EKO GRADNJA

Katalog montažnih elemenata

CATALOG OF ASSEMBLY ELEMENTS

ekogradnja.rs

Sadržaj
CONTENT

EKO GRADNJA

O nama

ABOUT US

Kompanija Ekogradnja osnovana je 2002. godine registrovana kao samostalna radnja za proizvodnju betonske galanterije. Osim proizvodnje betona i betonskih proizvoda bavimo se izvođenjem radova u niskogradnji.
U toku svog razvoja preduzeće je dosta ulagalo u opremu, ali je svakako najveću investiciju uvek predstavljao stručno osposobljen kadar. Kvalitet betonskih proizvoda je doveden na viši nivo, kao i kapacitet proizvodnje. Menadžment kompanije sa timom stručnjaka i obučenim radnicima svih potrebnih profila, pruža podršku i razvija inovativna rešenja u obavljanju sklopljenih poslova, sa ciljem što bržeg, kvalitetnijeg i savremenijeg odgovora na zahteve klijenata. Takođe, pronalazimo ekonomična rešenja koja su u skladu sa ekološkim normama. U toku svog razvoja preduzeće je dosta ulagalo u opremu, ali je svakako najveća investiciju uvek predstavljao stručno osposobljen kadar.

The company Ekogradnja was founded in 2002 registered as an independent company for the production of concrete products. Besides the production of concrete and concrete products we deal with the execution of works in civil engineering.
During its development the company has a lot invested in equipment, but it is certainly the largest investment always represented a qualified staff. The quality of concrete products is brought to a higher level, as well as production capacity.
The company's management, with a team of experts and trained workers of all necessary profiles, provides support and develops innovative solutions in the performance of concluded deals, with the aim of faster, better and more modern response to customer requirements.
We also find cost-effective solutions that are in line with environmental standards.

Zašto odabrati nas

WHY CHOOSE US

Da bismo imali potpunu kontrolu i stalnu kvalitetu betona, u fabričkom krugu izgradili smo modernu fabriku betona, namenjenu isključivo za proizvodnju prefabrikovanih konstrukcija. Proizvedeni beton se transportnim sredstvima doprema do prostora sa čeličnim kalupima u koje su već postavljeni armaturni sklopovi, nad kojima je prije toga izvršena kontrola. Ugradnja betona u kalupe (oplatu) vrši se pomoću oplatnih pneumatskih vibratora. Na kraju ugradnje betona u oplatu radi se finalna obrada gornje površine betona. 24 sata nakon ugradnje betona u oplatu i po postizanju odgovarajuće čvrstoće betona, vrši se odkalupljivanje, vađenje, skladištenje i njega AB elemenata na deponiji. Nakon proteka odgovarajućeg vremenskog perioda neophodnog da beton dobije tražena svojstva, vrši se transport elemenata do gradilišta te njihova montaža. Tokom celokupnog proizvodnog procesa na reprezentativnim uzorcima betona vrši se laboratorijsko ispitivanje svojstava.

Prefabricated AB elements We produce from concrete and reinforcement. In order to have complete control and continuous quality of concrete, we built a modern concrete factory in the factory circuit, intended exclusively for the production of prefabricated structures. The concrete-produced concrete is up to space with steel molds in which the reinforced circuits are already placed, over which control was performed before. Concrete installation in molds (formwork) is performed using formwork pneumatic vibrators. At the end of the installation of concrete in the formwork, the final processing of the upper surface of the concrete is done. 24 hours after the installation of concrete in the formwork and after achieving appropriate concrete strength, deceleration, extraction, storage and Care on the landfill. After the passage of the appropriate time period necessary for concrete to obtain the required properties, the transport of elements to the construction site is performed and their installation. During the entire production process on representative concrete samples, a laboratory testing of properties is performed.

Prednosti gradnje betonskih hala

ADVANTAGES OF CONCRETE HALL CONSTRUCTION

Izgradnja hala od betona nudi brojne prednosti, uključujući izuzetnu izdržljivost, otpornost na požar i niske troškove održavanja. Betonske konstrukcije odolevaju nepovoljnim vremenskim uslovima i pružaju odličnu toplotnu i zvučnu izolaciju, što osigurava energetsku efikasnost i prijatan unutrašnji ambijent.
Pored toga, hale od betona imaju visok nosivi kapacitet, omogućavajući velike otvorene prostore bez potrebe za previše potpornih stubova. Njihova dugotrajnost i minimalni troškovi održavanja čine ih ekonomičnim izborom za industrijske, komercijalne i skladišne objekte.

Concrete hall construction offers numerous benefits, including exceptional durability, fire resistance, and low maintenance costs. Concrete structures withstand harsh weather conditions and provide excellent thermal and sound insulation, ensuring energy efficiency and a comfortable indoor environment. Additionally, concrete halls have high load-bearing capacity, allowing for large, open spaces without the need for excessive support columns. Their longevity and minimal upkeep make them a cost-effective choice for industrial, commercial, and storage facilities.

Prednosti gradnje betonskih hala

ADVANTAGES OF CONCRETE HALL CONSTRUCTION

Čašice za stubove
COLUMN CUPS

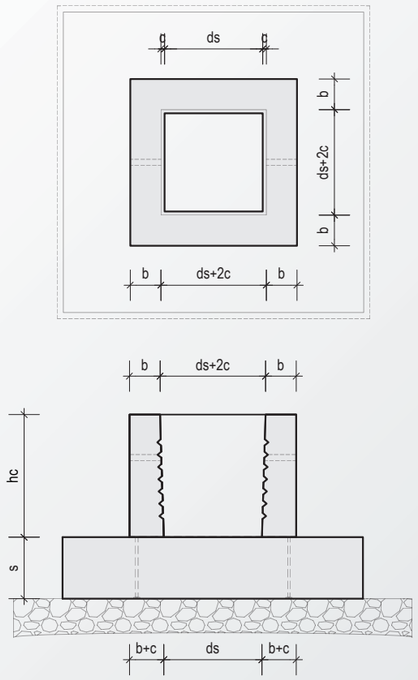
Temeljne čašice su industrijski proizvedeni elementi, izrađeni u našim specijalizovanim pogonima uz strogu kontrolu kvaliteta. Njihova primena značajno ubrzava proces izrade temelja, što skraćuje ukupne rokove izgradnje objekta. Prema statičkom proračunu, čašice se izrađuju od betona klase C30/37, a njihove dimenzije su prilagođene veličini stubova, što je jasno prikazano u priloženoj tabeli. U slučaju budućeg nastavka hale i dilatacionim razdelnicama koristi se dupla čašica.
Unutrašnjost čašica je projektovana sa ojačanjima i blagim nagibima kako bi se omogućila bolja monolitizacija i stabilnost stubova tokom montaže. Gotovi elementi se transportuju specijalizovanim vozilima direktno na gradilište. Montaža se vrši na sloj mršavog betona, nakon čega se postavlja armatura za temeljne stope. Temeljne stope se izlivaju na licu mesta, čime se formira čvrsta i integralna temeljna konstrukcija.

Pocket foundations are precast structural elements manufactured in our specialized facilities under stringent quality control. Their application significantly accelerates the foundation construction process, thereby reducing overall project timelines. Based on structural calculations, pocket foundations are made from C30/37 concrete, with dimensions tailored to the column sizes as detailed in the accompanying table. In the case of the future extension of the hall and expansion joints, we use a double cup.
The interior of the pockets is reinforced and angled to ensure superior monolithization and stability during column installation. Finished elements are transported to the construction site using dedicated vehicles. Installation is performed on a lean concrete layer, followed by the placement of the reinforcement for the footings. The footings are poured on-site, creating a robust and unified foundational system.

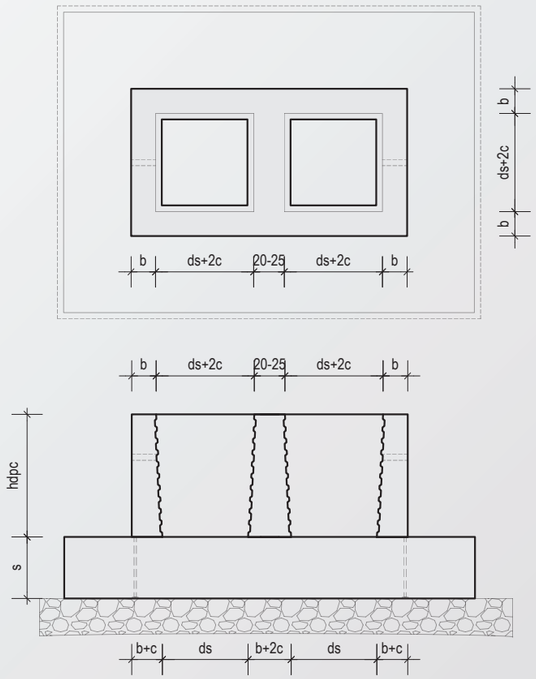
Dimenzije (cm)

ds=50, 60, 70, 80, 90, 100
b=22-25
c=5
hc=80-10
hdpc=90-130
s=40-50

TEMELJNA ČAŠICA

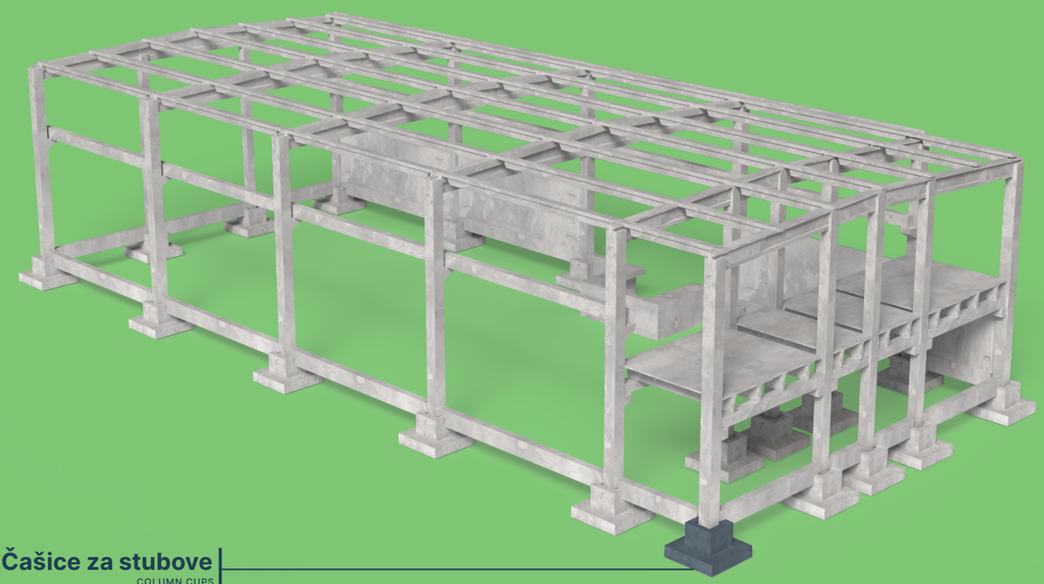


DUPLA TEMELJNA ČAŠICA



Čašice za stubove
COLUMN CUPS

Prikaz elementa na izvedenom objektu • View of the element on the constructed object



Čašice za stubove
COLUMN CUPS

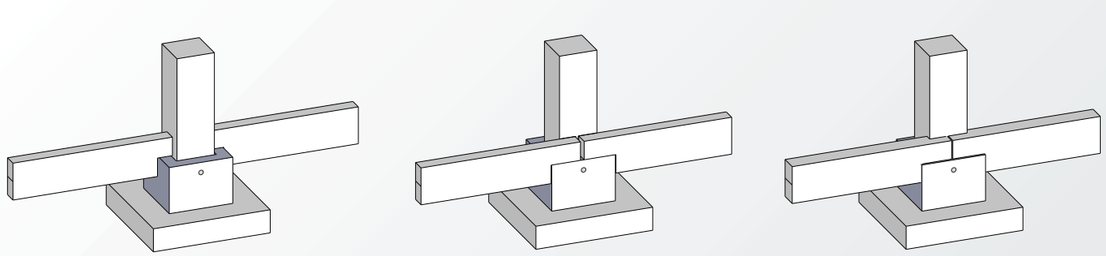
Temeljne grede
FOUNDATION BEAMS

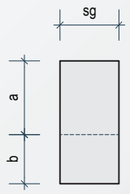
Temeljne grede su klasično armirane, pravougaonog poprečnog preseka različitih raspona.
Oslanjaju se na zidove temeljnih čašica i montažna veza sa čašicom se ostvaruje preko ankera.
Standardne dimenzije temeljne grede su prikazane na crtežu a zavise od proračuna.

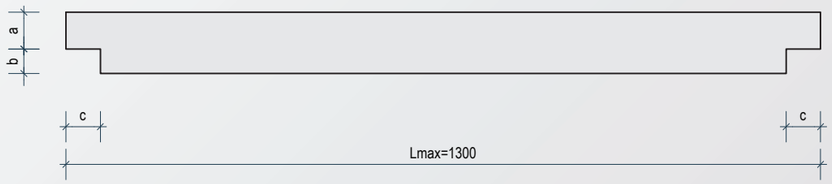
The foundation beams a r e classically reinforced, with a rectangular cross-section with different spans.
They rely on the walls of the foundation collars and the assembly connection with the collar is realized with an anchor.
The standard dimensions of the foundation beam are shown in the drawing and depend on the calculation.

Dimenzije (cm)

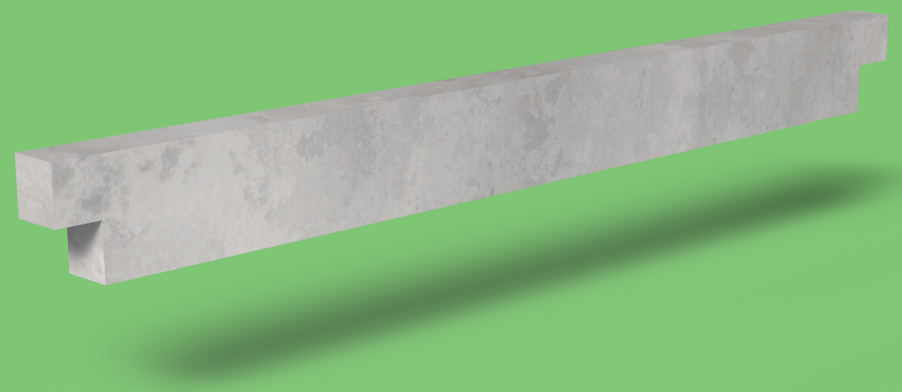
c=0-40
b=20-40
sg=20-40
a=30-80



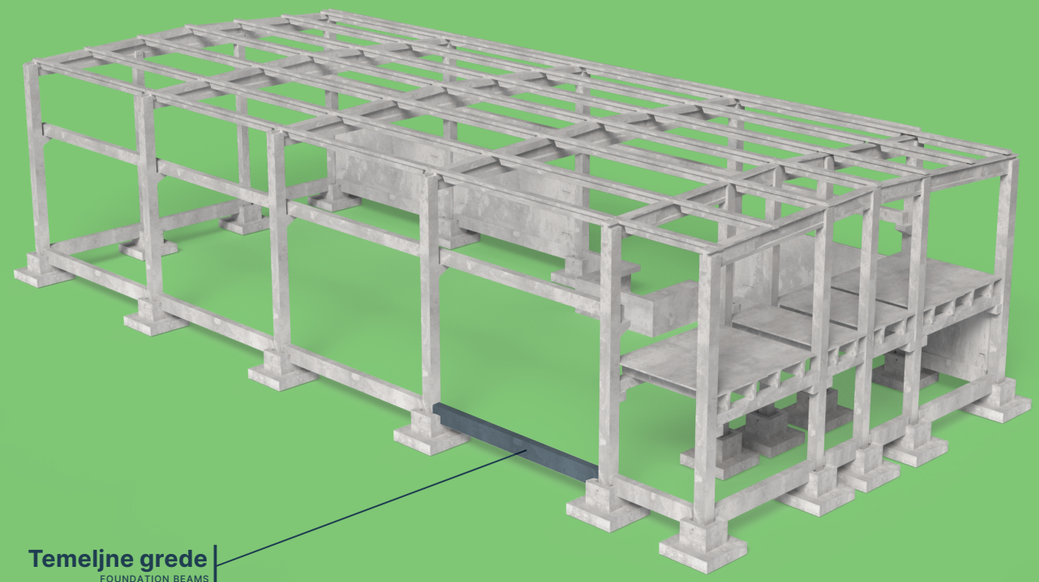




Temeljne grede
FOUNDATION BEAMS



Prikaz elementa na izvedenom objektu • View of the element on the constructed object



Zidni paneli
WALL PANELS

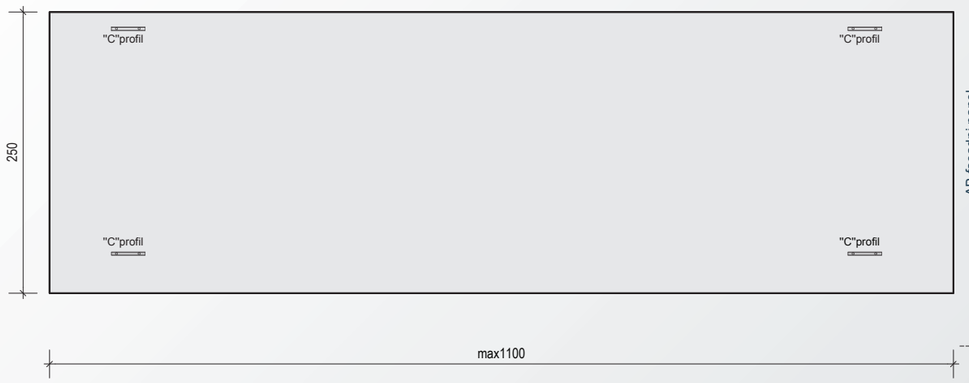
Prefabrikovani betonski paneli se koriste za izradu spoljnih - fasadnih zidova, parapetnih zidova, pregradnih zidova kao i protivpožarnih zidova. Mogu da se montiraju horizontalno i verikalno. Proizvode se sa i bez termoizolacije. Zaptivanje spojeva se radi sa elastomernim zaptivnim masama. Veza panela sa stubovima se izvodi specijalnim ugradnim elementima od atestiranih proizvođača. Paneli se mogu montirati sa spoljašnje strane, unutrašnje strane i između stubova.

Standardne dimenzije su prikazane na crtežu.

Prefabricated concrete panels are used for the construction of exterior — facade walls, parapet walls, partition walls as well as fire walls. They can be mounted both horizontally and vertically. They are produced with and without thermal insulation. Sealing joints is done with elastomeric sealants. Panels are conected to columns using special built – in elements from certified manufacturers. Panels can be mounted on the outside, inside and between the columns.

Standard dimensions are shown in the drawing.

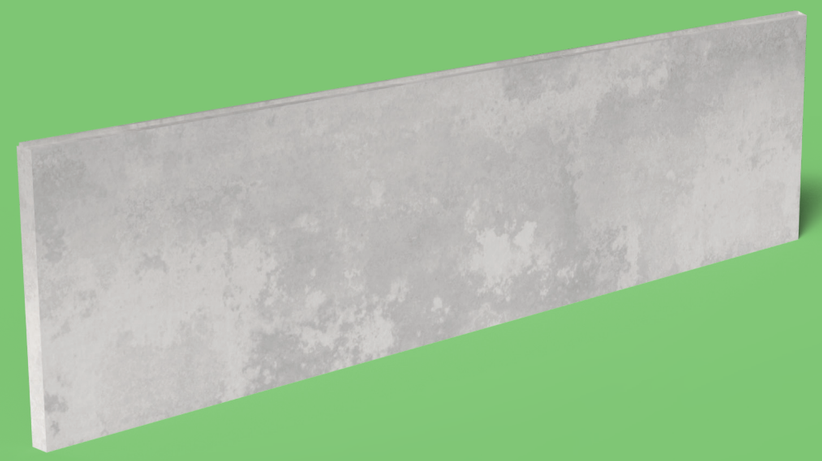
izgled



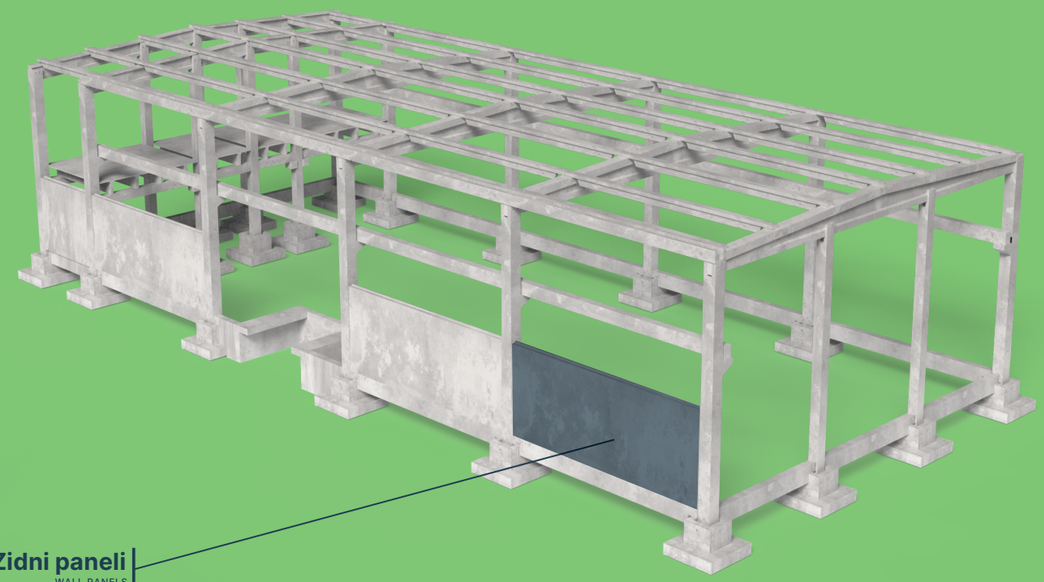
presek kroz panel

osnova

Zidni paneli
WALL PANELS



Prikaz elementa na izvedenom objektu • View of the element on the constructed object



Stubovi
COLUMNS

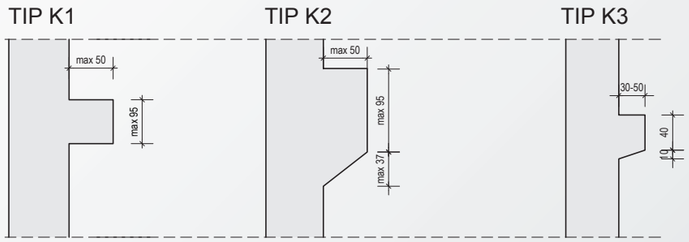
Prefabrikovani stubovi su vertikalni konstrukcioni elementi koji preuzimaju opterećenja krova, međuspratnih konstrukcija, obodnih greda, nosača kranskih staza, kao i “T” nosača kod hala sa denivelisanim delovima. Stubovi se montiraju na prethodno pripremljene temelje sa temeljnim čašicama. Klasa betona za stubove je C≥30/37, u zavisnosti od statičkog proračuna. Stubovi mogu biti kvadratnog ili pravougaonog preseka.
Deo stuba koji ulazi u temeljnu čašicu orebren je radi bolje monolitizacije, dok se na dnu nalazi “trn” koji omogućava precizno centriranje stuba tokom montaže. Na vrhu stuba, na mestu ulaska glavnog nosača, ostavlja se otvor za povezivanje. Kratki element je deo stuba na koji se oslanja međuspratna greda, kranska staza ili “T” greda. Ukrućenje nosača i kratkog elementa se rešava preko ankera. Dimenzije kratkog elementa zavise od statičkog proračuna i dimenzije grede.

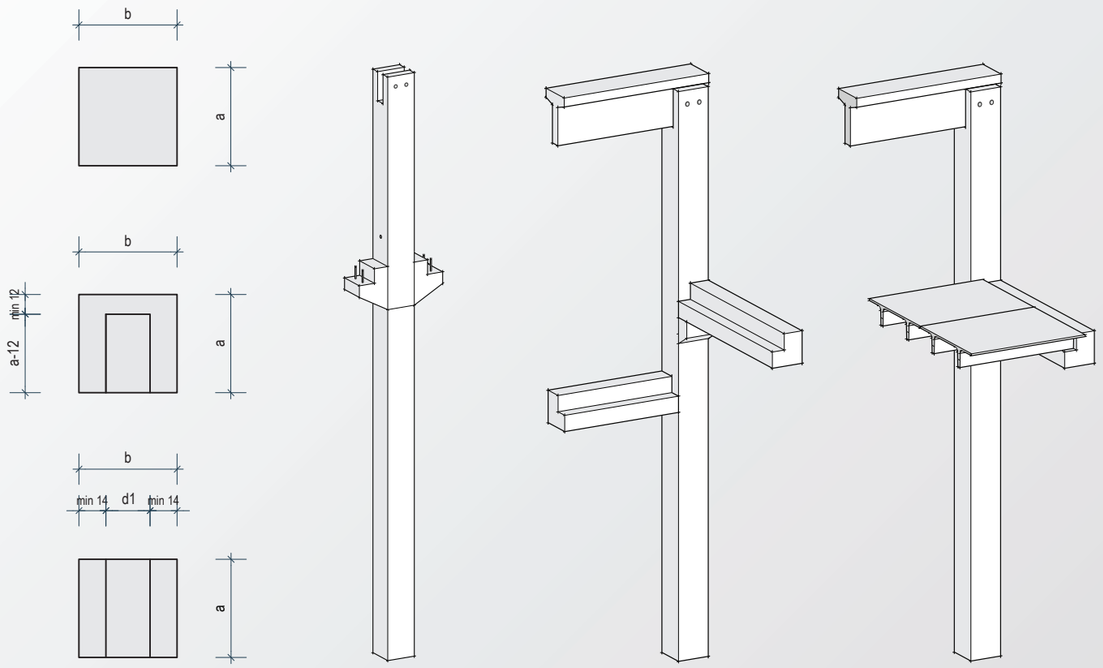
Reinforced concrete columns are vertical structural elements designed to support the loads of roofs, intermediate floor structures, edge beams, crane track supports, and “T” beams for halls with uneven levels. The columns are installed on pre-prepared foundations with pocket foundations. The concrete class for columns is C≥ 30/37, depending on the static calculation. Columns can have square or rectangular cross-sections. The portion of the column that fits into the pocket foundation is ribbed to enhance monolithization, while a “pin” at the base ensures precise alignment during installation. At the top of the column, where the main beam connects, an opening is left for secure attachment. The short element is the part of the column on which the floor beam, crane track or "T" beam rests. The dimensions of the short element depend on the static calculation and the dimensions of the beam.

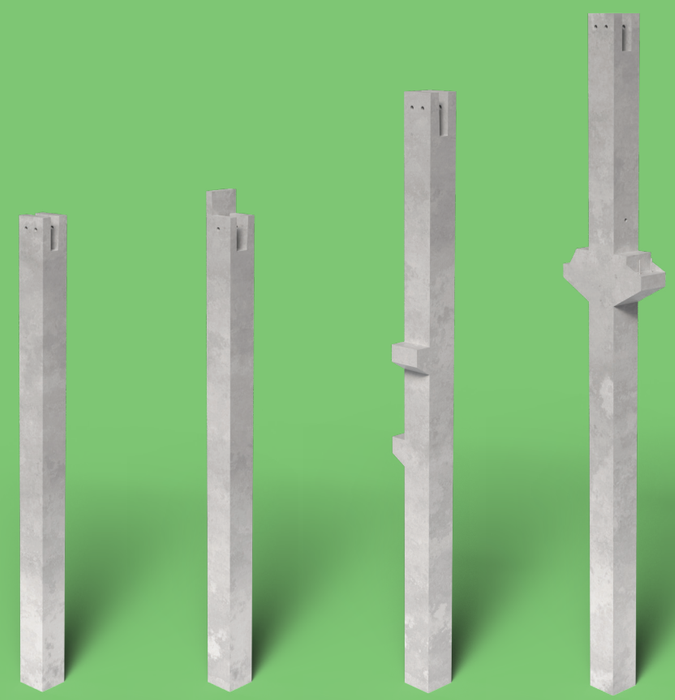
Dimenzije (cm)

a=50, 60, 70, 80, 90, 100
b=50, 60, 70, 80, 90, 100
d1= širina nosača + 2

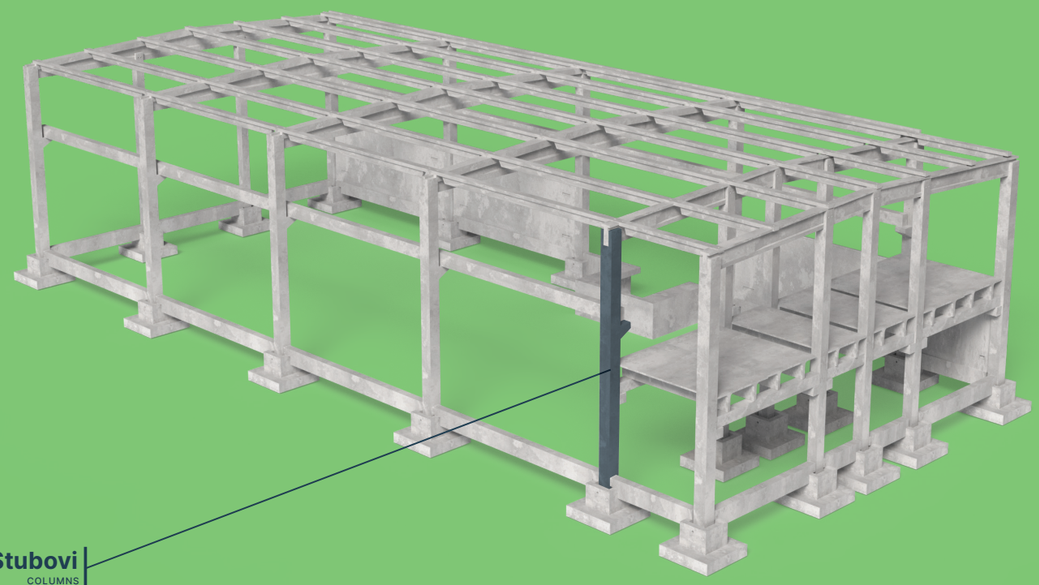
Tipovi kratkih elemenata







Prikaz elementa na izvedenom objektu • View of the element on the constructed object



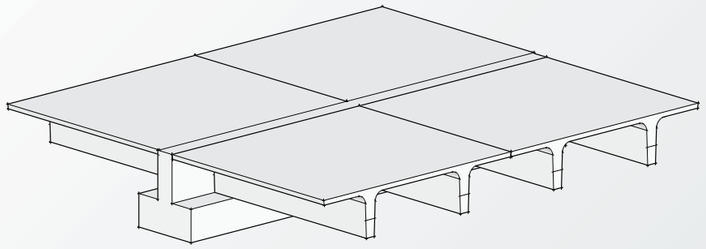
Međuspratne grede
FLOOR BEAMS

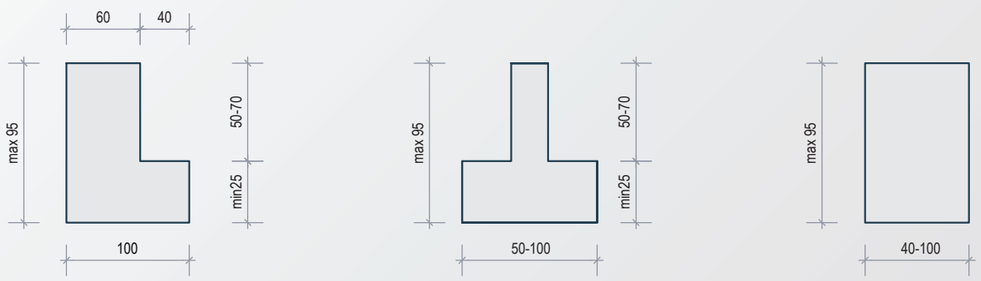
Međuspratne grede su AB noseći horizontalni elementi za prijem međuspratne konstrukcije – „ošupljene ploče“, “TT” ploče. Grede naležu na „kratke elemente“ ili vrhove stubova.U zavisnosti od načina oslanjanja ploča i oblika poprečnog preseka postoje različiti tipovi međuspratne grede. Kod „L“ tipa grede „ošupljena ploča“ se oslanja samo sa jedne strane (na zub donjeg dela grede). Kod „obrnute T“ grede „ošupljena ploča“ se oslanja sa obe strane. Treći tip grede je pravougaonog preseka gde „ošupljena ploča“ prelazi preko nje. Međuspratne grede mogu biti klasično armirane i prednapregnute.

Floor beams are RC supporting horizontal elements for receiving the floor structure - "hollow core slabs", “TT slabs”. The beams rely on the "short elements : corbels - consoles" or the tops of the columns. Depending on the way the slabs are supported and the shape of the cross-section, there are different types of floor beams. With the "L" type of beam, the "hollow core slabs" rely on only one side (on the “tooth” of the lower part of the beam). In an "reversed T" beam, the "hollow core slabs" is supported on both sides. The third type of beam is rectangular in cross-section where the "hollow core slabs" go over it. Floor beams can be classically reinforced and prestressed.

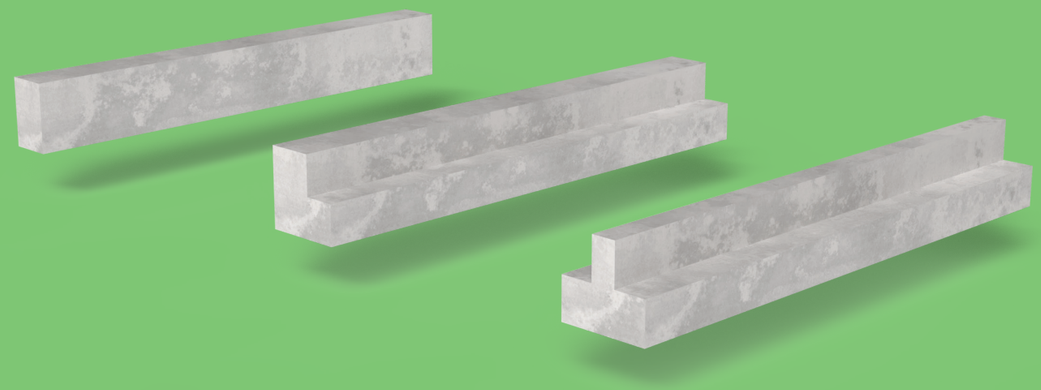
Dimenzije (cm)

LMAX=1300

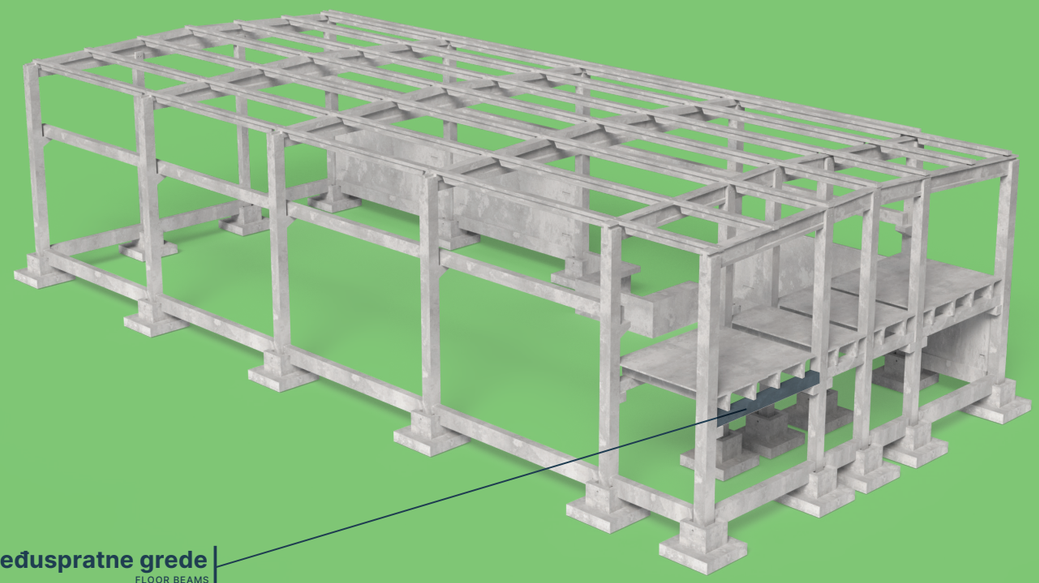




Međuspratne grede
FLOOR BEAMS



Prikaz elementa na izvedenom objektu • View of the element on the constructed object



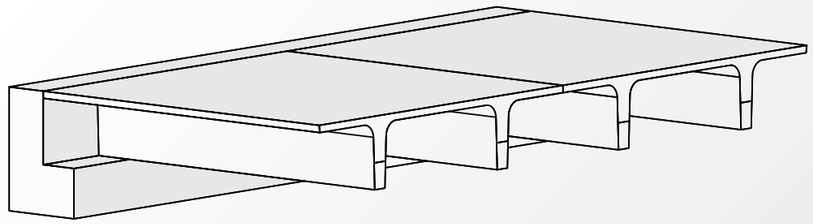
“TT” ploče
“TT” PANELS

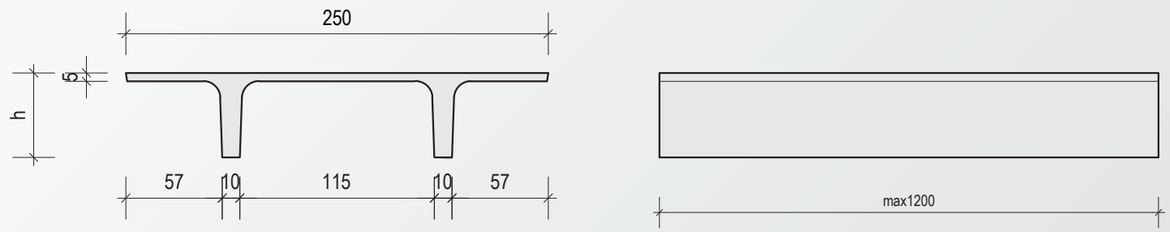
“TT” ploče su prefabrikovani montažni elementi koji mogu biti klasično armirani i prednapregnuti. Koriste se za izgradnju ravnih i kosih krovova kao i međuspratne konstrukcije. Prednapregnute “TT” ploče se koriste za velike raspone. Dužina “TT” ploče zavisi od opterećenja i raspona koji treba da premosti.

“TT” panels are prefabricated elements that can be classically reinforced and pre-stressed. They are used for the construction of flat and sloping roofs as well as mezzanine plate floor. The length of the “TT” plate depends on the load and the span it has to bridge.

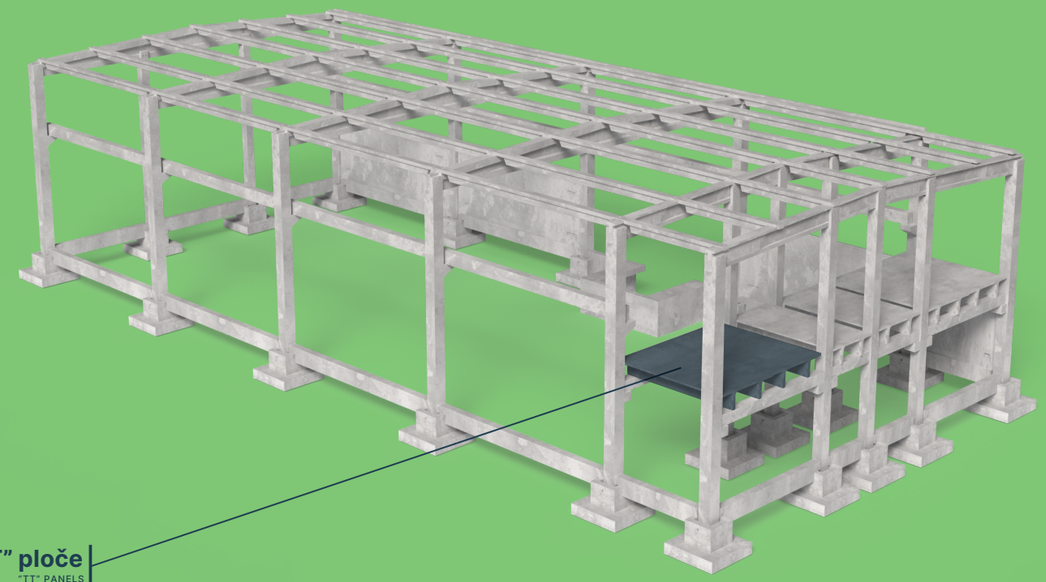
Dimenzije (cm)

h=25-50





Prikaz elementa na izvedenom objektu • View of the element on the constructed object

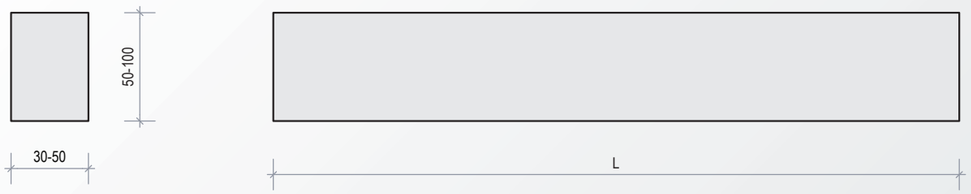


Kranske grede
CRANE GIRDER

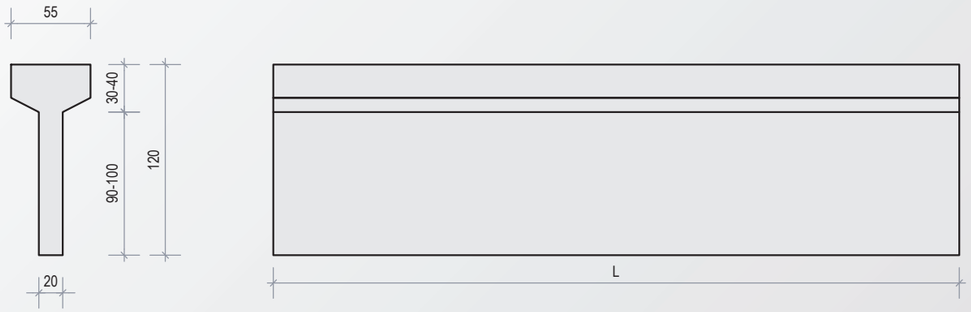
Kranske grede su noseće konstrukcije po kojima se kreće mosni kran. Kranske grede se oslanjaju direktno preko stubova ili preko „kratkih elemenata“ stubova. Postoji nekoliko tipova kranskih greda – dobijaju se adaptacijom postojećih kalupa grednih elemenata pravougaonog, T presek i I presek i mogu se postići različiti oblici i dimenzije u zavisnosti od tehnoloških zahteva i nivoa opterećenja od krana.

Crane girders are supporting structures on which the bridge crane moves. Crane girders rely directly over the columns or over "short elements: corbels - consoles" of the columns. There are several types of crane girders - they are obtained by adapting existing molds of rectangular, T-section and I-section beam elements and different shapes and dimensions can be achieved depending on the technological requirements and the level of load from the crane.

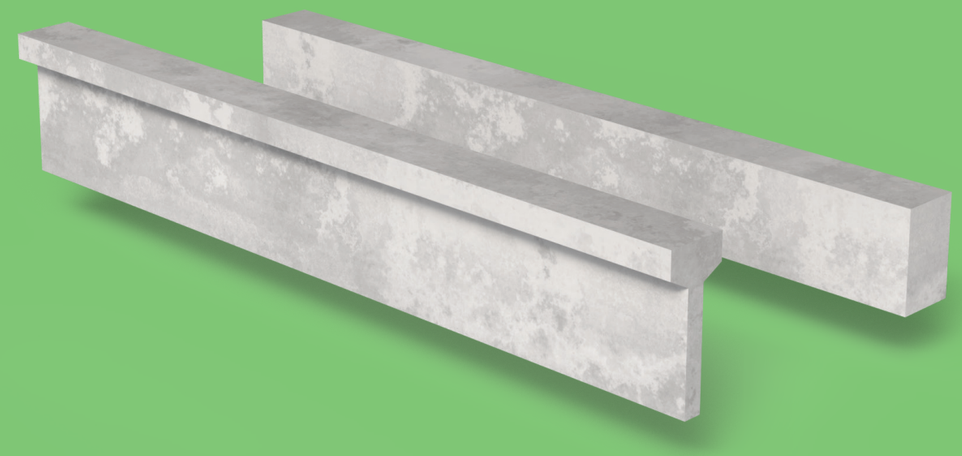
Kranska greda pravougaonog preseka



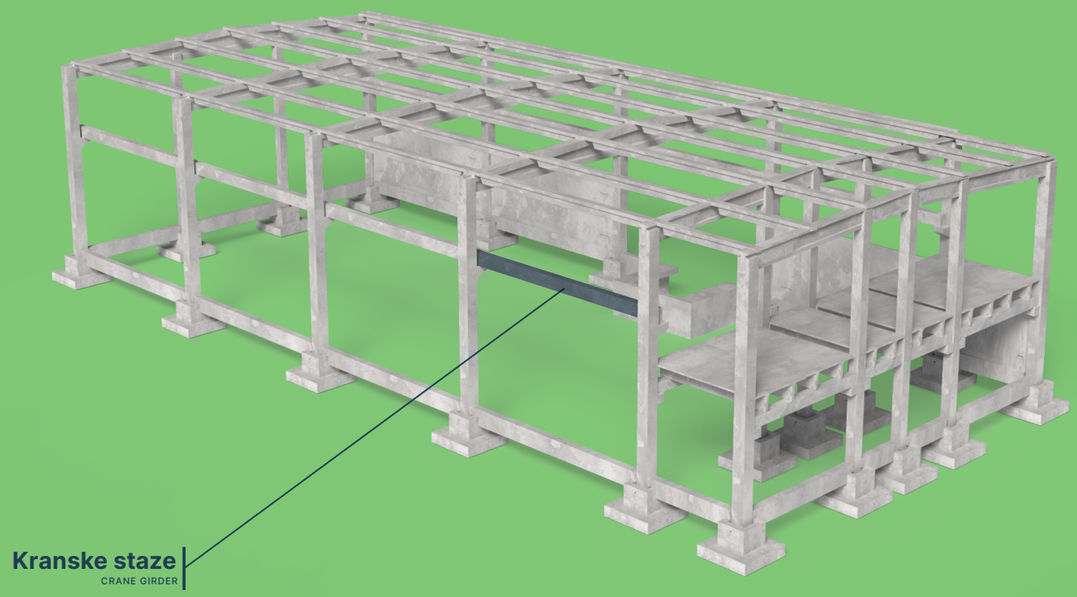
Kranska greda "T" preseka



Kranske grede
CRANE GIRDER



Prikaz elementa na izvedenom objektu • View of the element on the constructed object



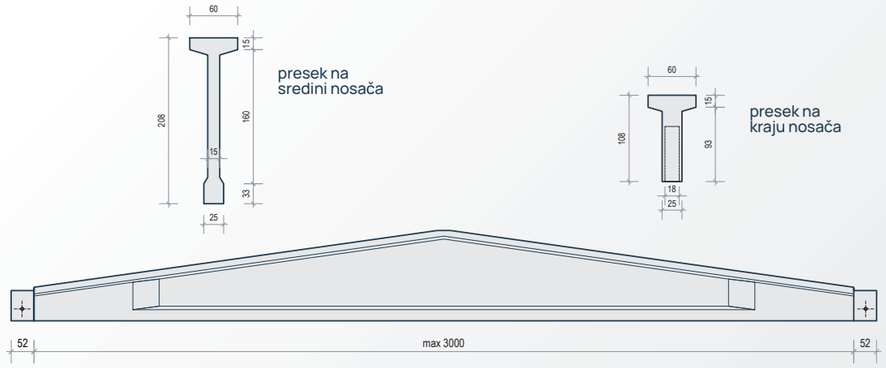
“A” nosači

“A” BEAMS

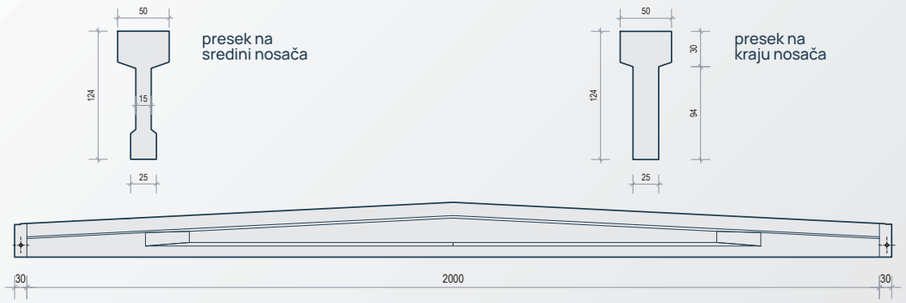
“A” nosači su prenapregnuti, horizontalni, noseći konstruktivni elementi, za prijem sekundarnih nosača. Izrađeni su od klase betona C=40/50 i 50/60 i različitog su tipa utezanja u zavisnosti od statičkog proračuna. Dimenzije poprečnog preseka su prikazane na crtežu i zavise od raspona i pripadajuće noseće površine. Naležu na vrhove stubova.

“A” beams are prestressed elements for receiving secondary beams.
Concrete that is used is C=40/50 i 50/60 and there are different types of weights depending on static calculation. The cross-section dimensions are given in a draw below and depend on the range and the associated bearing surface. They lay down at the top of the columns.

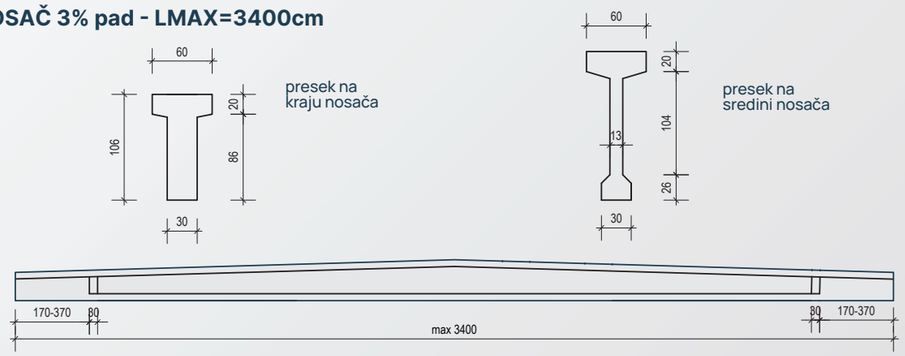
A NOSAČ 14% pad - LMAX=3100cm Dimenzije (cm)



A NOSAČ 5% pad - LMAX=25m

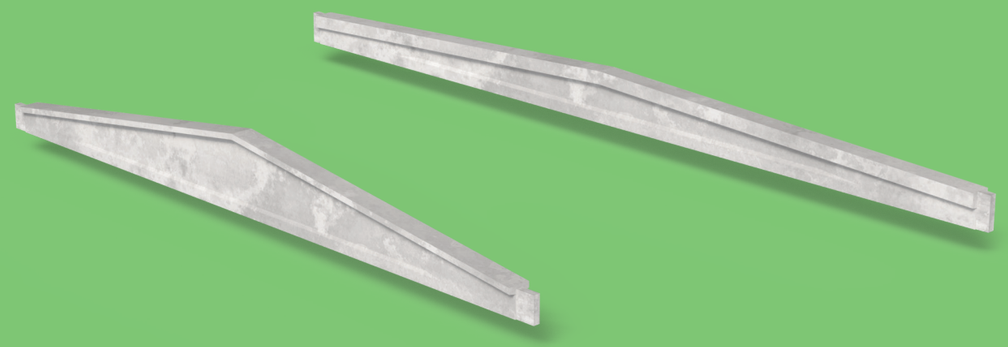


A NOSAČ 3% pad - LMAX=3400cm

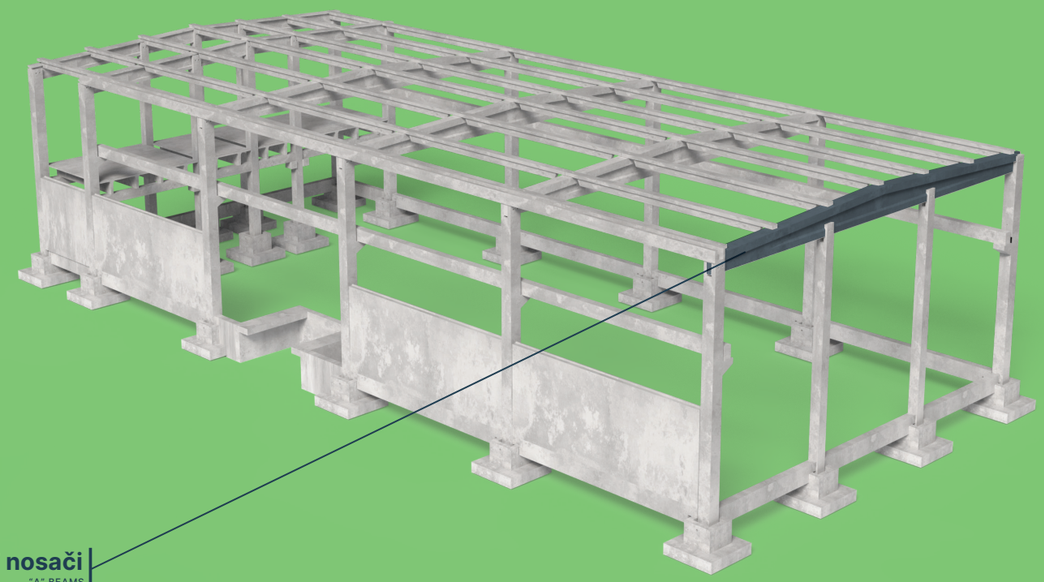


“A” nosači

“A” BEAMS



Prikaz elementa na izvedenom objektu • View of the element on the constructed object



“I” nosači

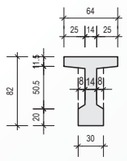
“I” BEAMS

“I” nosači su prednapregnuti elementi za prijem sekundarnih nosača.
Klasa betona od koje su izrađeni je C=40/50 i 50/60. Postoje različiti tipovi utezanja u zavisnosti od statičkog proračuna.

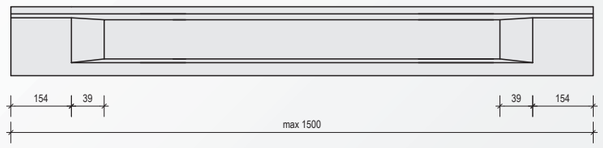
Dizmenije poprečnog preseka zavise od raspona i pripadajuće noseće površine. Naležu na vrhove stubova.

“I” beams are prestressed elements for receiving secondary beams.
Concrete that is used is C=40/50 and 50/60. There are different types of weights depending on static calculation.
The dimensions of the cross-section depend on the span and the associated bearing surface. They lay at the top of the columns.

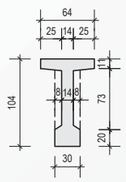
presek u sredini grede



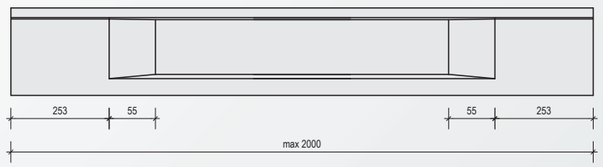
I GREDA 82



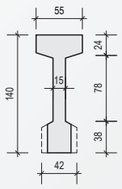
presek u sredini grede

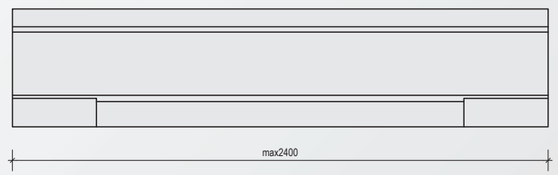


I GREDA 104

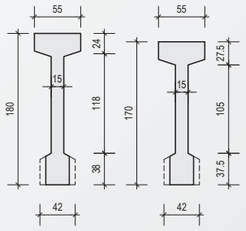


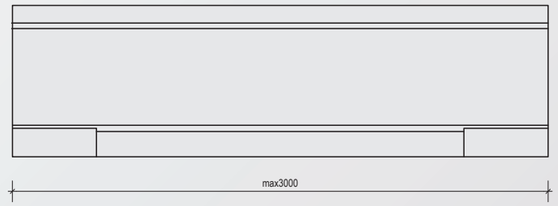
I GREDA 140

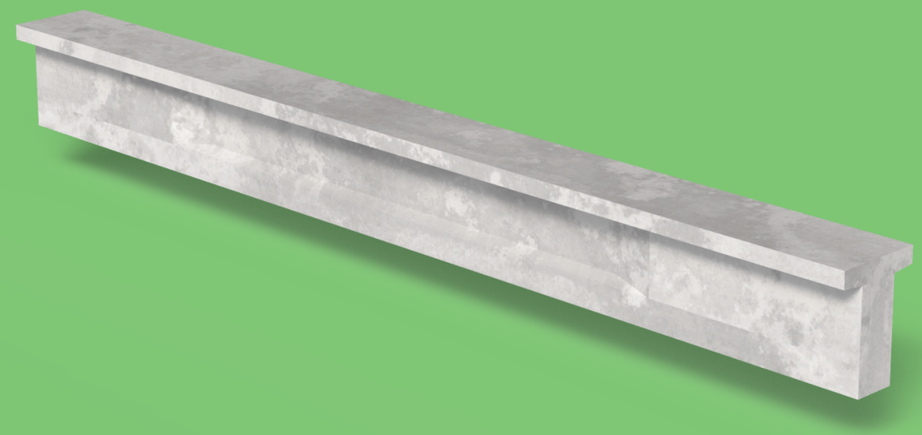




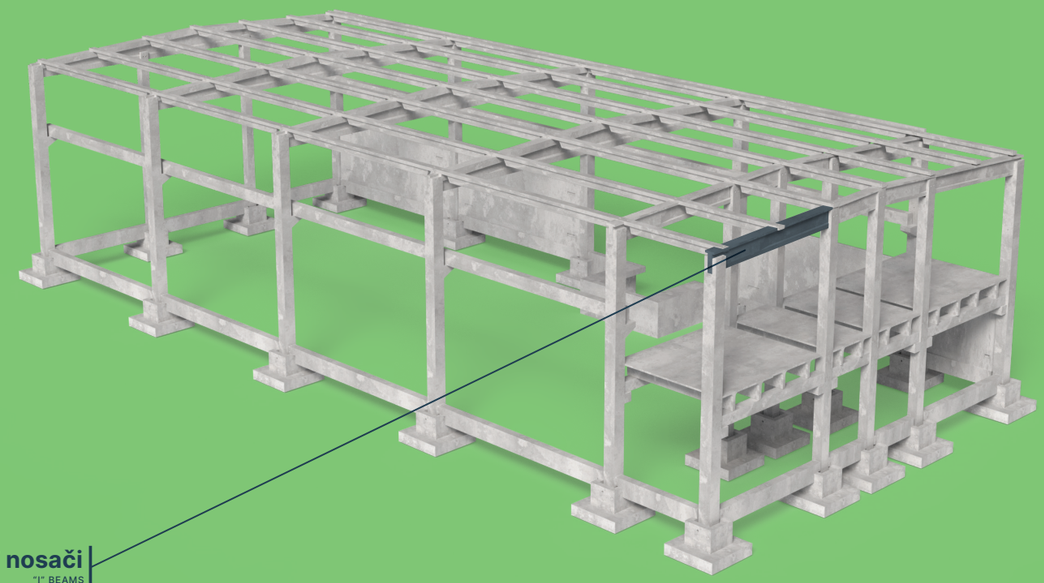
I GREDA 180 i 170







Prikaz elementa na izvedenom objektu • View of the element on the constructed object



“T” nosači

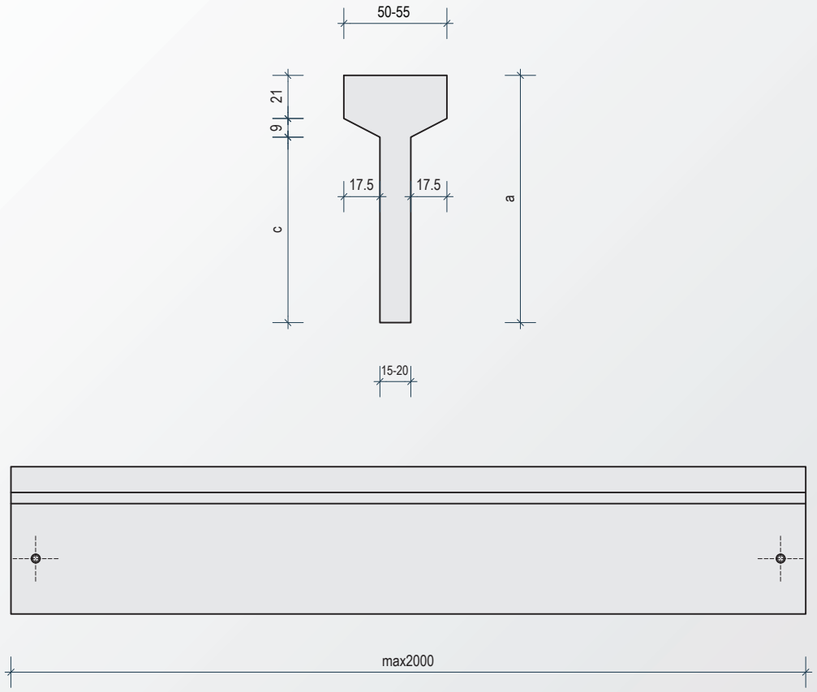
“T” BEAMS

“T” nosači mogu biti prednapregnuti ili klasično armirani. Klasa betona od koje su izrađeni je C=40/50 i 50/60 u zavisnosti od statičkog proračuna. Dimenzije poprečnog preseka date su u crtežu i zavise od statike (raspona i pripadajuće površine).
Naležu na vrhove stubova ili konzolne elemente stubova kod denivelacije.

“T” beams are prestressed or classically reinforced beams. Concrete class C=40/50 and 50/60 depending on the static calculation (ranges and corresponding surfaces). The cross-sectional dimensions are given in the drawing and depend on the static calculation (ranges and corresponding surfaces).
They lay down at the top of the columns or the console column elements when there is denivelation.

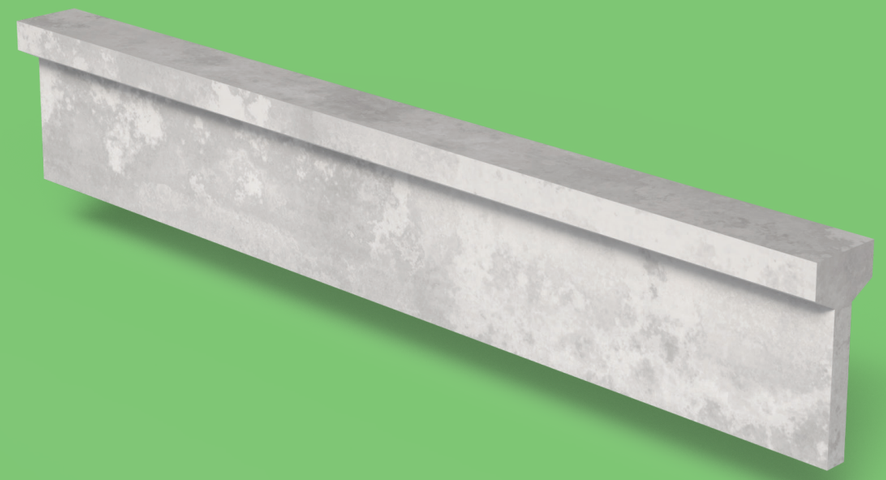
Dimenzije (cm)

a=70, 80, 90, 100, 120
c=a-30

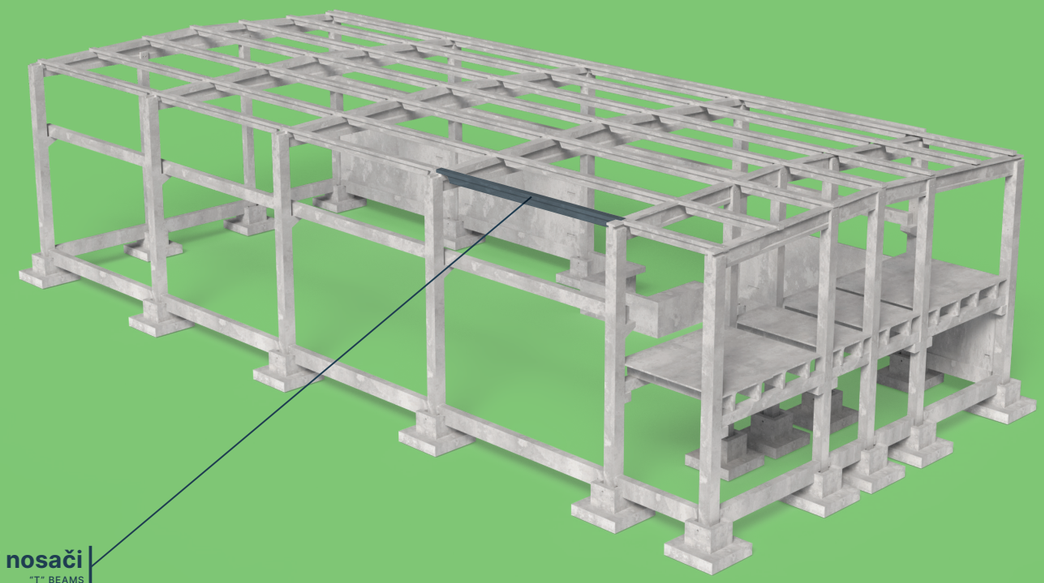


“T” nosači

“T” BEAMS



Prikaz elementa na izvedenom objektu • View of the element on the constructed object

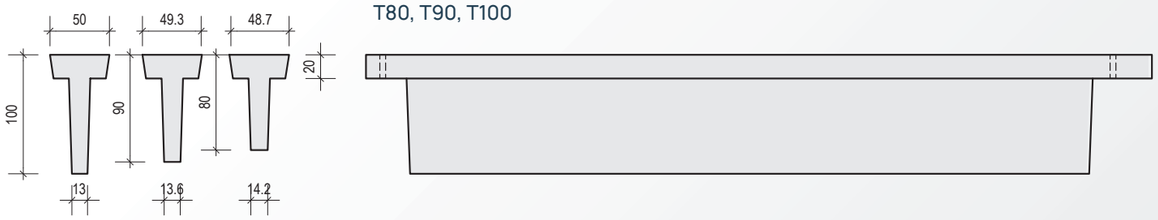


Rožnjače
SECONDARY GIRDERS

Rožnjače su sekundarni krovni nosači trapezastog i T preseka. Rožnjače se oslanjaju na glavne nosače krovne konstrukcije. Dimenzija poprečnog preseka zavise od raspona i krovnog opterećenja. Mogu biti prednapregnute i klasično armirane.
Tipovi, preseci i dimenzije su dati u crtežu.

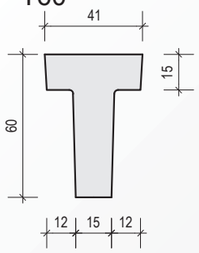
The purlins are secondary roof girders of trapezoid and T section. The purlins rely on the main girders of the roof structure. The dimensions of the cross-section depend on the span and the roof load. They can be prestressed and classically reinforced.
Types, cross-sections and dimensions are given in the drawing.

Dimenzije (cm)

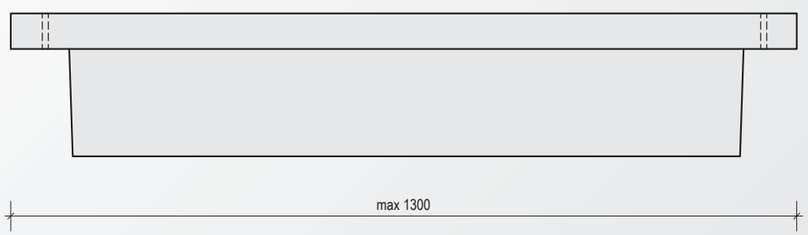


T80, T90, T100

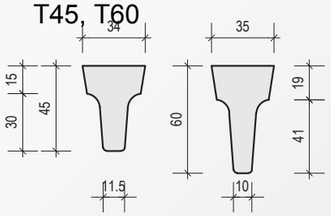
T60



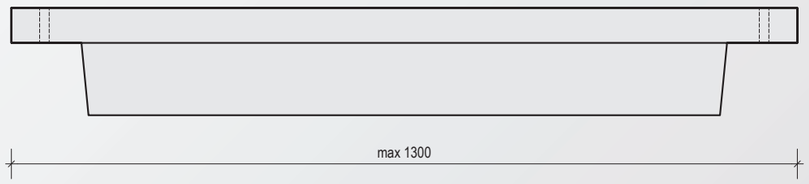
T60



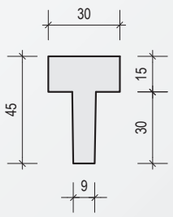
T45, T60



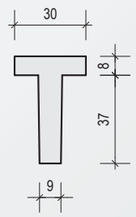
T45, T60



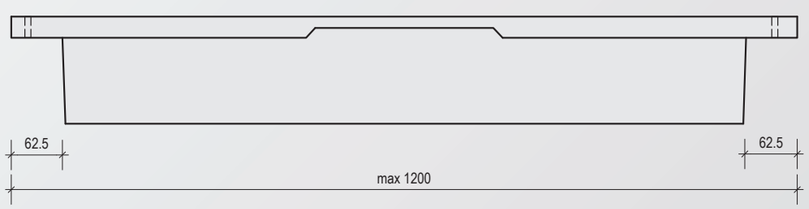
presek na krajevima



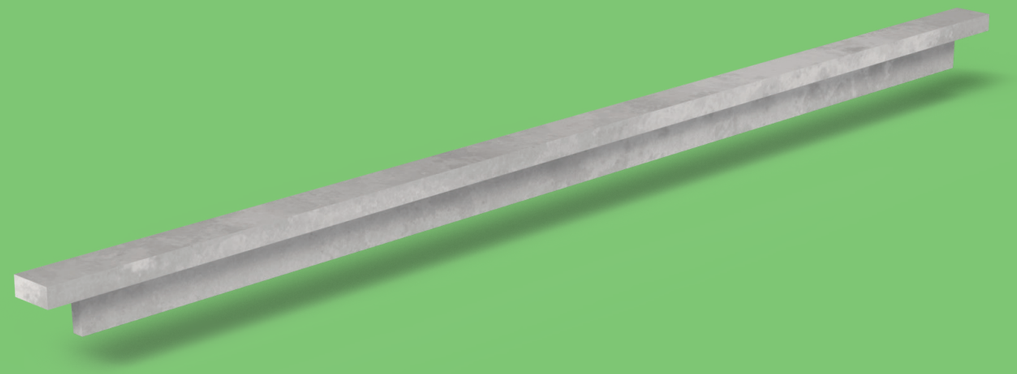
presek u sredini



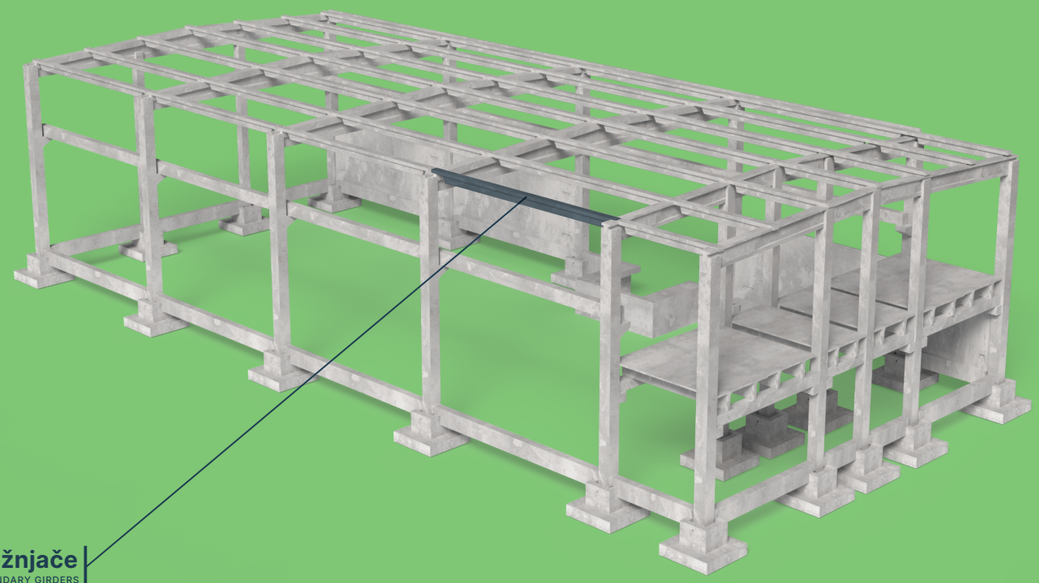
MALA T45 ROŽNJAČA



Rožnjače
SECONDARY GIRDERS



Prikaz elementa na izvedenom objektu • View of the element on the constructed object



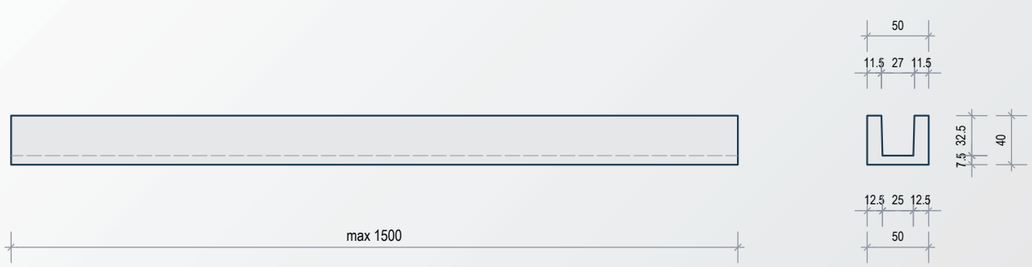
Olučne grede - korita

GUTTER TROUGH

Olučne grede su elementi koji se koriste za prihvatanje i odvod vode i prihvatanje fasadnih panela. Oslanjaju se na vrh stuba, viljušku stuba ili na glavni nosač. Izoluju se sa unutrašnje strane i opšivaju limom. Poprečni presek je prikazan na crtežu, a dužina olučne grede zavisi od raspona između dva stuba na koja se oslanja.

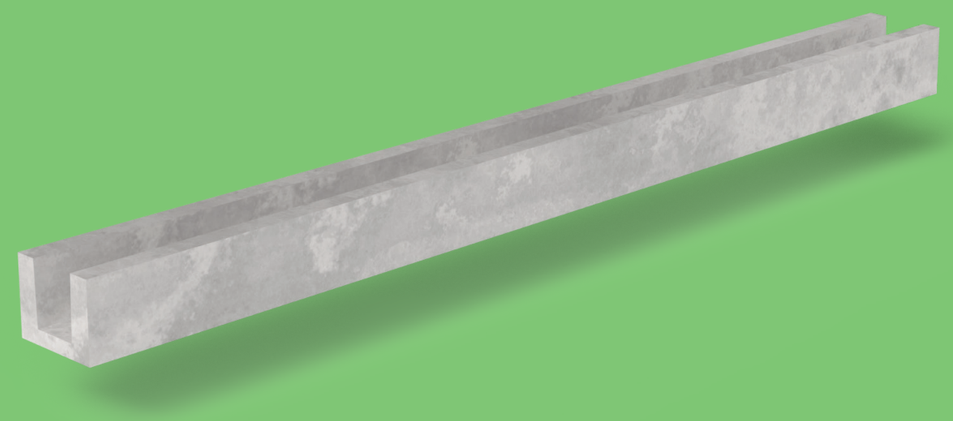
Gutter beams are elements used for the reception and drainage of water and the reception of facade panels. They rest on the top of the pole, the fork of the pole or on the main support. They are insulated from the inside and covered with sheet metal.
The cross-section is shown in the drawing, and the length of the gutter beam depends on the span between the two pillars on which it rests.

Dimenzije (cm)

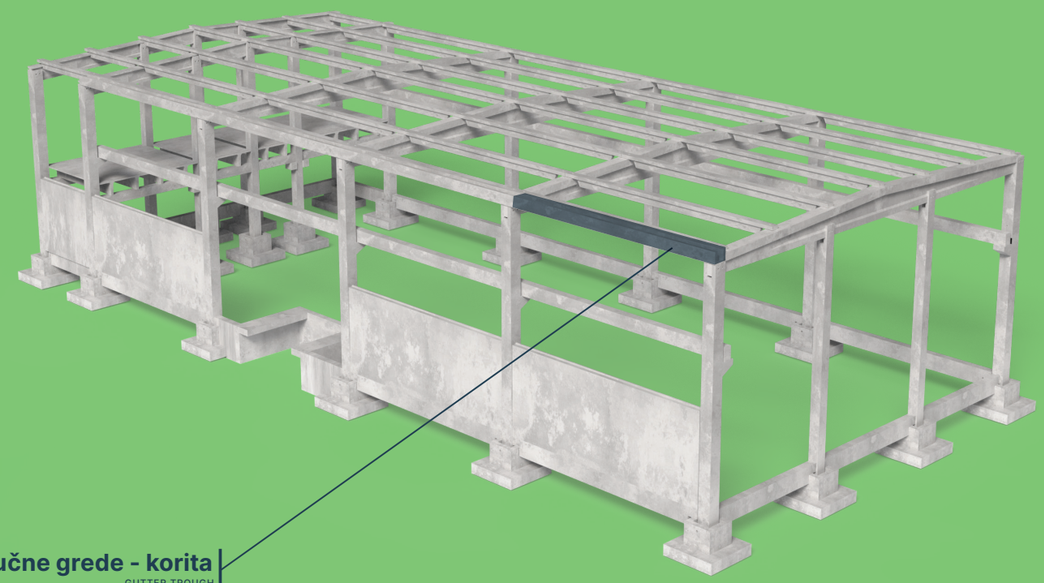


Olučne grede - korita

GUTTER TROUGH



Prikaz elementa na izvedenom objektu • View of the element on the constructed object

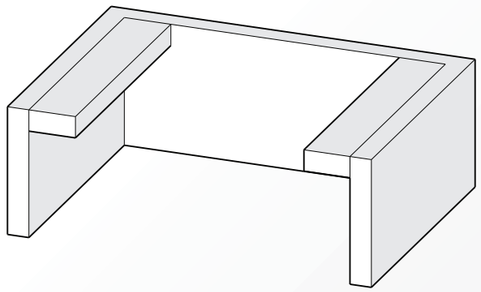


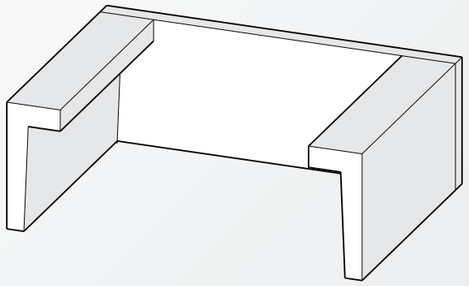
Pretovarne rampe
LOADING RAMPS

Pretovarne rampe su betonske platforme koje služe za povezivanje magacina sa tovarnim prostorom kamiona obezbeđujući neometano kretanje viljuškara tokom utovara i istovara robe u magacinu.

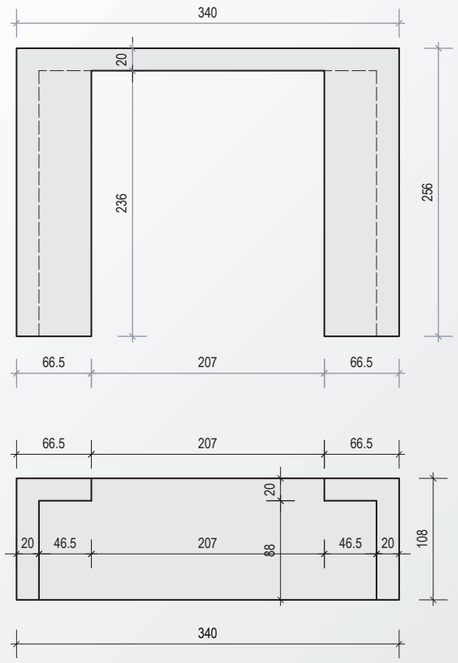
Loading ramps are concrete platforms that serve to connect the warehouse to the cargo area of the truck ensuring the uninterrupted movement of the forklift during loading and unloading of goods into the warehouse.

Dimenzije (cm)

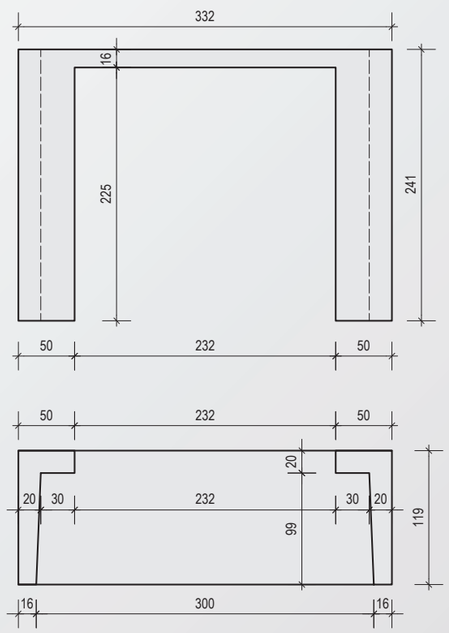




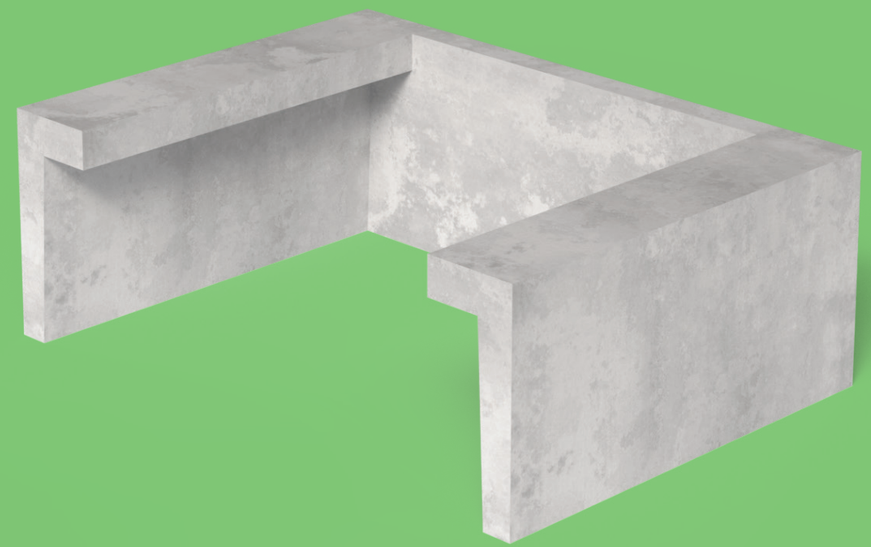
TIP A



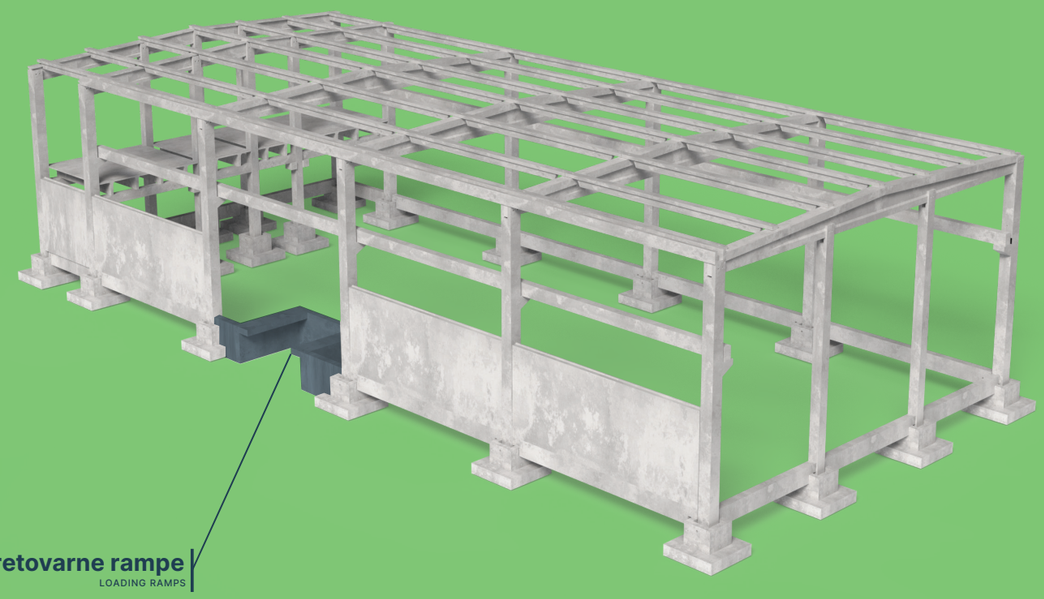
TIP B



Pretovarne rampe
LOADING RAMPS



Prikaz elementa na izvedenom objektu • View of the element on the constructed object



“Lego” kocke

“LEGO” CUBES

Upotrebom masivnih betonskih blokova koji se slažu po sistemu „lego kocki“ formira se zid – pregrada koji se može koristiti za:

- Fizičko odvajanje svih vrsta objekata (sistem betonskih blokova ima veliku otpornost na udar i vatrootpornost)
- Pregradne i potporne zidove i osiguranje kosina kod puteva
- Izradu pregradnih boksova za razdvajanje rasutih materijala

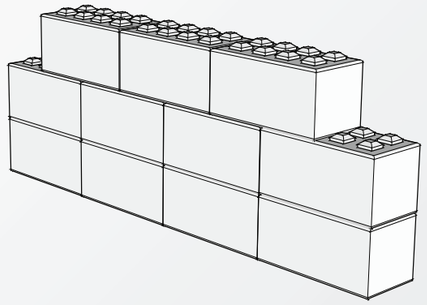
Betonski blokovi se montiraju bez materijala za vezivanje što omogućava da se blokovi mogu pomerati i montirati na drugom mestu. Blokovi se postavljaju direktno na tlo i nije potrebna izrada temelja.

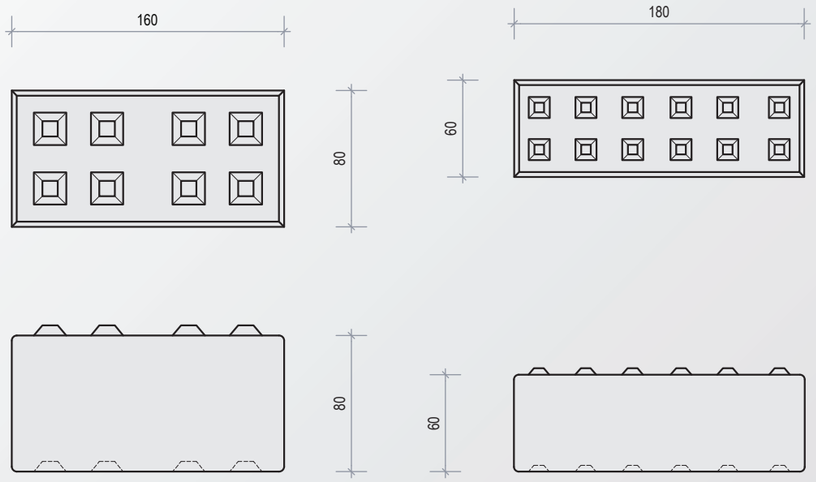
Concrete blocks are used for the production of partition and supporting - retaining walls. By using massive concrete blocks that are stacked according to the "lego blocks“ system, a wall - partition is formed that can be used for:

- Physical separation of all types of facilities (concrete block system has high resistance to impact and fire resistance)
- Partition and retaining walls and securing slopes on the roads
- Building of partition boxes for separation of bulk materials

Concrete blocks are installed without binding material, which allows the blocks could be moved and installed in another place. The blocks are placed directly on the ground and no foundation is required.

Dimenzije (cm)
160x80x80
180x60x60





“Lego” kocke

“LEGO” CUBES

Prikaz elementa na izvedenom objektu • View of the element on the constructed object