

FEAL



FNE-1200

SISTEM ZA FOTONAPONSKE ELEKTRANE
SYSTEM FOR PHOTOVOLTAIC POWER PLANTS

SADRŽAJ - CONTENT

01	ZNAČAJKE SISTEMA	713.01.000-003
01	SYSTEM CHARACTERISTICS	713.01.000-003
02	ISPITIVANJA I CERTIFIKATI	713.02.000-000
02	TESTING AND CERTIFICATES	713.02.000-000
03	PROFILI	713.03.000-009
03	PROFILES	713.03.000-009
04	VEZNI ELEMENTI	713.04.000-005
04	CONNECTING ELEMENTS	713.04.000-005
08	DODACI	713.08.000-005
08	ACCESSORIES	713.08.000-005
10	PRESJECI	713.10.000-015
10	SECTIONS	713.07.000-015
11	OBRADA I MONTAŽA	713.11.000-033
11	PROCESSING AND MONTAGE	713.11.000-033

Značajke sistema System characteristics

FOTONAPONSKE ELEKTRANE PHOTOVOLTAIC POWER PLANTS

Razvojem fotonaponskih elektrana i sve veća realizacija istih zahtjeva brzu, jednostavnu i prilagodljivu izvedbu podkonstrukcijskih sistema.

FEAL FNE rješenja omogućuju prihvrat većine komercionalno dobavljivih fotonaponskih modula, a svaka konstrukcija posjeduje mogućnost prilagodbe različitim dimenzijama solarnih panela.

FNE 1200 je sistem razvijen za montažu fotonaponskih elektrana na ravnim krovovima. Kompletно rješenje dizajnirano je za brzu, jednostavnu i čistu montažu na licu mjesta, bez dodatnih zahtjeva za obradom na licu mjesta.

With the development of photovoltaic power plants and the increasing realization of the same requires fast, simple and flexible design of substructure systems.

FEAL FNE solutions enable the acceptance of most commercially available photovoltaic modules, and each construction has the ability to adapt to different dimensions of solar panels.

FNE 1200 is a system developed for mounting photovoltaic power plants on the flat roofs. The complete solution is designed for quick, easy and clean on-site installation, without additional on-site processing requests.

Zašto solarne elektrane?

1. To je jedan od ekološki najčistijih izvora energije, ne stvara buku i ne zagađuje okolinu!
2. Sunce je vječno, besplatno te svakog dana ponovno izlazi!
3. Solarnim elektranama pomažemo u očuvanju zaštite našeg planeta sa drastičnim smanjenjem ispuštanja CO₂ u atmosferu.
- 4.
5. Samo jedan kWh električne energije dobivene iz Sunca smanjuje emisiju CO₂ za 1 kg.
6. Ulaganje u obnovljive izvore energije zadatak je svakog čovjeka koji u budućnosti teži osvještanoj potrošnji električne energije.

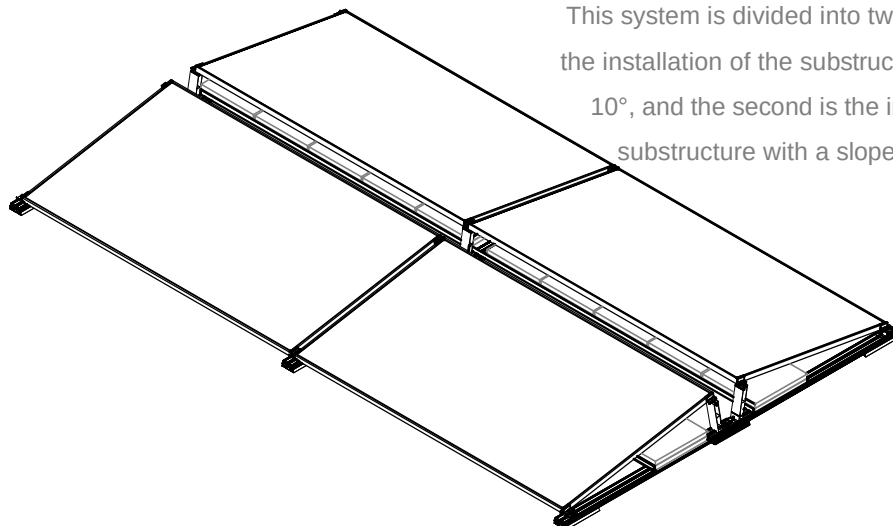
Why solar power plants?

1. It is one of the most environmentally friendly sources of energy, does not create noise and does not pollute the environment!
2. The sun is eternal, free and rises again every day!
3. Solar power plants help preserve the protection of our planet by drastically reducing CO₂ emissions.
4. Solar power plants help preserve the protection of our planet by drastically reducing CO₂ emissions into ozone.
5. Investing in renewable energy sources is the task of every person who strives for conscious electricity consumption in the future.

FNE 1200- Aluminijska konstrukcija za montažu na ravnim krovovima
FNE 1200- Aluminum construction for flat roofs

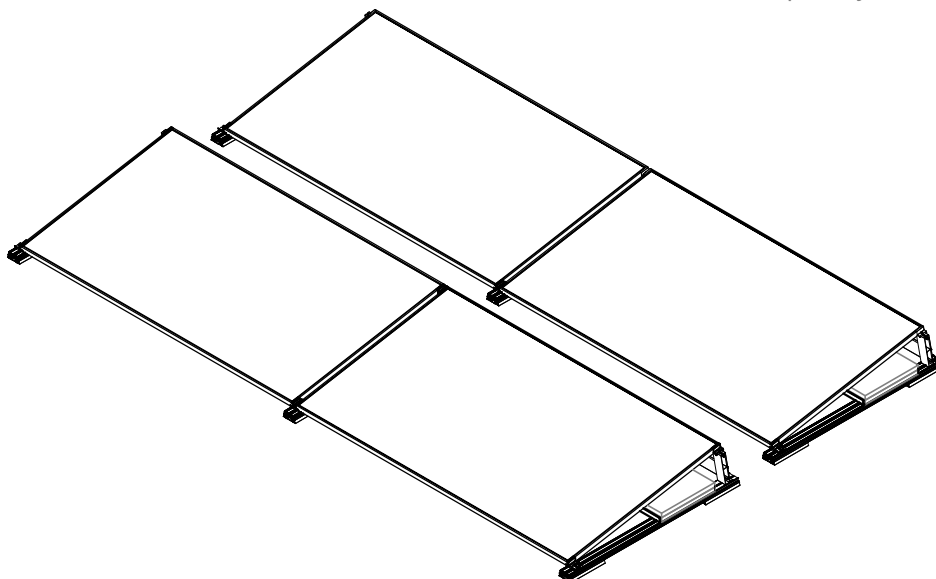
Ovaj je sistem podijeljen u dvije cjeline. Prva je montaža pokonstrukcije s nagibom od 10°, a drugi je montaža podkonstrukcije nagiba od 11° do 35°.

This system is divided into two parts. The first is the installation of the substructure with a slope of 10°, and the second is the installation of the substructure with a slope of 11° to 35°.



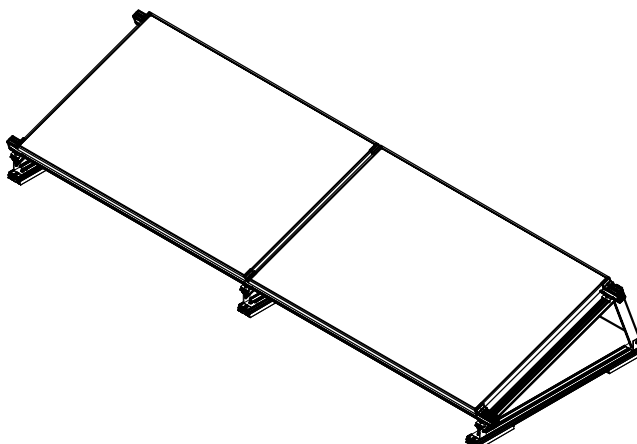
Orijentacija: istok-zapad

Horizontalna montaža panela na primarnu podkonstrukciju 10°
Horizontal installation on primary substructure 10°



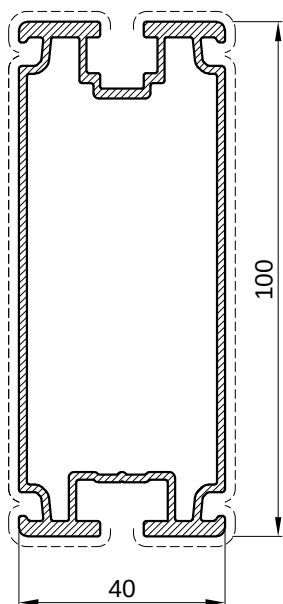
Orijentacija: jug

Horizontalna montaža panela na primarnu podkonstrukciju 10°
Horizontal installation on primary substructure 10°

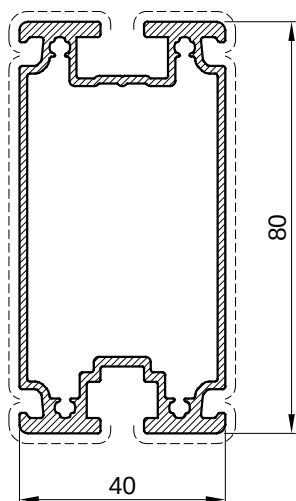


Horizontalna montaža panela na primarnu podkonstrukciju 11°-35°
Horizontal installation on primary substructure 11°-35°

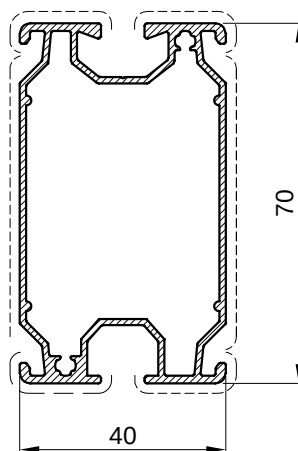
Profili Profiles



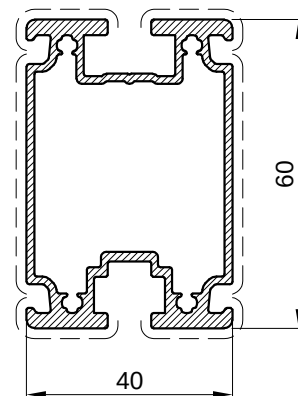
FNE-0001
kg/m 1.64



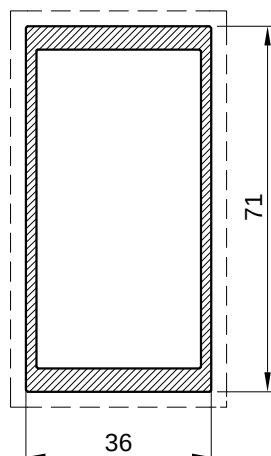
FNE-0005
kg/m 1.55



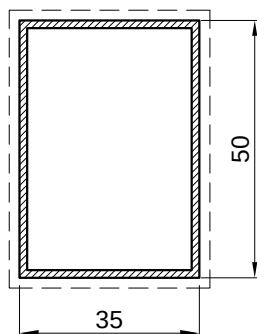
FNE-0006
kg/m 1.04



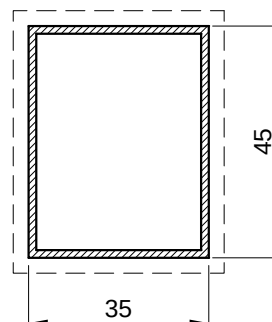
FNE-0004
kg/m 1.38



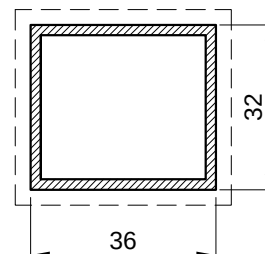
FNE-0002
kg/m 1.540



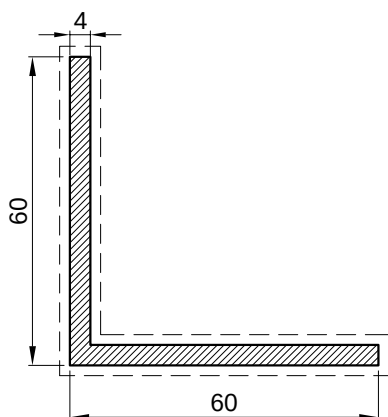
F-1777
kg/m 0.66



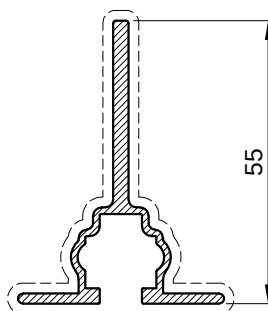
F-1767
kg/m 0.620



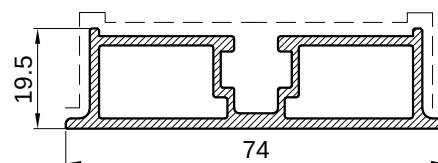
F-1766
kg/m 0.691



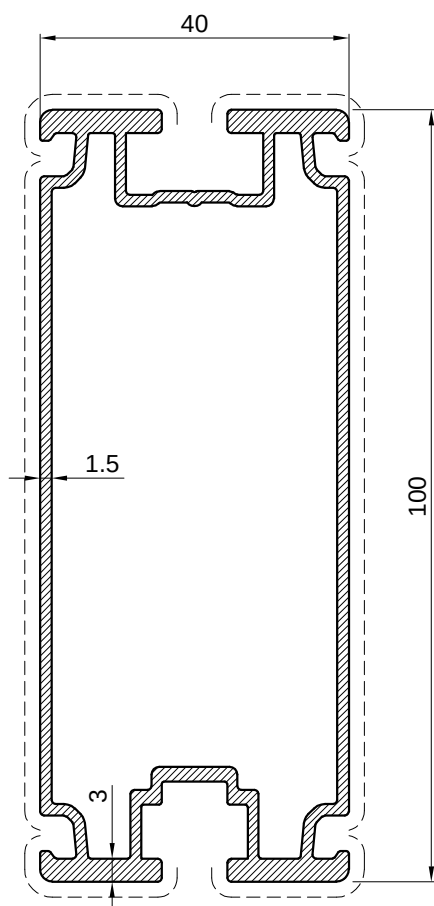
F-0973
kg/m 1.253



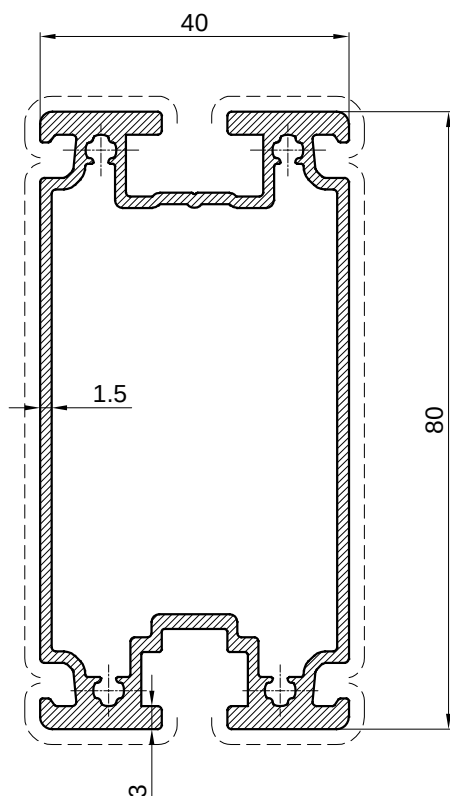
FNE-0003
kg/m 0.646



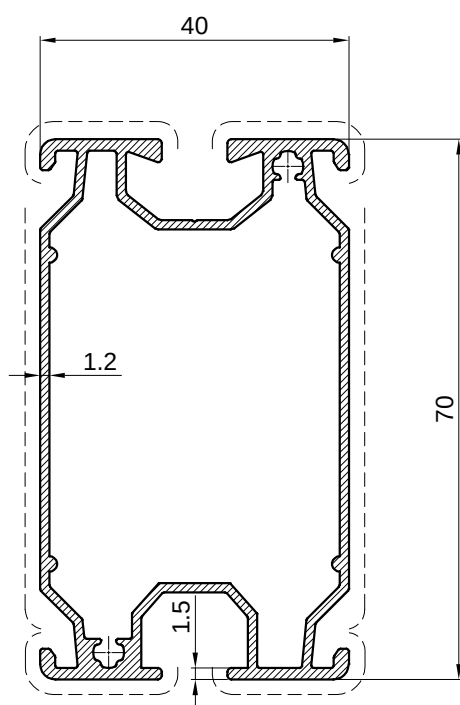
FNE-0060
kg/m 1.002



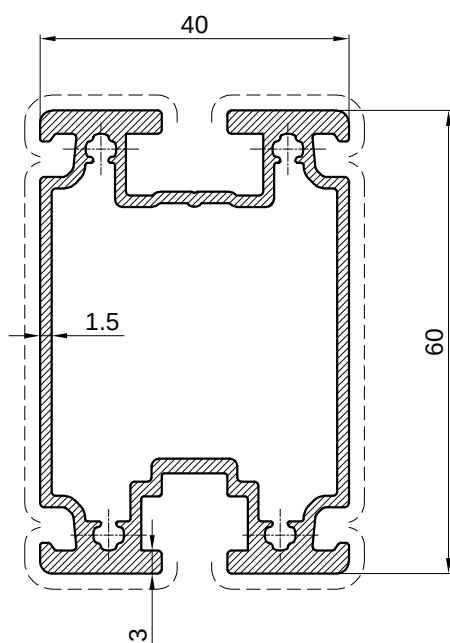
Profil Profile		
Art.Br. Art.No.	FNE-0001	
Težina Weight	kg/m	1.64
Opseg Perimeter	mm	389.23
Moment inercije Moment of inertia	I _x (cm ⁴)	87.42
	I _y (cm ⁴)	14.36
	W _x (cm ³)	17.41
	W _y (cm ³)	7.18
L	mm	-



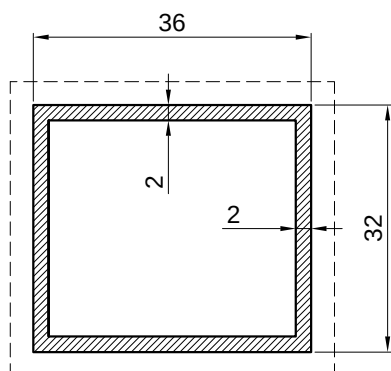
Profil Profile		
Art.Br. Art.No.	FNE-0005	
Težina Weight	kg/m	1.55
Opseg Perimeter	mm	349.24
Moment inercije Moment of inertia	I _x (cm ⁴)	53.75
	I _y (cm ⁴)	12.47
	W _x (cm ³)	13.09
	W _y (cm ³)	6.23
L	mm	-



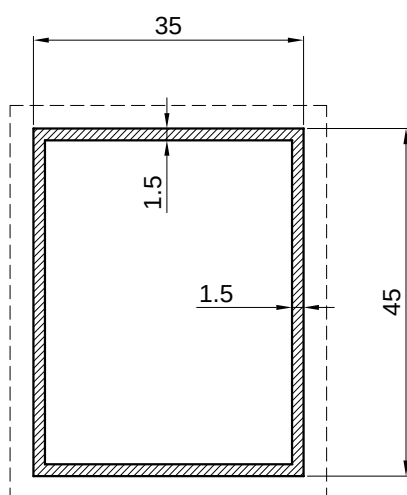
Profil Profile		
Art.Br. Art.No.	FNE-0006	
Težina Weight	kg/m	1.04
Opseg Perimeter	mm	325.75
Moment inerције Moment of inertia	I _x (cm ⁴)	27.44
	I _y (cm ⁴)	8.60
	W _x (cm ³)	7.79
	W _y (cm ³)	4.26
L	mm	-



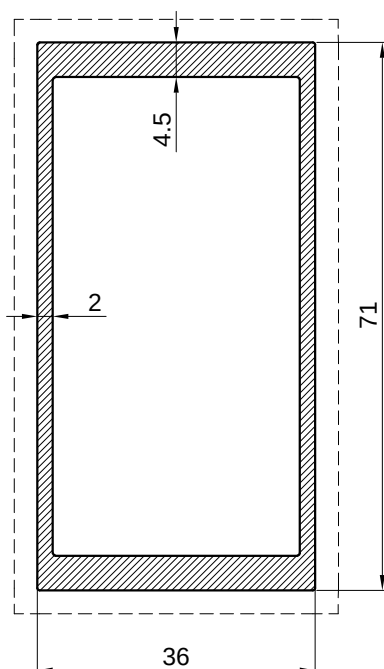
Profil Profile		
Art.Br. Art.No.	FNE-0004	
Težina Weight	kg/m	1.380
Opseg Perimeter	mm	309.25
Moment inercije Moment of inertia	I _x (cm ⁴)	26.53
	I _y (cm ⁴)	10.24
	W _x (cm ³)	8.61
	W _y (cm ³)	5.12
L	mm	-



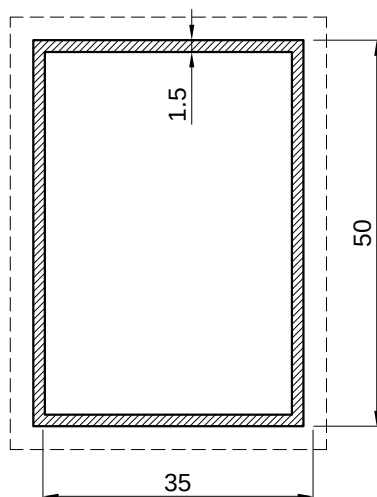
Profil Profile		
Art.Br. Art.No.	F-1766	
Težina Weight	kg/m	0.691
Opseg Perimeter	mm	136.00
Moment inercije Moment of inertia	I _x (cm ⁴)	3.98
	I _y (cm ⁴)	4.80
	W _x (cm ³)	2.49
	W _y (cm ³)	2.66
L	mm	-



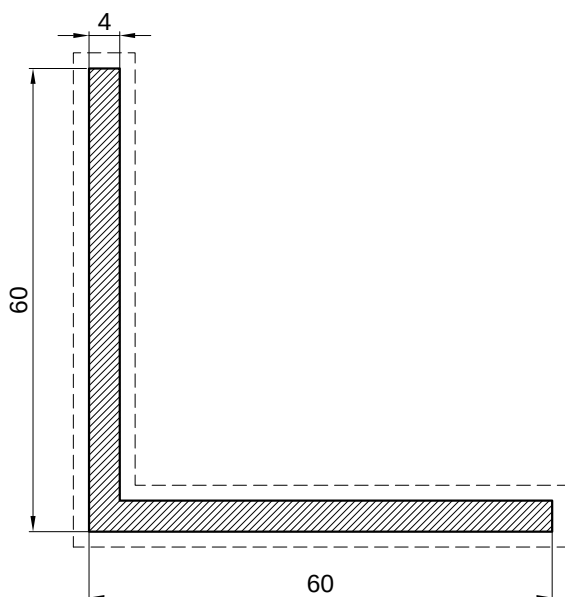
Profil Profile		
Art.Br. Art.No.	F-1767	
Težina Weight	kg/m	0.620
Opseg Perimeter	mm	160.00
Moment inercije Moment of inertia	I _x (cm ⁴)	6.82
	I _y (cm ⁴)	4.61
	W _x (cm ³)	3.03
	W _y (cm ³)	2.63
L	mm	-



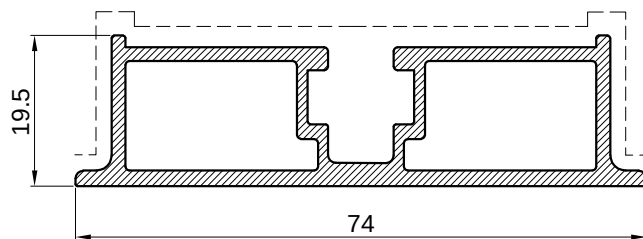
Profil Profile		
Art.Br. Art.No.	FNE-0002	
Težina Weight	kg/m	1.540
Opseg Perimeter	mm	213.49
Moment inercije Moment of inertia	Ix (cm ⁴)	43.82
	Iy (cm ⁴)	10.67
	Wx (cm ³)	12.34
	Wy (cm ³)	5.93
L	mm	-



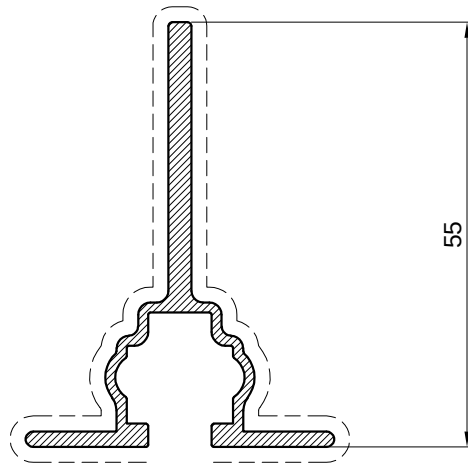
Profil Profile		
Art.Br. Art.No.	FNE-1777	
Težina Weight	kg/m	0.660
Opseg Perimeter	mm	170.00
Moment inercije Moment of inertia	Ix (cm ⁴)	8.77
	Iy (cm ⁴)	5.03
	Wx (cm ³)	3.51
	Wy (cm ³)	2.87
L	mm	-



Profil Profile		
Art.Br. Art.No.	F-0973	
Težina Weight	kg/m	1.253
Opseg Perimeter	mm	240.00
Moment inercije Moment of inertia	I _x (cm ⁴)	16.31
	I _y (cm ⁴)	16.31
	W _x (cm ³)	3.75
	W _y (cm ³)	3.75
L	mm	-



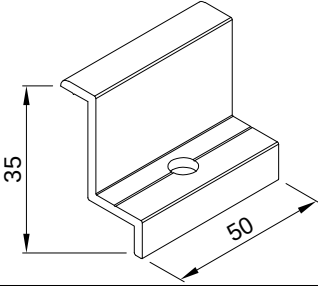
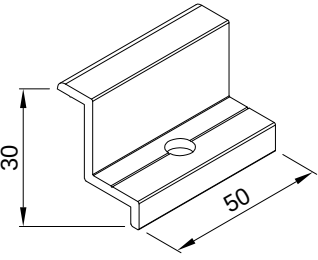
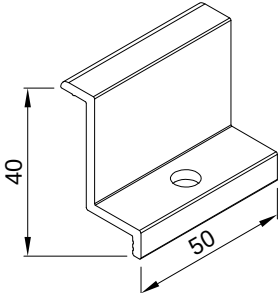
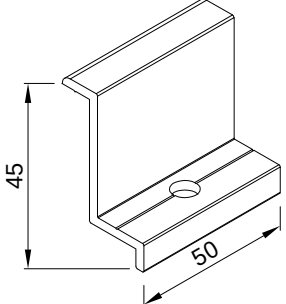
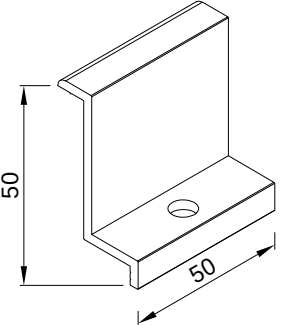
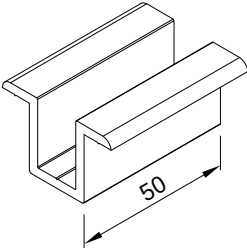
Profil Profile		
Art.Br. Art.No.	FNE-0060	
Težina Weight	kg/m	1.002
Opseg Perimeter	mm	226.00
Moment inercije Moment of inertia	I _x (cm ⁴)	1.86
	I _y (cm ⁴)	16.74
	W _x (cm ³)	1.63
	W _y (cm ³)	4.53
L	mm	-

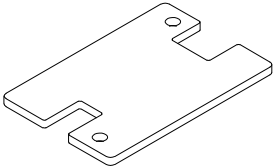
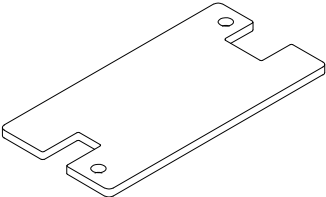
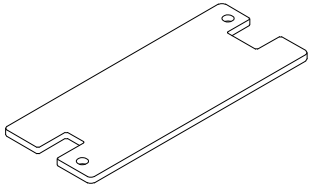
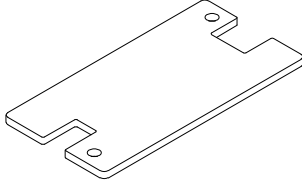
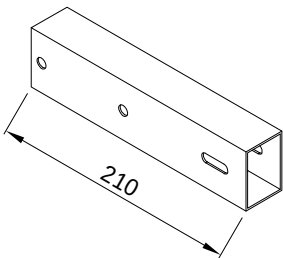
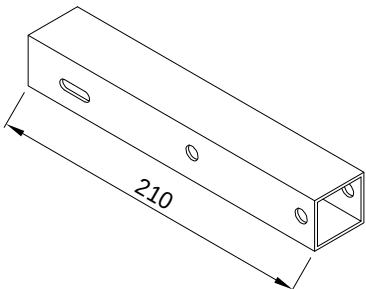


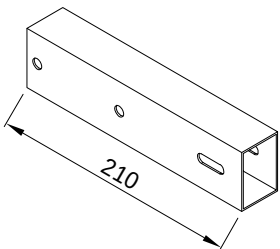
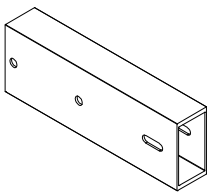
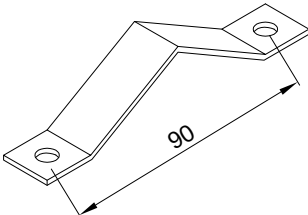
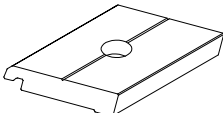
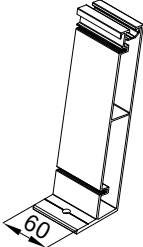
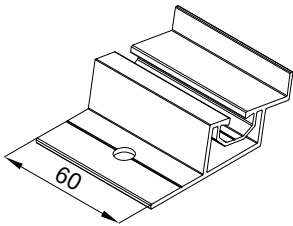
Profil Profile		
Art.Br. Art.No.	FNE-0003	
Težina Weight	kg/m	0.646
Opseg Perimeter	mm	230.00
Moment inercije Moment of inertia	I _x (cm ⁴)	7.28
	I _y (cm ⁴)	1.32
	W _x (cm ³)	2.09
	W _y (cm ³)	0.66
L	mm	-

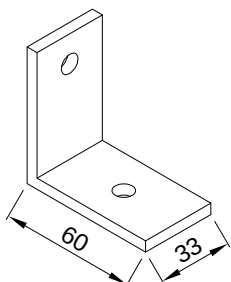
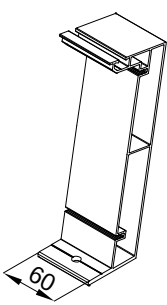
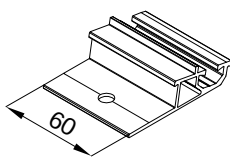
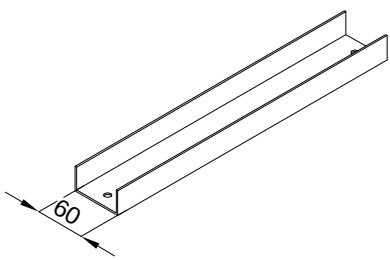
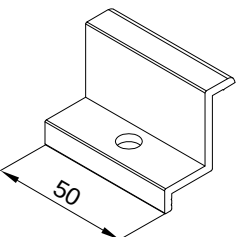
Vezni elementi

Connection elements

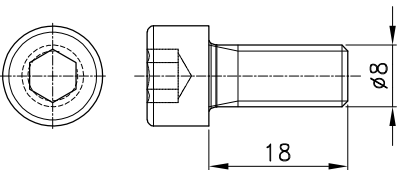
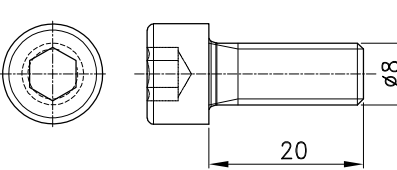
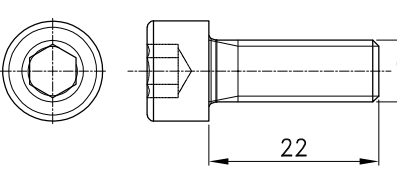
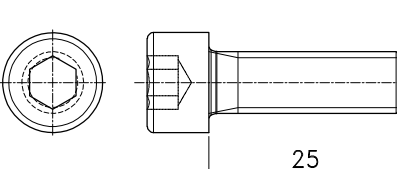
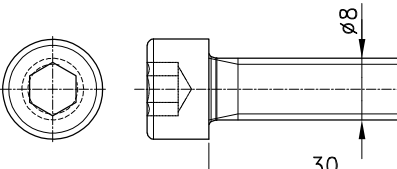
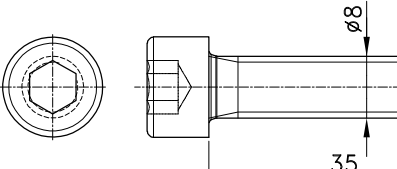
Oznaka Code	Izgled-presjek View-cross section	Opis Description	Materijal Material	Napomena Remark
521.421		-Jednostrana kopča za solare-35 mm -Solar panel holder - single sided-35 mm	Al	
521.426		-Jednostrana kopča za solare-30 mm -Solar panel holder - single sided-30 mm	Al.	
521.427		-Jednostrana kopča za solare-40 mm -Solar panel holder - single sided-40 mm	Al	
521.428		-Jednostrana kopča za solare-45 mm -Solar panel holder - single sided-45 mm	Al	
521.429		-Jednostrana kopča za solare-50 mm -Solar panel holder - single sided-50 mm	Al	
521.437		-Srednja kopča za solare -Solar panel holder - double sided	Al.	

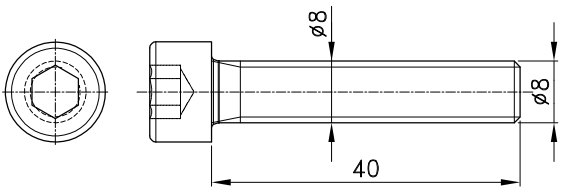
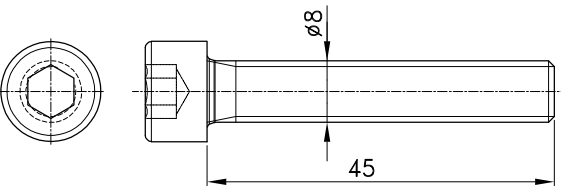
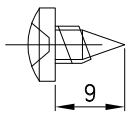
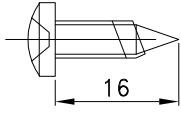
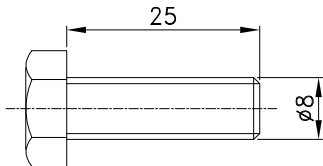
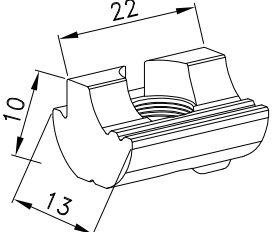
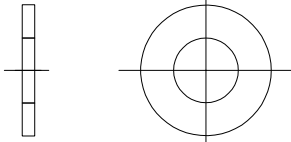
Oznaka Code	Izgled-presjek View-cross section	Opis Description	Materijal Material	Napomena Remark
521.390		- FNE bočni poklopac 60 (FNE-0004) - FNE side cover 60 (FNE-0004)	Al.	
521.391		- FNE bočni poklopac 80, (FNE-0005) - FNE side cover 80 (FNE-0005)	Al.	
521.392		- FNE bočni poklopac 100, (FNE-0001) - FNE side cover 100 (FNE-0001)	Al.	
521.418		- FNE bočni poklopac 70, (FNE-0006) - FNE side cover 70 (FNE-0006)	Al.	
521.408		- Spojni element sekundarnih nosača, FNE-0005 - Connecting element of secondary supports FNE 0005	Al	
521.409		- Spojni element sekundarnih nosača, FNE-0004 - Connecting element of secondary supports FNE-0004	Al.	

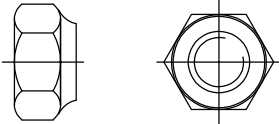
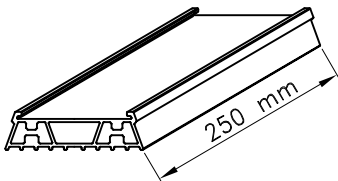
Oznaka Code	Izgled-presjek View-cross section	Opis Description	Materijal Material	Napomena Remark
521.419		- Spojni element sekundarnih nosača, FNE-0006 - Connecting element of secondary supports FNE-0006	Al.	
521.439		- Spojni element sekundarnih nosača FNE-0001 - Connecting element of secondary supports FNE-0001	Al.	
521.399		- Premosnica dilatacije 90, FNE - Dilatation bypass 90, FNE	Al	
521.345		- Drzac primarnog i sekundarnog nosaca(profila) - Primary and secondary support holder (profile)	Al	
521.466		- Gornji nosač solara na ravnom krovu -10° -Top construction support for flat roofs-10°	Al	
521.467		- Donji nosač solara na ravnom krovu -10° -Bottom construction support for flat roofs-10°	Al	

Oznaka Code	Izgled-presjek View-cross section	Opis Description	Materijal Material	Napomena Remark
521.483		- Nosač solara (FNE 1200) - Construction support (FNE 1200)	Al.	
521.550		- Gornji nosač solara na ravnom krovu -10° - Top construction support for flat roofs-10°	Al.	
521.551		- Donji nosač solara na ravnom krovu -10° - Bottom construction support for flat roofs-10°		
521.542		- Vezni element za FNE-0060 - Connection element for FNE-0060		
521.557		- Jednostrana kopča za solare-33mm - Solar panel holder - single sided-33 mm		

Dodaci Accessories

Oznaka Code	Izgled-presjek View- cross section	Opis Description	Materijal Material	Napomena Remark
431.561		- Vijak M8x18 - DIN 912 - Screw M8x18 - DIN 912	Inox A2	
431.565		- Vijak M8x20 - DIN 912 - Screw M8x20 - DIN 912	Inox A2	
431.559		- Vijak M8x22 - DIN 912 - Screw M8x22 - DIN 912	Inox A2	
431.560		- Vijak M8x25 - DIN 912 - Screw M8x25 - DIN 912	Inox A2	
431.567		- Vijak M8x30 - DIN 912 - Screw M8x30 - DIN 912	Inox A2	
431.568		- Vijak M8x35 - DIN 912 - Screw M8x35 - DIN 912	Inox A2	

Oznaka Code	Izgled-presjek View- cross section	Opis Description	Materijal Material	Napomena Remark
431.566		- Vijak M8x40 - DIN 912 - Screw M8x40 - DIN 912	Inox A2	
431.569		- Vijak M8x45 - DIN 912 - Screw M8x45 - DIN 912	Inox A2	
433.040		-Vijak 4.8x9 -DIN 7981 -Screw 4.8x9 -DIN 7981	Inox A2	
433.042		-Vijak 4.8x16 -DIN 7981 -Screw 4.8x16 -DIN 7981	Inox A2	
431.053		- Vijak M8x25 - DIN 933 - Screw M8x25 - DIN 933	Inox A2	
432.048		- Matica sa oprugom M8 (22 x 13 x 10) -Nut with spring M8 (22 x 13 x 10)	Al	
432.113		- Podloška U8 - DIN 125 - Washer U8 - DIN 125	Inox A2	

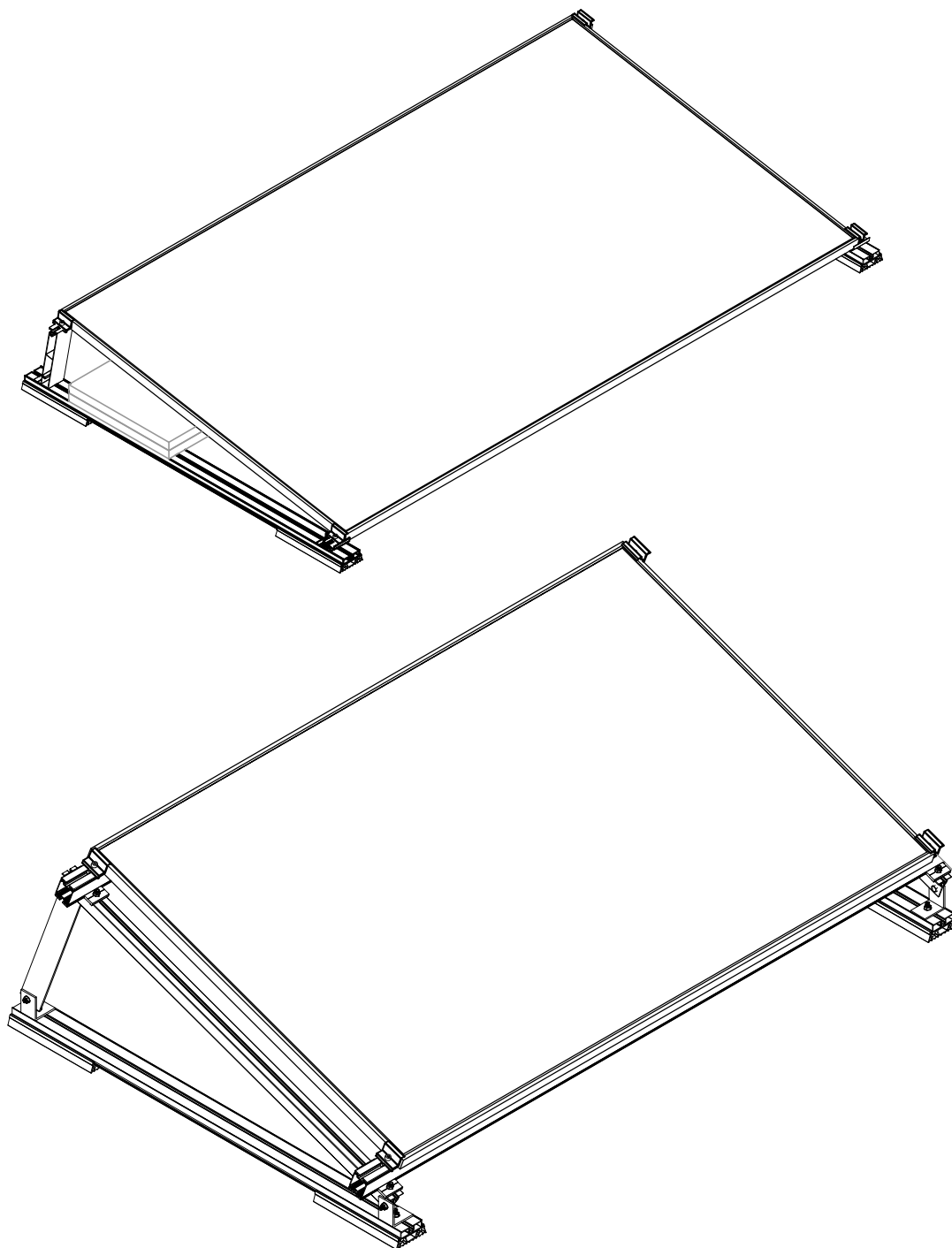
Oznaka Code	Izgled-presjek View- cross section	Opis Description	Materijal Material	Napomena Remark
432.014		- Sigurnosna Matica M8 - DIN 985 - Security Nut M8 - DIN 985	Inox A2	
340.497		- Brtva za balastno rješenje - Gasket for ballast solution		

Presjeci Cross Sections

Montaža solarnih panela na ravne krovove
Installation of solar collectors on flat roofs

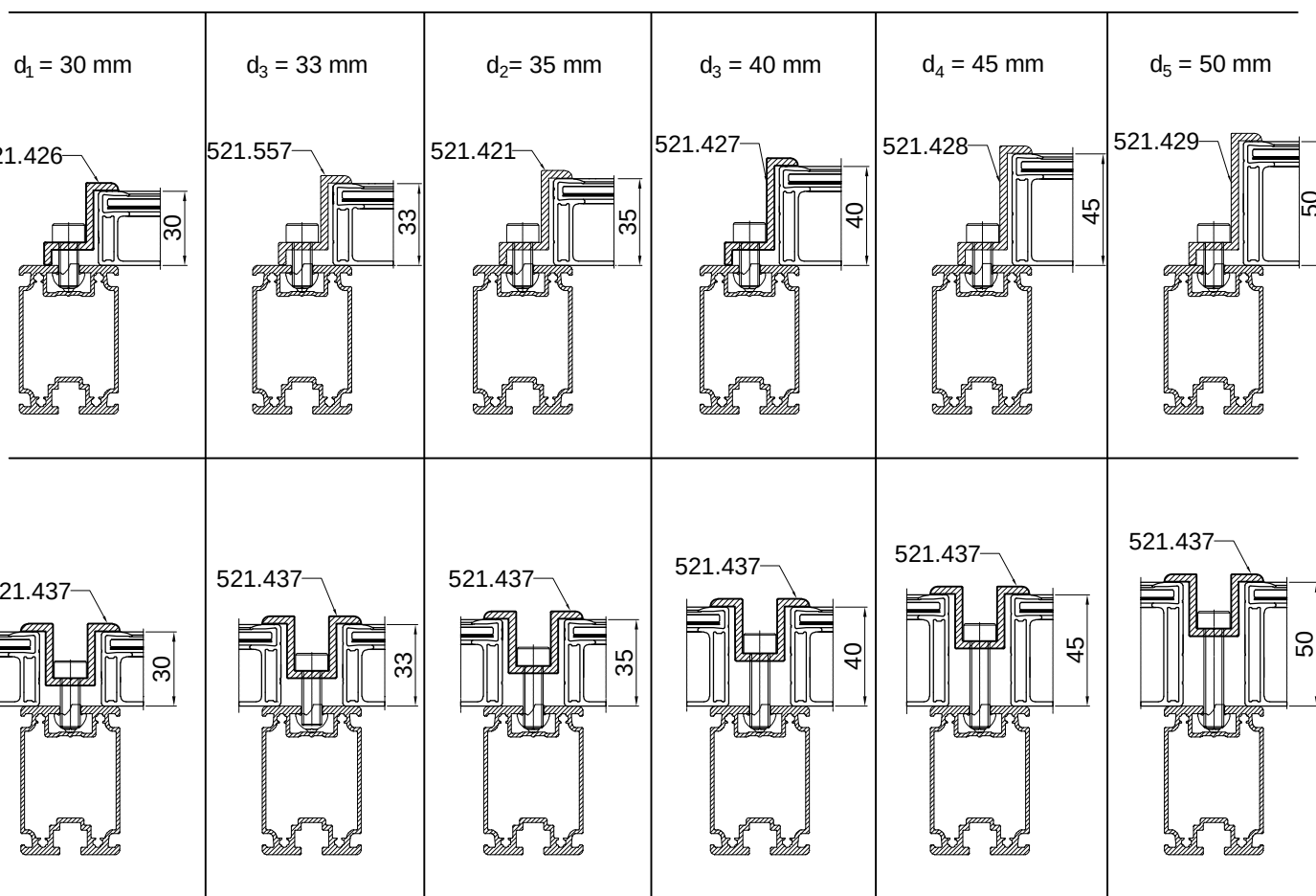
FNE-1200 je podkonstrukcija za montažu solarnih panela na ravnim krovovima. Postoji opcija montaže podkonstrukcije nagiba 10° i montaže podkonstrukcije nagiba 11°-35° kako je opisano dalje u katalogu.

FNE-1200 is a substructure for mounting solar panels on flat roofs. There is an option to mount the substructure with slope of a 10° or 11°-35° as described further in the catalog.



Dimenzije kopči i vijaka za različite visine solarnih panela
Dimensions of side holders and screws for different solar
panel heights

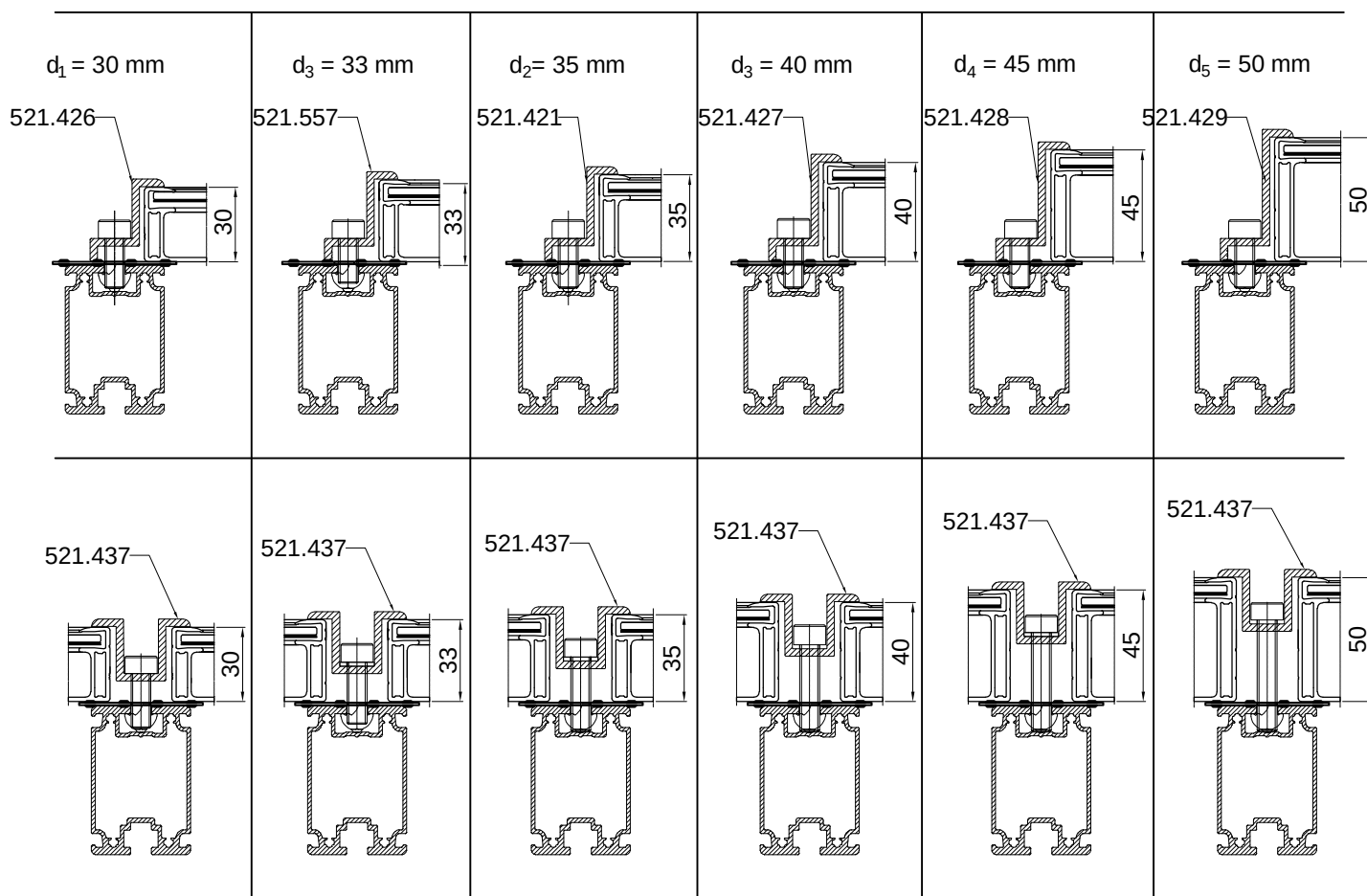
Visina panela (d) Panel height (d)		Korišteni vijak za bočnu kopču Used screw for side holder- single sided	Korišteni vijak za srednju kopču Used screw for side holder- double sided
d ₁	30 mm	Vijak M8x18 431.561	Vijak M8x20 431.565
d ₂	33 mm	Vijak M8x18 431.561	Vijak M8x22 431.559
d ₃	35 mm	Vijak M8x18 431.561	Vijak M8x25 431.560
d ₄	40 mm	Vijak M8x18 431.561	Vijak M8x30 431.567
d ₅	45 mm	Vijak M8x18 431.561	Vijak M8x35 431.568
d ₆	50 mm	Vijak M8x18 431.561	Vijak M8x40 431.566



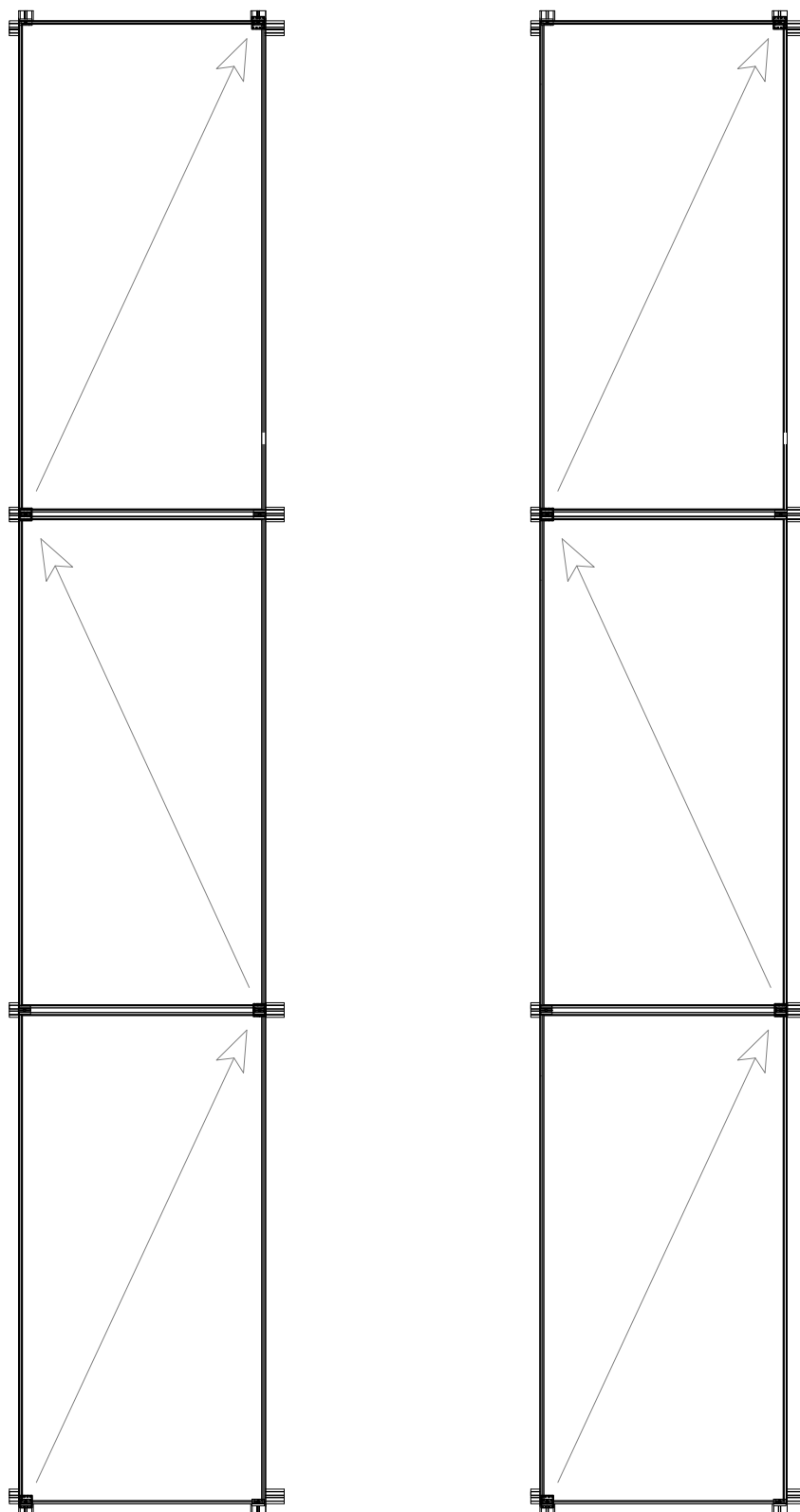
Detalj kopči s pločicom za galvanski kontakt 522.001. Preporučeni broj pločica za jednu sekciju od 12 vertikalno montiranih panela je 6, odnosno pola od ukupnog broja korištenih kopči.

Detail with the galvanic contact plate 522.001. The recommended number of plates for one section of 12 vertically-mounted panels is 6, that is half of the total number of clamps used.

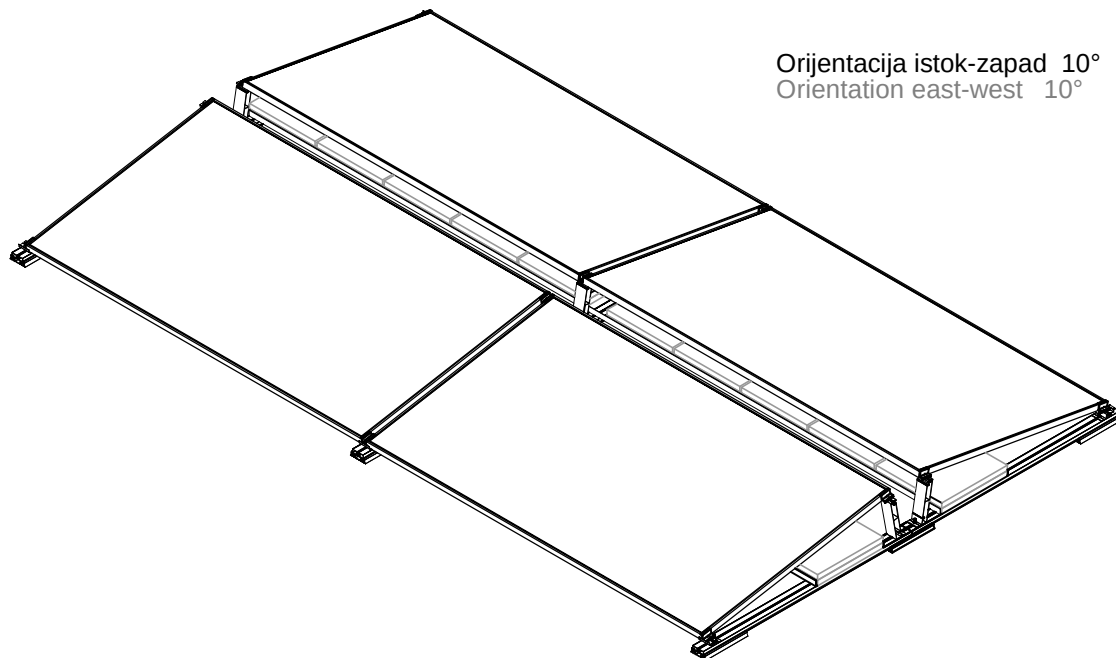
Visina panela (d) Panel height (d)		Korišteni vijak za bočnu kopču Used screw for side holder- single sided	Korišteni vijak za srednju kopču Used screw for side holder- double sided
d ₁	30 mm	Vijak M8x20 431.565	Vijak M8x22 431.559 + podloška 432.129
d ₂	33 mm	Vijak M8x20 431.565	Vijak M8x25 431.560 + podloška 432.129
d ₃	35 mm	Vijak M8x20 431.565	Vijak M8x30 431.567 + podloška 432.129
d ₄	40 mm	Vijak M8x20 431.565	Vijak M8x35 431.568 + podloška 432.129
d ₅	45 mm	Vijak M8x20 431.565	Vijak M8x40 431.566 + podloška 432.129
d ₆	50 mm	Vijak M8x20 431.565	Vijak M8x45 431.569 + podloška 432.129



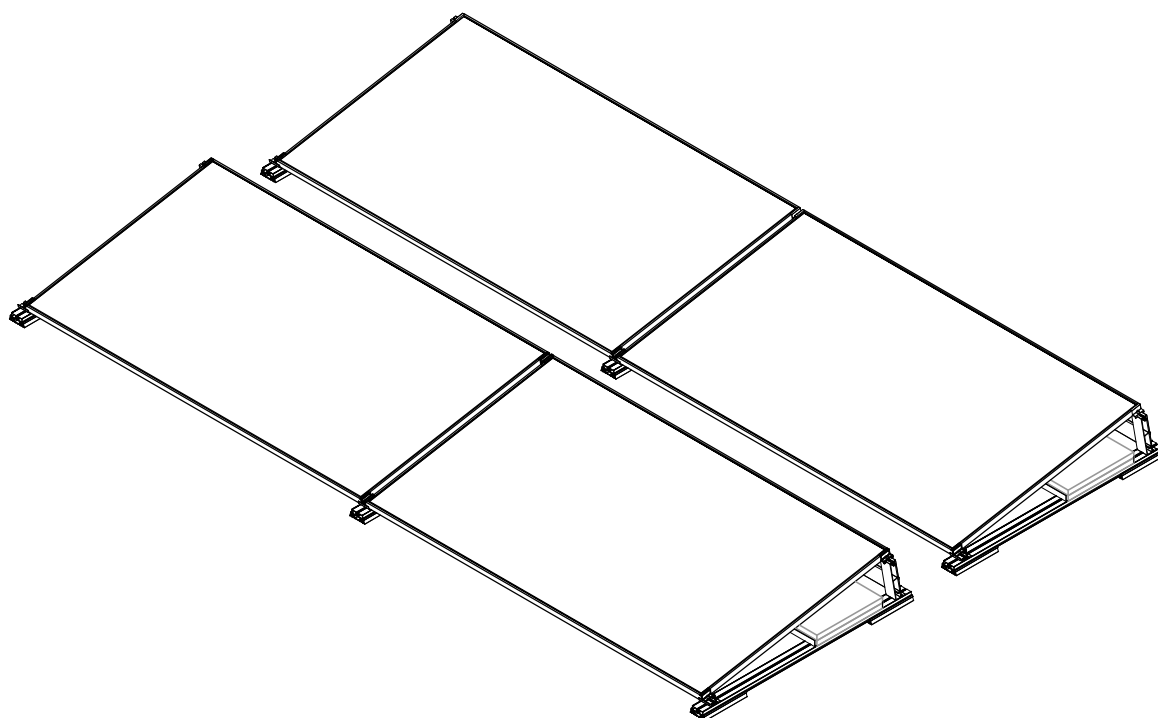
Prikaz prijedloga rasporeda pločica za galvanski kontakt.
Proposal of the layout how side holders should be arranged.



Nagib 10°
Slope 10°

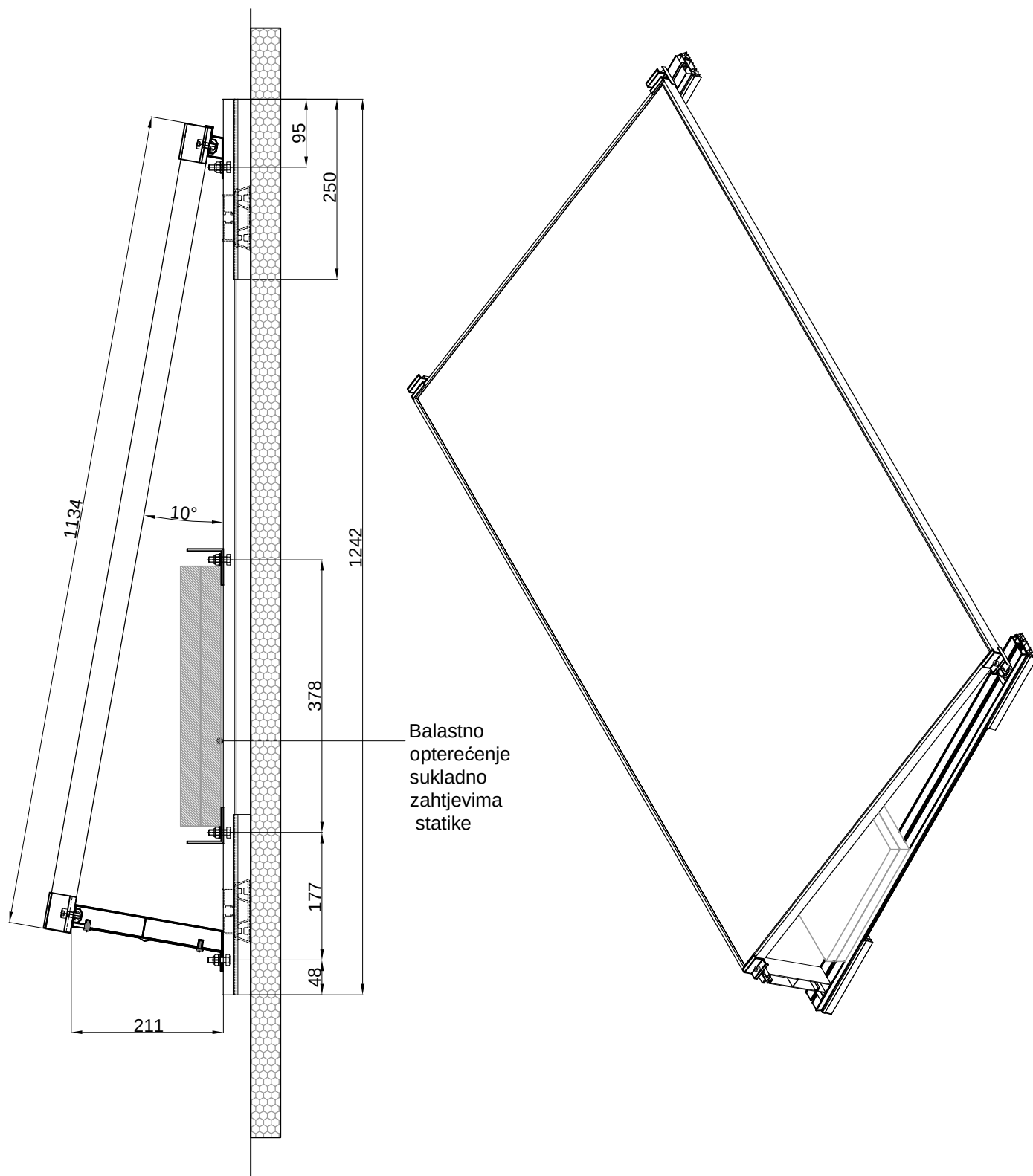


Orijentacija istok-zapad 10°
Orientation east-west 10°

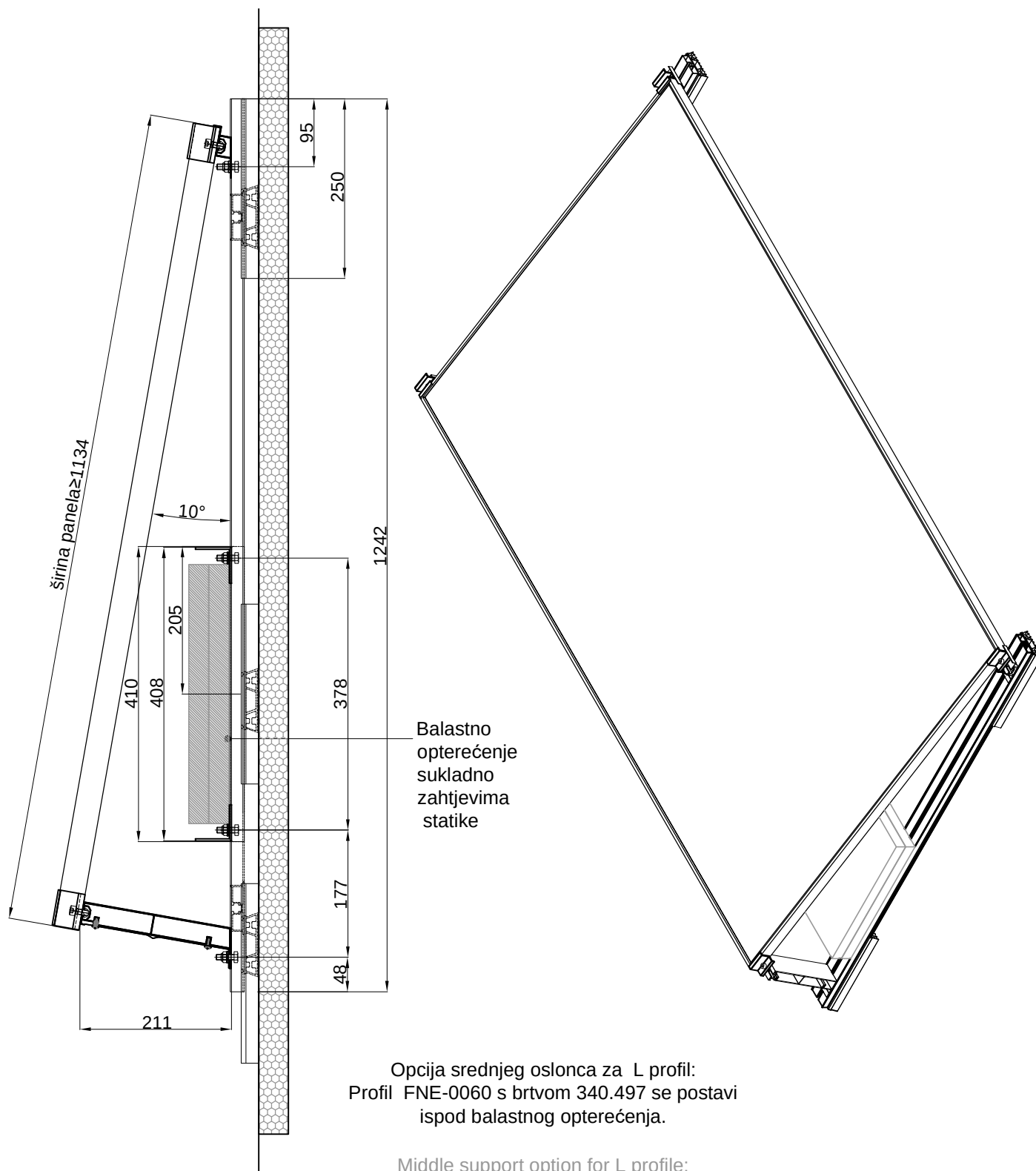


Orijentacija jug 10°
Orientation south 10°

Orijentacija jug 10°
Orientation south 10°



Orijentacija jug 10°
Orientation south 10°



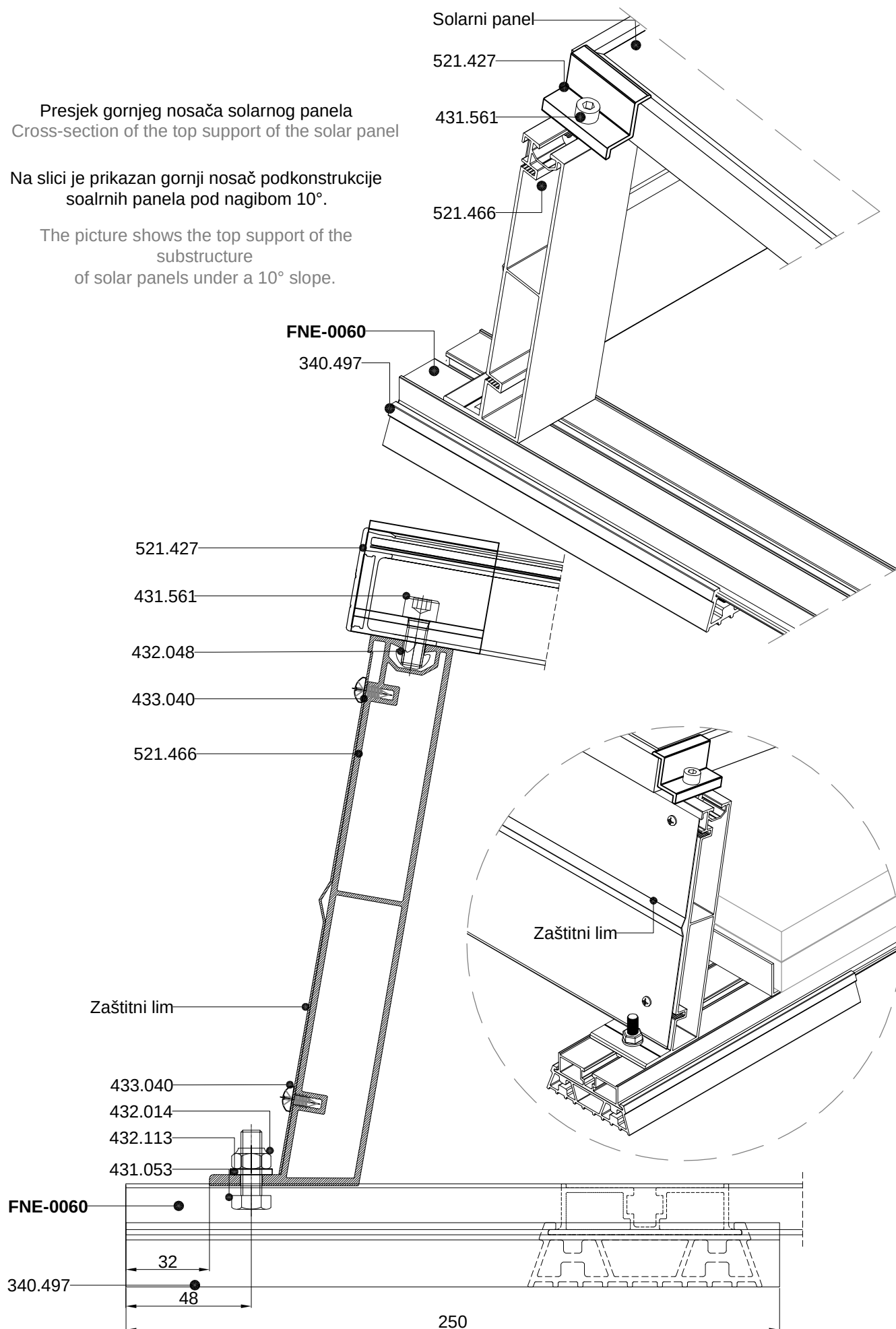
Opcija srednjeg oslonca za L profil:
Profil FNE-0060 s brtvom 340.497 se postavi
ispod balastnog opterećenja.

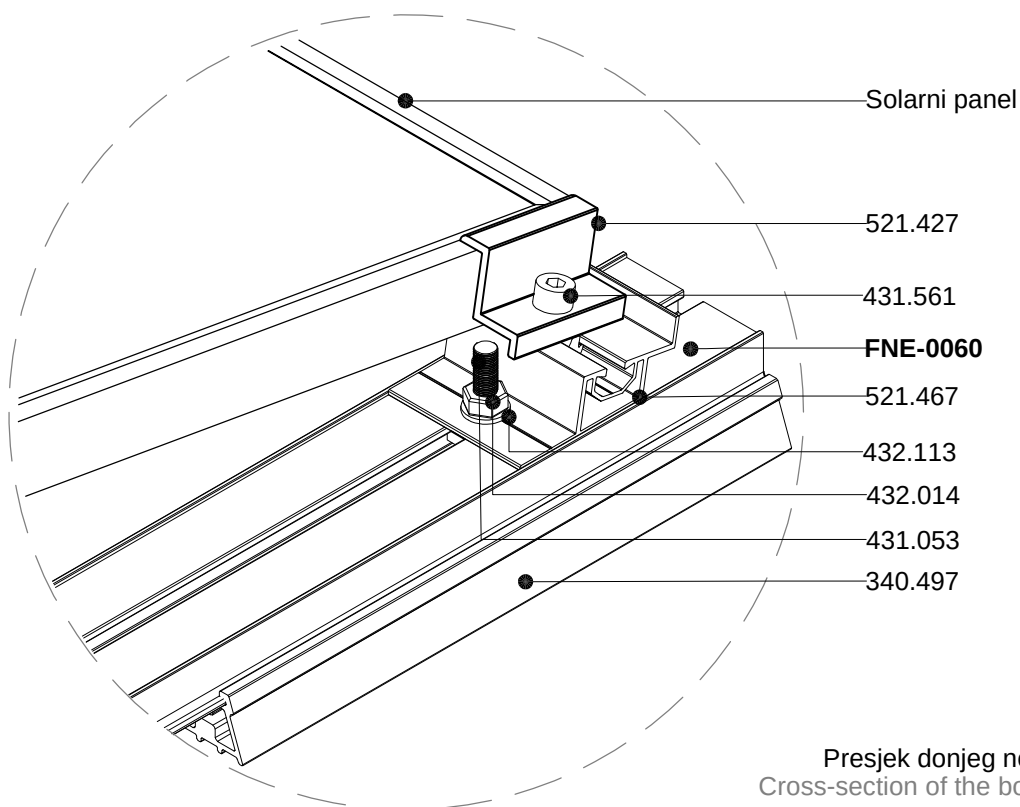
Middle support option for L profile:
Profile FNE-0060 with gasket 340.497 is
placed under the ballast load.

Presjek gornjeg nosača solarnog panela
Cross-section of the top support of the solar panel

Na slici je prikazan gornji nosač podkonstrukcije
solarnih panela pod nagibom 10°.

The picture shows the top support of the
substructure
of solar panels under a 10° slope.

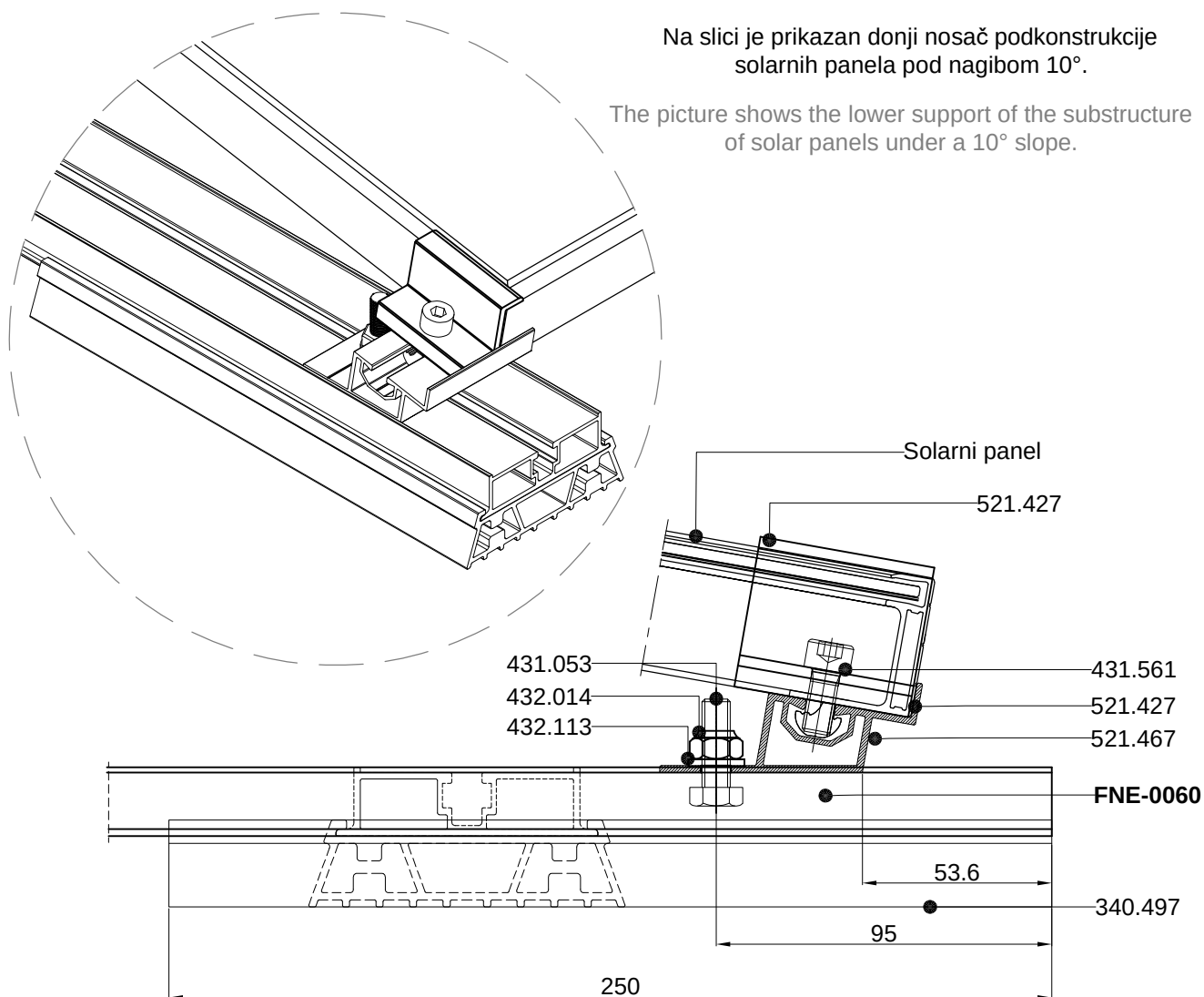




Presjek donjeg nosača solarnog panela
Cross-section of the bottom support of the solar panel

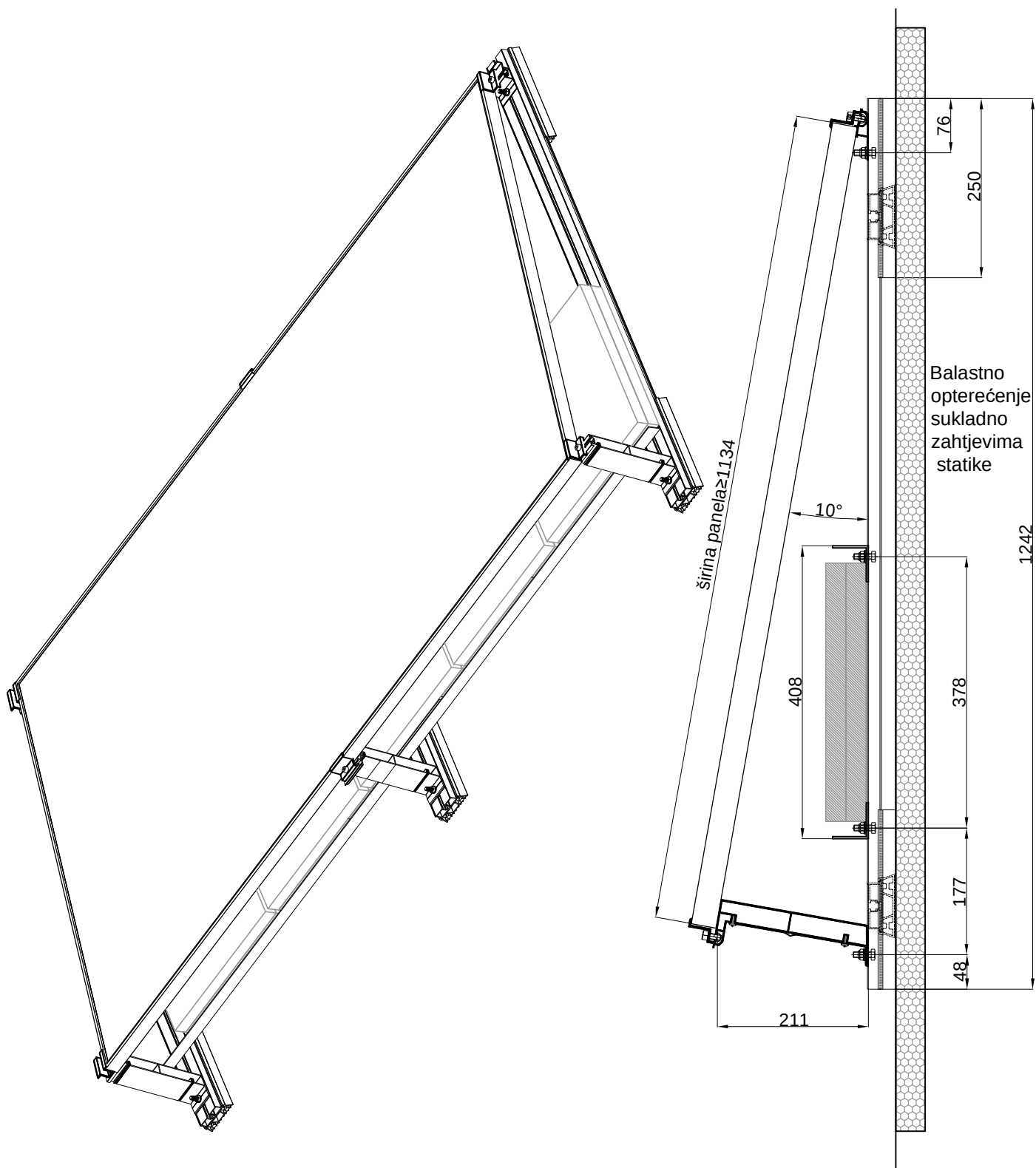
Na slici je prikazan donji nosač podkonstrukcije
solarnih panela pod nagibom 10°.

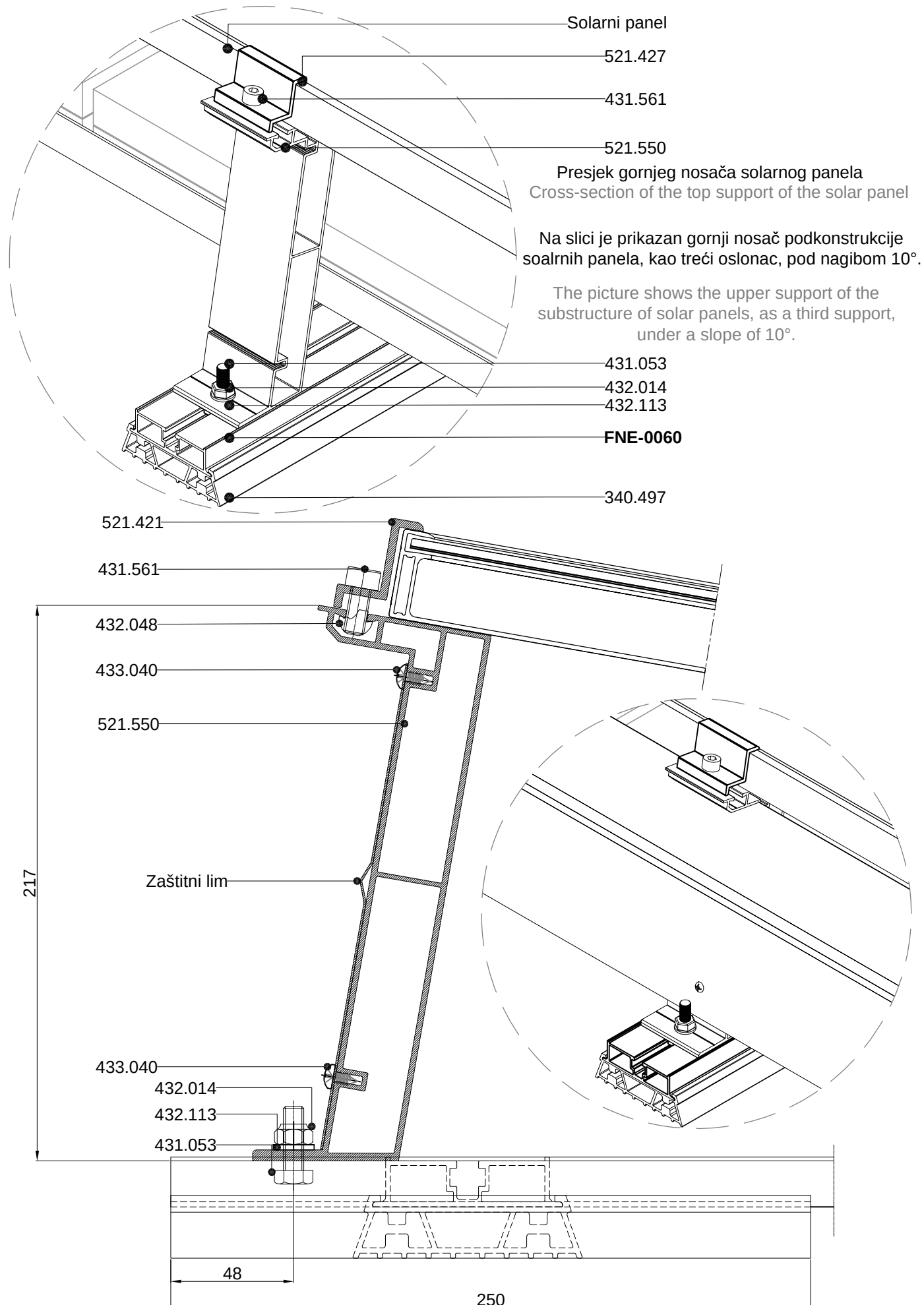
The picture shows the lower support of the substructure
of solar panels under a 10° slope.

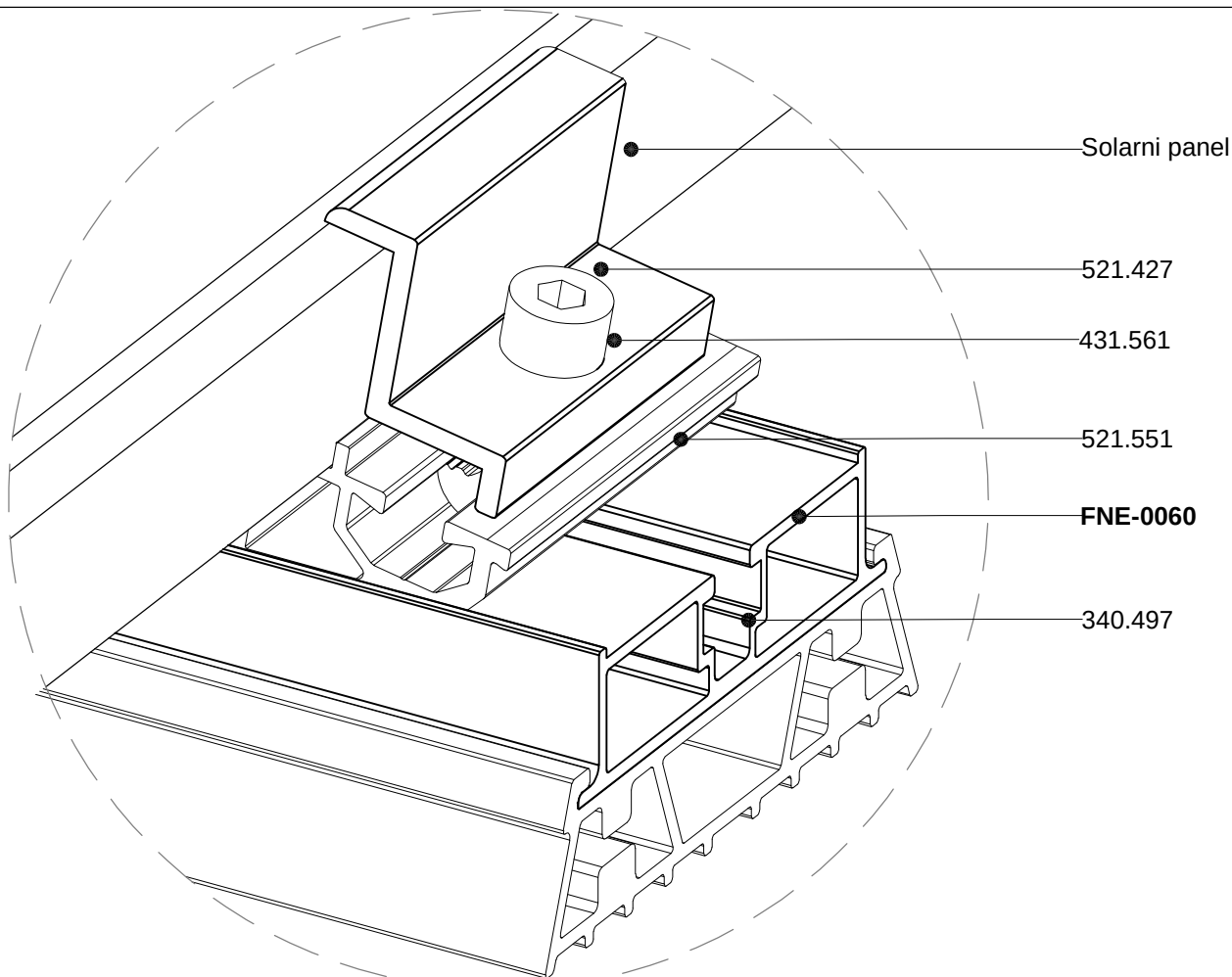


Orijentacija jug 10°
Orientation south 10°

Treći oslonac
Third support



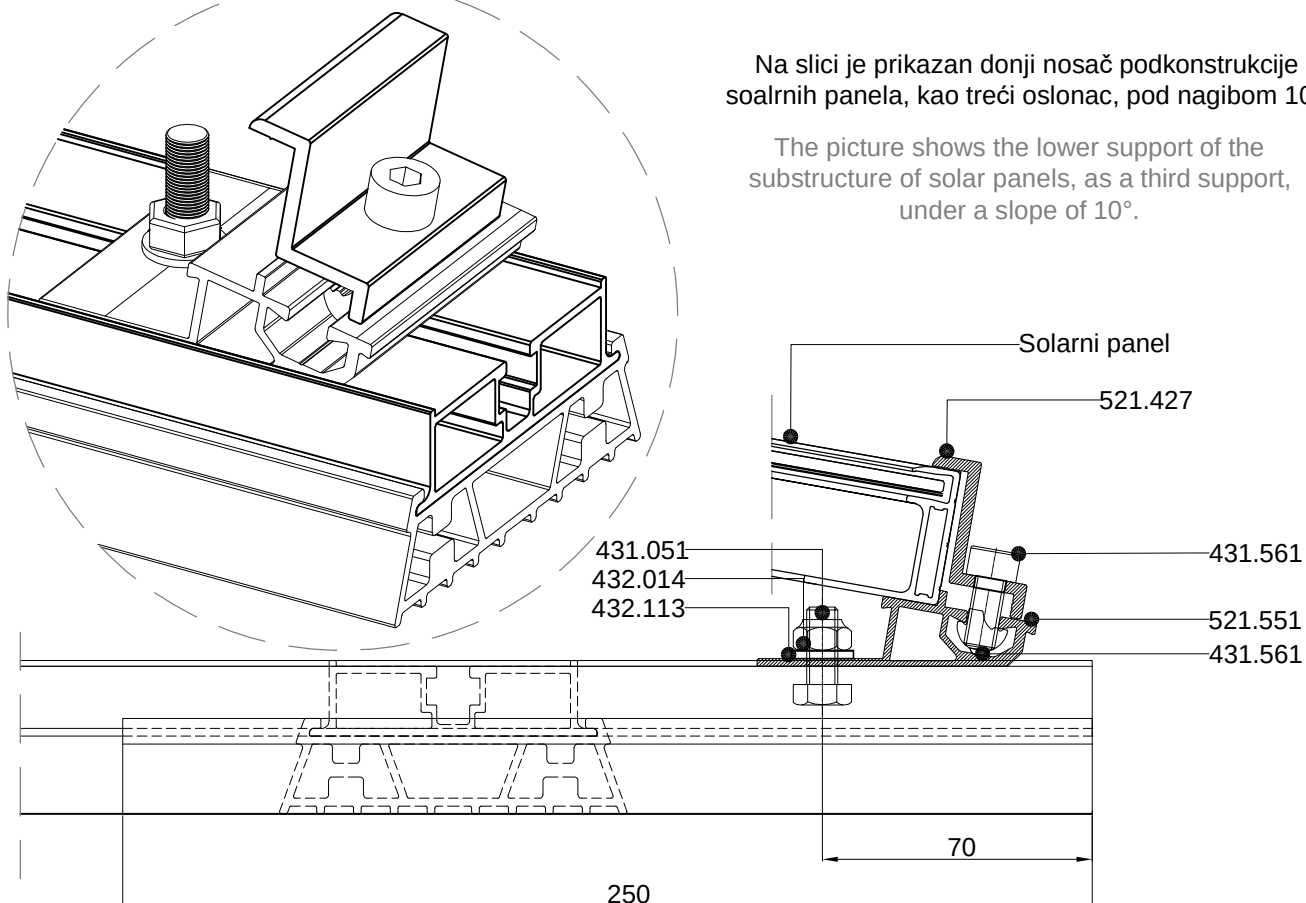




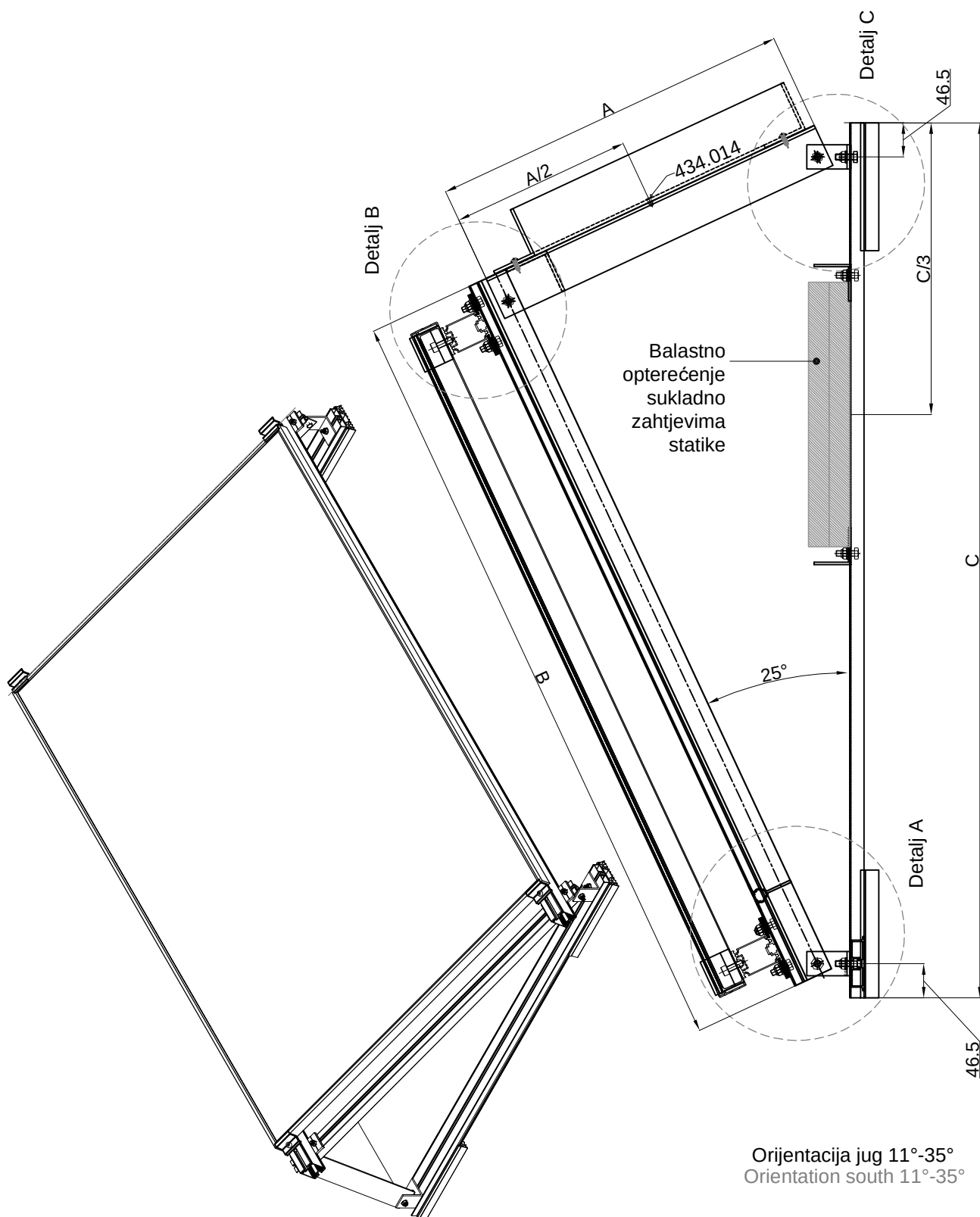
Presjek donjeg nosača solarnog panela
Cross-section of the bottom support of the solar panel

Na slici je prikazan donji nosač podkonstrukcije
solarnih panela, kao treći oslonac, pod nagibom 10°.

The picture shows the lower support of the
substructure of solar panels, as a third support,
under a slope of 10°.



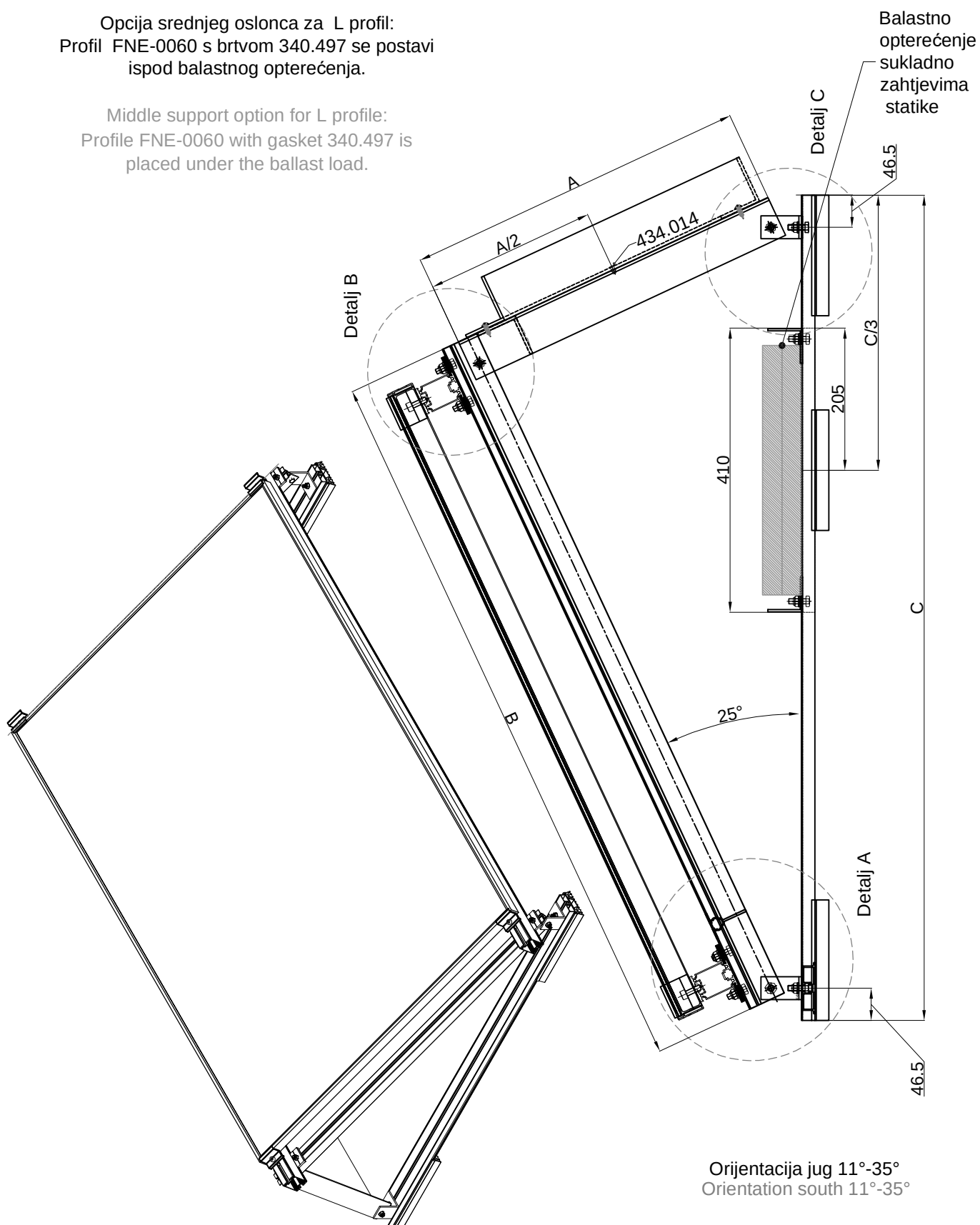
Nagib 11°-35°
Slope 11°-35°



Nagib 11°-35°
Slope 11°-35°

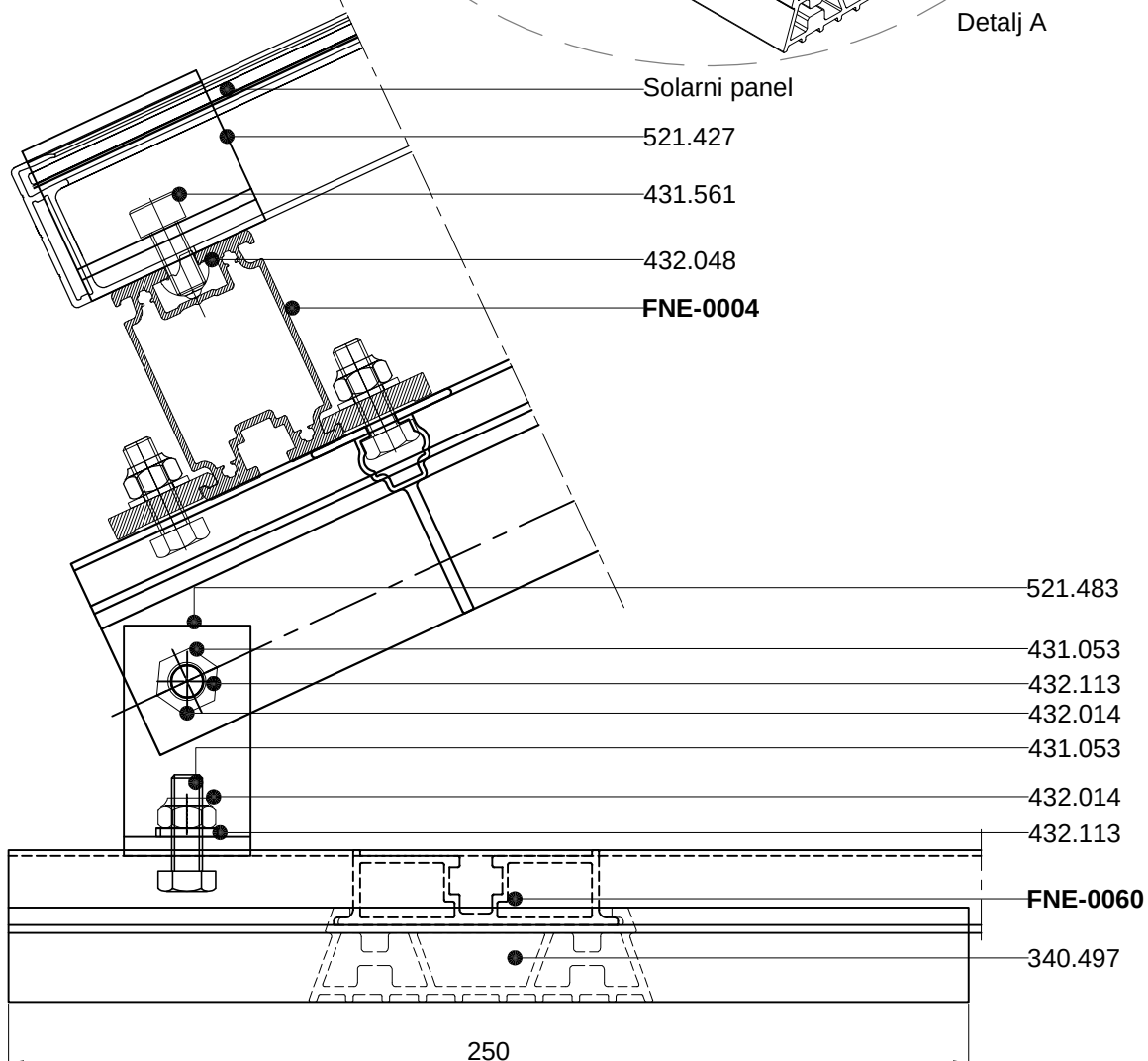
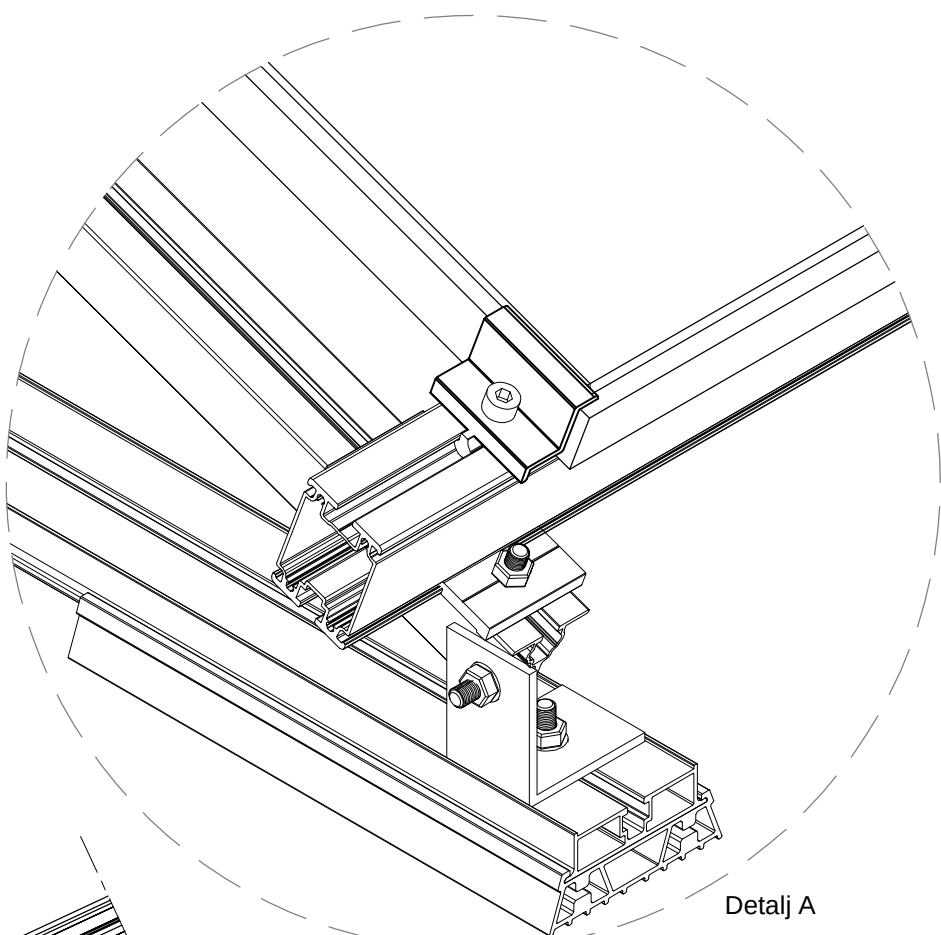
Opcija srednjeg oslonca za L profil:
Profil FNE-0060 s brtvom 340.497 se postavi
ispod balastnog opterećenja.

Middle support option for L profile:
Profile FNE-0060 with gasket 340.497 is
placed under the ballast load.



Horizontalna montaža na
podkonstrukciju

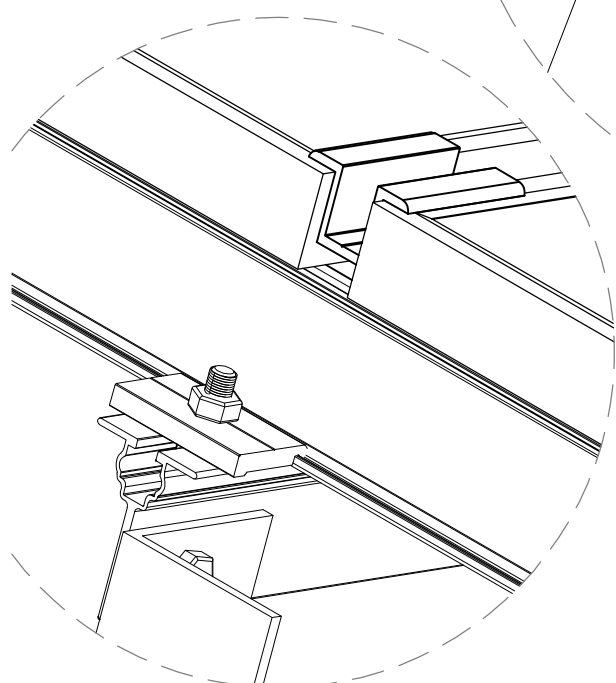
Horizontal montage on
substructure



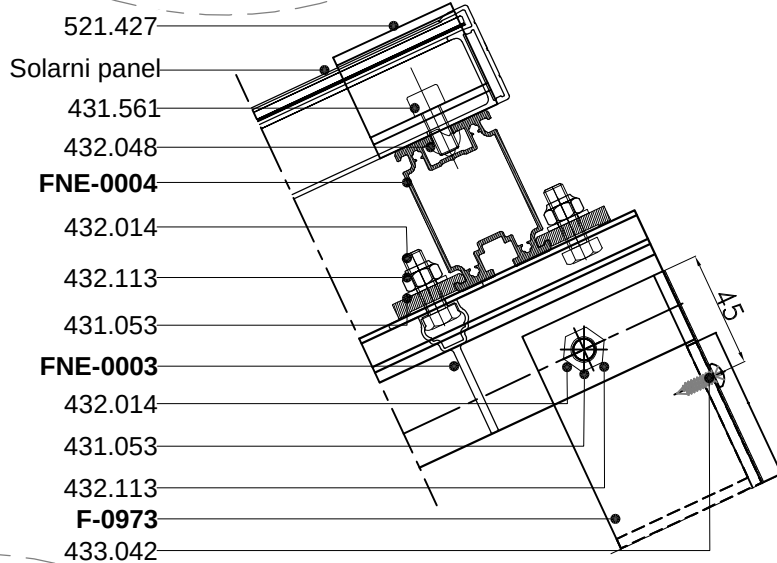
Horizontalna montaža na
podkonstrukciju

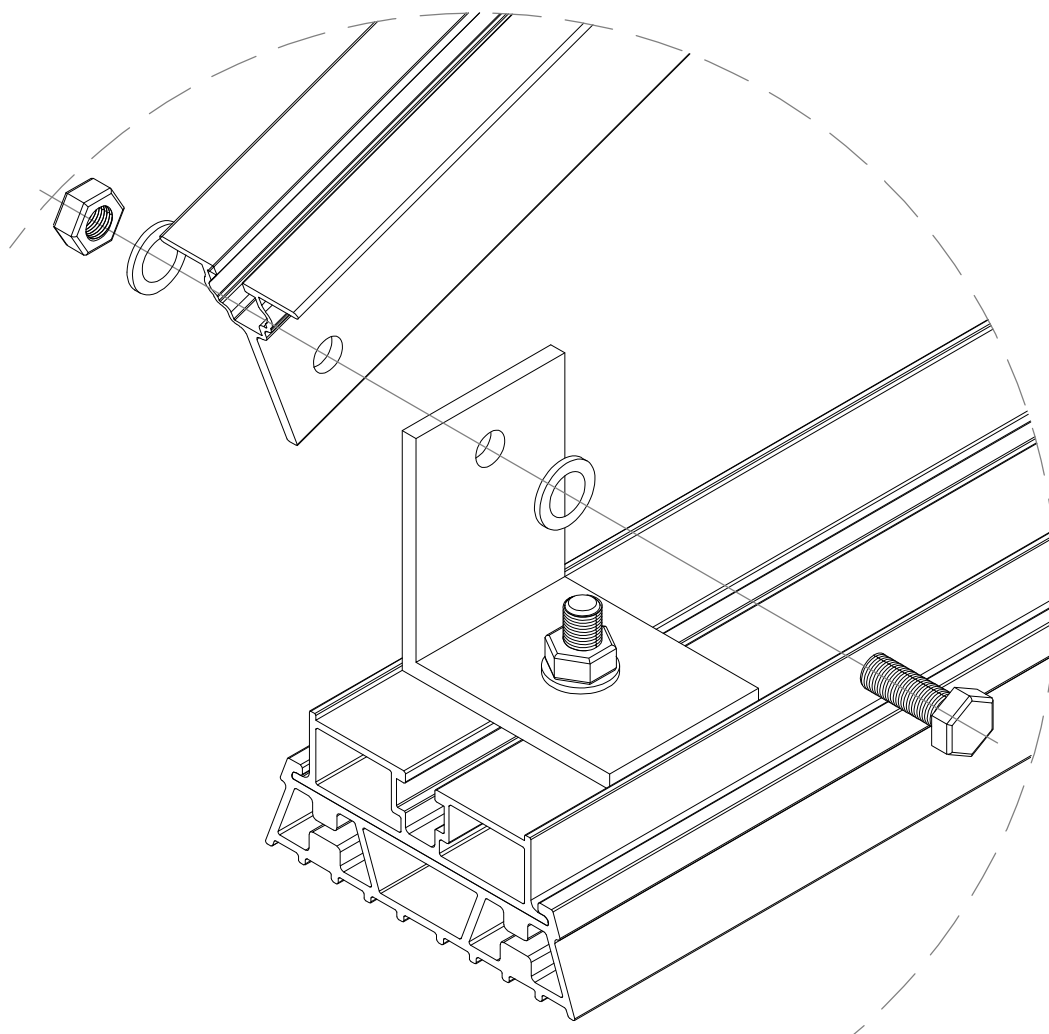
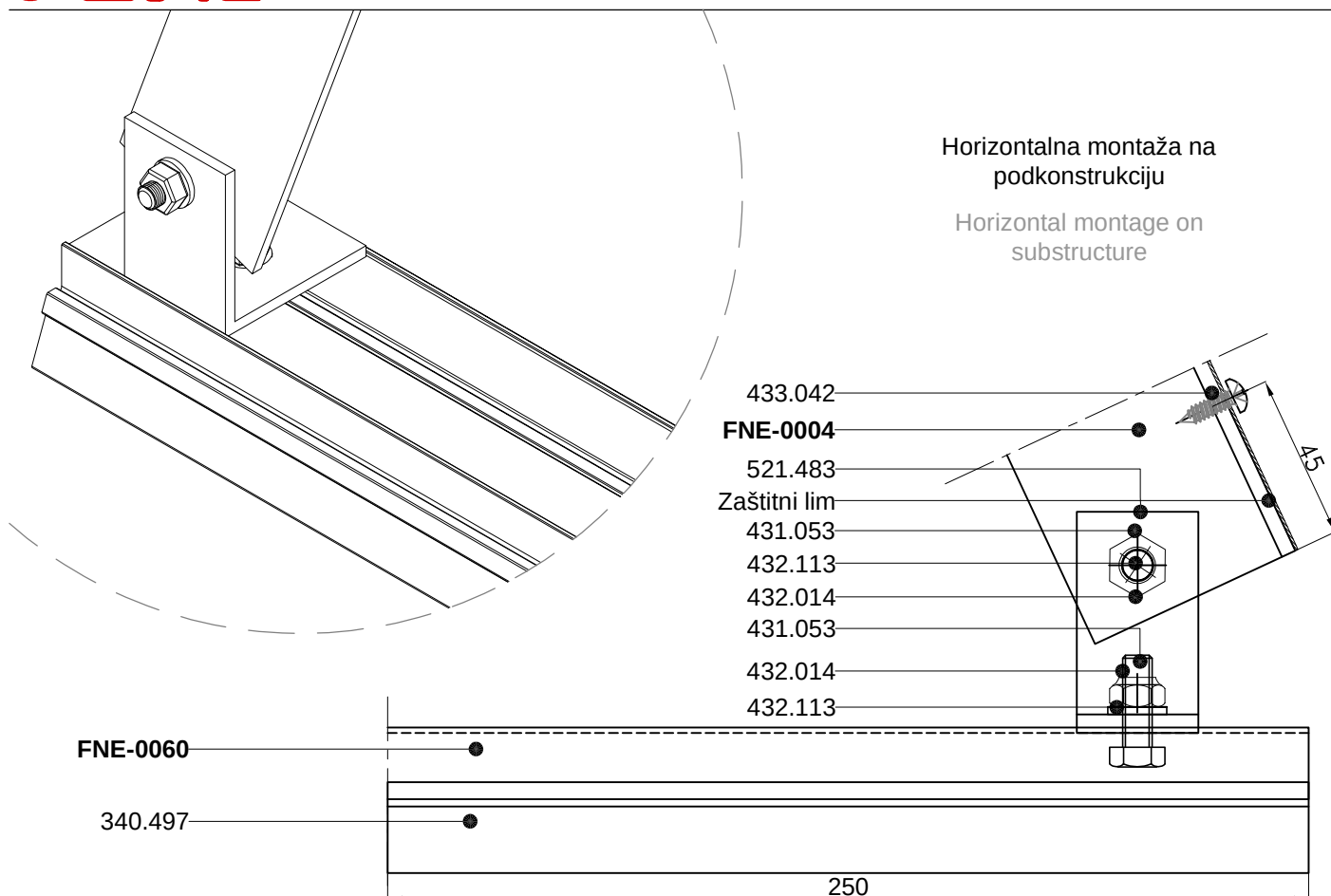
Horizontal montage on
substructure

Detalj B



Detalj B



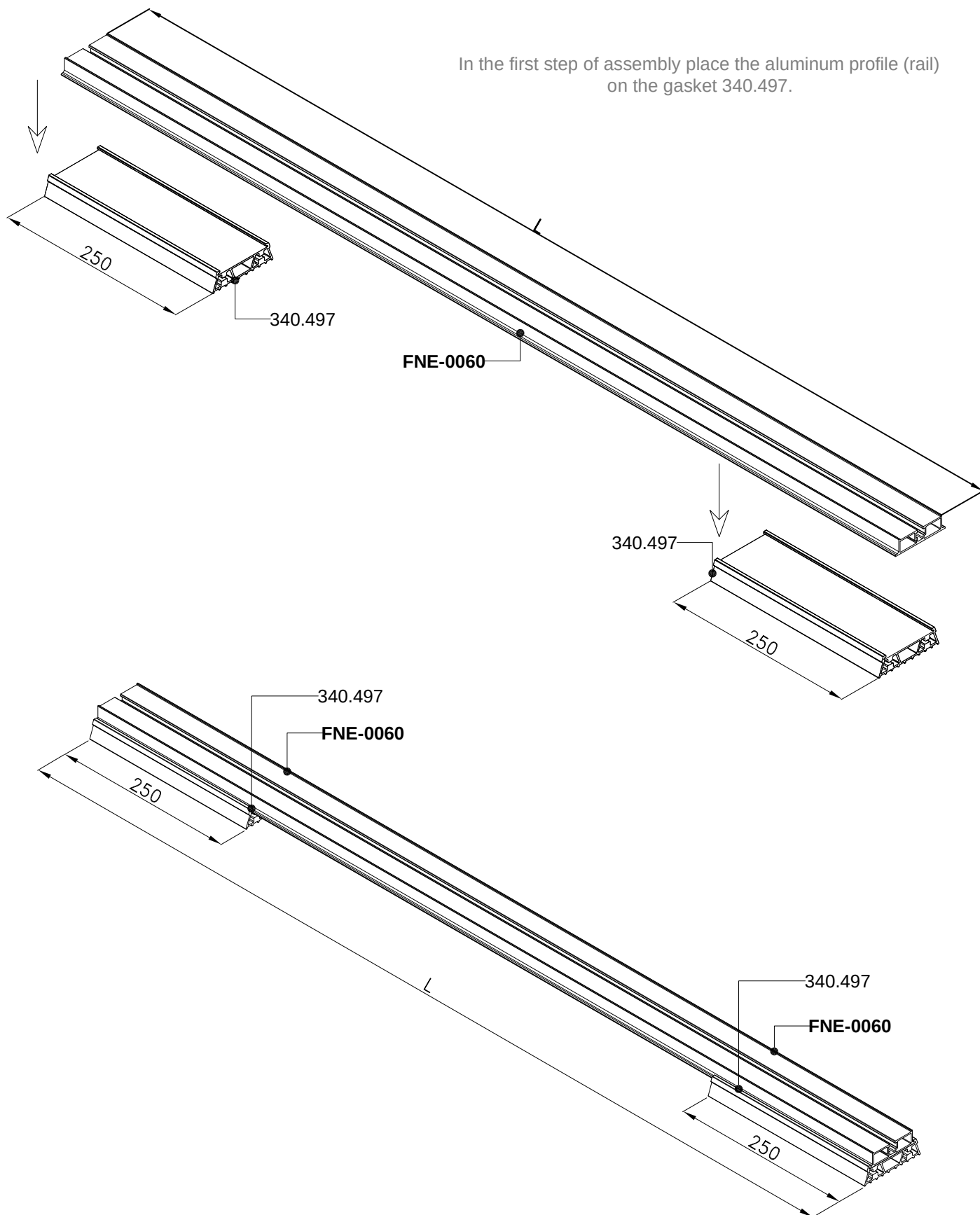


Obrada i montaža

Processing and montage

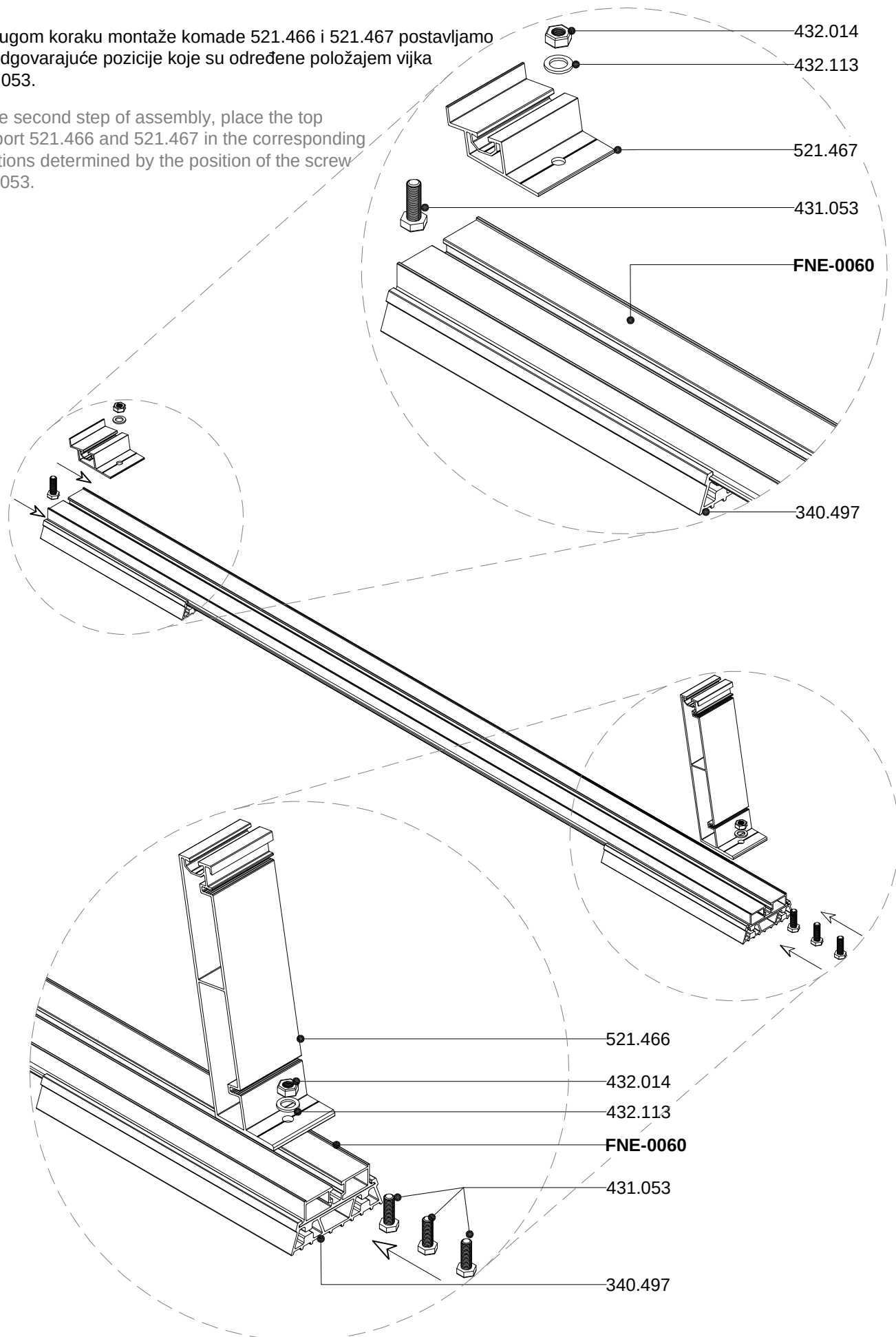
U prvom koraku montaže aluminijski profil FNE-0060 (šinu)
duljine L , oslonimo na brtvu 340.497.

In the first step of assembly place the aluminum profile (rail)
on the gasket 340.497.



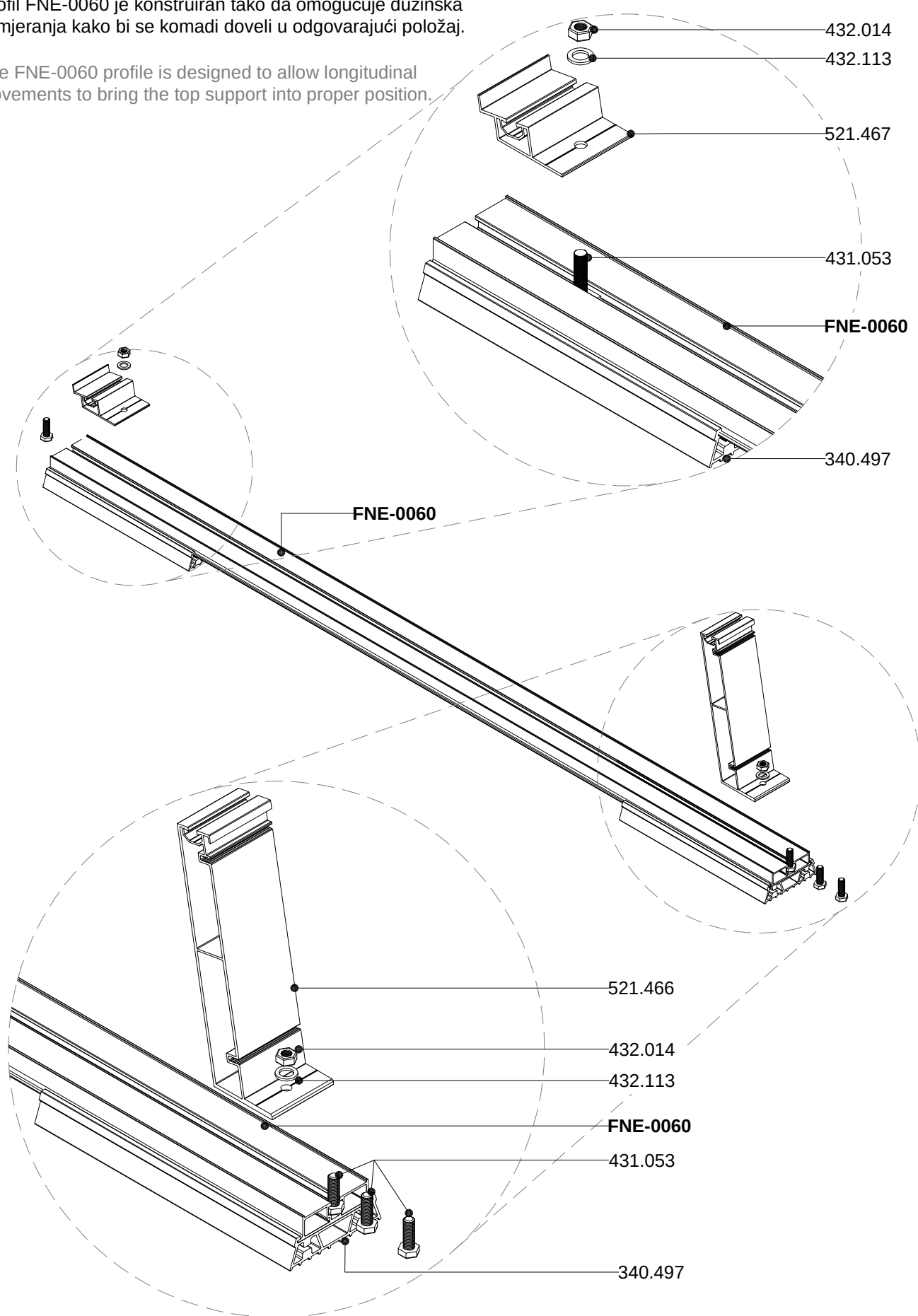
U drugom koraku montaže komade 521.466 i 521.467 postavljamo na odgovarajuće pozicije koje su određene položajem vijka 431.053.

In the second step of assembly, place the top support 521.466 and 521.467 in the corresponding positions determined by the position of the screw 431.053.

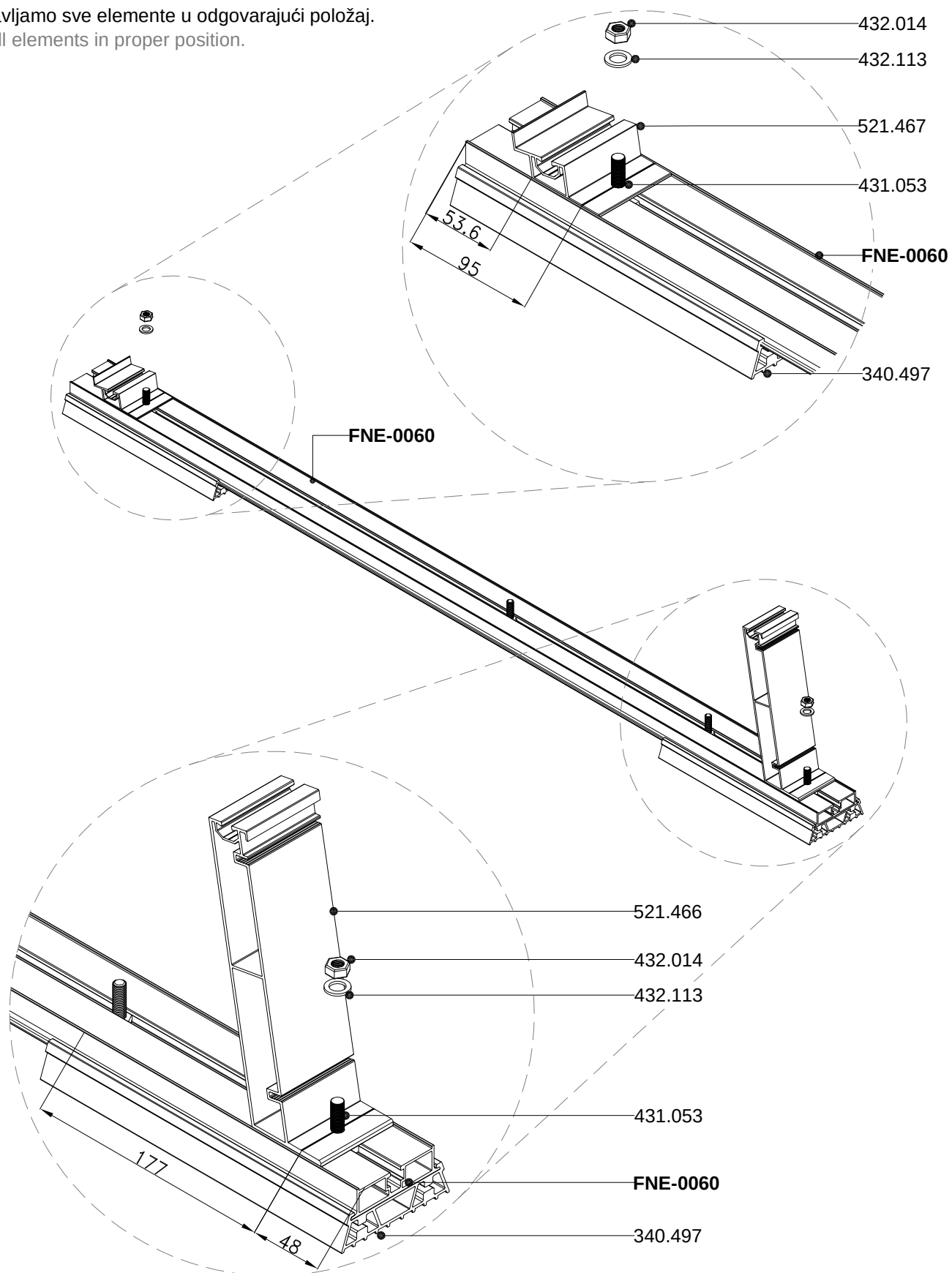


Profil FNE-0060 je konstruiran tako da omogućuje dužinska pomjeranja kako bi se komadi doveli u odgovarajući položaj.

The FNE-0060 profile is designed to allow longitudinal movements to bring the top support into proper position.

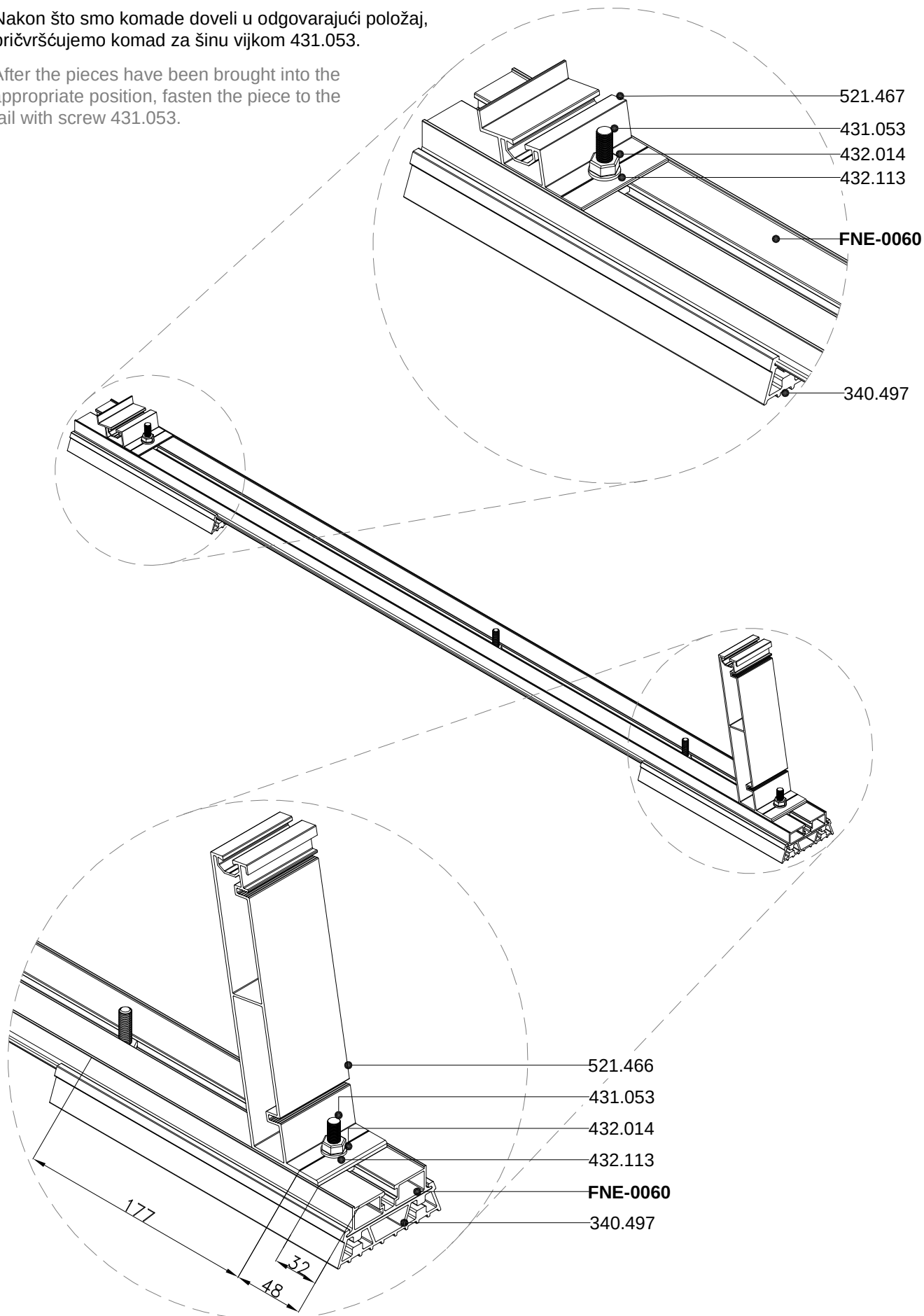


Postavljamo sve elemente u odgovarajući položaj.
Set all elements in proper position.



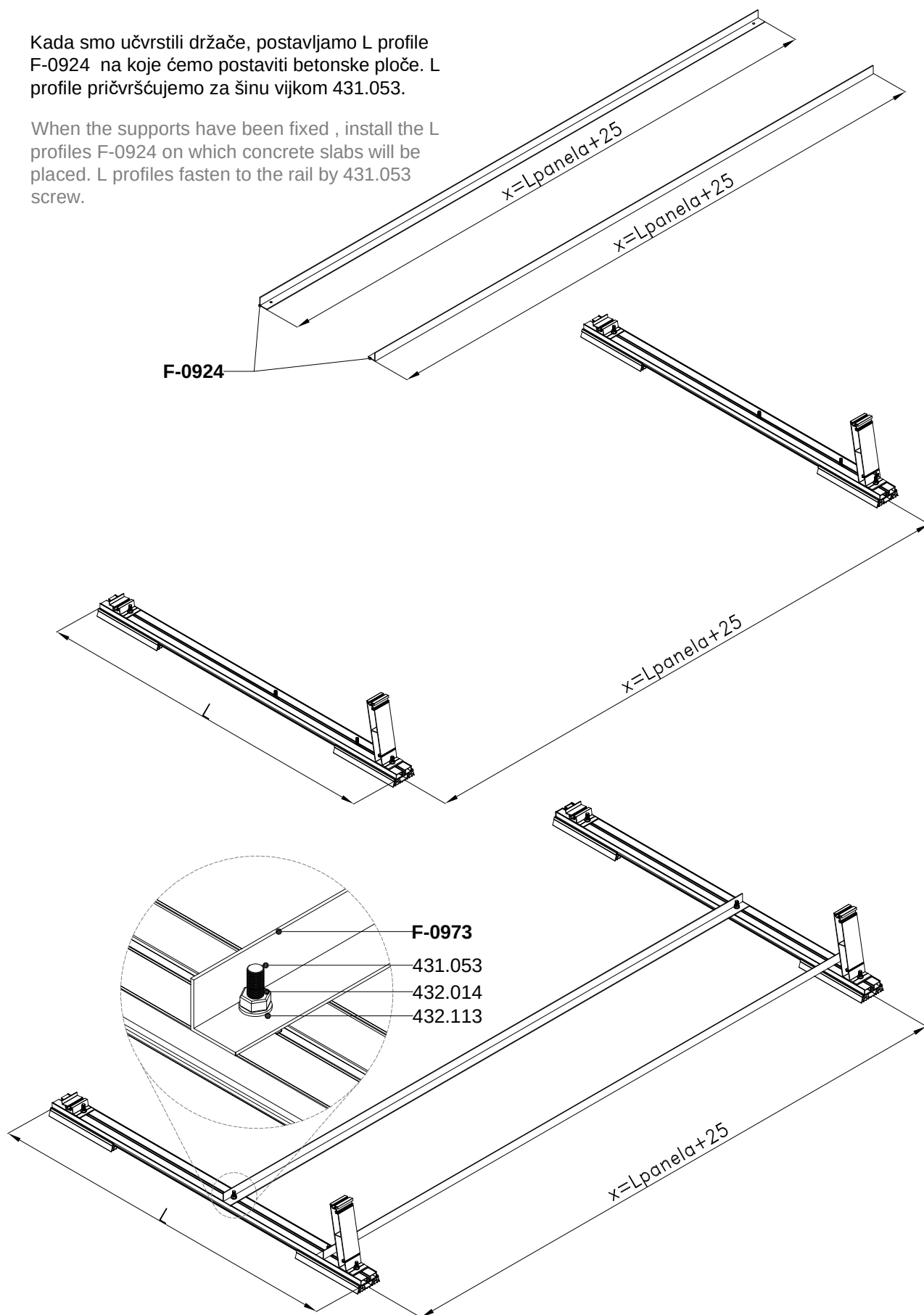
Nakon što smo komade doveli u odgovarajući položaj, pričvršćujemo komad za šinu vijkom 431.053.

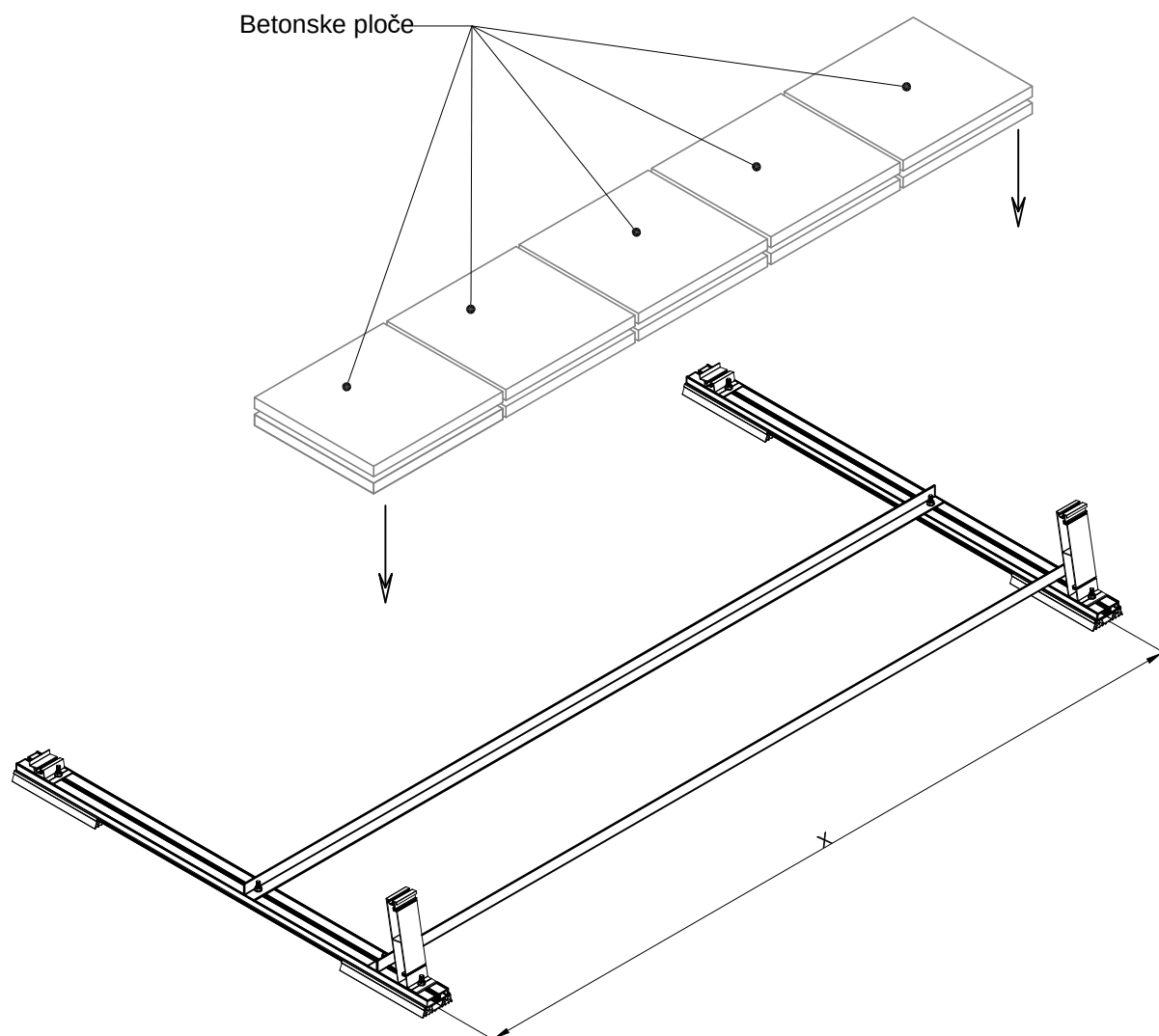
After the pieces have been brought into the appropriate position, fasten the piece to the rail with screw 431.053.



Kada smo učvrstili držače, postavljamo L profile F-0924 na koje ćemo postaviti betonske ploče. L profile pričvršćujemo za šinu vijkom 431.053.

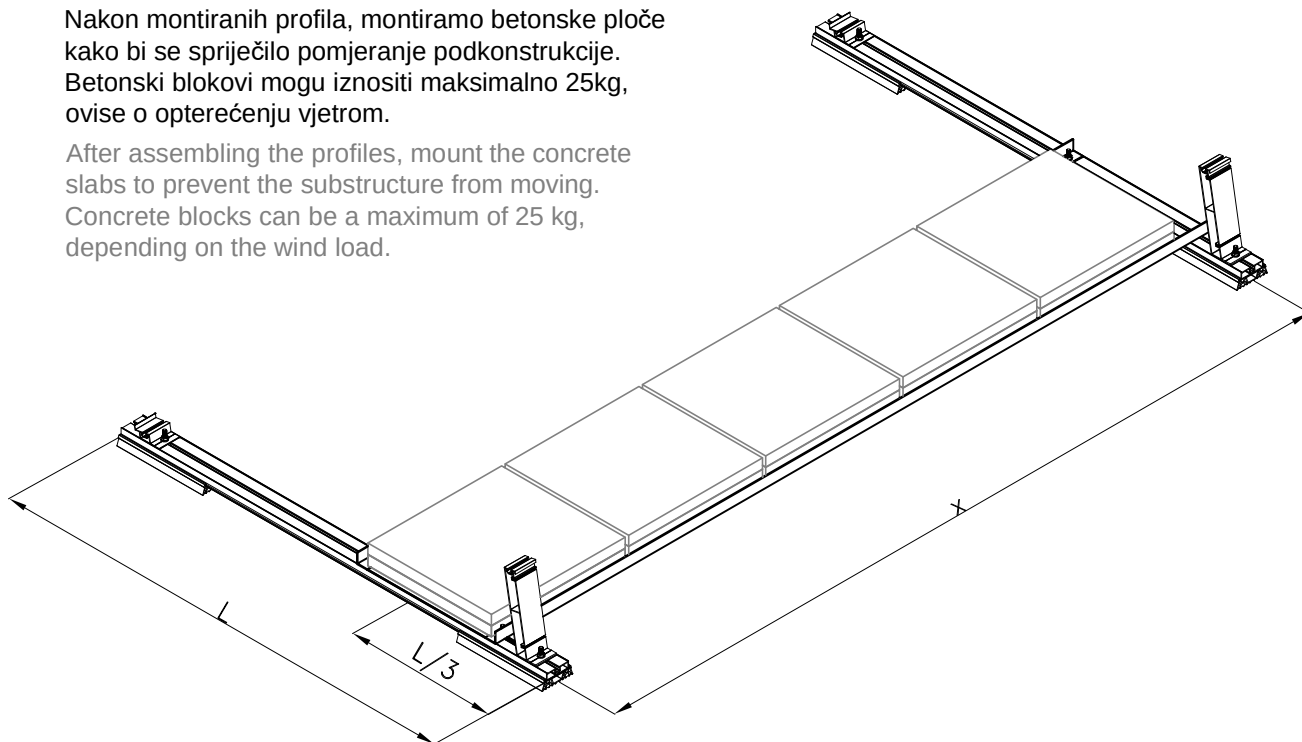
When the supports have been fixed, install the L profiles F-0924 on which concrete slabs will be placed. L profiles fasten to the rail by 431.053 screw.

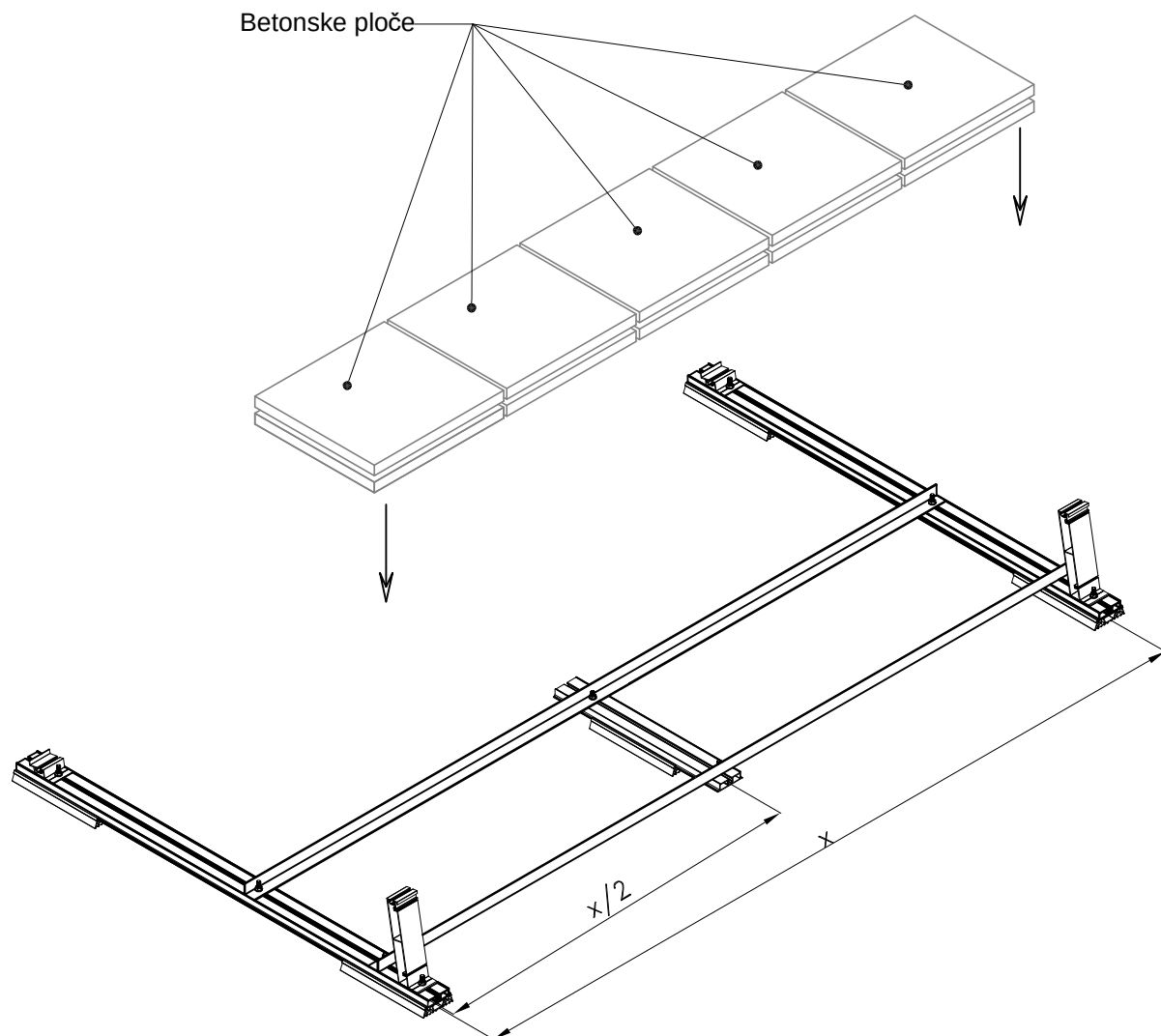




Nakon montiranih profila, montiramo betonske ploče kako bi se spriječilo pomjeranje podkonstrukcije. Betonski blokovi mogu iznositi maksimalno 25kg, ovisno o opterećenju vjetrom.

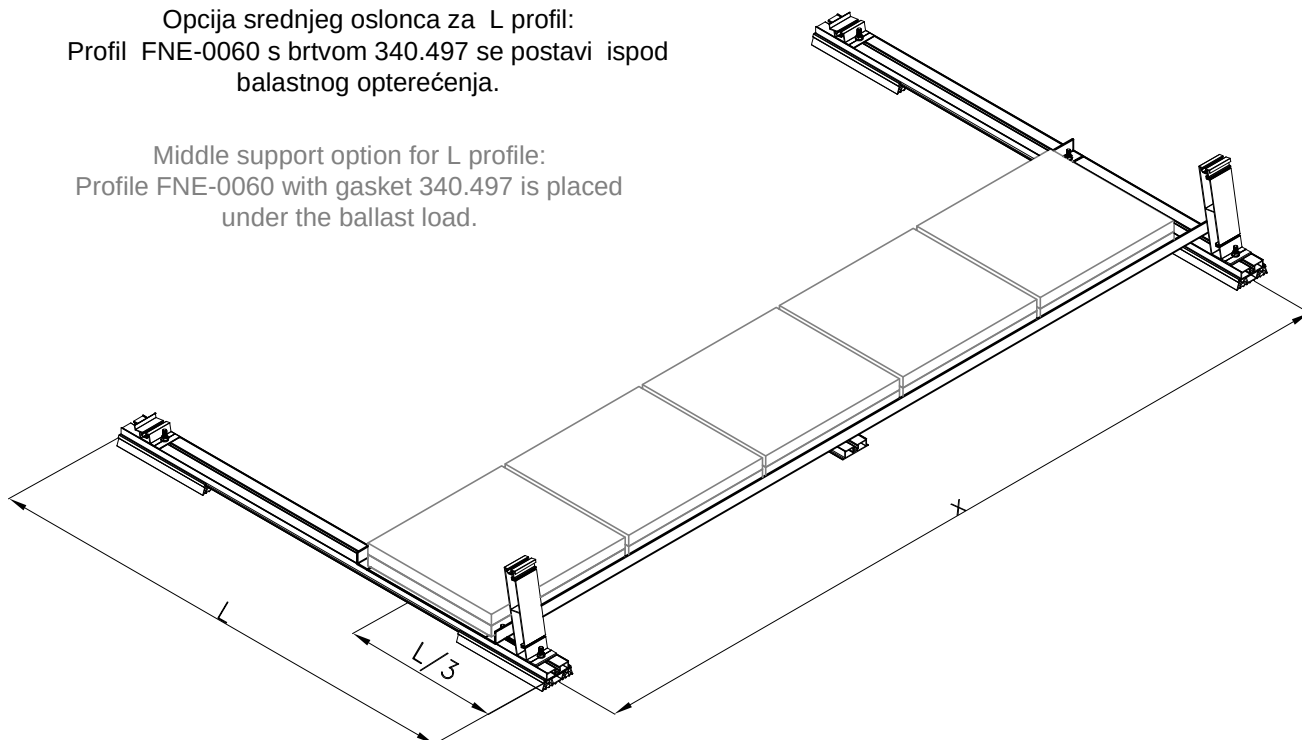
After assembling the profiles, mount the concrete slabs to prevent the substructure from moving. Concrete blocks can be a maximum of 25 kg, depending on the wind load.

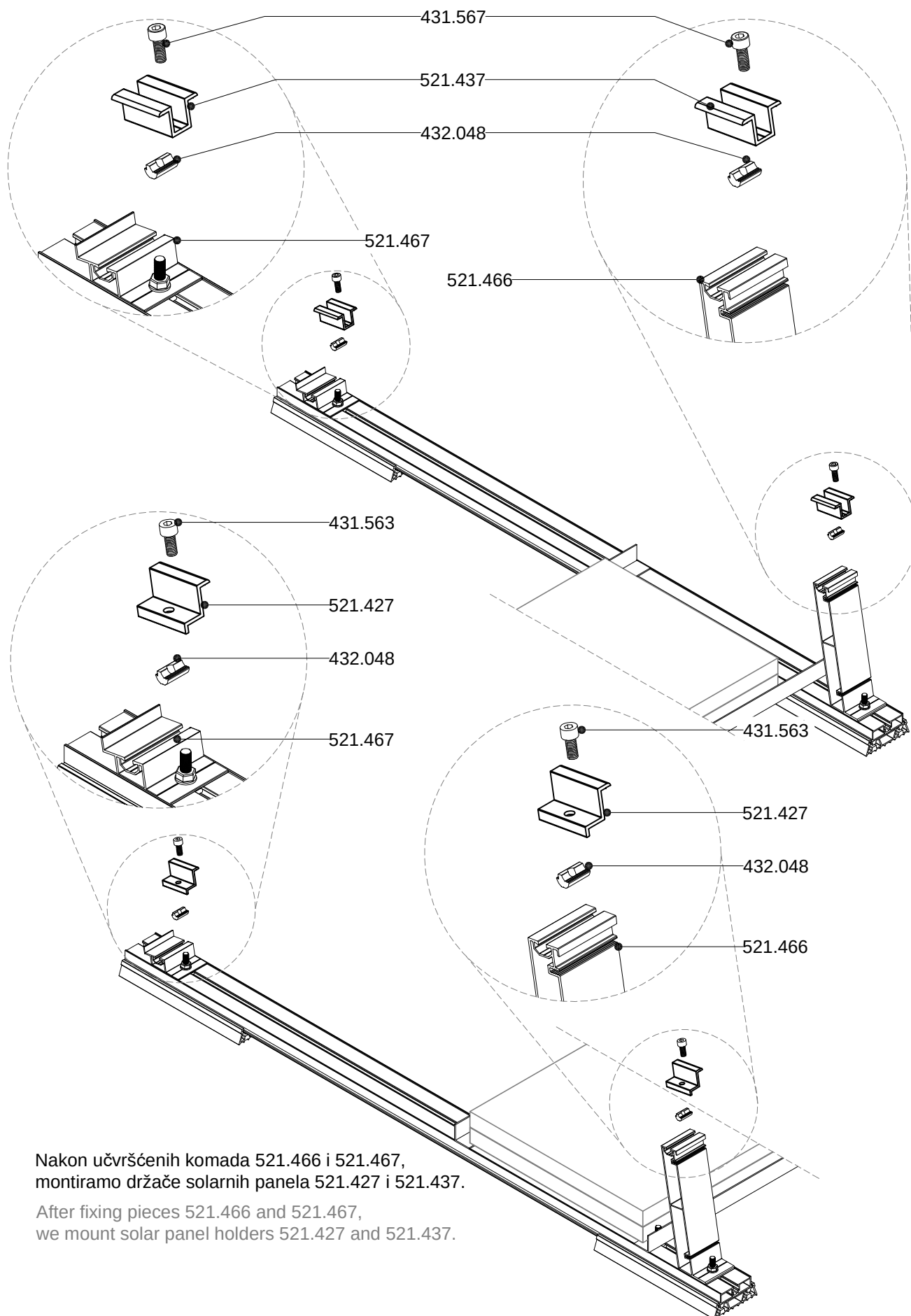




Opcija srednjeg oslonca za L profil:
Profil FNE-0060 s brtvom 340.497 se postavi ispod
balastnog opterećenja.

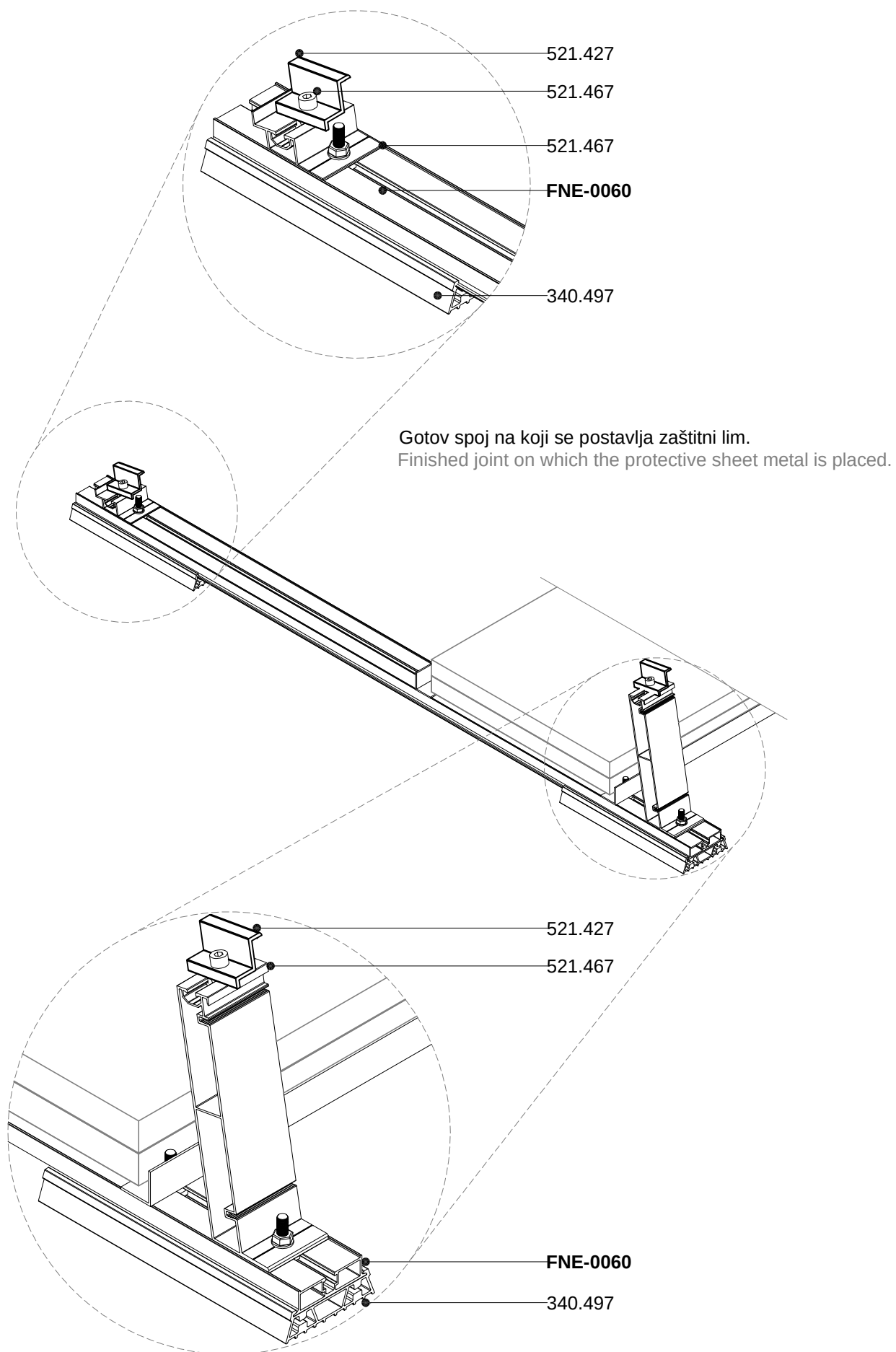
Middle support option for L profile:
Profile FNE-0060 with gasket 340.497 is placed
under the ballast load.





Nakon učvršćenih komada 521.466 i 521.467,
montiramo držače solarnih panela 521.427 i 521.437.

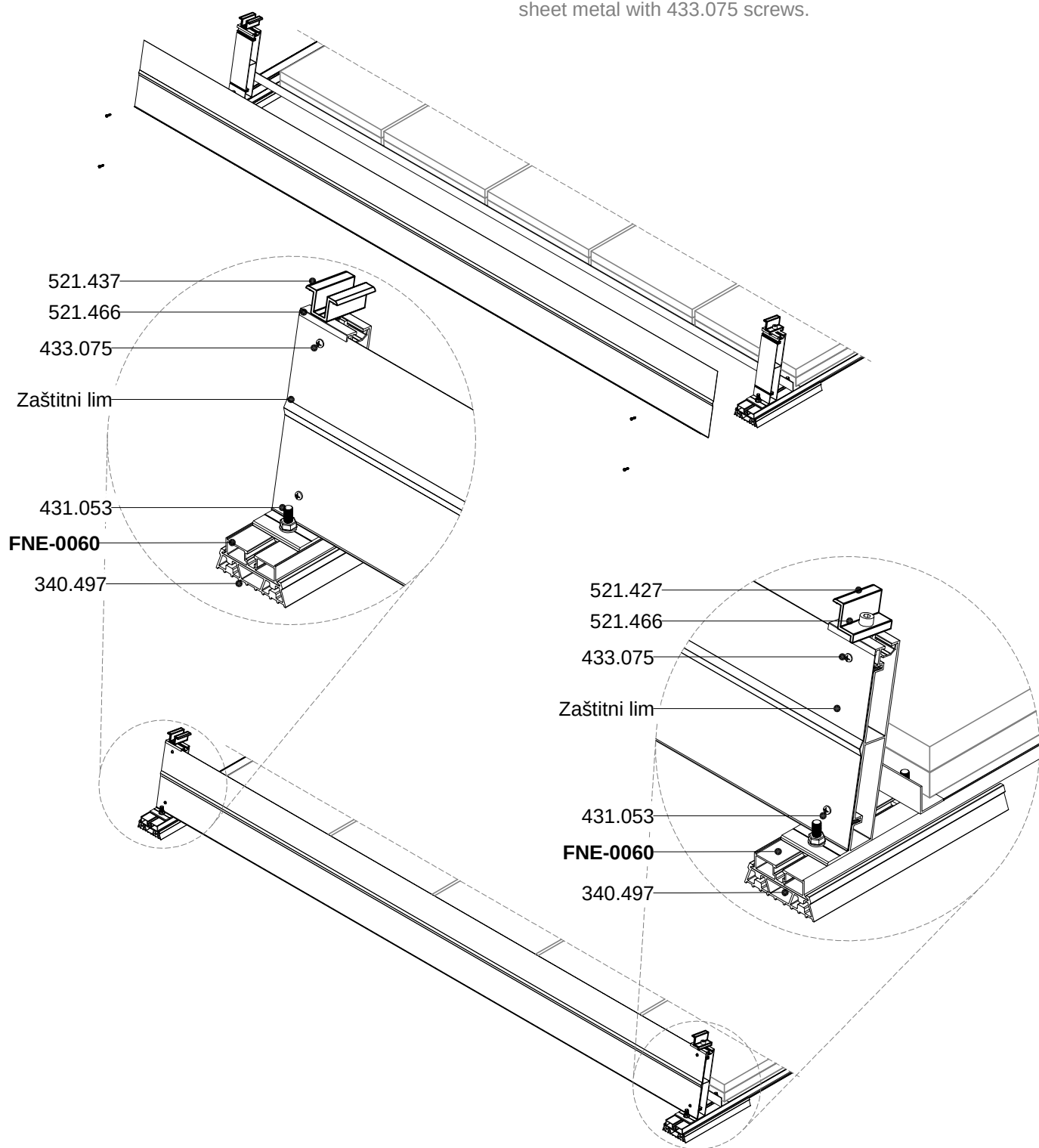
After fixing pieces 521.466 and 521.467,
we mount solar panel holders 521.427 and 521.437.



Postavljanje zaštitnog lima

Nakon montiranja držača solarnih panela, montiramo zaštitni lim. Zaštitni lim pričvrstimo pomoću 433.075 vijaka.

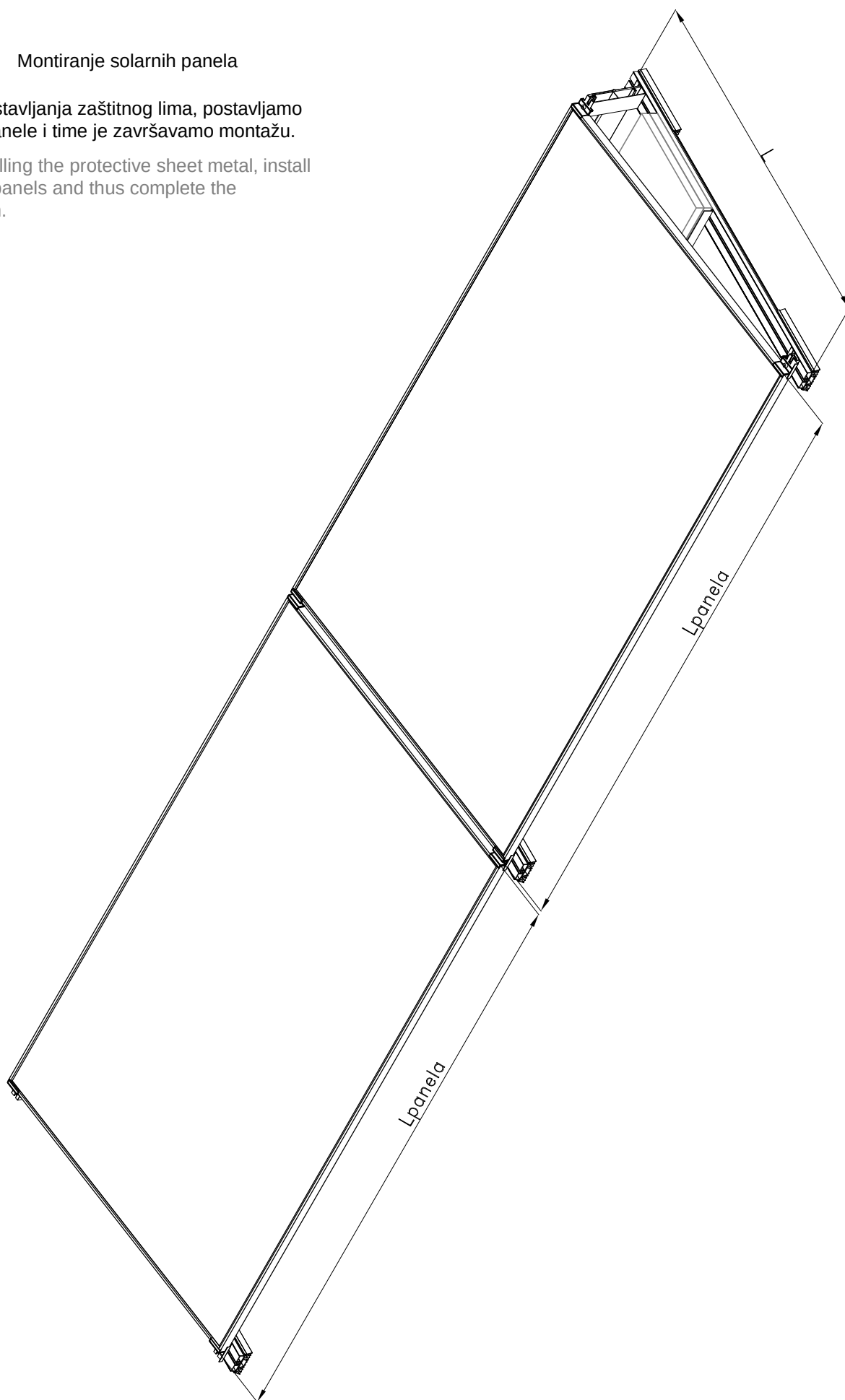
After installing the solar panel holder, we install the protective sheet. We fasten the protective sheet metal with 433.075 screws.



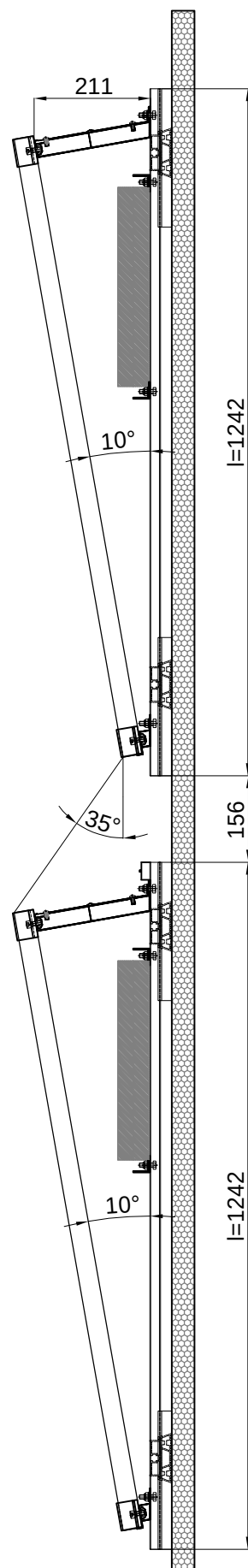
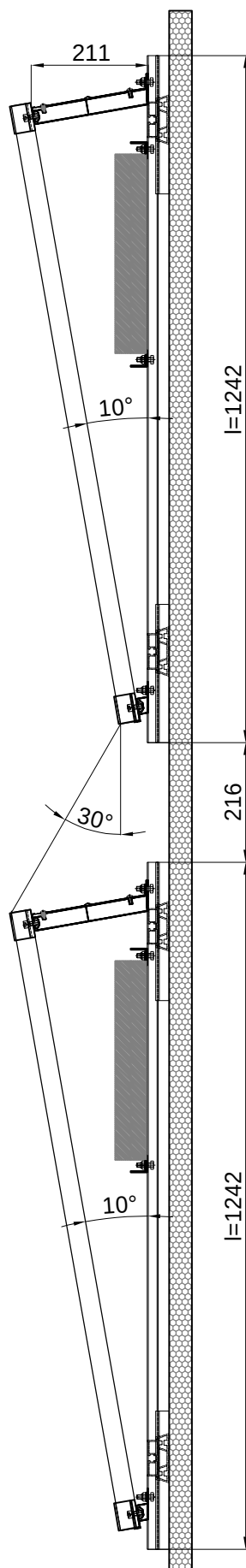
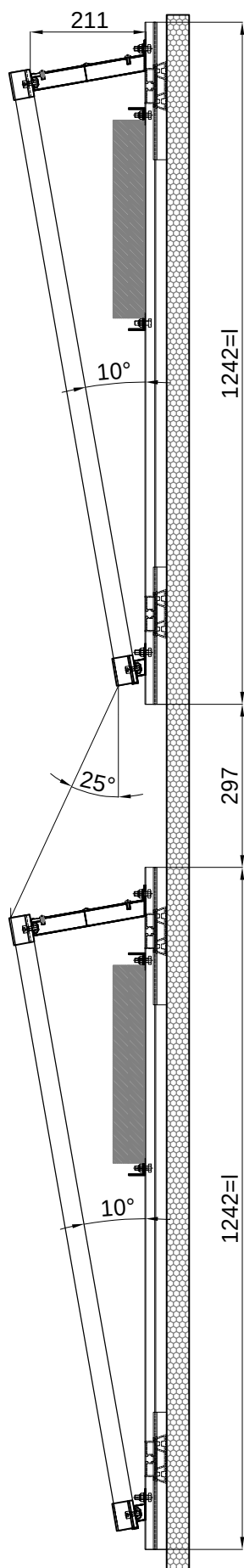
Montiranje solarnih panela

Nakon postavljanja zaštitnog lima, postavljamo solarne panele i time je završavamo montažu.

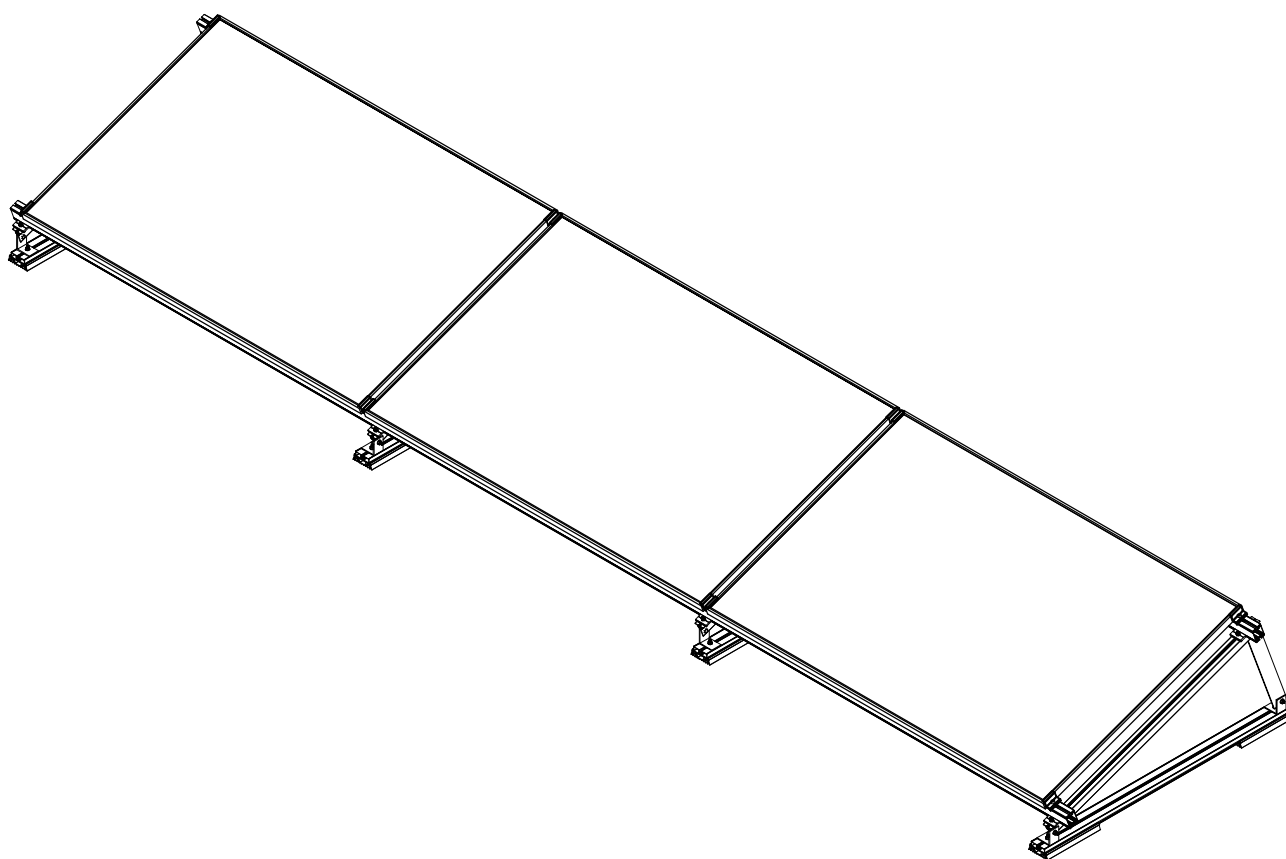
After installing the protective sheet metal, install the solar panels and thus complete the installation.



Razmak između redova podkonstrukcije je prikazan na slici ispod.
Ovisi o kutu upada sunčeve zrake.

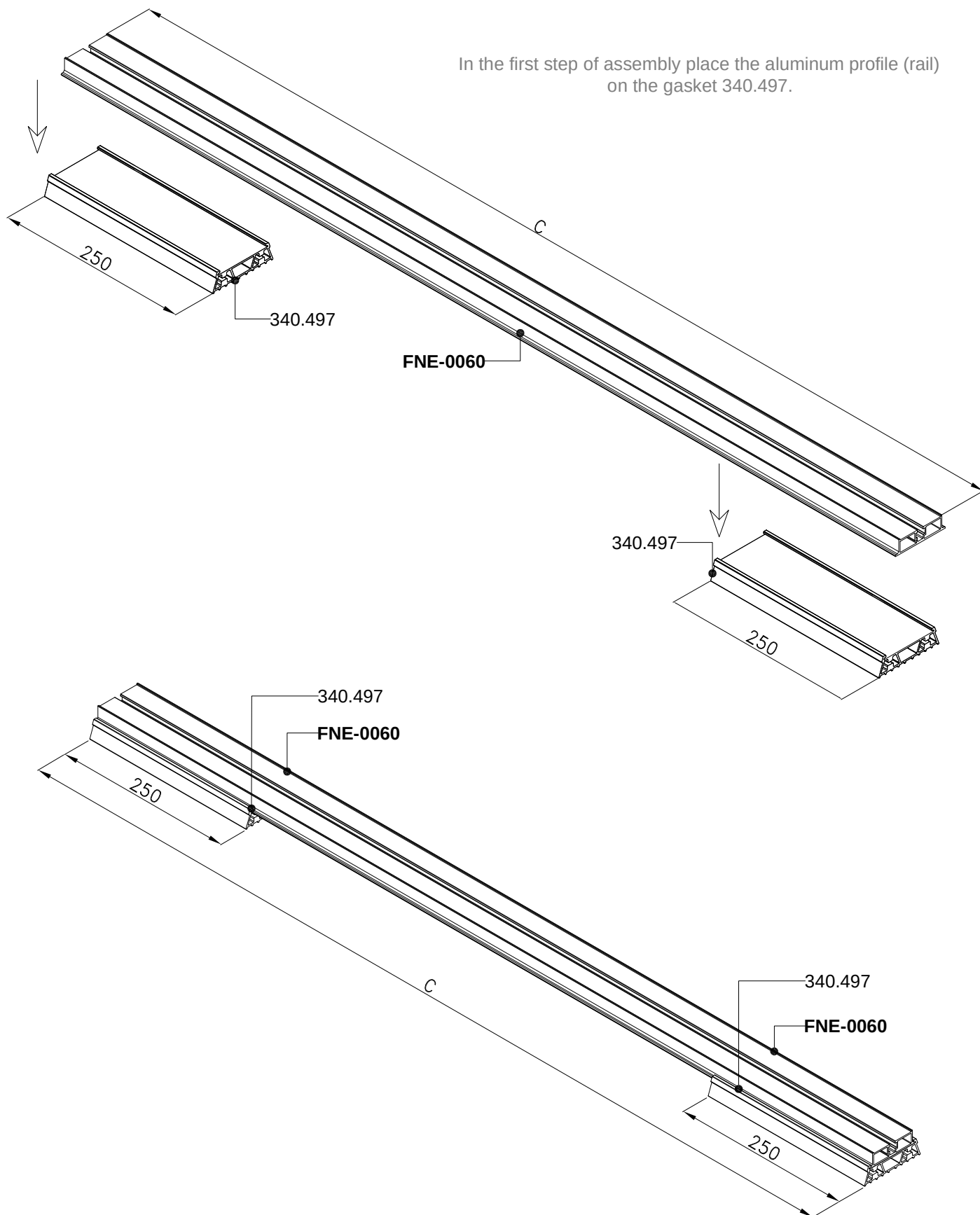


Nagib 11° - 35°
Slope 11° - 35°



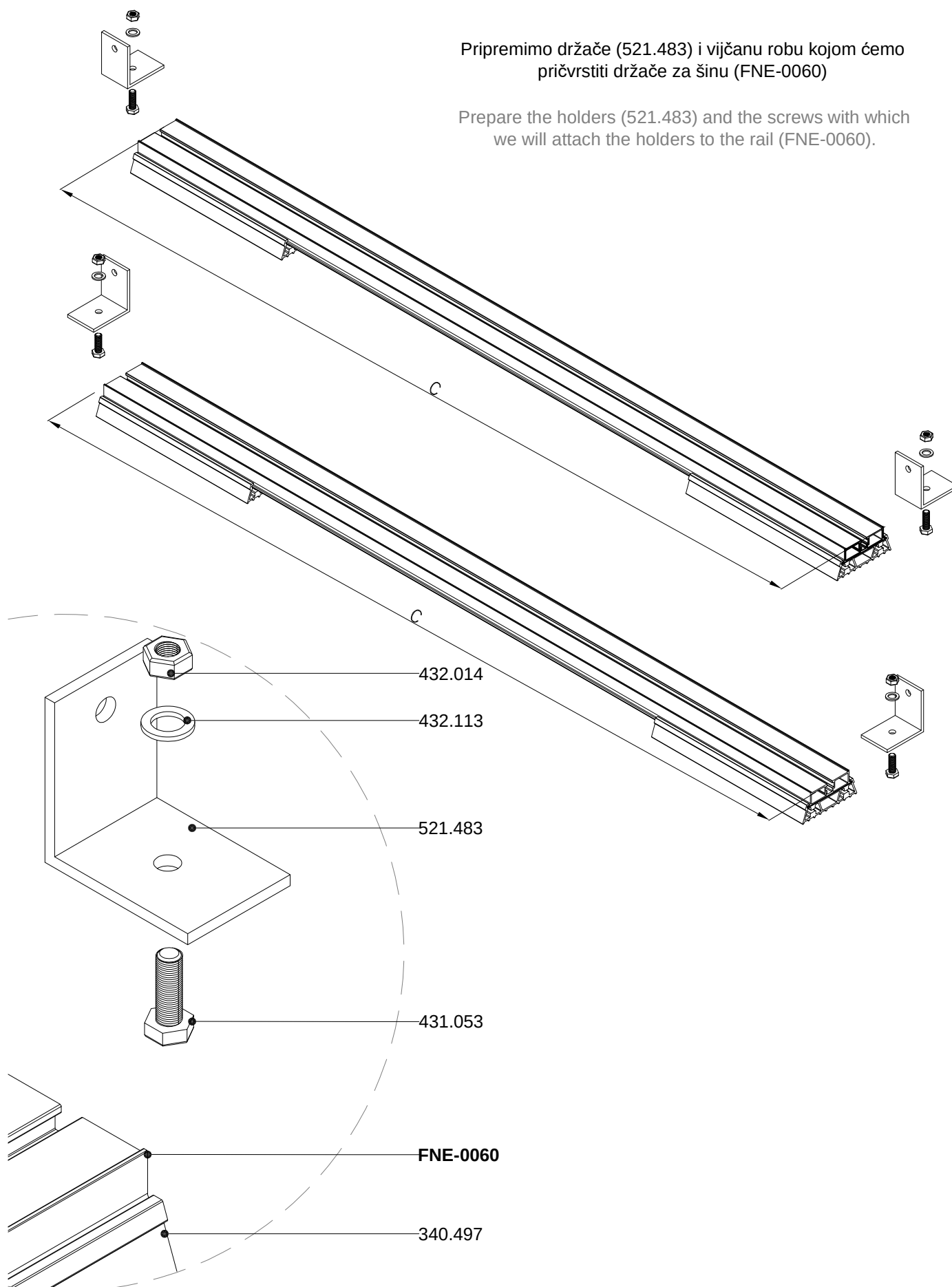
U prvom koraku montaže aluminijski profil FNE-0060 (šinu)
duljine C, oslonimo na brtvu 340.497.

In the first step of assembly place the aluminum profile (rail)
on the gasket 340.497.



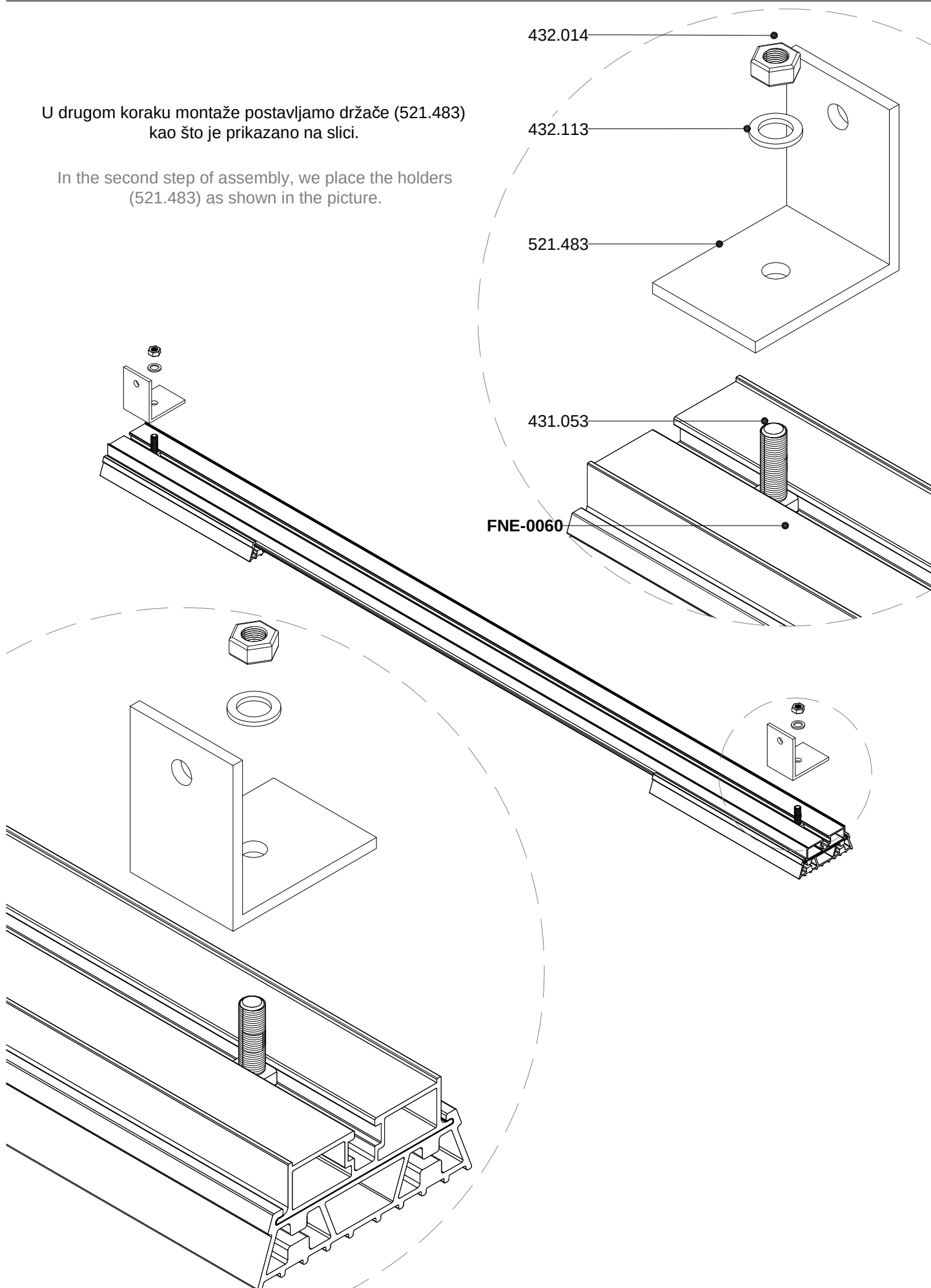
Pripremimo držače (521.483) i vijčanu robu kojom ćemo pričvrstiti držače za šinu (FNE-0060)

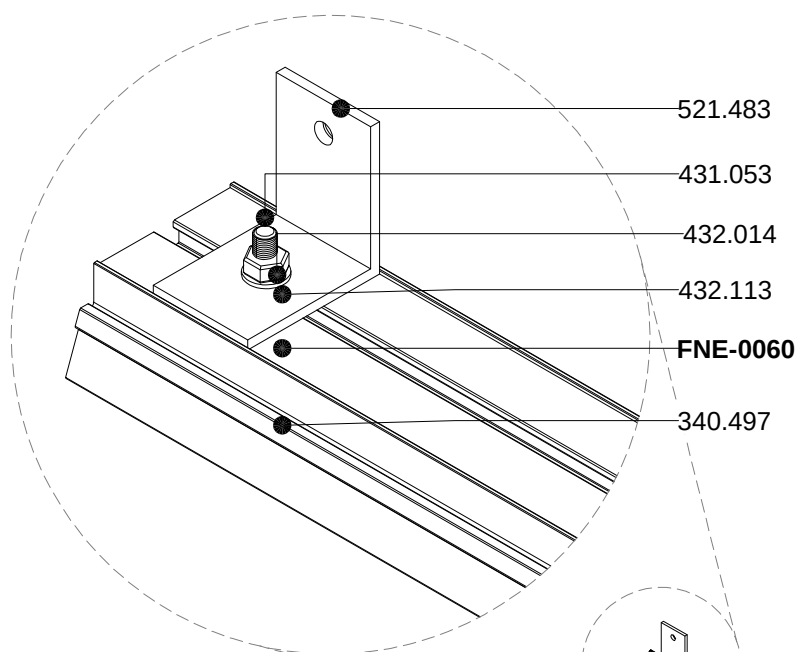
Prepare the holders (521.483) and the screws with which we will attach the holders to the rail (FNE-0060).



U drugom koraku montaže postavljamo držače (521.483)
kao što je prikazano na slici.

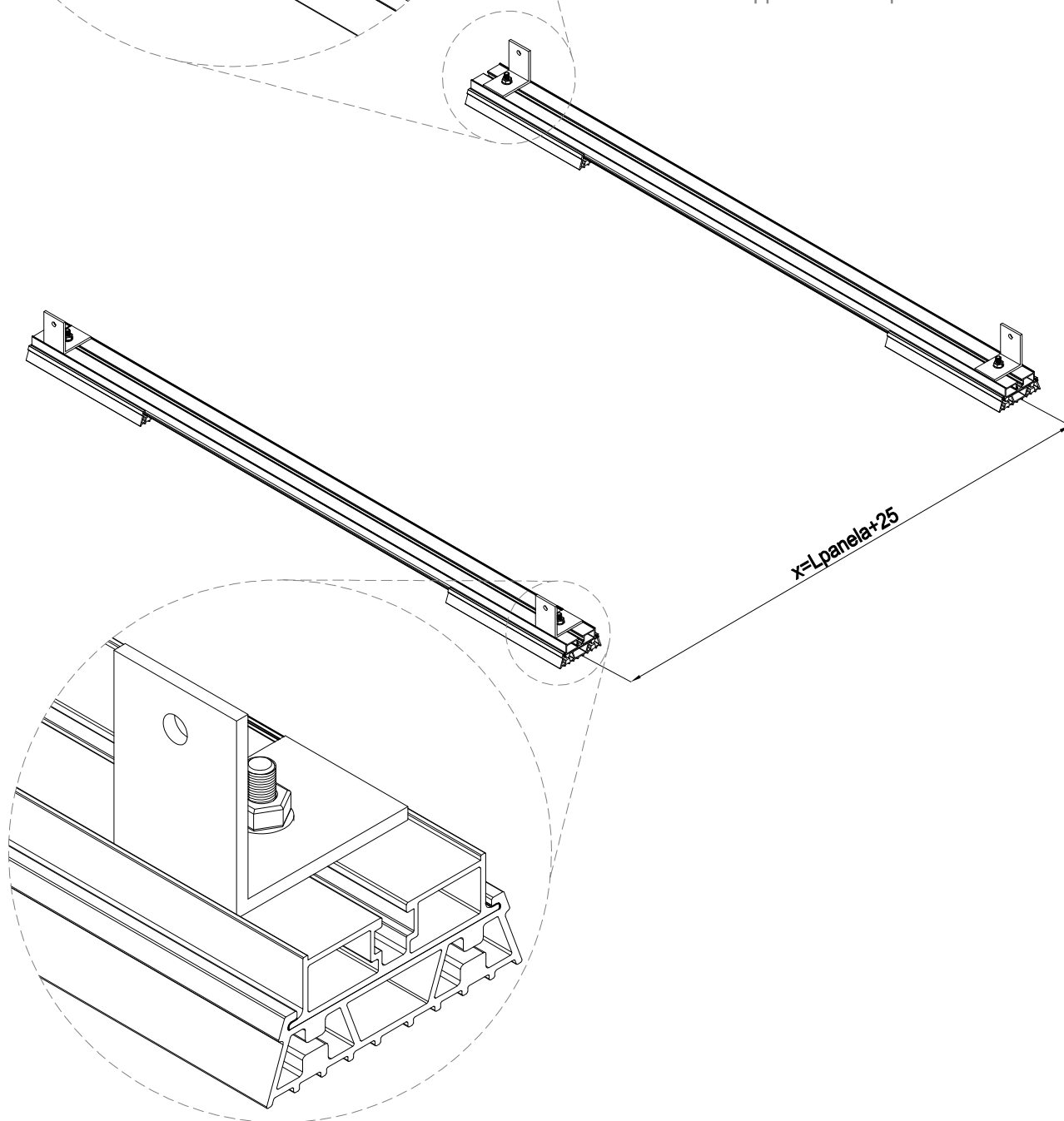
In the second step of assembly, we place the holders
(521.483) as shown in the picture.





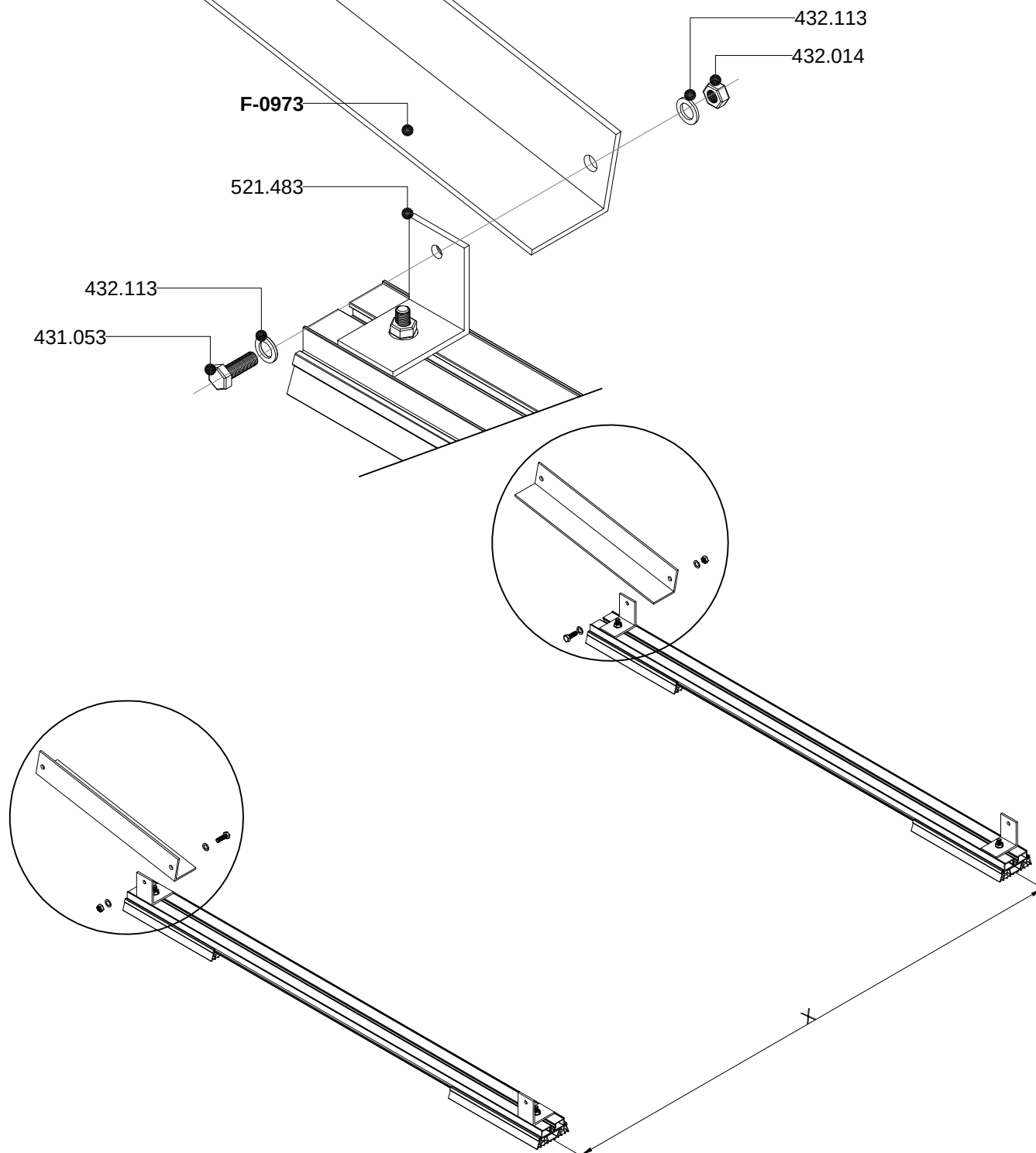
Držače (521.483) pričvršćujemo sa šinom (FNE-0060). Držač sa idućom šinom (FNE-0060) spajamo tako da bude orijentiran suprotno od prethodnog.

Connect the holders (521.483) with the rail (FNE-0060). Connect the holder with the next rail (FNE-0060) so that it is oriented opposite to the previous one.

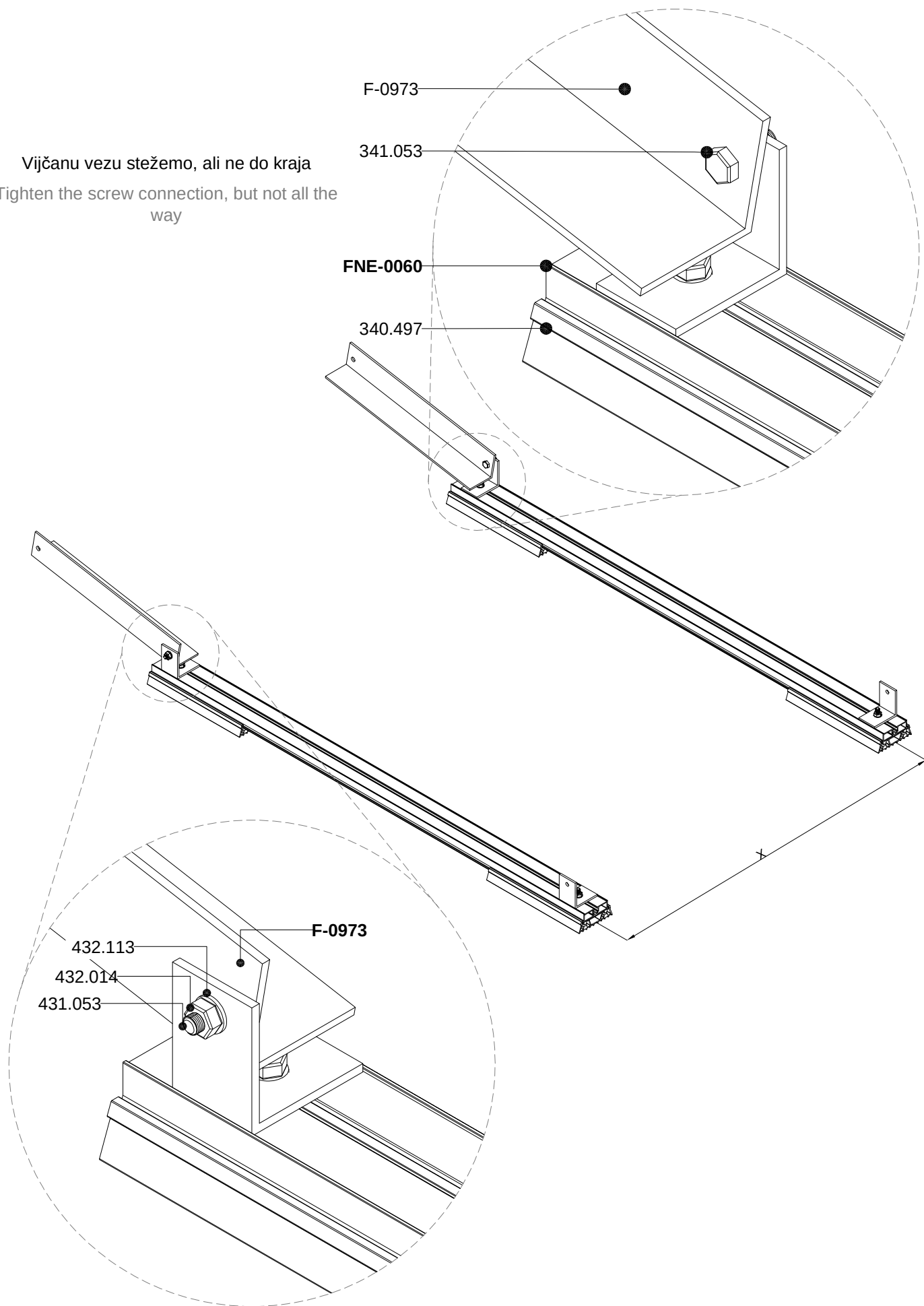


U trećem koraku montaže spajamo L profil (F-0973) s unaprijed obrađenim rupama prema zadanom nagibu. Obrada rupa L profila nalazi se na stranici (713.10.045)

In the third step of assembly, connect the L profile (F-0973) with pre-processed holes according to the given slope. Processing of L profile holes can be found on page (713.10.045)

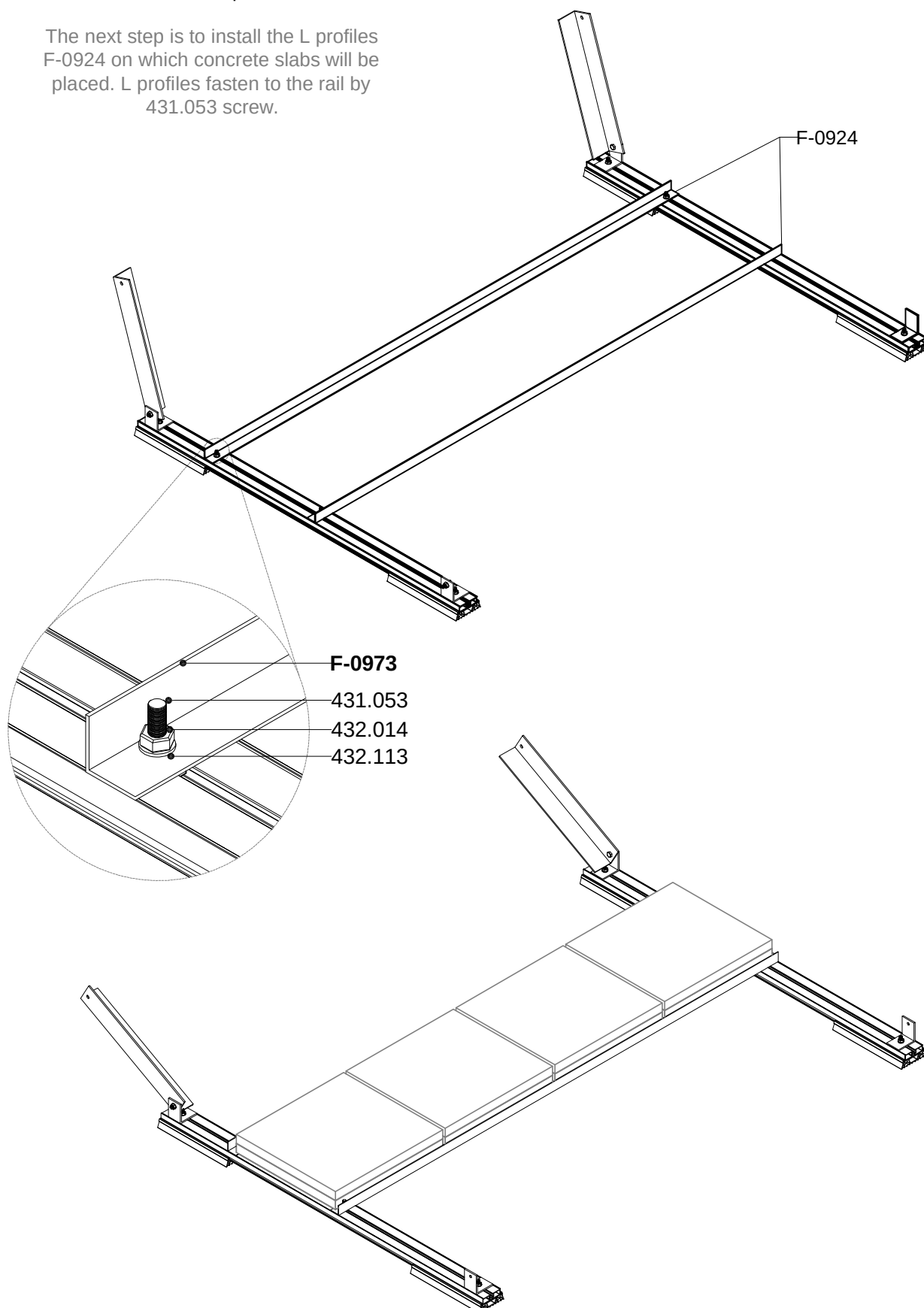


Vijčanu vezu stežemo, ali ne do kraja
Tighten the screw connection, but not all the way



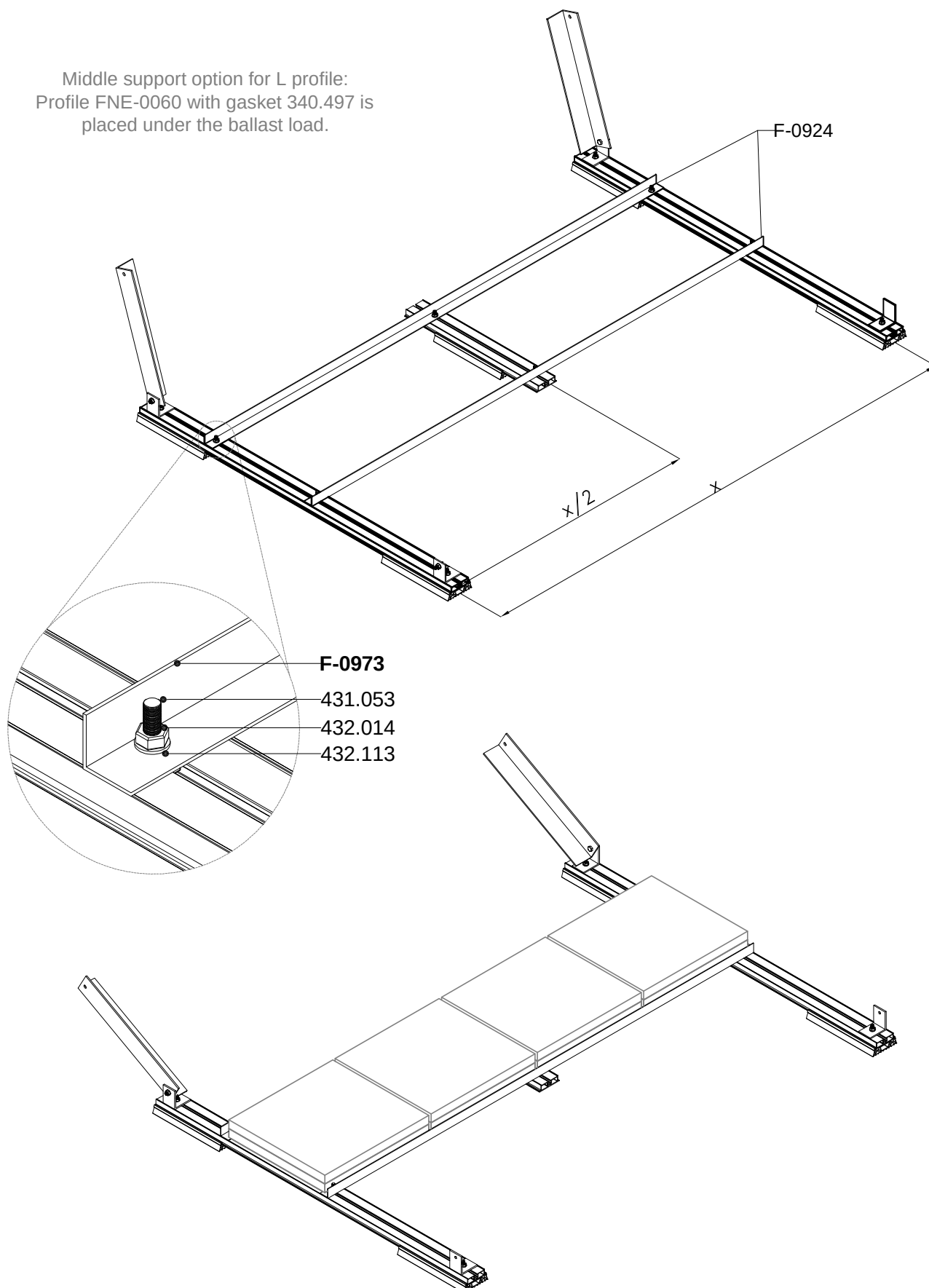
Idući je korak postavljanje L profila F-0924 koje pričvršćujemo s 431.053 vijcima za profil FNE-0060. Na L profile postavljamo betonske ploče.

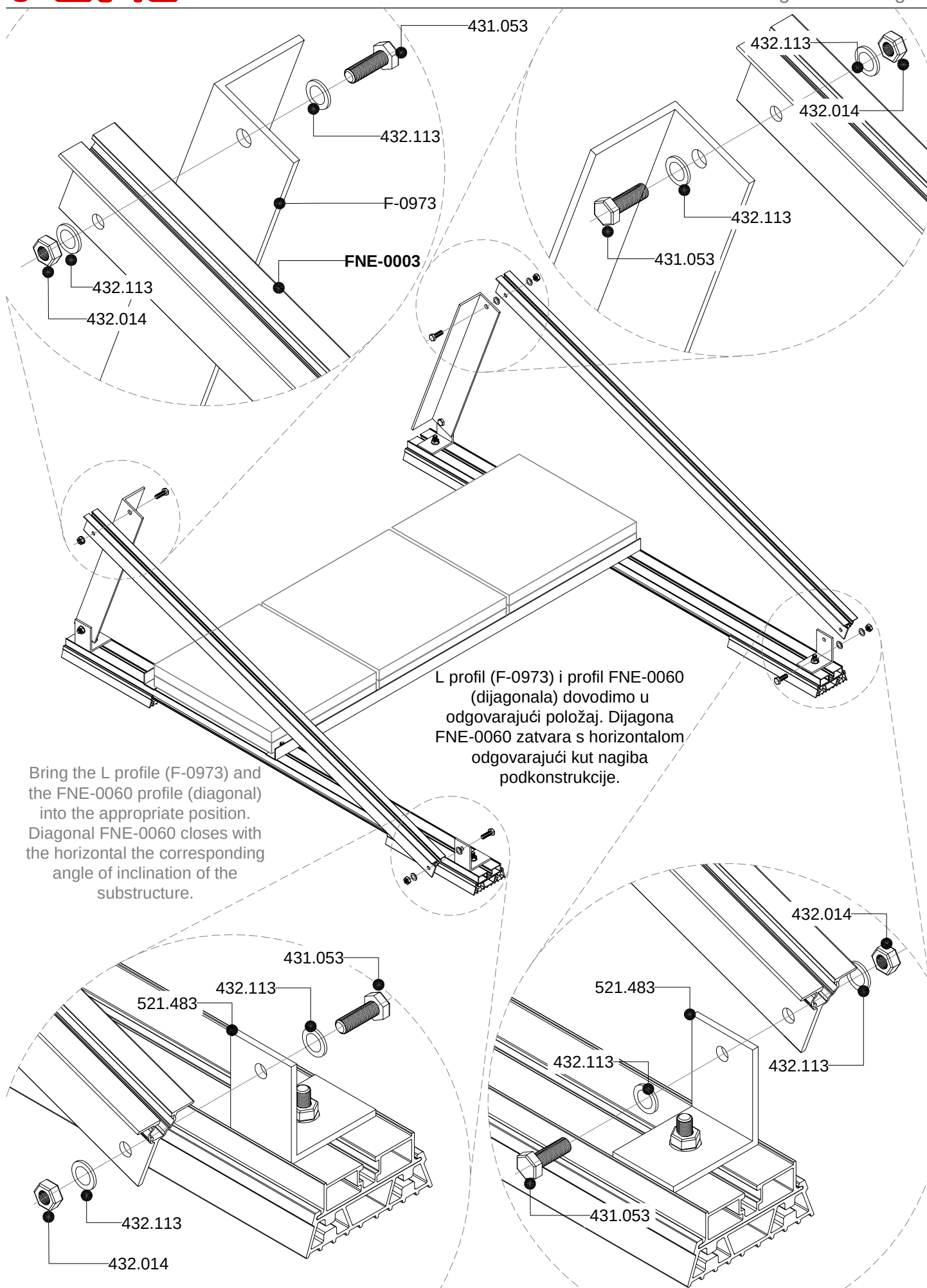
The next step is to install the L profiles F-0924 on which concrete slabs will be placed. L profiles fasten to the rail by 431.053 screw.

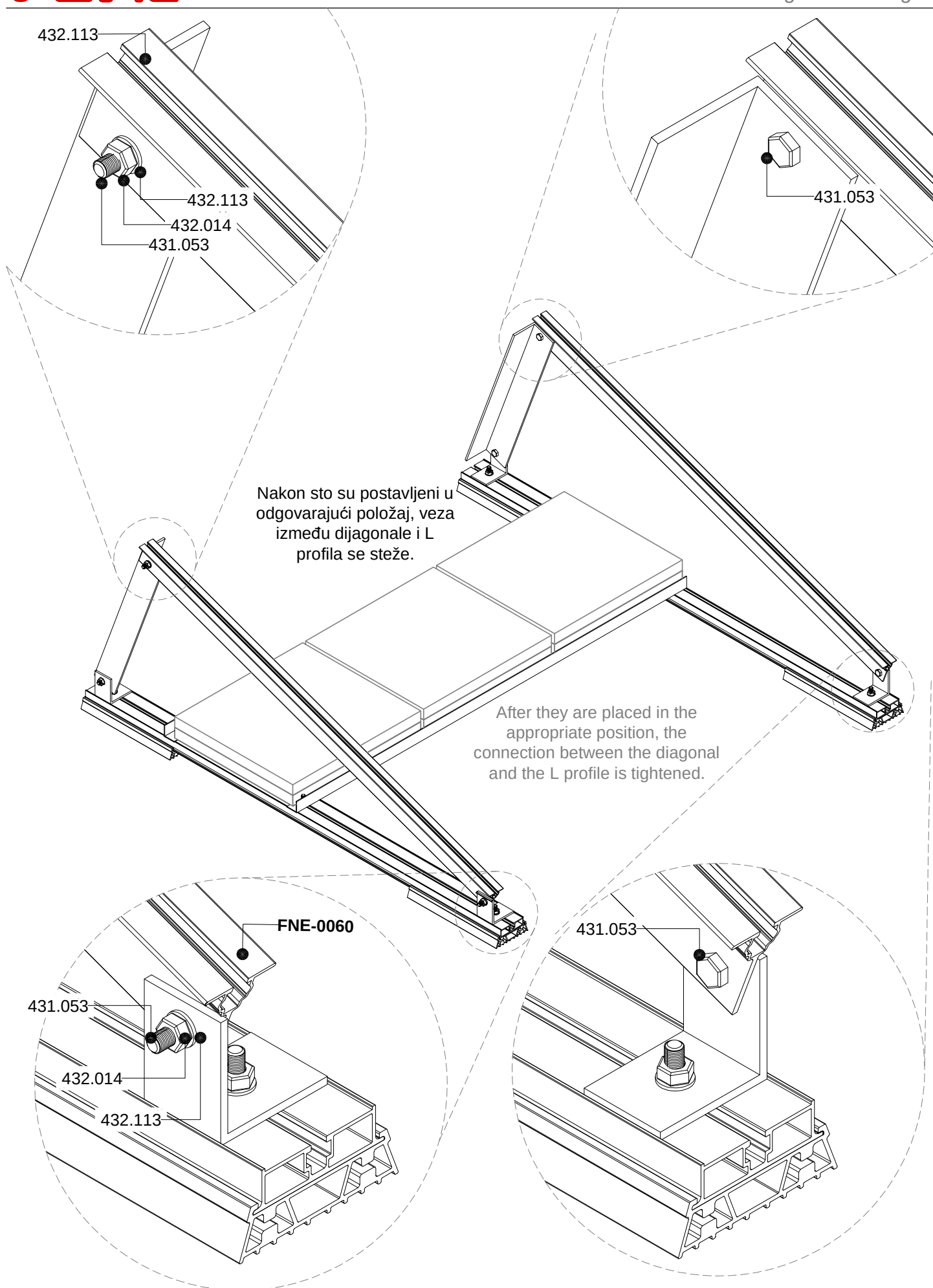


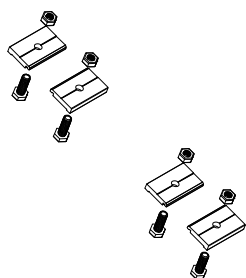
Opcija srednjeg oslonca za L profil:
Profil FNE-0060 s brtvom 340.497 se
postavi ispod balastnog opterećenja.

Middle support option for L profile:
Profile FNE-0060 with gasket 340.497 is
placed under the ballast load.



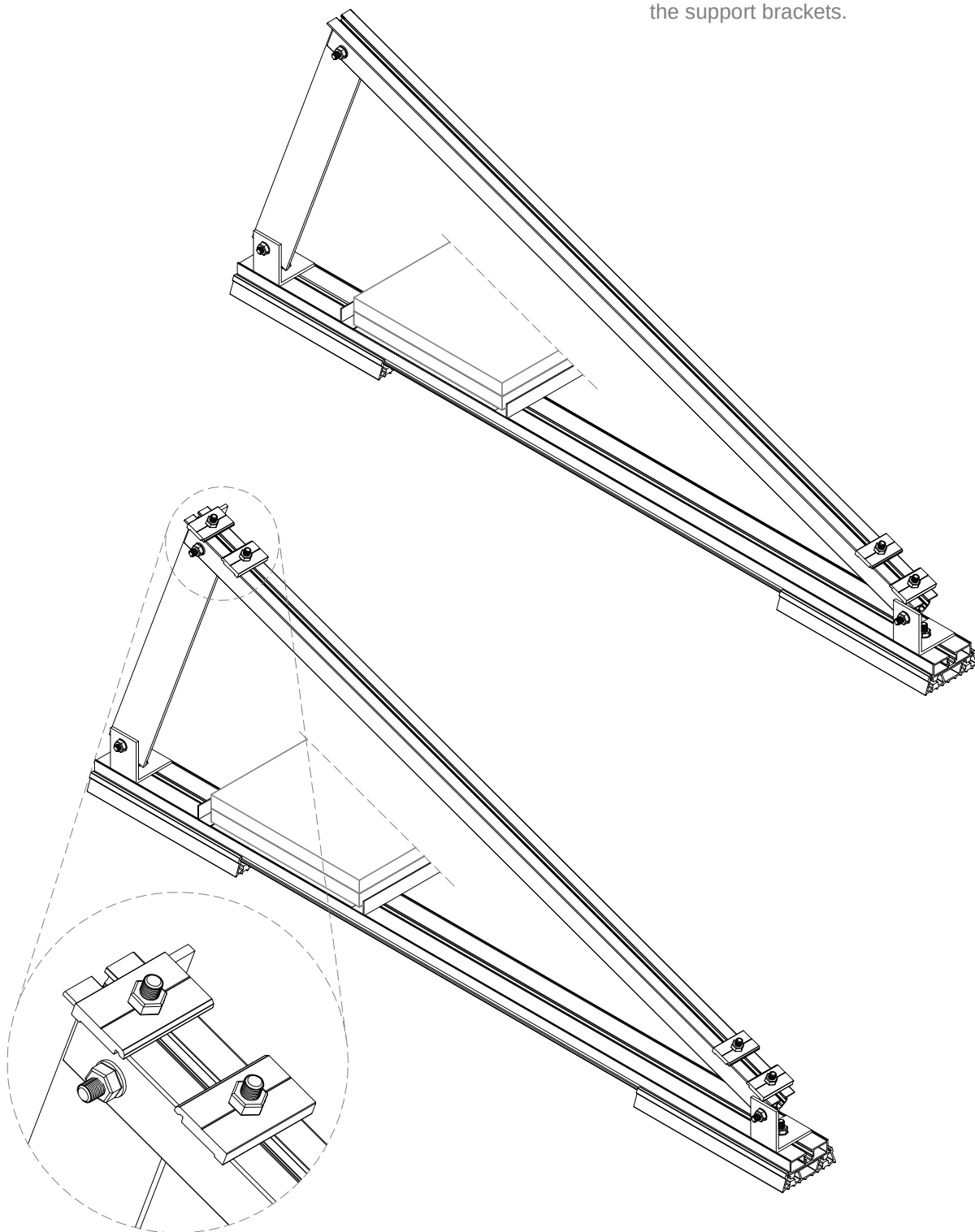






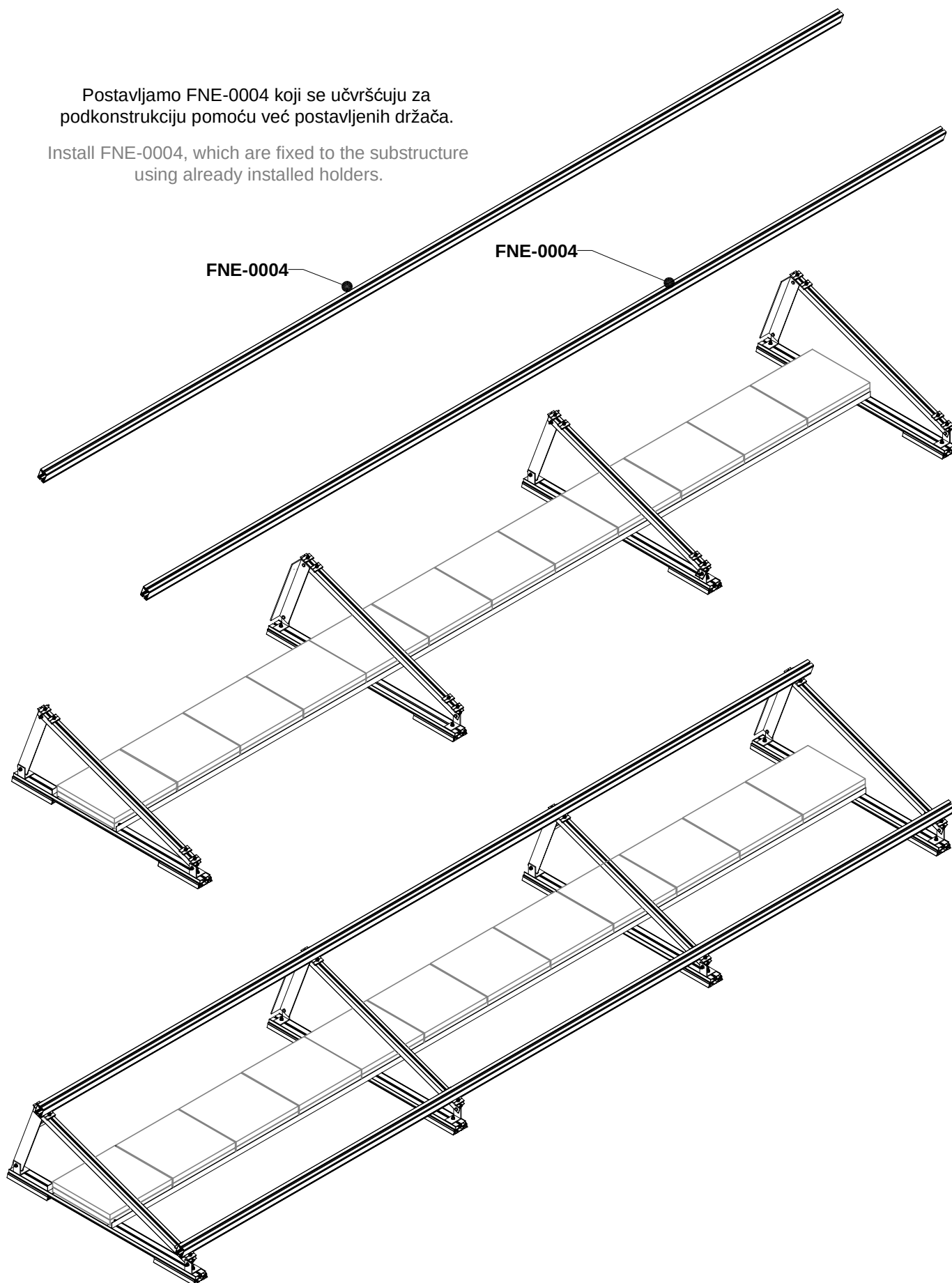
Nakon što smo učvrstili vezu između
dijagonale i L profila, postavljamo držače
nosača.

After the connection between the diagonal
and the L profile have been secured, install
the support brackets.



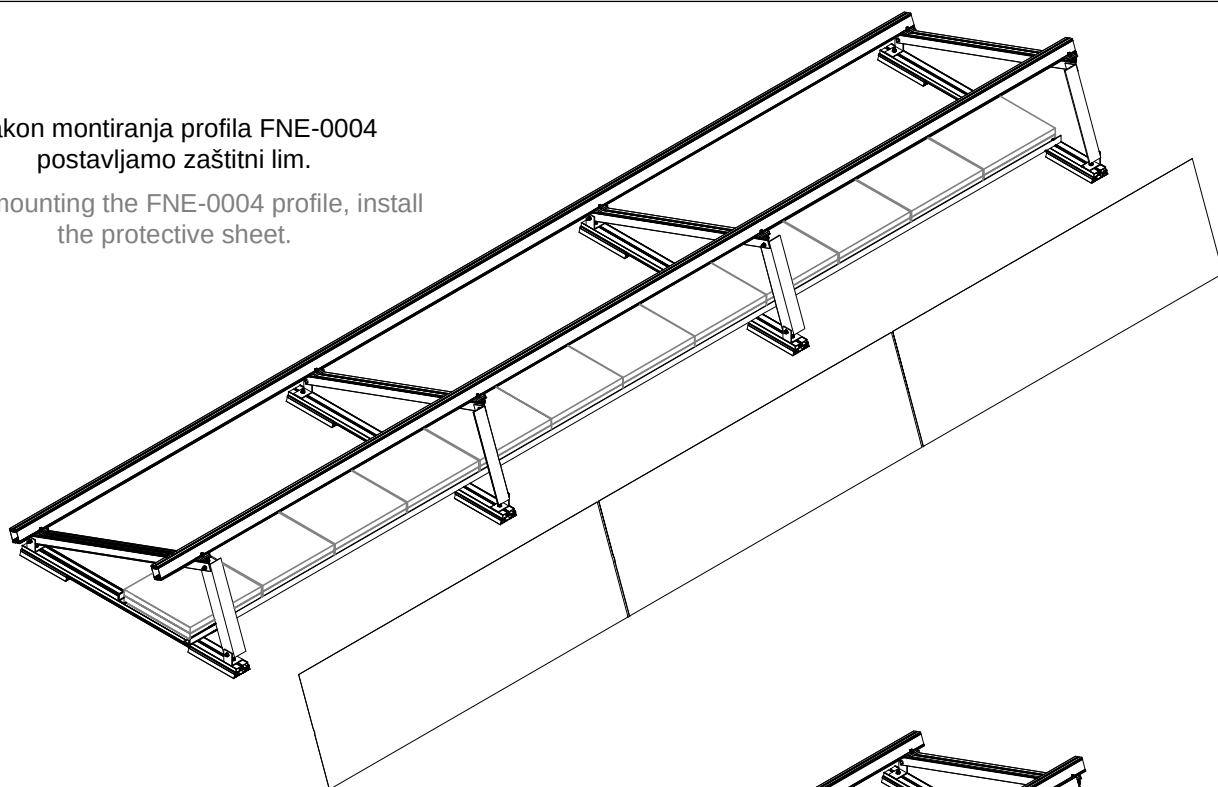
Postavljamo FNE-0004 koji se učvršćuju za podkonstrukciju pomoću već postavljenih držača.

Install FNE-0004, which are fixed to the substructure using already installed holders.

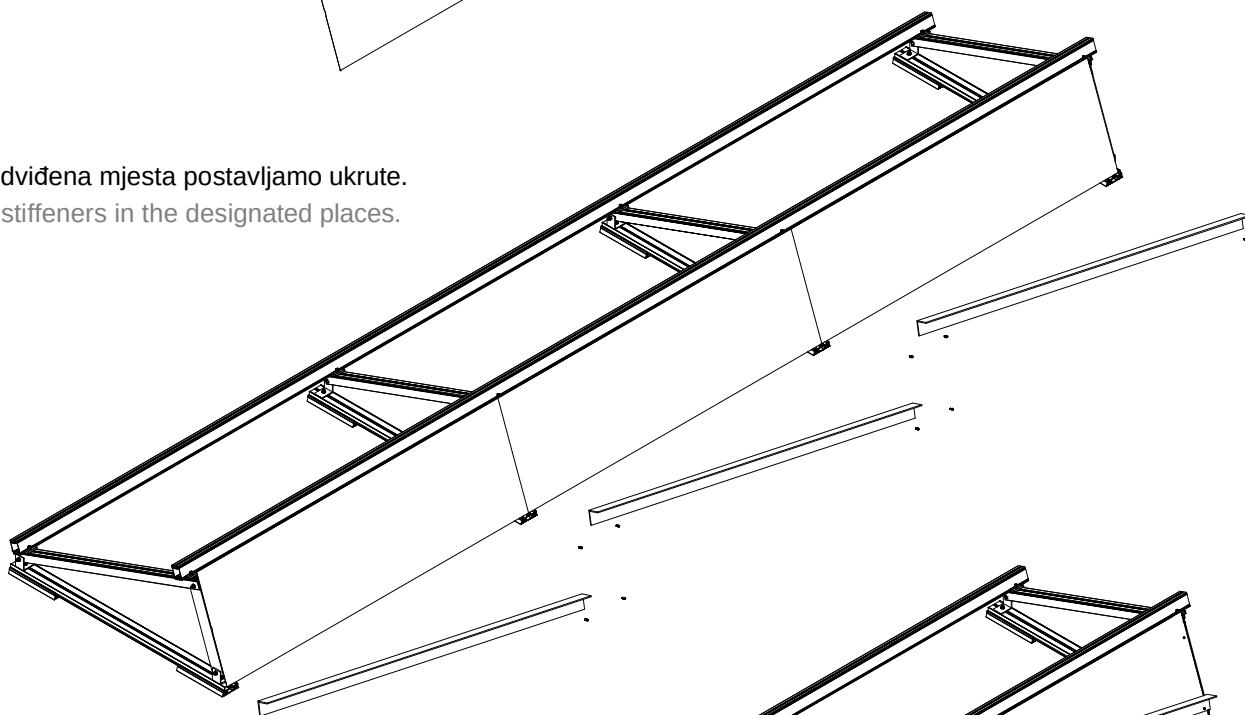


Nakon montiranja profila FNE-0004
postavljamo zaštitni lim.

After mounting the FNE-0004 profile,
install the protective sheet.

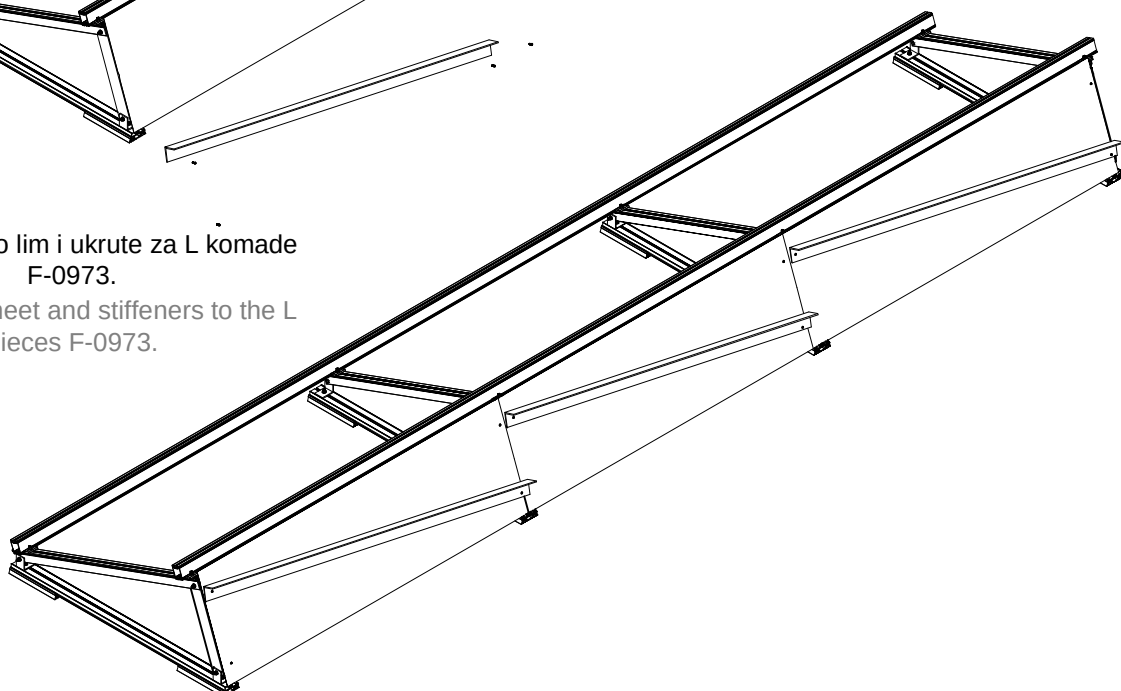


Na predviđena mjesta postavljamo ukrute.
Place stiffeners in the designated places.



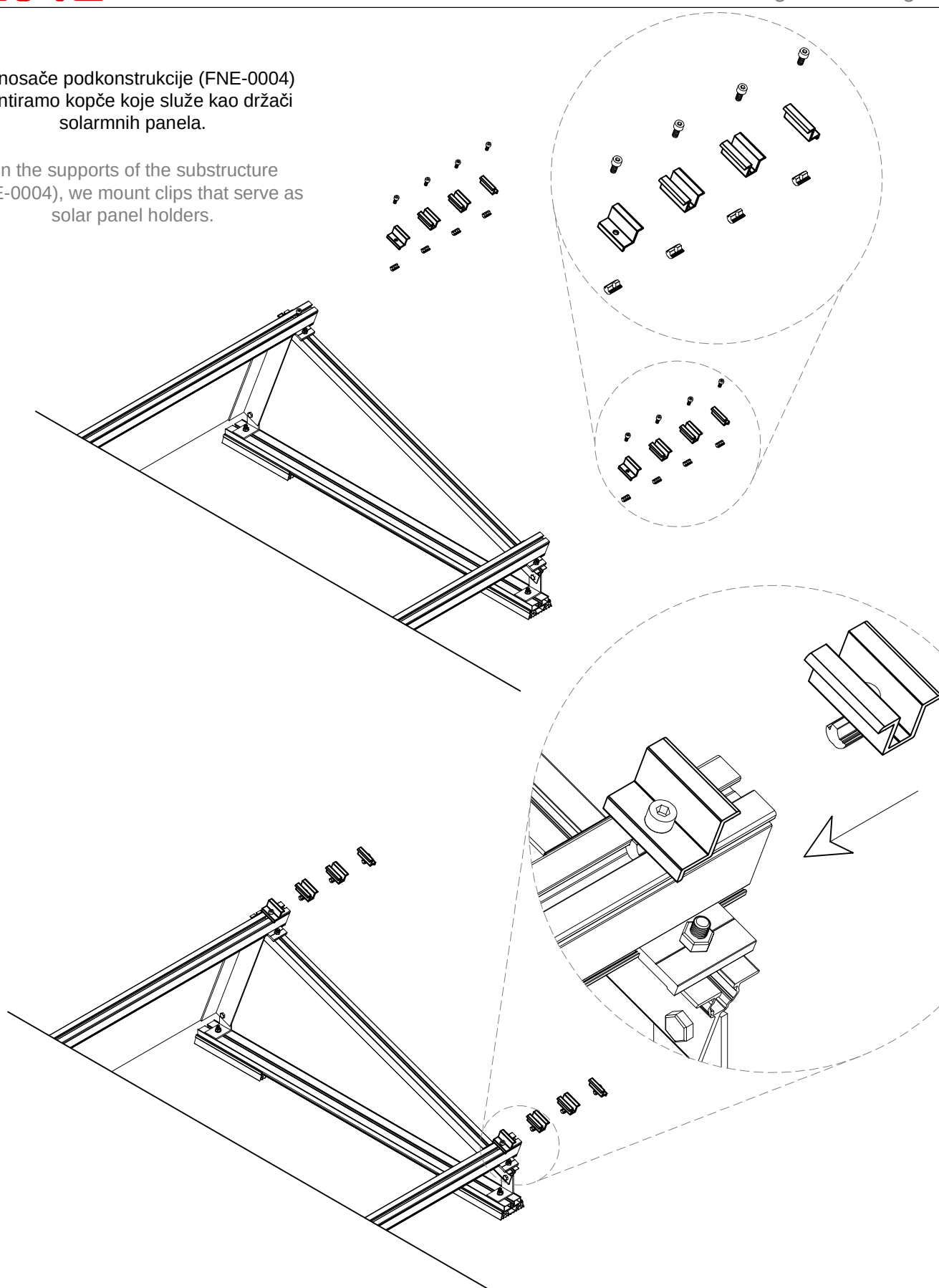
Pričvršćujemo lim i ukrute za L komade
F-0973.

Fasten the sheet and stiffeners to the L
pieces F-0973.



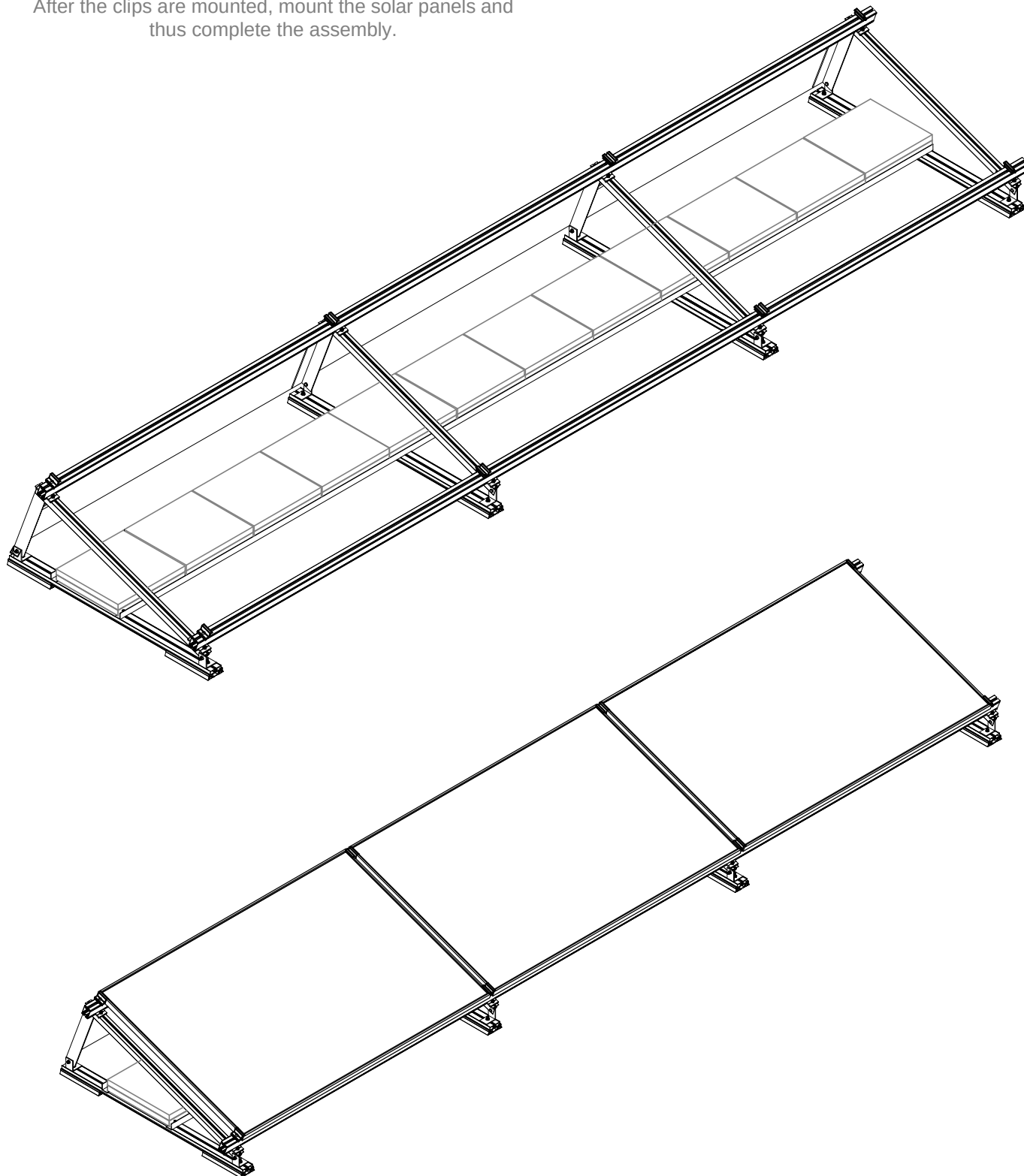
Na nosače podkonstrukcije (FNE-0004)
montiramo kopče koje služe kao držači
solarmnih panela.

On the supports of the substructure
(FNE-0004), we mount clips that serve as
solar panel holders.



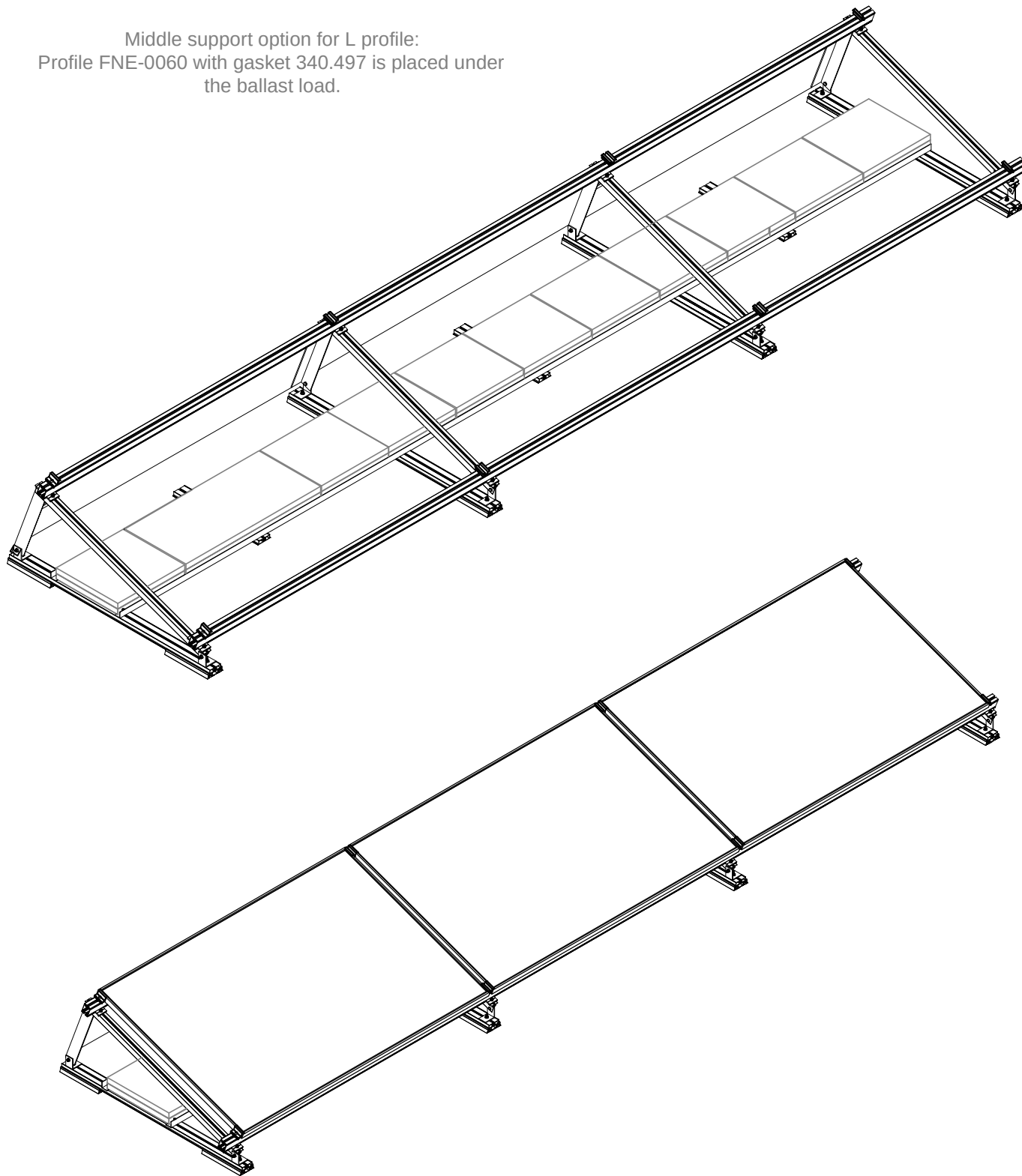
Nakon što su montirane kopče, montiramo solarne panele i time završavamo montažu.

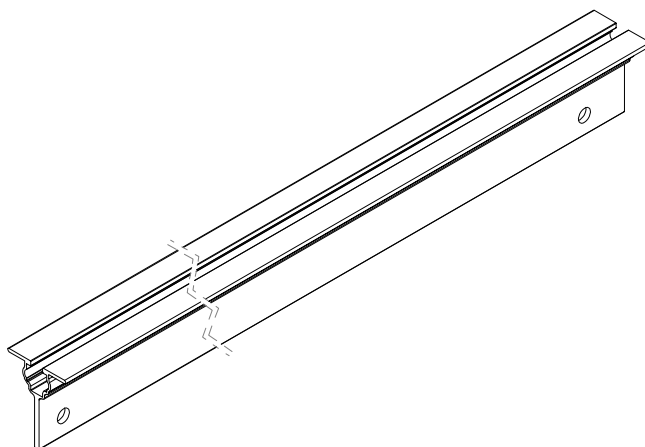
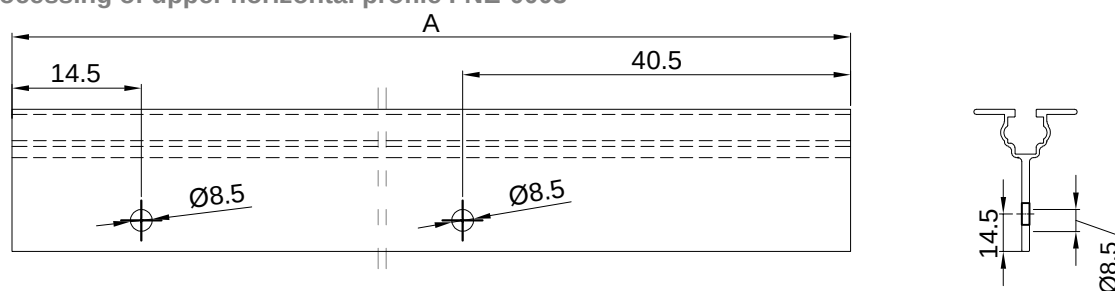
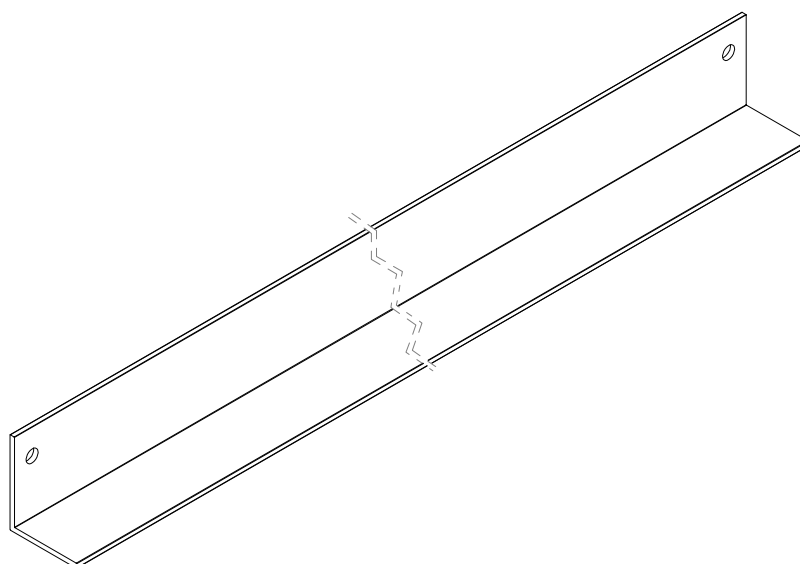
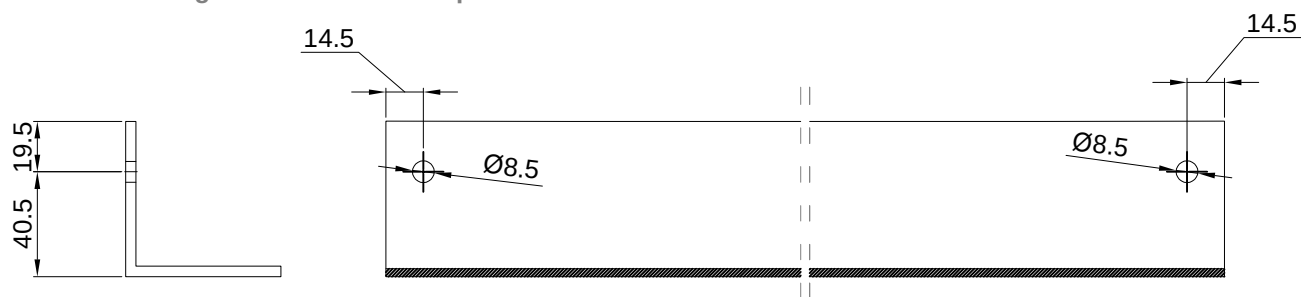
After the clips are mounted, mount the solar panels and thus complete the assembly.



Opcija srednjeg oslonca za L profil:
Profil FNE-0060 s brtvom 340.497 se postavi ispod
balastnog opterećenja.

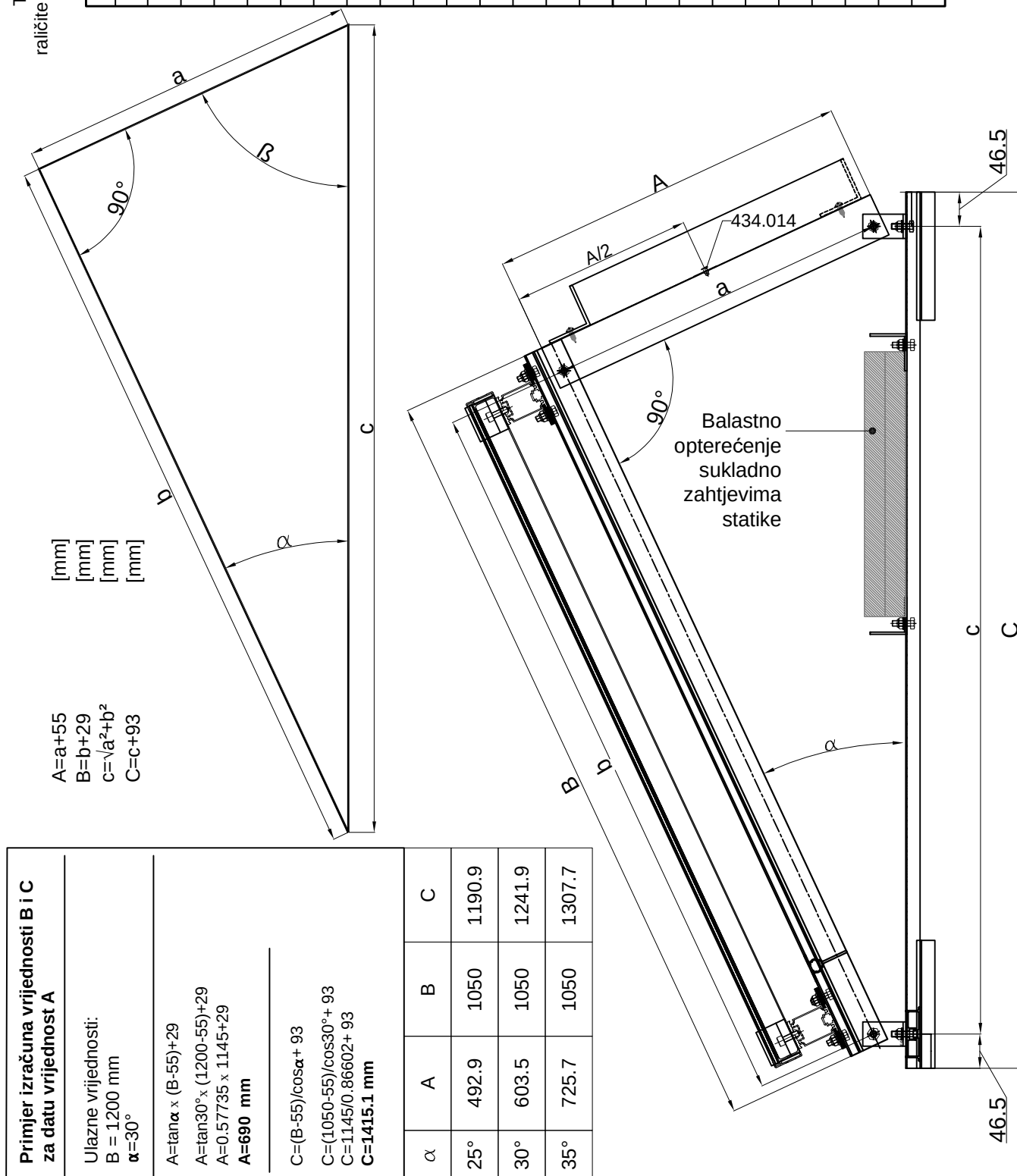
Middle support option for L profile:
Profile FNE-0060 with gasket 340.497 is placed under
the ballast load.



Vertikalna montaža panela na primarnu podkonstrukciju
Vertical installation on primary substructure**Obrada gornjeg horizontalnog profila FNE-0003**
Processing of upper horizontal profile FNE-0003**Obrada donjeg horizontalnog profila F-0973**
Processing of lower horizontal profile F-0973

Tablica vrijednosti dijagonala za
različite vrijednosti kuteva za datu vrijednost B

α	A [mm]	B [mm]	C [mm]
11	222.4	1050	1106.6
12	240.5	1050	1110.2
13	258.7	1050	1114.2
14	277.1	1050	1118.5
15	295.6	1050	1123.1
16	341.3	1050	1128.1
17	333.2	1050	1133.5
18	352.3	1050	1139.2
19	371.6	1050	1145.3
20	391.2	1050	1253.8
21	410.9	1050	1266.3
22	431	1050	1279.4
23	451.4	1050	1293.2
24	472	1050	1307.7
25	492.9	1050	1190.9
26	514.3	1050	1200
27	535.9	1050	1209.7
28	558	1050	1219.9
29	580.5	1050	1230.6
30	603.5	1050	1241.9
31	626.9	1050	1253.8
32	650.8	1050	1266.3
33	675.2	1050	1279.4
34	700.1	1050	1293.2
35	725.7	1050	1307.7



FEAL

FNE-1200

Studen 2022. / *November 2022*

FEAL d.o.o.
Trnska cesta 146
88220 Široki Brijeg
Bosna i Hercegovina
Tel. +387 39 704-269; 705-807; 705-636
Fax. +387 39 704-358
info@feal.ba
www.feal.ba