KRIŽNO LEPLJENIH LESENIH PLOŠČ:

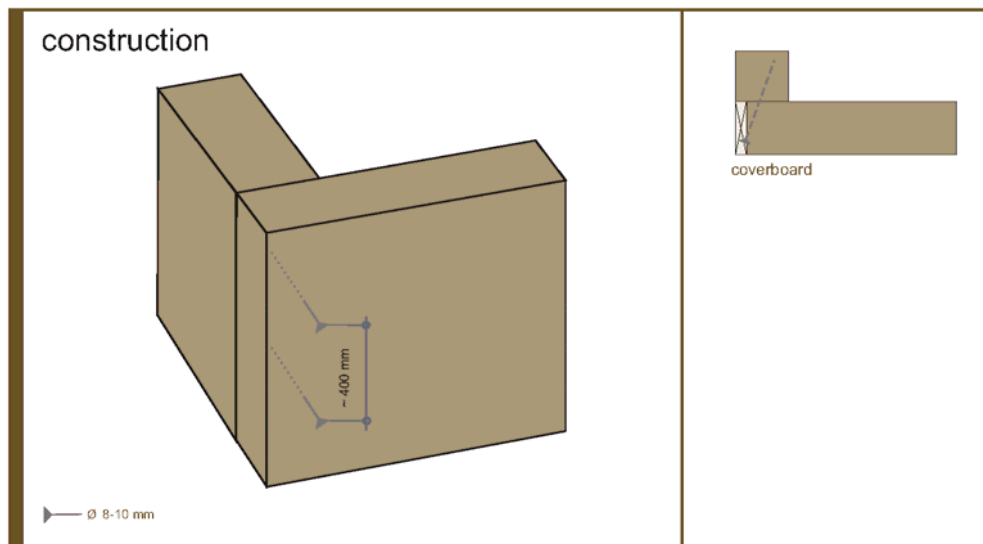
Kot naprimer po sistemu »binderholz«



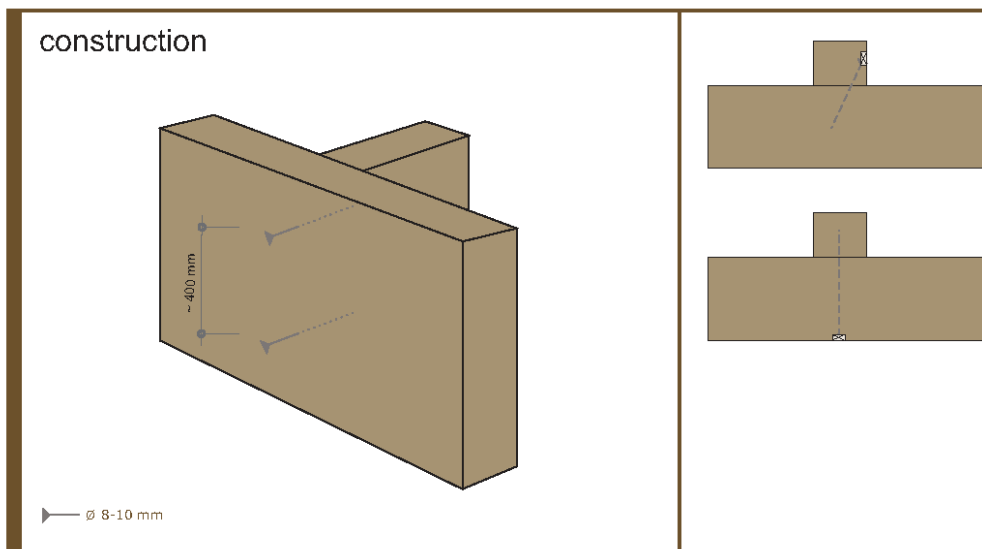
DETAJL 1: Stikovanje stene na ravnem delu



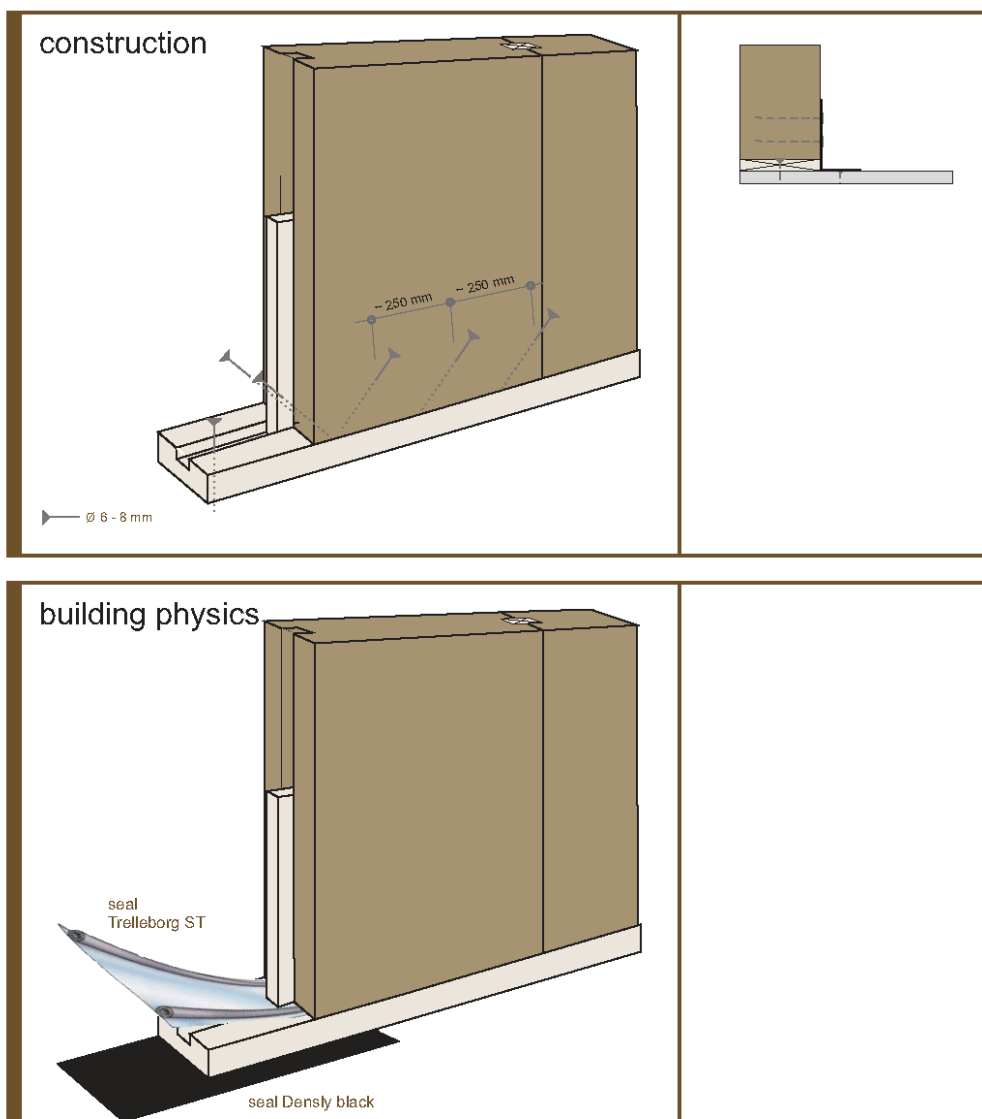
DETAJL 2: Stikovanje stene v vogalu



DETAJL 3: Stikovanje stene – pravokotni priključek

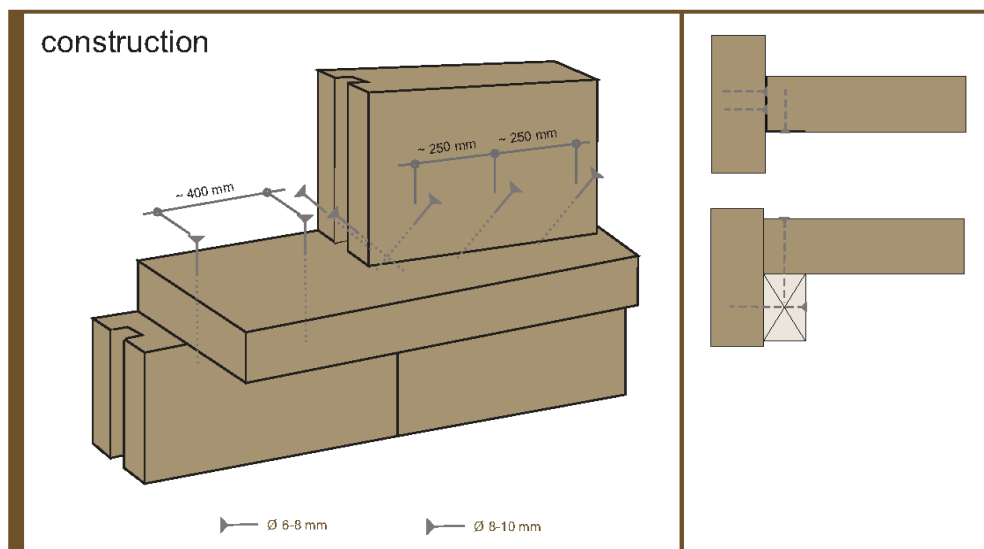


DETAJL 4: Stikovanje stene – sidranje v temeljno ploščo

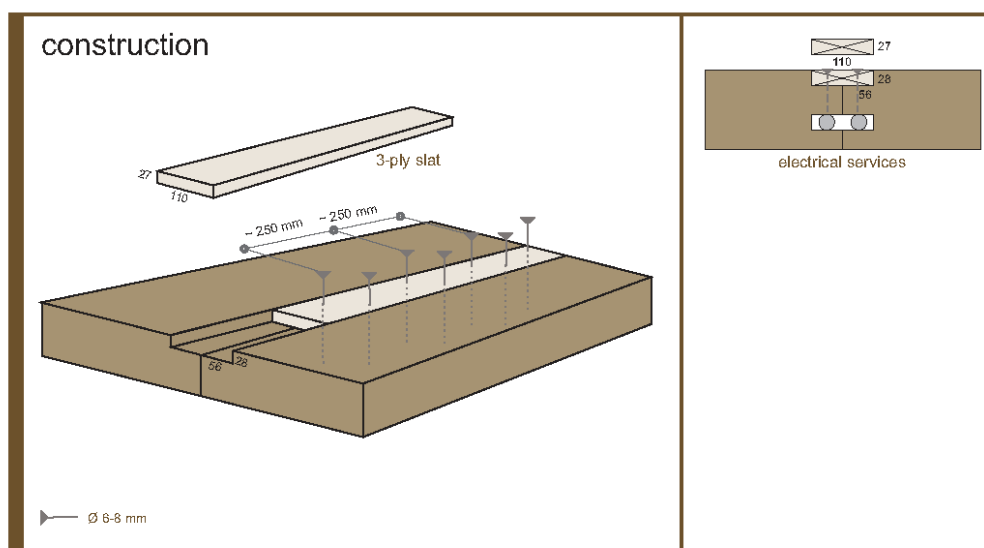


→ Detajl 4. Je hkrati odgovor na točko 2.4 recenzije PGD načrta!

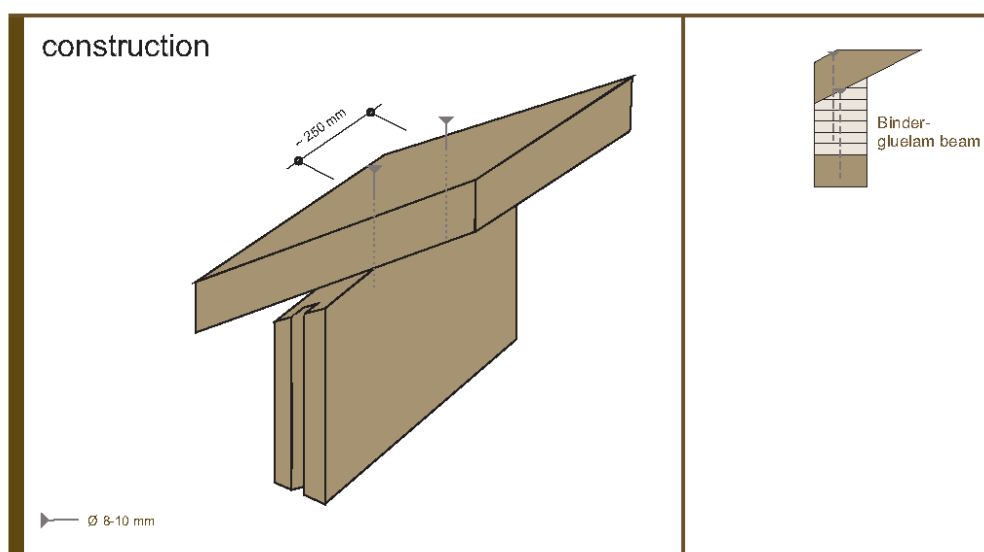
DETAJL 5: Stikovanje stene in medetažne (stropne) konstrukcije



DETAJL 6: Stikovanje medetažnih plošč

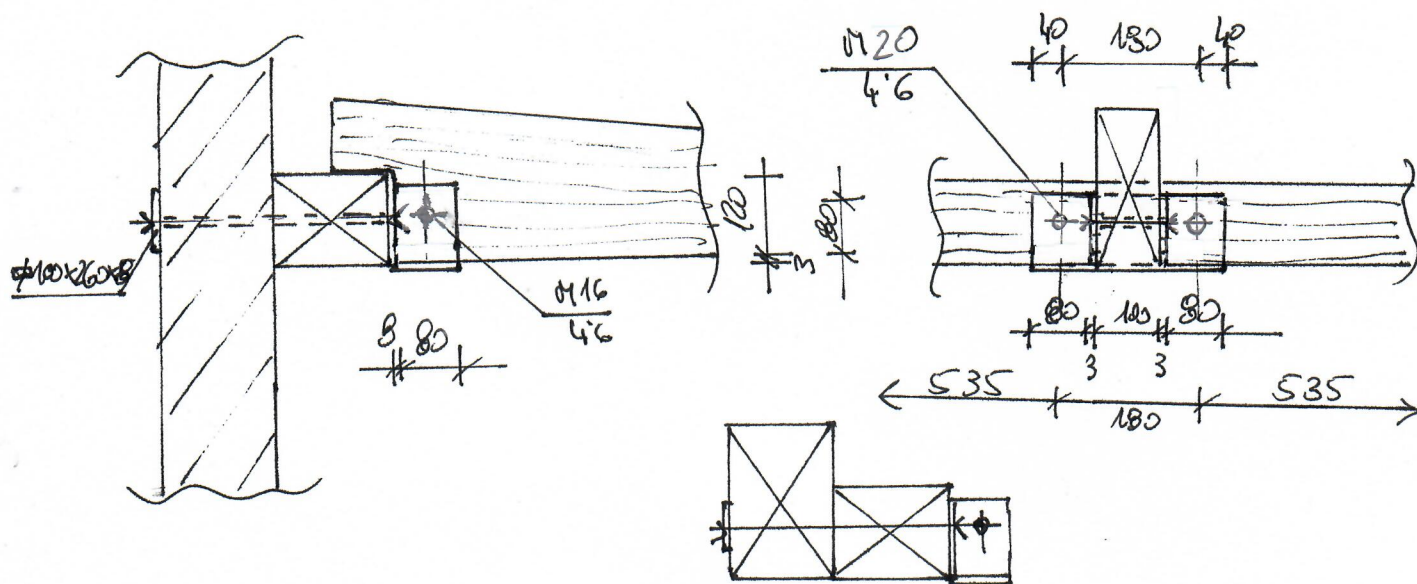


DETAJL 7: Stikovanje stene in strešnih (stropnih) plošč

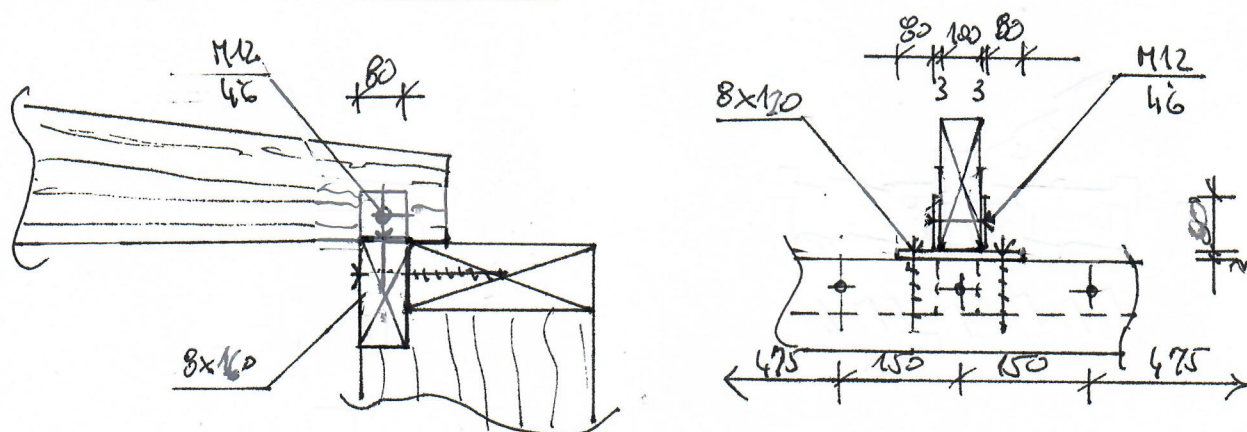


Detajli spojov na nadstresku:

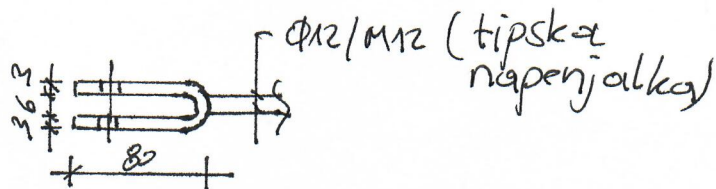
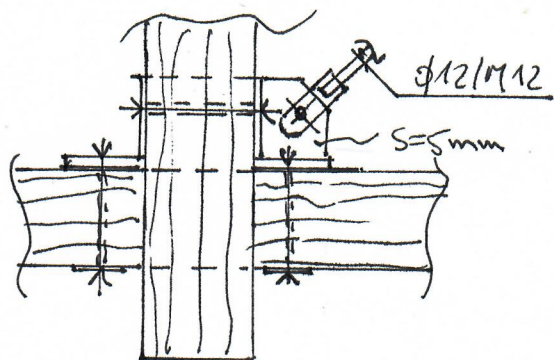
1) Pritrditev na objekt:



2) Pritrditev na stebre:



3) Pritrditev zavetrovaraj:



OPOMBA!

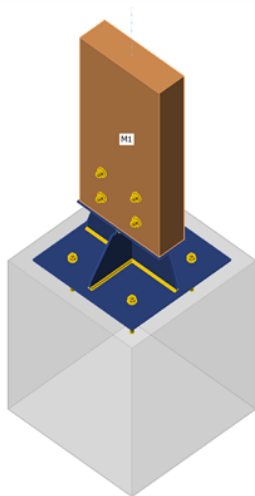
Spojni elementi so iz jekla S235!

CON1

Analysis: Stress, strain/ simplified loading

Beams and columns

Name	Cross-section	β – Direction [°]	γ - Pitch [°]	α - Rotation [°]	Offset ex [mm]	Offset ey [mm]	Offset ez [mm]	Forces in
M1	1 - Timber rectangle 100/320	0.0	-90.0	0.0	0	0	0	Node



Material

Steel	Basic, S 235 (EN)
Bolts	M12 4.6, M12 5.8

Foundation block

CB 1

Dimensions	500 x 500	mm
Depth	600	mm
Anchor	M12 5.8	
Anchoring length	120	mm
Shear force transfer	Anchors	

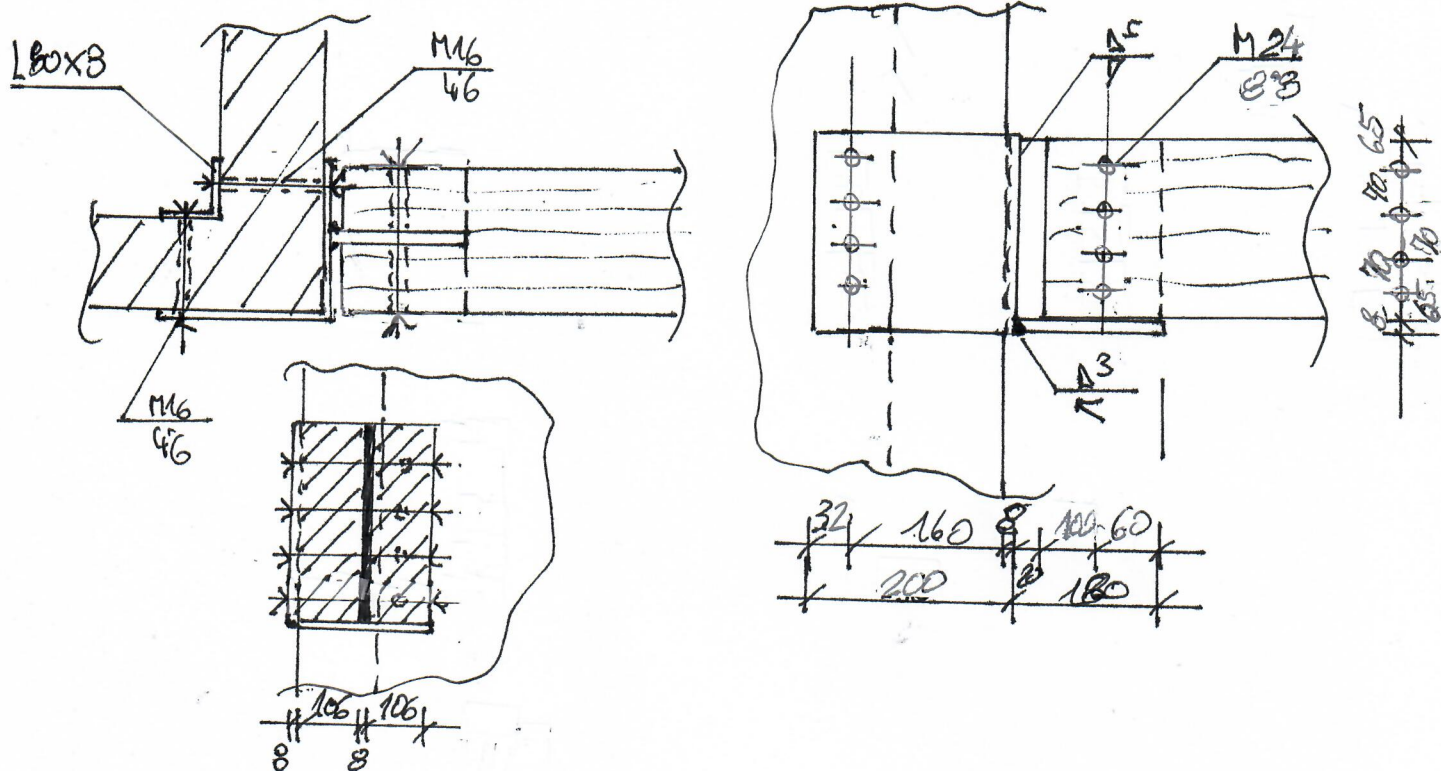
Load effects (equilibrium not required)

Name	Member	N [kN]	Vy [kN]	Vz [kN]	Mx [kNm]	My [kNm]	Mz [kNm]
LE1	M1	-19.5	0.0	2.7	0.0	0.0	0.0
LE2	M1	9.5	0.0	2.7	0.0	0.0	0.0

Summary

Name	Value	Status
Analysis	100.0%	OK
Plates	0.0 < 5.0%	OK
Anchors	37.5 < 100%	OK
Welds	20.0 < 100%	OK
Concrete block	4.6 < 100%	OK
Buckling	Not calculated	

5) Pritrditev nosilca za naleganje nad-
streška na stene objekta:



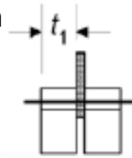
ОПОМРА!

Vijaki na nosilcu morajo imeti podložke za
vijčenje lesenih elementov!

Check of steel connection timber-steel EC EN 1995-1-1§8.3

Geometry

Member height	$h = 340 \text{ mm}$
Distance of farthest connection from edge	$h_e = 100 \text{ mm}$
Steel sheet thickness	$t_s = 8 \text{ mm}$
Timber member thickness	$t_w = 106 \text{ mm}$
Connection diameter	$d = 24 \text{ mm}$
Number of effective connections	$n_B = 4$
Kind of breach	Type = f



Material characteristics

Connection tension strength	$f_u = 800 \text{ MPa}$
Timber density	$\rho_k = 370 \text{ kg/m}^3$
Strength of conn. in deformation	$f_{h,k} = 0.082 \cdot (1 - 0.01 \cdot d) \cdot \rho_k \cdot 10^6$ $= 0.082 \cdot (1 - 0.01 \cdot 24) \cdot 370 \cdot 10^6 = 23.1 \text{ MPa}$
Bearing cap. moment of connection	$M_{y,Rk} = 0.3 \cdot f_u \cdot d^{2.6} \cdot 10^{-3}$ $= 0.3 \cdot 800 \cdot 24^{2.6} \cdot 10^{-3} = 931 \text{ Nm}$

Loading

Force in connection	$F_{V,Ed} = 86 \text{ kN}$
Angle of force and fibers direction	$\alpha = 7^\circ$
Partial material coefficient	$\gamma_M = 1.3$

Bearing cap. of one connection

Characteristics bearing capacities $F_{v,f,Rk} = f_{h,k} \cdot t_w \cdot d = 23.1 \cdot 10^6 \cdot 0.106 \cdot 0.024 = 58.7 \text{ kN}$

$$F_{v,g,Rk} = f_{h,k} \cdot t_w \cdot d \cdot \left(\sqrt{2 + \frac{4 \cdot M_{y,Rk}}{f_{h,k} \cdot d \cdot t_w^2}} - 1 \right)$$
$$= 23.1 \cdot 10^6 \cdot 0.106 \cdot 0.024 \cdot \left(\sqrt{2 + \frac{4 \cdot 931}{23.1 \cdot 10^6 \cdot 0.024 \cdot 0.106^2}} - 1 \right) = 35.9 \text{ kN}$$

$$F_{v,h,Rk} = 2.3 \cdot \sqrt{M_{y,Rk} \cdot f_{h,k} \cdot d} = 2.3 \cdot \sqrt{931 \cdot 23.1 \cdot 10^6 \cdot 0.024} = 52.2 \text{ kN}$$

$$F_{v,Rk} = \min(F_{v,f,Rk}; F_{v,g,Rk}; F_{v,h,Rk}) = \min(58.7; 35.9; 52.2) = \mathbf{35.9 \text{ kN}}$$

Timber modification factor according to Eurocode 5, tab.2.3, 3.1

Load-duration class	Medium term action
Modification factor	$k_{mod} = \mathbf{0.8}$ (tab. 3.1)
Service class	Service class 1
Material	Glued laminated timber

Check of bearing capacity

$$F_{v,Rd} = \frac{k_{mod} \cdot n_B \cdot F_{v,Rk}}{\gamma_M} = \frac{0.8 \cdot 4 \cdot 35.9}{1.3} = \mathbf{88.4 \text{ kN}}$$

$$s = \frac{F_{V,Ed}}{F_{v,Rd}} = \frac{86 \text{ kN}}{88.4 \text{ kN}} = \mathbf{0.973 < 1} \Rightarrow \mathbf{Is \text{ SUFFICIENT}}$$

Check of cracks perpendicular to fibers

Stress perpendicular to fibers

$$F_{90,Ed} = F_{V,Ed} \cdot \sin(\alpha) = 86 \cdot \sin(7) = 10.5 \text{ kN}$$

Bearing capacity in breach

$$\begin{aligned} F_{90,Rd} &= \frac{k_{mod} \cdot 14 \cdot t_w \cdot 10^3 \cdot w}{\gamma_M} \cdot \sqrt{\frac{h_e \cdot 10^3}{1 - \frac{h_e}{h}}} \\ &= \frac{0.8 \cdot 14 \cdot 0.106 \cdot 10^3 \cdot 1}{1.3} \cdot \sqrt{\frac{0.1 \cdot 10^3}{1 - \frac{0.1}{0.34}}} = 10.9 \text{ kN} \end{aligned}$$

Unit usage

$$s_v = \frac{F_{90,Ed}}{F_{90,Rd}} = \frac{10.5 \text{ kN}}{10.9 \text{ kN}} = \mathbf{0.964} < \mathbf{1} \quad \Rightarrow \text{Is SUFFICIENT}$$

INVESTITOR: Občina Medvode
Cesta Komandanta Staneta 12, 1215 Medvode

OBJEKT: Novogradnja prizidka k obstoječemu vrtcu Smlednik
Viški vrtci, enota Rožna dolina

FAZA: PZI

ŠT. NAČRTA: DMM-025/21

ŠT. PROJEKTA: 136

3.4 REKAPITULACIJA ARMATURE

Ljubljana, September 2021

Odgovorni projektant:
Matjaž ŽABKAR, dipl. inž. gradb.



REKAPITULACIJA ARMATURE

Gradbeni element	ID izvlečka	Število izvedb	Fixlängen [kg]					Obdelano [kg]					Poz. Število	Palice [kg]	Mreže [kg]
			6-8 mm	10 mm	12 mm	14 mm	>14 mm	6-8 mm	10 mm	12 mm	14 mm	>14 mm			
Vrtec SMLEDNIK (prizidek)		1		44,5	443,4	817	1316,4	123,1	1093,9	12,3	138,4		20	3988,9	4103,7
Skupaj				44,5	443,4	817	1316,4	123,1	1093,9	12,3	138,4		20	3989,0	4103,7
Skupna teža jekla [kg]														8092,7	

INVESTITOR: Občina Medvode
Cesta Komandanta Staneta 12, 1215 Medvode

OBJEKT: Novogradnja prizidka k obstoječemu vrtcu Smlednik
Viški vrtci, enota Rožna dolina

FAZA: PZI

ŠT. NAČRTA: DMM-025/21

ŠT. PROJEKTA: 136

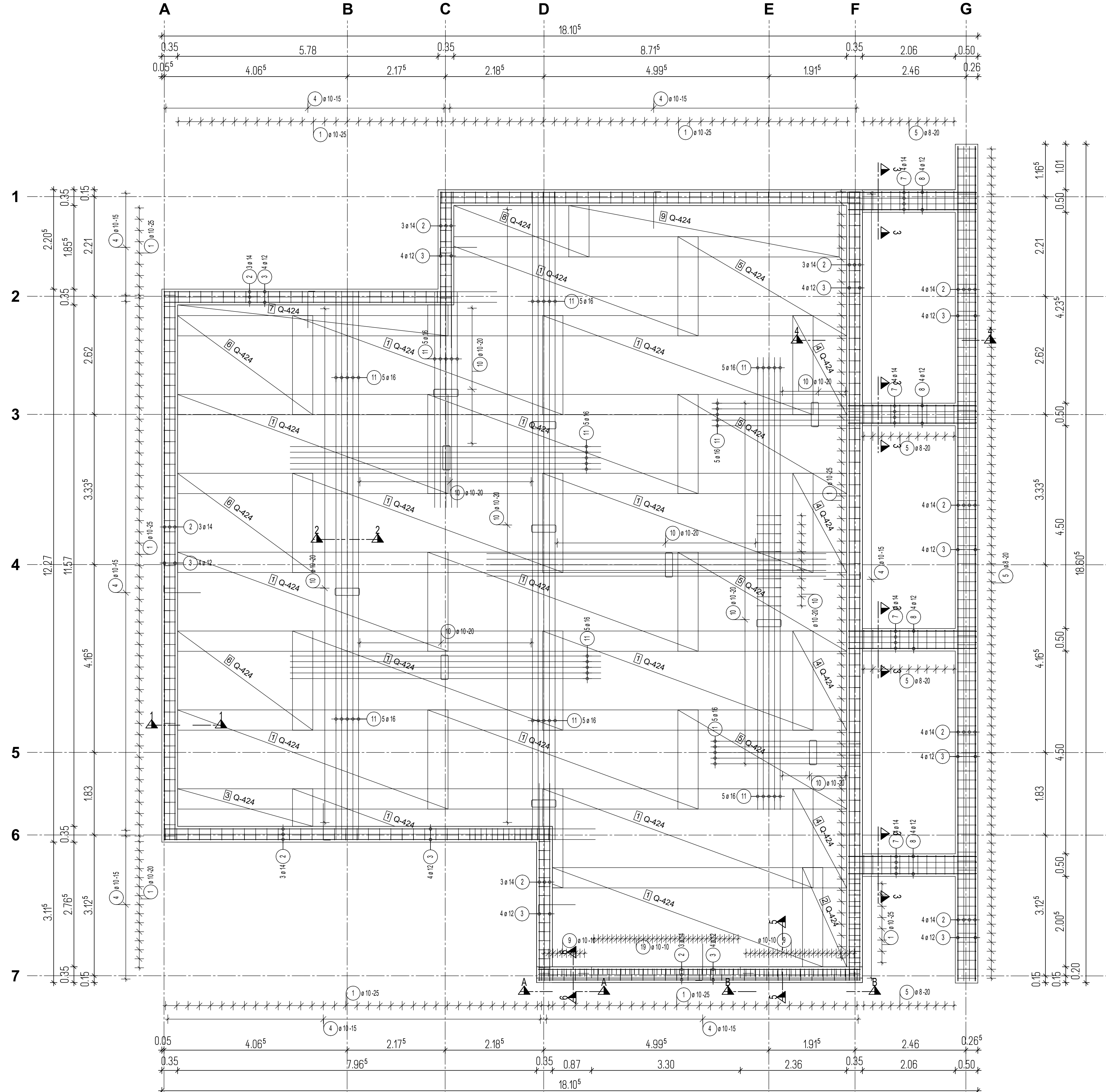
4.A RISBE – NAČRTI AB KONSTRUKCIJE (armaturni načrti)

Ljubljana, September 2021

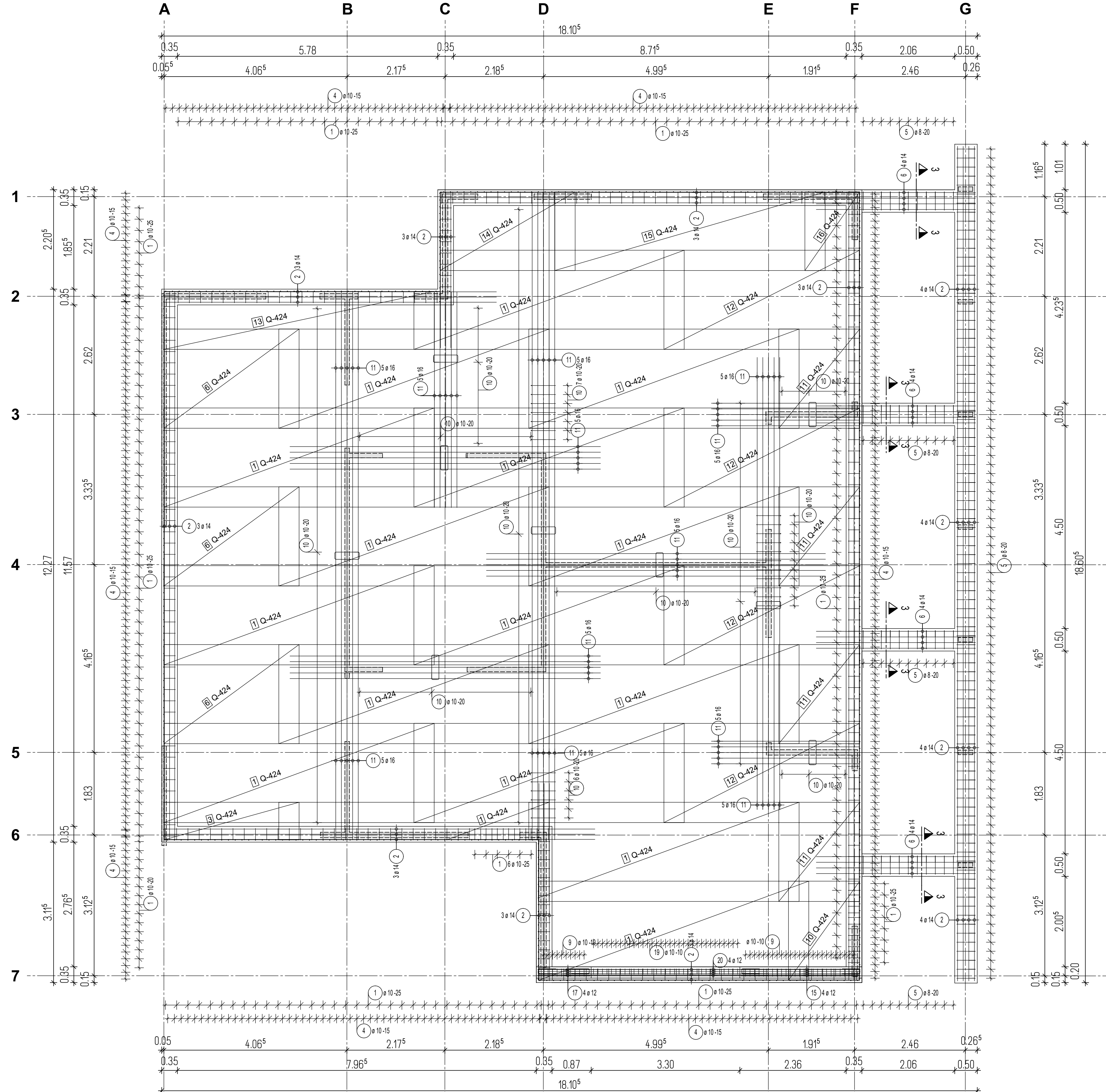
Odgovorni projektant:
Matjaž ŽABKAR, dipl. inž. gradb.



TLORIS TEMELJEV
(armatura v pasovnih temeljih in armatura spodaj v plošči)



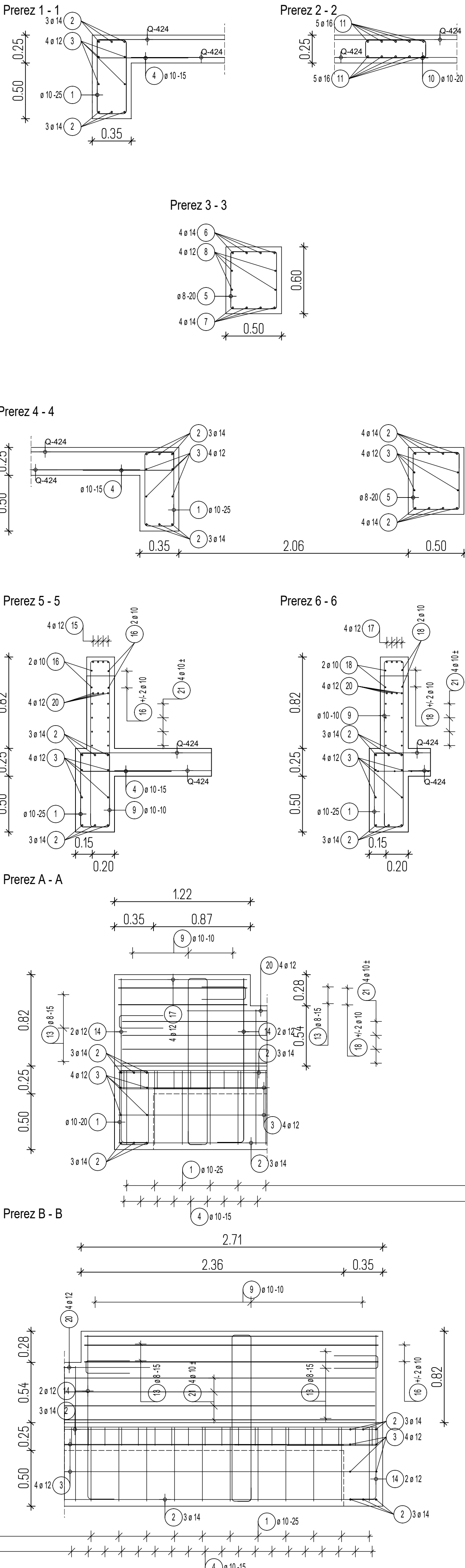
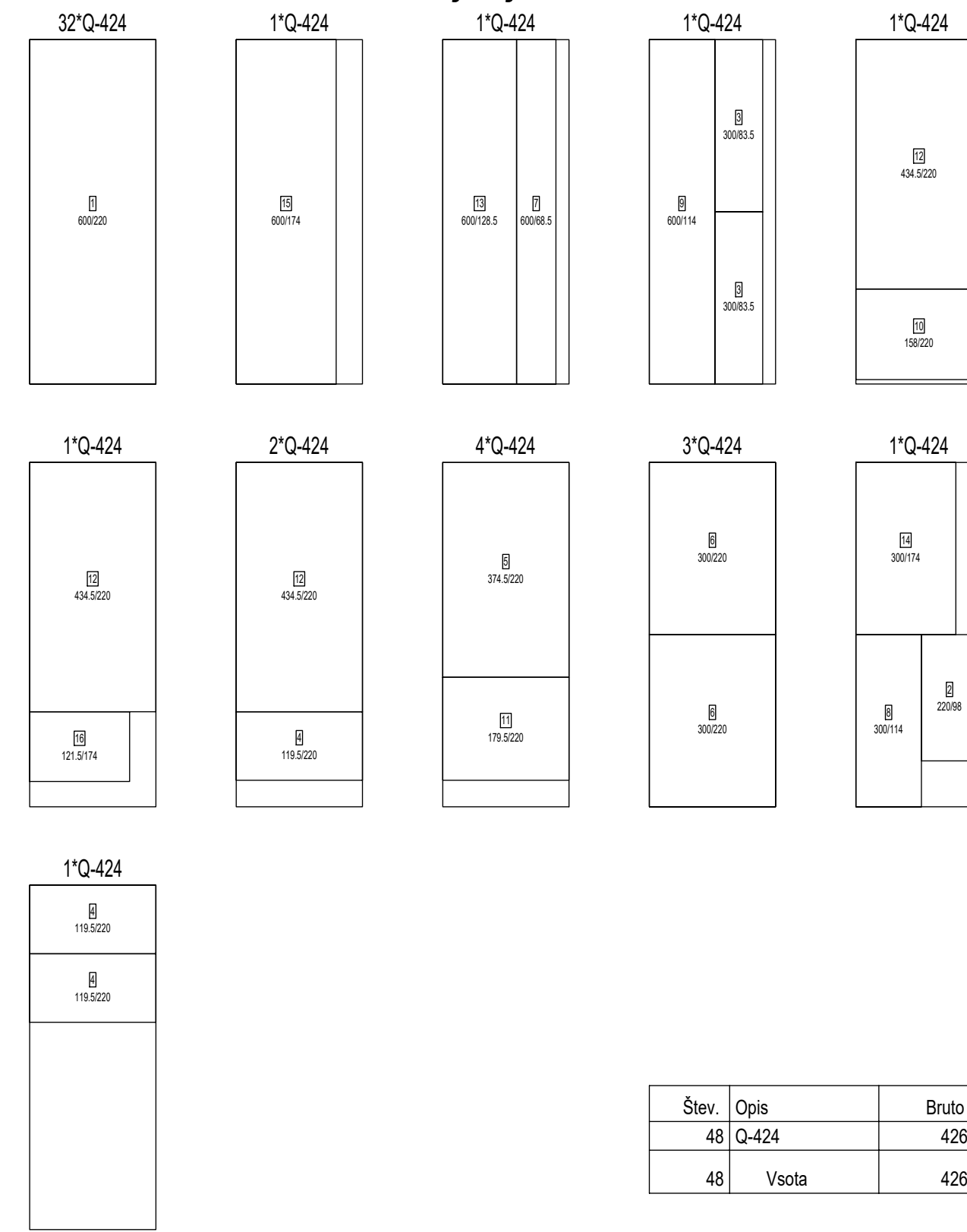
TLORIS TEMELJEV
(armatura zgoraj v plošči)



Izvelek armature - ARMATURNE PALICE

Poz.	Kos.	Fi	Posam. dolžina [mm]	Kotirana oblika krivljenja (n. v. merilu)	Skupna dolžina [m]	Masa [kg]	Opombe
1	281	10	2.18		60256	377.90	
2	1	14	106.8		67515	88.98	
3	1	12	106.8		42045	373.35	
4	448	10	100		44800	278.42	
5	137	8	2.18		28865	107.97	
6	16	14	3.80		6080	73.57	
7	16	14	3.35		5360	64.80	
8	16	12	2.85		4560	10.49	
9	35	10	3.62		12670	78.17	
10	287	10	170		48750	301.03	
11	1	16	106.8		63316	136.39	
13	14	8	0.92		1285	5.09	
14	8	12	173		1384	12.29	
15	4	12	2.65		950	9.41	
16	4	10	2.65		950	6.54	
17	4	12	1.07		458	4.16	
18	4	10	1.17		458	2.89	
19	33	10	2.96		9768	60.27	
20	4	12	4.50		900	15.98	
21	8	10	7.10		5680	35.05	
Skupna masa [kg]:						3988.91	

Razrez mrež - oblike krivljenja



- OPOMBE:
- Vse mere je potrebno pred pričetkom del preveriti v načrtu arhitekture!
 - Zaščitni sloj betona v temeljih znaša min. 4.0 cm, v parapetnem zidu pa 3.0 cm!
 - Morebitne preboje skozi AB elemente je potrebno ojačati s konstruktivno armaturo!
 - Preklap vzdolžnih palic mora biti min. 50d!
 - Palice označene v tekočih metrih kriviti na tico mesta zaradi povezave in sidranja!
 - Preklap mrež mora biti minimalno 3 palje!
 - Pri polaganju mrež v plošči je potrebno uporabiti distančnike (~2kos/m2), ali distančna koba! Ta količina ni upoštevana v izveleku armature!
 - Pred izvajanjem talne plošče je potrebno izvesti ustrezno tamponsko blazino po navodilih geomehanika ter podlažni beton!
 - Armatura spada je potrebno polagati na distančnike!
 - Na sklo z obstoječim objektom vgraditi možnike f16/40 cm dolžine 0,6 m pri čemer se ena stran možnika ovije v gumo (količina možnikov je ~50 kos in ni v izveleku)
 - Pred izvedbo izdelati projekt betona pri čemer morajo biti upoštevane lastnosti za vgradnjo in ostali pogoji.
 - V času vezanja in strjevanja betona je potrebno ves čas vršiti ustrezno nega betona.
 - Priprava podlage za demeljenje mora biti izvedena v skladu z geomehanskim poročilom (tamponska blazina naj bo izvedena iz zmrznjaka odpornega materiala)
 - Načrt gledati skupaj z drugimi gradbenimi in arhitekturnimi načrti!
 - Pozicijske oznake veljajo samo za ta načrt!

Kvaliteta betona: C25/30, Xc 2, dodatek za vodotesnost
Armatura: S500 (mreže in palice)

	Izvalilo:		Občina Medvode	
	Opis:		Cesta Komandanta Stanele 12, 1215 Medvode	
DM-METAL d.o.o. Šentjanž pri Dravogradu 145 2373 Šentjanž pri Dravogradu	Načrt:		Fazi:	
	Ime in priimek:		St. Slavica: Podpis:	
Štev. projekta: 136	Datum:		ZAPS 1591 A	
	Štev. računa:		ZAPS 1591 A	
Vrednotenje:		TLORIS TEMELNE PLOŠČE (armaturni načrt)	Št. lista:	

INVESTITOR: Občina Medvode
Cesta Komandanta Staneta 12, 1215 Medvode

OBJEKT: Novogradnja prizidka k obstoječemu vrtcu Smlednik
Viški vrtci, enota Rožna dolina

FAZA: PZI

ŠT. NAČRTA: DMM-025/21

ŠT. PROJEKTA: 136

4.B RISBE – NAČRTI LESENE KONSTRUKCIJE

Ljubljana, September 2021

Odgovorni projektant:
Matjaž ŽABKAR, dipl. inž. gradb.



Architectural floor plan of a building, showing a complex layout with multiple rooms and corridors. The plan is divided into a grid with columns 1-7 and rows A-G. Dimensions are provided in meters (m) and millimeters (mm). The plan includes a central corridor and several rooms. The layout is symmetrical along a vertical axis. The plan is labeled "PRITILICA" at the top left.

Figure 10 is a detailed architectural floor plan of a building. The plan is rectangular and features a grid system with letters A through G along the vertical axis and numbers 1 through 6 along the horizontal axis. The layout includes a large central hall (PL2) and a smaller hall (PL3). There are also several rooms labeled N1 through N5. The drawing shows walls, doors, and structural columns. Dimensions are provided for various sections of the plan, including overall dimensions and room-specific measurements. The plan also includes a room labeled S12 and a room labeled PL4. The drawing is a technical drawing and is intended to be used for construction purposes.

Technical drawing of a rectangular plate with dimensions and tolerances. The drawing shows a top view of the plate with a central rectangular hole. The overall dimensions are 1603^{±5} mm in width and 953^{±5} mm in height. The central hole has a width of 1469^{±5} mm and a height of 543^{±5} mm. The plate has a thickness of 15 mm. The drawing includes dimension lines and arrows indicating the measurement points and tolerances.

Technical drawing of a rectangular plate with three circular holes. The overall dimensions are 635 mm in width and 1240 mm in height. The plate has a dashed border. The three circular holes are arranged vertically. The dimensions for the holes and their positions are as follows:

Feature	Dimension
Overall Width	635
Overall Height	1240
Distance from Top Edge to Top Hole Center	289.5
Distance from Top Hole Center to Middle Hole Center	274.5
Distance from Middle Hole Center to Bottom Hole Center	113
Distance from Bottom Hole Center to Bottom Edge	230.5
Distance from Left Edge to Hole Center Line	350
Distance from Right Edge to Hole Center Line	349
Distance from Top Edge to Top Hole Center (Alternative)	267
Distance from Top Hole Center to Middle Hole Center (Alternative)	187.5
Distance from Middle Hole Center to Bottom Hole Center (Alternative)	113
Distance from Bottom Hole Center to Bottom Edge (Alternative)	209
Distance from Left Edge to Hole Center Line (Alternative)	426

A diagram of a rectangular plate. The vertical dimension is labeled 3045 and the horizontal dimension is labeled 99. A small gap of 3 is indicated at the top left corner.

S1	-d= 100 mm (1 kos)	S9'	-d= 100 mm (1 kos)
S2	-d= 100 mm (1 kos)	S9''	-d= 100 mm (1 kos)
S3	-d= 120 mm (1 kos)	S10	-d= 120 mm (1 kos)
S4	-d= 120 mm (1 kos)	S11	-d= 120 mm (1 kos)
S5	-d= 120 mm (1 kos)	S12	-d= 120 mm (1 kos)
S6	-d= 120 mm (1 kos)	S13	-d= 120 mm (1 kos)
S7	-d= 120 mm (1 kos)	S14	-d= 120 mm (2 kos)
S8	-d= 120 mm (1 kos)	S15	-d= 100 mm (1 kos)
S9	-d= 100 mm (2 kos)	S16	-d= 100 mm (1 kos)

(A1) - d= 120 mm (1 kos)

PL1 (16035x9535 mm) - d = 120 mm (1 kos)
 PL2 (7445x1950 mm) - d = 120 mm (1 kos)
 PL3 (7445x1950 mm) - d = 120 mm (1 kos)
 PL4 (3855x1020 mm) - d = 100 mm (1 kos)

N1 (16x20 cm) - L = 7,432 m (1 kos)
 N2 (16x20 cm) - L = 1,792 m (2 kos)
 N3 (10x15-30 cm) - L = 2,277 m (3 kos)
 N4' (10x16 cm) - L = 15,100 m (1 kos)
 N4 (22x8 cm) - L = 2,400 m (6 kos)
 N5 (22x16 cm) - L = 15,100 m (1 kos)
 N6 (22x34 cm) - L = 7,780 m (1 kos)
 N7 (10x40 cm) - L = 3,720 m (1 kos)
 N8 (10x40 cm) - L = 5,257 m (1 kos)

ST1 (10x32 cm) - L = 3,235 m (7 kos)

Technical drawing of a stepped profile with dimensions:

- Overall height: 576
- Height of the top section: 29
- Height of the middle section: 570
- Height of the bottom section: 4
- Width of the left section: 127^s
- Width of the middle section: 365^s
- Width of the right section: 244^s
- Width of the bottom section: 735
- Height of the bottom section: 253^s


Technical drawing of a rectangular frame with dimensions and labels. The drawing shows a rectangular frame with a diagonal line from the bottom-left corner to the top-right corner. The frame is divided into three vertical sections by two internal vertical lines. The dimensions are as follows:

- Overall width: 385
- Overall height: 268
- Top horizontal dimension: 10
- Right vertical dimension: 535
- Bottom horizontal dimensions (from left to right): 10, 96⁵, 19⁵, 96⁵, 15⁵, 96⁵, 17
- Right vertical dimensions (from top to bottom): 10⁵, 210
- Internal vertical dimensions (from top to bottom): 18, 365⁵, 10
- Labels: PL4 (top center), S16 (left side), S15 (center), S16 (right side)

OPOMBE:

- Vse mere je potrebno pred pričetkom del preveriti v načrtu arhitekture, prav tako tudi eventualne preboje za instalacije!
- Načrt je osnova za izdelavo podrobnih delovniških ris!
 - Delovniške risbe se izdelajo na osnovi zahtev proizvajalca, pri čemer se lahko stikovanje elementov prilagodi glede na tehnološke zahteve!
 - Velikost in oblika lesenih elementov se prav tako prilagodi tehnološkim zahtevam proizvajalca ter transportnim zmožnostim oz. dvignim kapacitetam!
- Način stikovanja lesenih elementov konstrukcije je po datajhiz proizvajalca!
- Sidranje lesenih AB elementov v temeljno ploščo je po datajhiz proizvajalca!
- Na stiku s sosednjim objektom izvesti dilatacijske stike!

Leseni ploskovni elementi: GL24h (križno lepljene plošče)
Leseni linijski elementi: GL 24h (lepljeni nosilci)

 <p>DM-MET a.s. IČO: 250 68 522 Sídlo: Praha 10, Na Štěrbohlavě 158/1 Tel: +420 224 311 111 E-mail: info@dm-met.cz</p>		<p>Investor:</p> <p>Obilné Město Cesta Komandanta Štáneta 12, 1215 Město</p>	
<p>Objekt:</p> <p>Navigační proskla k obilnému úvozu Štáneta</p>		<p>Naří:</p> <p>2/1 - 1.020 gradobíeniv</p>	
<p>Starý projekt:</p> <p>136</p>		<p>Faza:</p> <p>PZ</p>	
<p>Datum:</p> <p>September 2021</p>		<p>Ime in primet:</p> <p>st. število:</p>	
<p>Staré navše:</p> <p>DMW-025/21</p>		<p>Podpis:</p> <p>ZAPS 1391 A</p>	
<p>Obilni projektant:</p> <p>Miroslav JABAR, o.ig.</p>		<p>UČS G-2644</p>	
<p>Prejimatel:</p> <p>Miroslav JABAR, o.ig.</p>		<p>UČS G-2644</p>	
<p>Všeobna lista</p>		<p>Dr. št.</p> <p>4.8.1</p>	

Technical drawing of a rectangular frame structure. The overall dimensions are 1240^{±5} mm in width and 334^{±5} mm in height. The structure consists of four vertical members (labeled SR, S1, S2, ST) and two horizontal members (labeled PL1 and PL2). The vertical members are spaced at 131 mm, 140 mm, 511 mm, 140 mm, and 201^{±5} mm from the left edge. The horizontal members are spaced at 12 mm, 34^{±5} mm, 10 mm, 464^{±5} mm, 10 mm, 356 mm, and 12 mm from the top edge. A diagonal line connects the bottom-left corner to the top-right corner. The labels SR, S1, S2, ST, PL1, and PL2 are enclosed in circles. The dimensions are given in millimeters (mm) with tolerances indicated by superscripts.

[illegible]

The drawing shows two elevations of a roof structure. The left elevation shows a gabled roof with a vertical height of 54'5" and a total width of 167'. The roof slope is 44'3". The gable end has a width of 12' and a height of 12'. The main roof section has a width of 471' and a height of 324'5". The right elevation shows a similar gabled roof with a vertical height of 54'5" and a total width of 171'5". The roof slope is 41'5". The gable end has a width of 12' and a height of 12'. The main roof section has a width of 478'5" and a height of 324'5". The drawing includes various labels for structural elements: PL1, PL2, PL3, PL4, PL5, PL6, PL7, PL8, PL9, PL10, PL11, PL12, PL13, PL14, PL15, PL16, PL17, PL18, PL19, PL20, PL21, PL22, PL23, PL24, PL25, PL26, PL27, PL28, PL29, PL30, PL31, PL32, PL33, PL34, PL35, PL36, PL37, PL38, PL39, PL40, PL41, PL42, PL43, PL44, PL45, PL46, PL47, PL48, PL49, PL50, PL51, PL52, PL53, PL54, PL55, PL56, PL57, PL58, PL59, PL60, PL61, PL62, PL63, PL64, PL65, PL66, PL67, PL68, PL69, PL70, PL71, PL72, PL73, PL74, PL75, PL76, PL77, PL78, PL79, PL80, PL81, PL82, PL83, PL84, PL85, PL86, PL87, PL88, PL89, PL90, PL91, PL92, PL93, PL94, PL95, PL96, PL97, PL98, PL99, PL100, PL101, PL102, PL103, PL104, PL105, PL106, PL107, PL108, PL109, PL110, PL111, PL112, PL113, PL114, PL115, PL116, PL117, PL118, PL119, PL120, PL121, PL122, PL123, PL124, PL125, PL126, PL127, PL128, PL129, PL130, PL131, PL132, PL133, PL134, PL135, PL136, PL137, PL138, PL139, PL140, PL141, PL142, PL143, PL144, PL145, PL146, PL147, PL148, PL149, 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S1 - d= 100 mm (1 kos)	S9' - d= 100 mm (1 kos)
S2 - d= 100 mm (1 kos)	S9'' - d= 100 mm (1 kos)
S3 - d= 120 mm (1 kos)	S10 - d= 120 mm (1 kos)
S4 - d= 120 mm (1 kos)	S11 - d= 120 mm (1 kos)
S5 - d= 120 mm (1 kos)	S12 - d= 120 mm (1 kos)
S6 - d= 120 mm (1 kos)	S13 - d= 120 mm (1 kos)
S7 - d= 120 mm (1 kos)	S14 - d= 120 mm (2 kos)
S8 - d= 120 mm (1 kos)	S15 - d= 100 mm (1 kos)
S9 - d= 100 mm (2 kos)	S16 - d= 100 mm (1 kos)

(A1) - d= 120 mm (1 kos)

PL1 (16035x9535 mm) - d = 120 mm (1 kos)
 PL2 (7445x1950 mm) - d = 120 mm (1 kos)
 PL3 (7445x1950 mm) - d = 120 mm (1 kos)
 PL4 (3855x1020 mm) - d = 100 mm (1 kos)

N1	(16x20 cm) - L = 7,432 m (1 kos)
N2	(16x20 cm) - L = 1,792 m (2 kos)
N3	(10x15-30 cm) - L = 2,277 m (3 kos)
N4'	(10x16 cm) - L = 15,100 m (1 kos)
N4	(22x8 cm) - L = 2,400 m (6 kos)
N5	(22x16 cm) - L = 15,100 m (1 kos)
N6	(22x34 cm) - L = 7,780 m (1 kos)
N7	(10x40 cm) - L = 3,720 m (1 kos)
N8	(10x40 cm) - L = 5,257 m (1 kos)

ST1 (10x32 cm) - L = 3,235 m (7 kos

Vse mere je potrebno pred pričetkom del preveriti v načrtu arhitekture, prav tako tudi eventualne preboje za instalacije!


Načrt je osnova za izdelavo podrobnih delavniških ris! Delavniške risbe se izdelajo na osnovi zahtev proizvajalca, pri čemer se lahko skladovanje elementov prilagodi glede na tehnološke zahteve!

Velikost in oblika lesenen elementov se prav tako prilagodi tehnološkim zahtevam proizvajalca ter transportnim zmognostim oz. dvignim kapacitetam!

Način sklopljenja lesenih elementov konstrukcije je po detajlih proizvajalca!

Sidranje lesenih AB elementov v temeljno ploščo je po detajlih proizvajalca!

Na stiku s sosednjim objektom izvesti dilatacijski stik!

 <p>DM-METAL d.o.o.</p> <p>Sengjard pri Dragovgradu 145 2312 Sengjard pri Dragovgradu</p> <p>Rev. projekta: 1:36</p> <p>Datum: Dekember 2021</p> <p>Dokument: DM-METAL-025/21</p> <p>1:50</p> <p>Vsebina lista:</p>	Investitor	Občina Metulsko Konjarska pot 12, 1210 Metulsko Konjarska pot 12, 1210 Metulsko		
	Objekt:	Novozgrajena hiša v 1. etaziji v obliki stenskega		
	Naziv:	2/1 - Načrt gradbeništv	Skala:	P23
	Odgovorni projektant:	St. Maršič	Podpis:	
	Odgovorni strokovni delavec:	Božidar Komarčič, mag. inž. arh.	Šifra 1391 A	
Preveritelj:	Matjaž ŽARKAR, inž. arh.	Šifra 02644		
Vsebina lista:		NAČRT NOSILNE LESENE KONSTRUKCIJE (plošče in stene - 2. del)		St. lista: 4.8.2