



- ***Photovoltaic carports***
- ***Fastening elements for assembly systems***
- ***Photovoltaic aluminum profiles***
- ***Mounting systems mounted on the ground and roofs***



2-Car Carport
(aluminium)

Technical Specs:	
Module orientation:	Vertical
Module quantity:	15
Suggested module dimensions:	2279x1134mm
Angle of inclination:	10°
Total power of panels on the structure:	8,1 – 8,4 kW
Spacing of supports	5,4m
Material:	Aluminium
Wind and snow resistance:	III zone
Ability to connect carports with another even quantity of positions	
Dimensions:	6x1,2x1m
Construction weight:	300kg

Innovative water drainage system

Full tightness of the roof structure





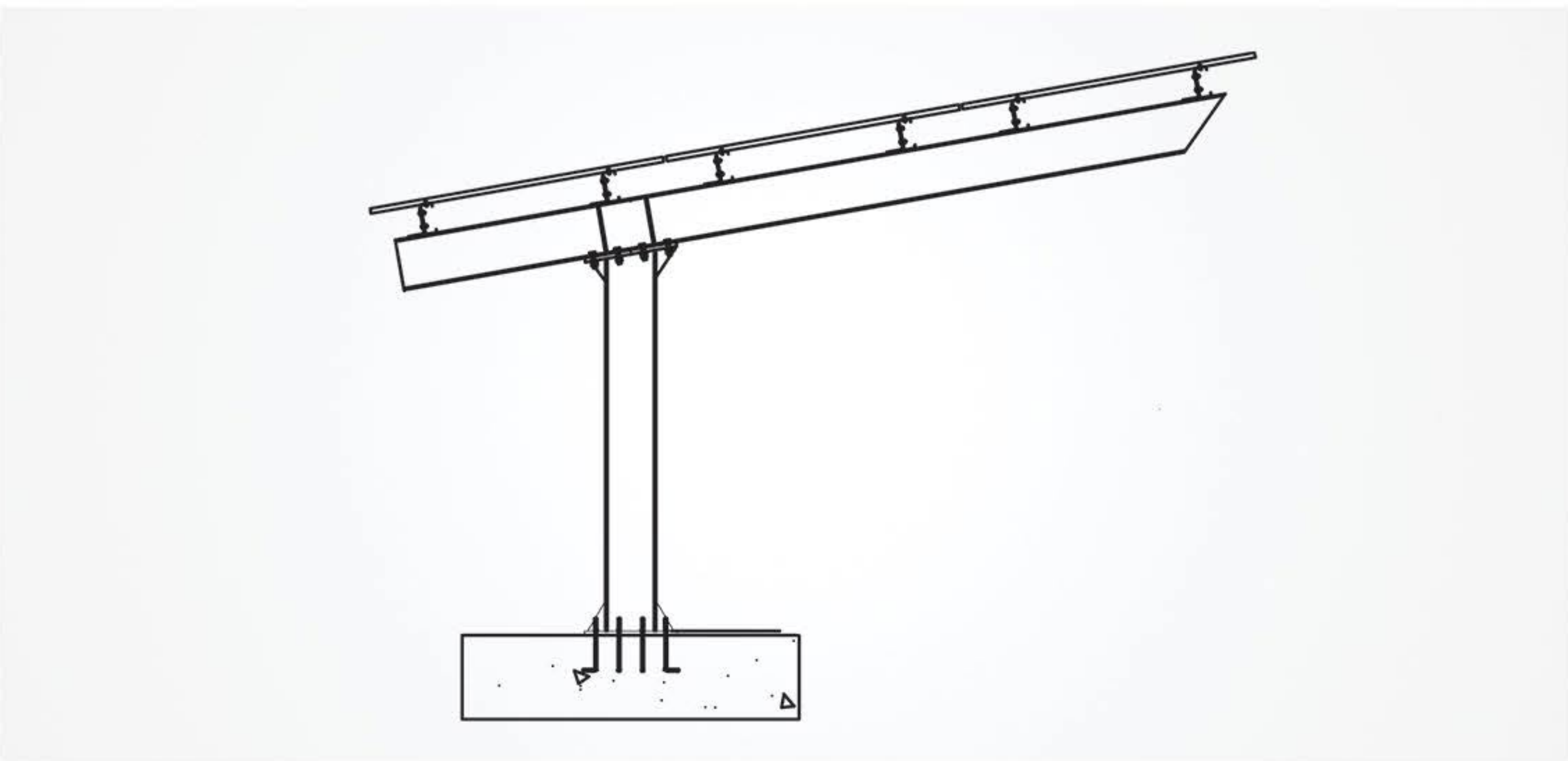


Steel carport: "L" Type
(according to customer specifications)

Technical specs	
Optional size and quantity	
Optional total power of structure modules	
Angle of inclination:	5-15°
Panel orientation:	vertical or horizontal
Resistance to wind and snow:	III zone
Possibility to connect carports with another even number of positions	
Material:	hot-dip galvanized steel

Innovative water drainage system

Full tightness of the roof structure





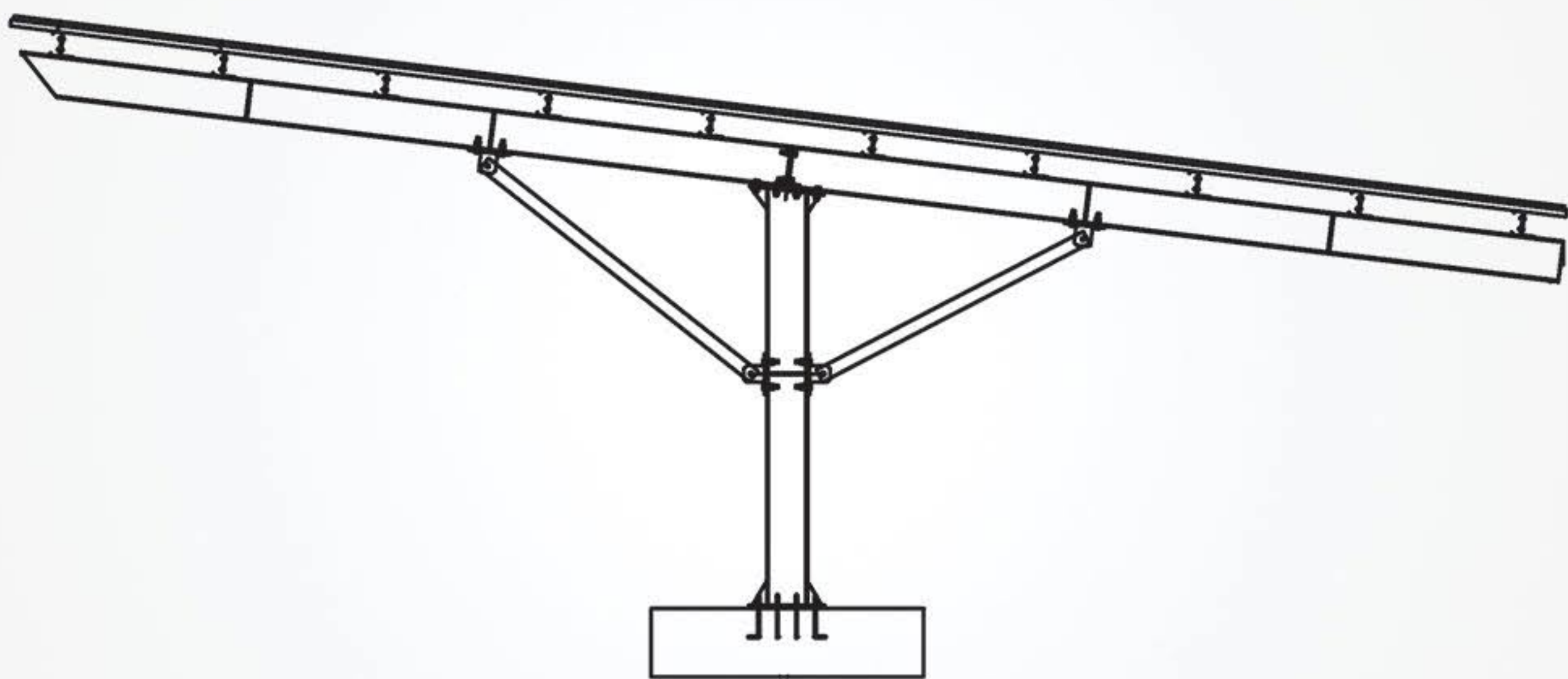


Steel carport: "T" Type
(according to customer specifications)

Technical specs	
Optional size and quantity	
Optional total power of structure modules	
Angle of inclination:	5-15°
Panel orientation:	vertical or horizontal
Resistance to wind and snow:	III zone
Possibility to connect carports with another even number of positions	
Material:	hot-dip galvanized steel

Innovative water drainage system

Full tightness of the roof structure







Steel carport: "Y" Type
(according to customer specifications)

Technical specs	
Optional size and quantity	
Optional total power of structure modules	
Angle of inclination:	5-15°
Panel orientation:	vertical or horizontal
Resistance to wind and snow:	III zone
Possibility to connect carports with another even number of positions	
Material:	hot-dip galvanized steel

Innovative water drainage system

Full tightness of the roof structure

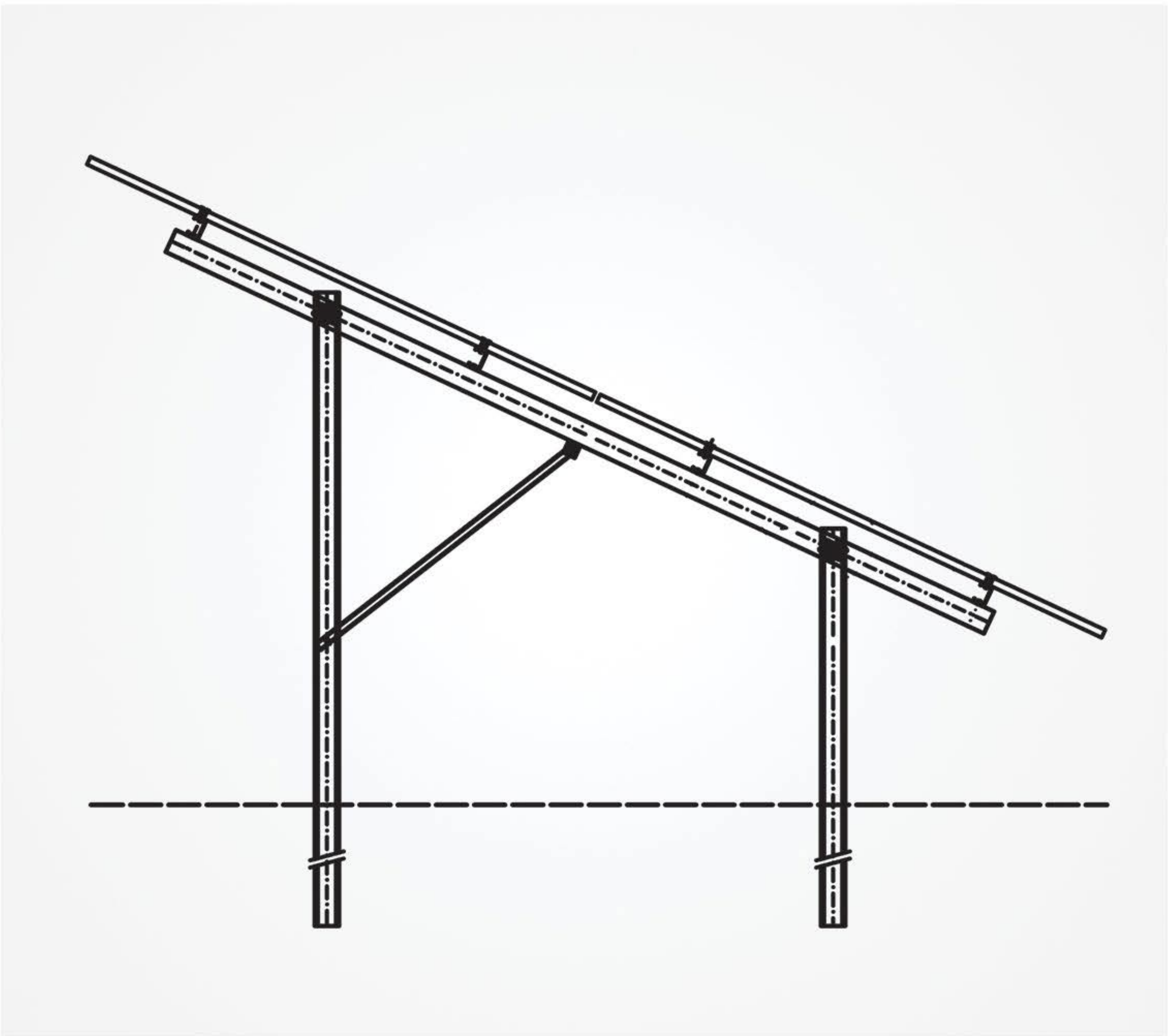
A technical line drawing of the 'Y' type steel carport structure. It illustrates the central vertical support column and the two angled beams that branch out to support the roof panels. The diagram highlights the structural components and the integration of the water drainage system, showing how water would flow from the roof panels into a central collection point.







Technical specs	
Module orientation:	2 vertical / 3-4 horizontal
Angle of inclination:	20°/25°/30°
Installation: driven into the ground or mounted to a concrete base	
Material:	structural steel with increased strength
Anti-corrosion coating:	Magnelis
Use:	farms and micro installations
Resistance to wind and snow:	III zone
Additional options	
Additional concentrations	
Panels orientation	East-West







Ground construction
(aluminum)

Technical specs	
Module orientation:	vertical double-row
Angle of inclination:	30° (25-35° to order)
Installation:	screwed into the ground or installation to a concrete base
Material:	aluminum with increased strength
Use:	farms and micro installations
Wind and snow resistance:	III zone
Additional options	
Additional concentrations	
Panels orientation	horizontally, east-west





Agrovoltaic construction (aluminum and steel)

Specifications

Optional size and quantity

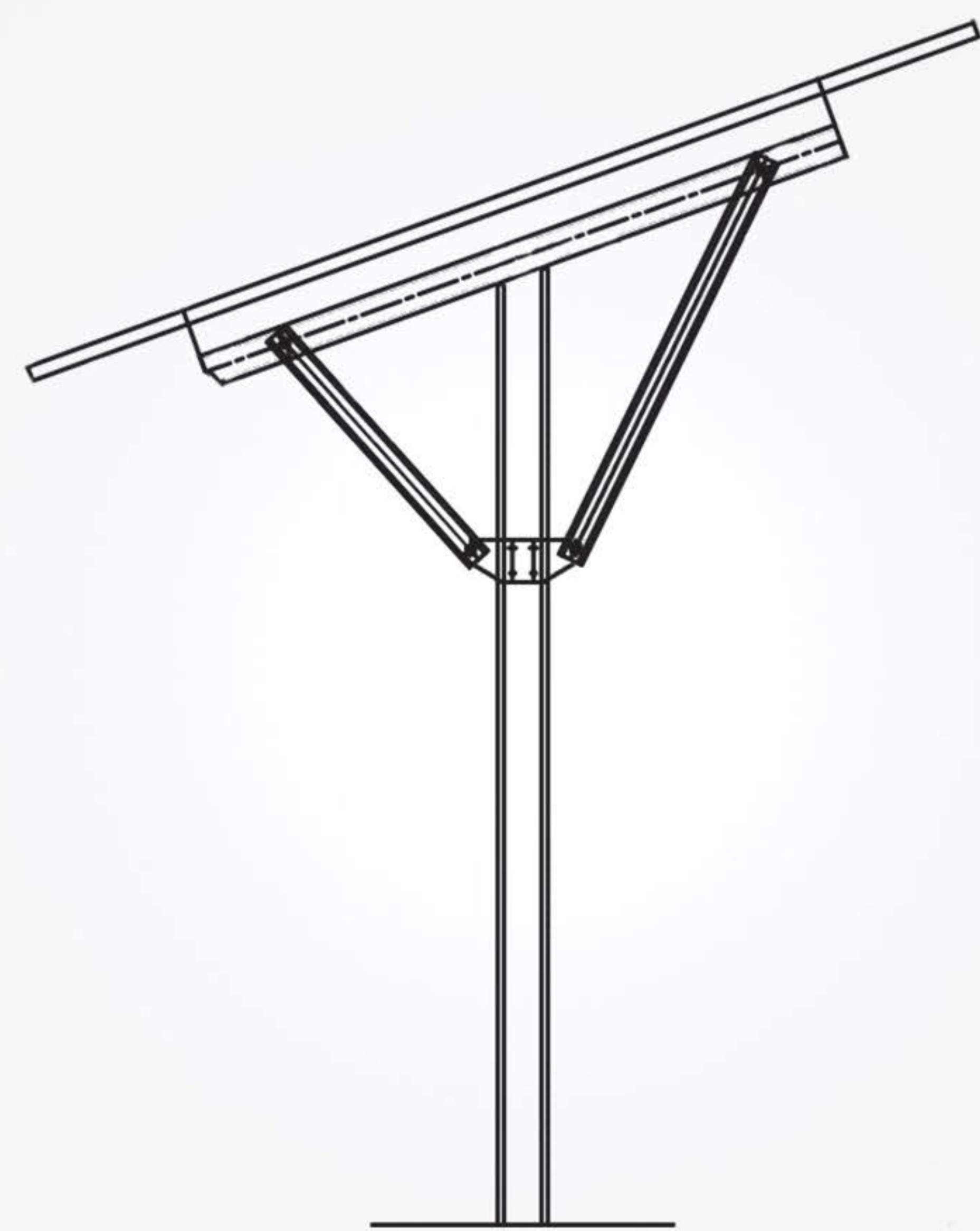
Optional total power of structure modules

Angle of inclination: 5-15°

Panels orientation: vertical or horizontal

Resistance to wind and snow: III zone

Material: hot-dip galvanized steel / aluminum



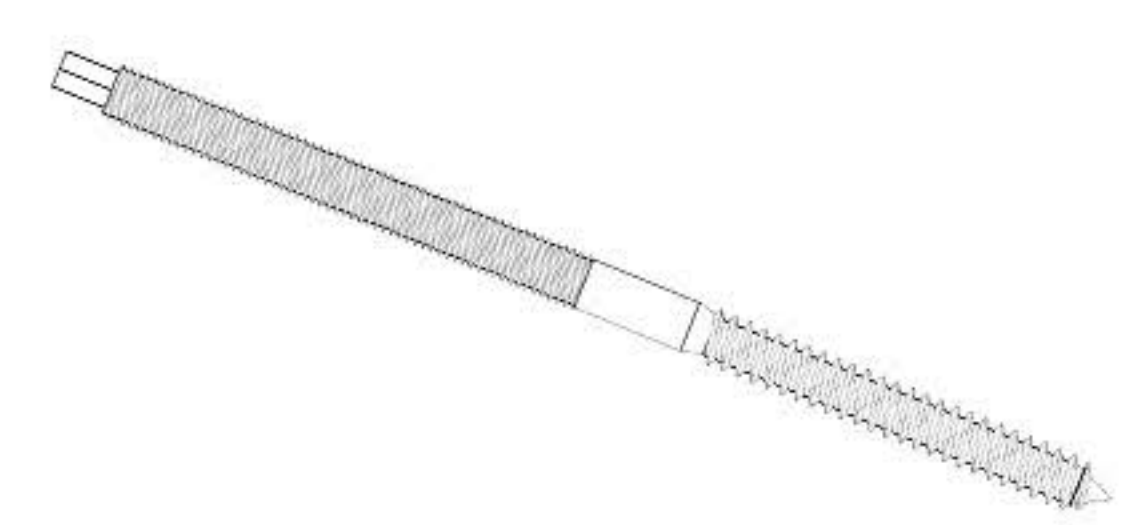


Pitched roof system
(metal roofing sheet)

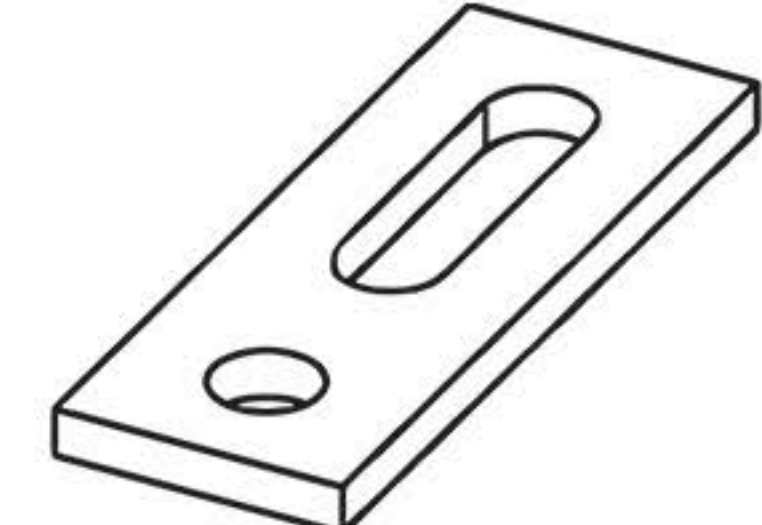
LP	Description	Material
1	Mounting profile *	AL 6060 T6
2	Double screw thread	A2
3	Mounting adapter M10	A2
4	End clamp **	AL 6060 T6
5	Central clamp **	AL 6060 T6
6	Allen key bolt M8x**	A2
7	Spring washer M8	A2
8	Square nut M8	A2
9	Slot nut	AL 6060 T6
10	Hexagonal bolt M10x25	A2
11	T-bolt M10x25	A2
12	Flange nut M10	A2
13	Plastic cap 40x40	ABS

* profiles are available in assembly variants A and B
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

Double screw thread



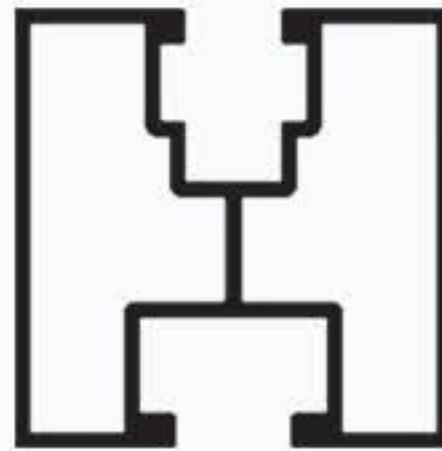
Mounting adapter M10



Flange nut M10



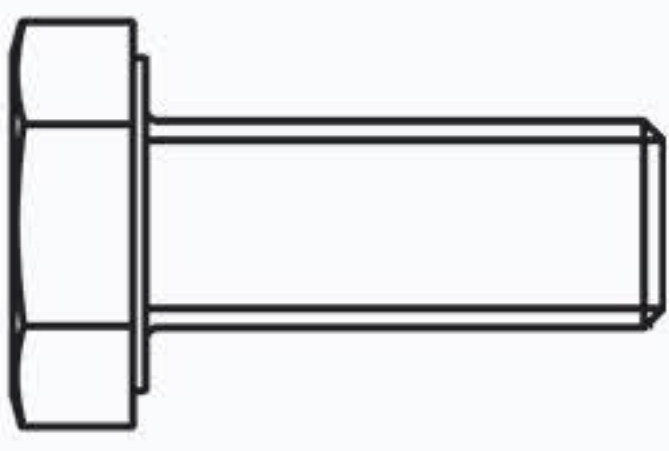
Profile 40x40


for hexagon screw

Square nut M8

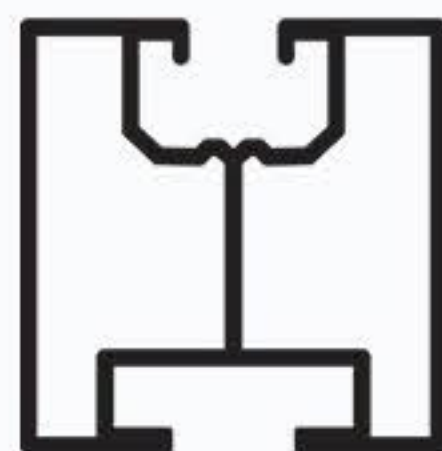


Hexagon bolt M10x25

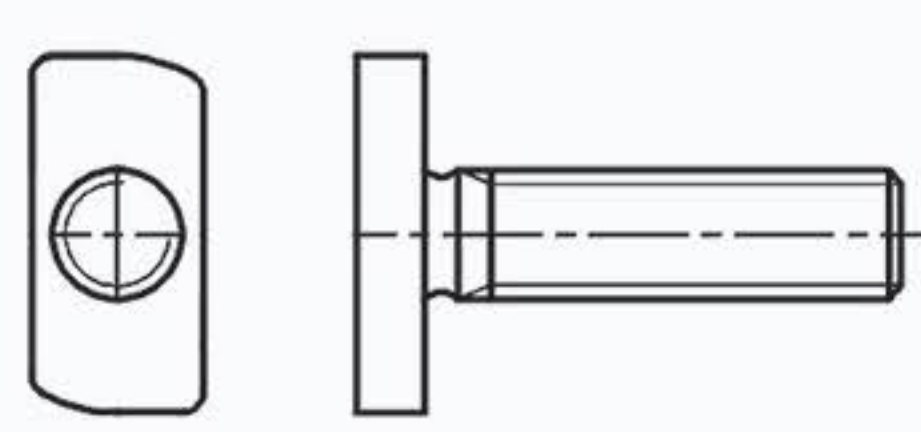


Installation variant A

Profile 40x40


for a T-bolt

T-bolt M10x25

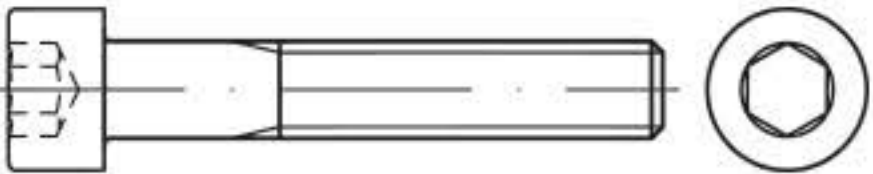


Slot nut M8



Installation variant B

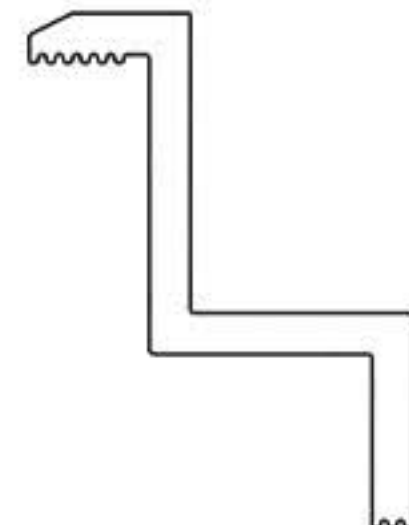
Allen key bolt M8x*



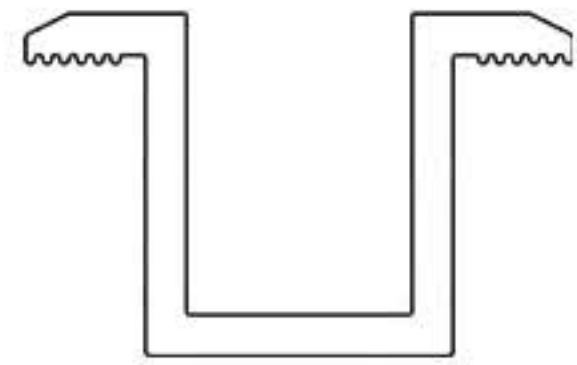
Spring washer M8



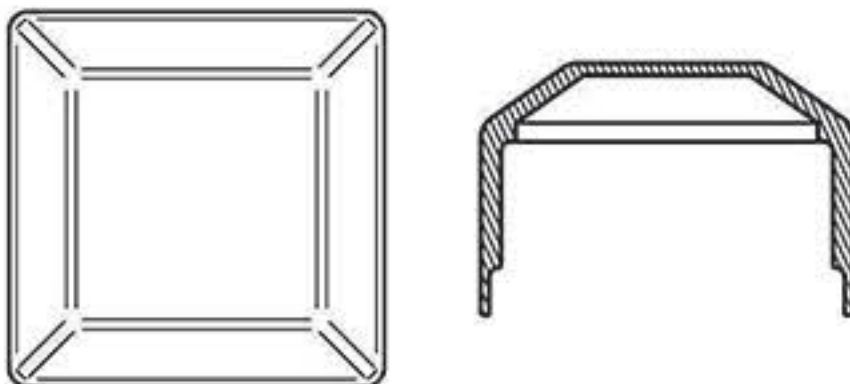
End clamp*



Central clamp*



Plastic cap 40x40





Pitched roof system
(trapezoidal metal sheet)

LP	Description	Material
1	Trapezoidal bridge*	AL 6060 T6
2	End clamp **	AL 6060 T6
3	Central clamp**	AL 6060 T6
4	Allen key bolt M8x**	A2
5	Square nut M8	A2
6	Spring washer M8	A2
7	Sheet metal screw Bi-Metal	A2
8	Foam	EPDM

* trapezoidal profiles come in the following variants: T40, T60, T70, T100
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

Allen key bolt M8x**

M8X35
M8X40
M8X45

Spring washer M8

Square nut M8

Sheet metal screw

Trapezoidal bridge L= 330mm / Sticked with EPDM foam from the bottom / Can be cut to any length (made to order)

Mostek T40

Mostek T60

Mostek T70

Mostek T100

End clamp L= 50mm

Available surface variants: raw, lacquered, anodized

Central clamp L= 50mm



Pitched roof system
(ceramic tile)

LP	Description	Material
1	Mounting profile *	AL 6060 T6
2	Vario hook	A2
3	Wood screw TCS M8	A2
4	End clamp **	AL 6060 T6
5	Central clamp **	AL 6060 T6
6	Allen key bolt M8x**	A2
7	Spring washer M8	A2
8	Square nut M8	A2
9	Slot nut	AL 6060 T6
10	Hexagon head bolt M10x25	A2
11	T-bolt M10x25	A2
12	Flange nut M10	A2
13	Plastic cap 40x40	ABS

* profiles are available in assembly variants A and B
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

Vario hook

double adjustable

Wood screw M8

Flange nut M10

Profile 40x40

for hexagon screw

Square nut M8

Screw M10x25

Installation variant A

Profile 40x40

for a T-bolt

T-bolt M10x25

Slot nut M8

Installation variant B

Allen key bolt M8x*

Spring washer M8

End clamp*

Central clamp*

Plastic cap 40x40

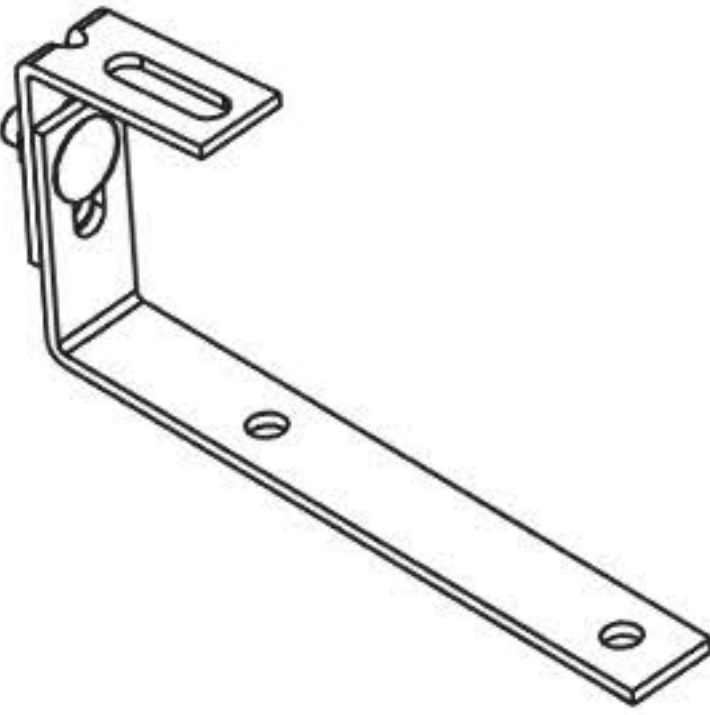


Pitched roof systems
(roofing felt and shingle)

LP	Description	Material
1	Mounting profile *	AL 6060 T6
2	J-type roof hook	A2
3	Wood screw TCS M8	A2
4	End clamp **	AL 6060 T6
5	Central clamp **	AL 6060 T6
6	Allen key bolt M8x**	A2
7	Spring washer M8	A2
8	Square nut M8	A2
9	Slot nut	AL 6060 T6
10	Hexagon head bolt M10x25	A2
11	T-bolt M10x25	A2
12	Flange nut M10	A2
13	Plastic cap 40x40	ABS

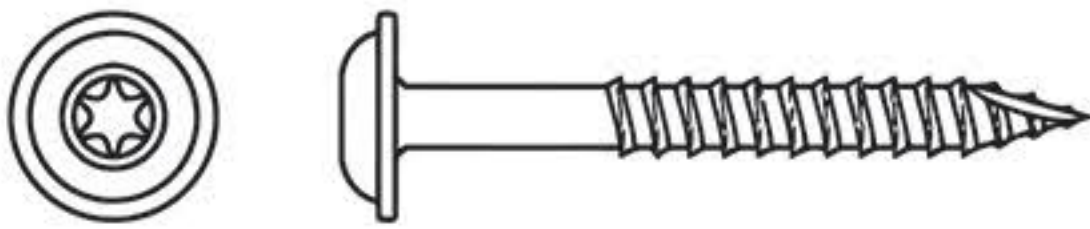
* profiles are available in assembly variants A and B
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

J-type roof hook



adjustable or standard

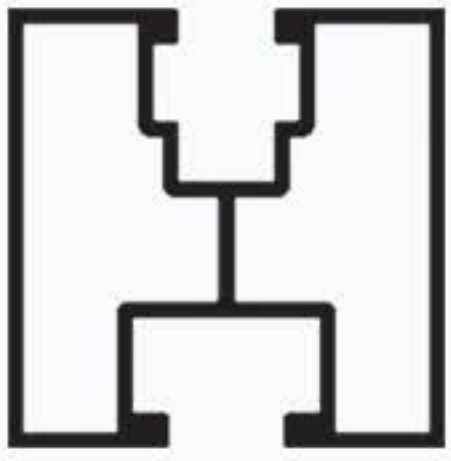
Wood screw M8



Flange nut M10



Profile 40x40

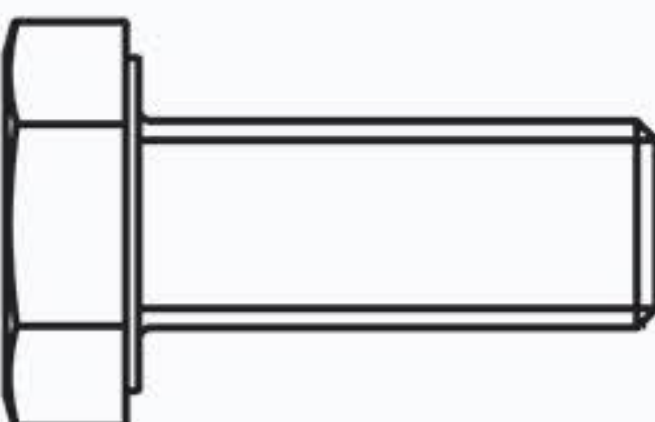


for hexagon screw

Square nut M8



Screw M10x25



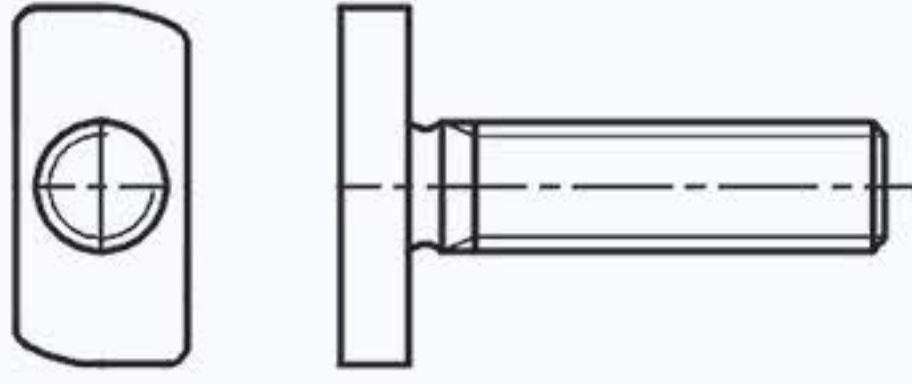
Installation variant A

Profile 40x40



for a T-bolt

T-bolt M10x25

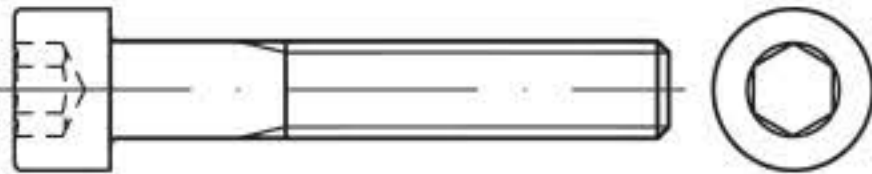


Slot nut M8



Installation variant B

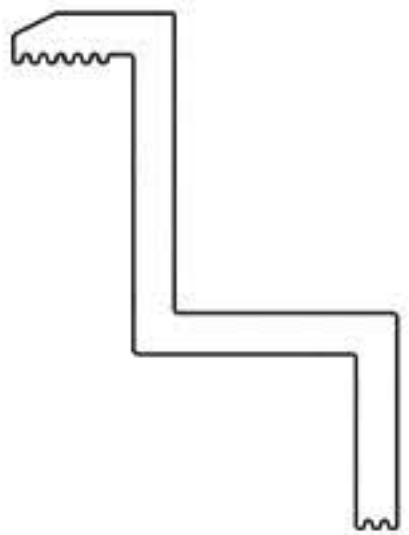
Allen key bolt M8x*



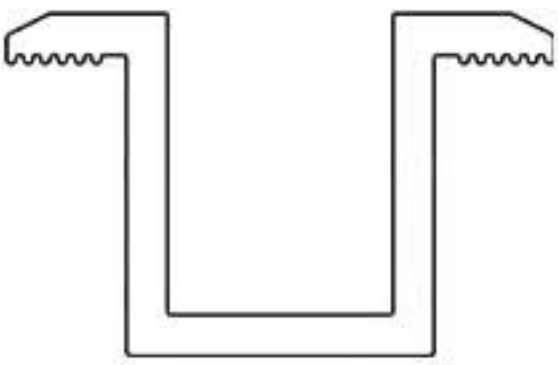
Spring washer M8



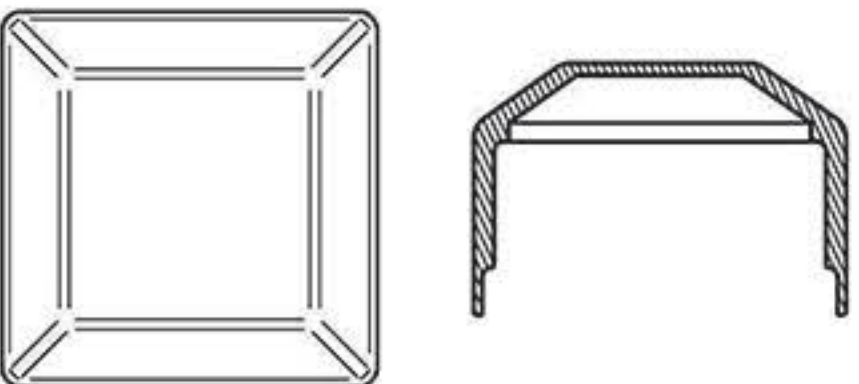
End clamp*



Central clamp*



Plastic cap 40x40



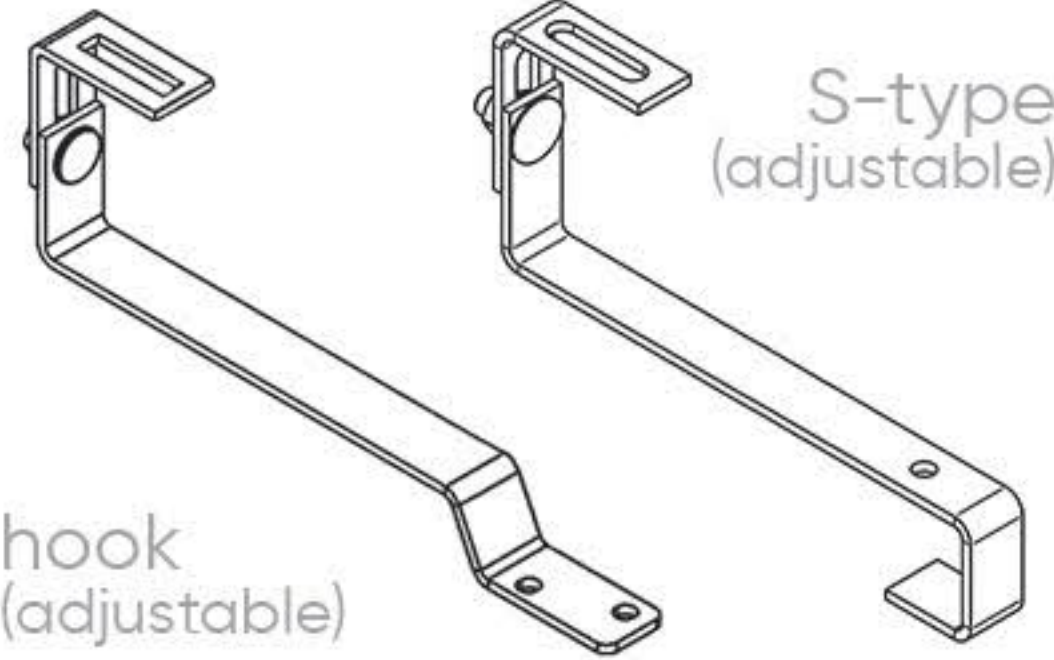


Pitched roof systems
(plain roof tile)

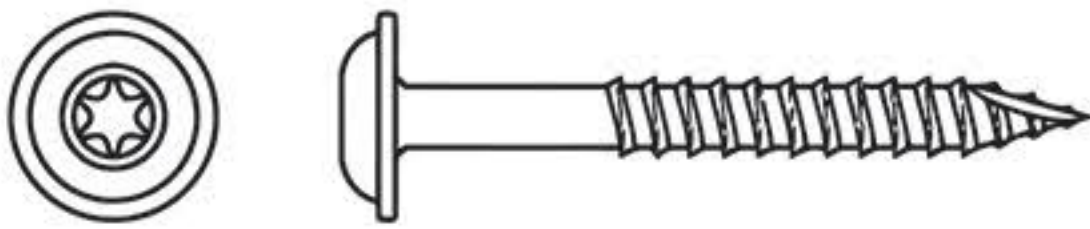
LP	Description	Material
1	Mounting profile *	AL 6060 T6
2	S-type roof hook	A2
3	Wood screw TCS M8	A2
4	End clamp **	AL 6060 T6
5	Central clamp **	AL 6060 T6
6	Allen key bolt M8x**	A2
7	Spring washer M8	A2
8	Square nut M8	A2
9	Slot nut	AL 6060 T6
10	Hexagon head bolt M10x25	A2
11	T-bolt M10x25	A2
12	Flange nut M10	A2
13	Plastic cap 40x40	ABS

* profiles are available in assembly variants A and B
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

S-type roof hook



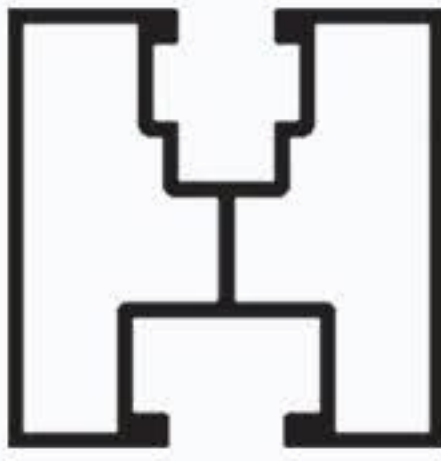
Wood screw M8



Flange nut M10



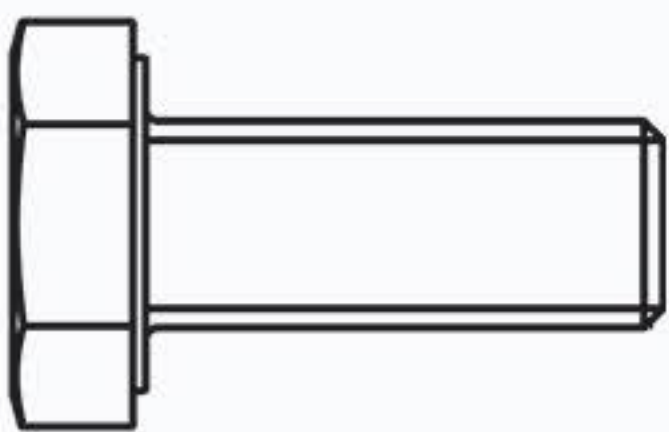
Profile 40x40


for hexagon screw

Square nut M8

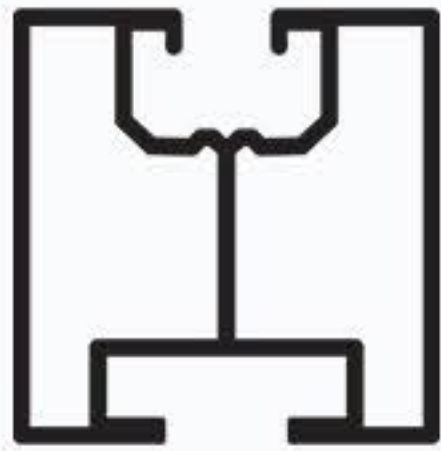


Screw M10x25

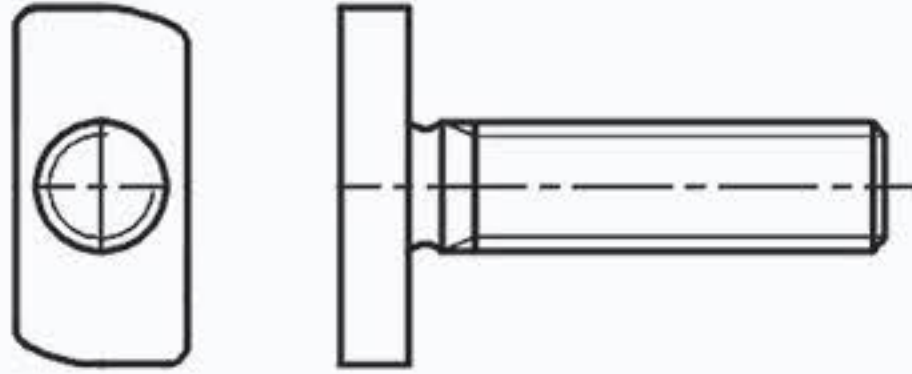


Installation variant A

Profile 40x40


for a T-bolt

T-bolt M10x25



Slot nut M8



Installation variant B

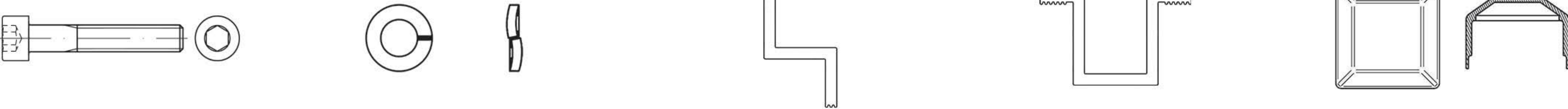
Allen key bolt M8x*

Spring washer M8

End clamp*

Central clamp*

Plastic cap 40x40





Pitched roof systems
(standing seam sheet)

LP	Description	Material
1	Mounting profile *	AL 6060 T6
2	Seamless sheet bracket	A2
3	End clamp **	AL 6060 T6
4	Central clamp **	AL 6060 T6
5	Allen key bolt M8x**	A2
6	Spring washer M8	A2
7	Square nut M8	A2
8	Slot nut	A2
9	Hexagon head bolt M10x25	A2
10	T-bolt M10x25	A2
11	Flange nut M10	A2
12	Plastic cap 40x40	ABS

* profiles are available in assembly variants A and B
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

Seamless sheet bracket

Flange nut M10

Profile 40x40

Square nut M8

Screw M10x25

Installation variant A

Profile 40x40

T-bolt M10x25

Slot nut M8

Installation variant B

Allen key bolt M8x*

Spring washer M8

End clamp*

Central clamp*

Plastic cap 40x40

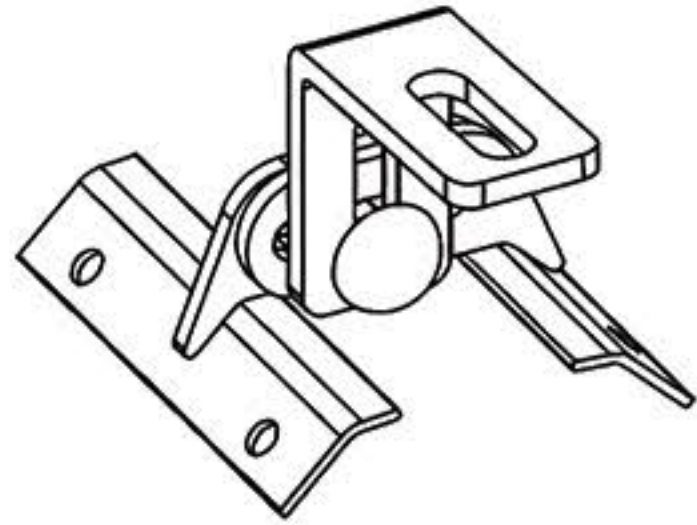


Pitched roof systems
(trapezoidal metal sheet)

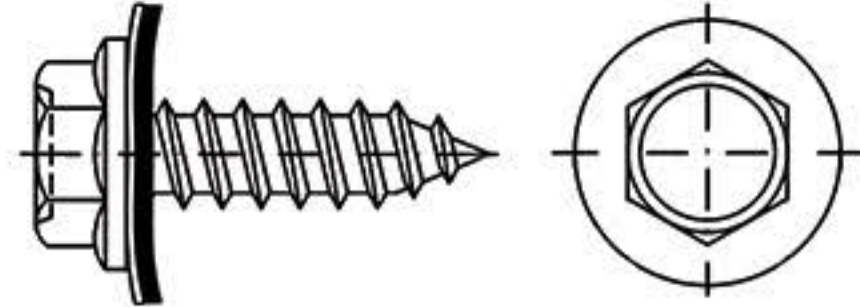
LP	Description	Material
1	Mounting profile *	AL 6060 T6
2	Trapezoidal hook	A2
3	End clamp **	AL 6060 T6
4	Central clamp **	AL 6060 T6
5	Alley key bolt M8x**	A2
6	Spring washer M8	A2
7	Square nut M8	A2
8	Slot nut	A2
9	Hexagon head bolt M10x25	A2
10	T-bolt M10x25	A2
11	Flange nut M10	A2
12	Plastic cap 40x40	ABS

* profiles are available in assembly variants A and B
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

Trapezoidal hook


adjustable

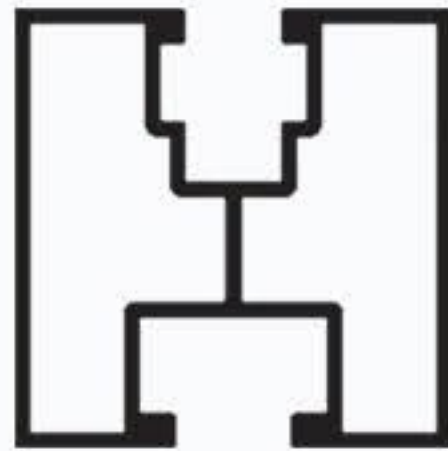
Sheet metal screw



Flange nut M10



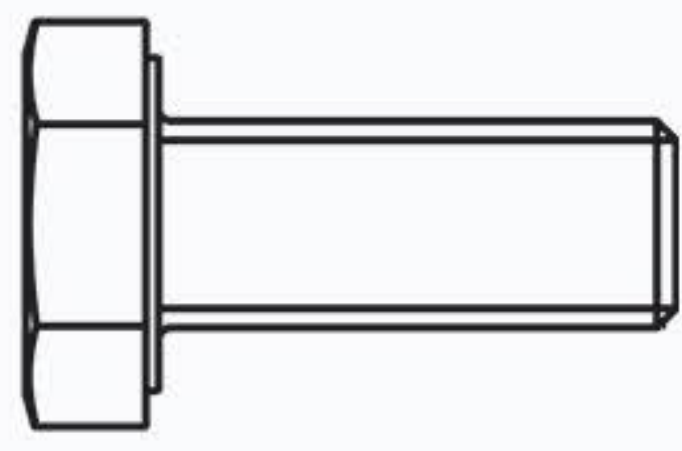
Profile 40x40


for a hexagon screw

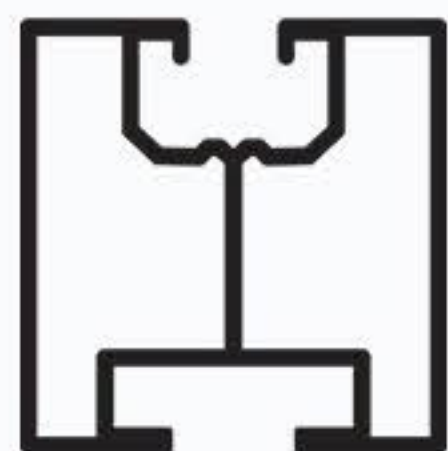
Square nut M8



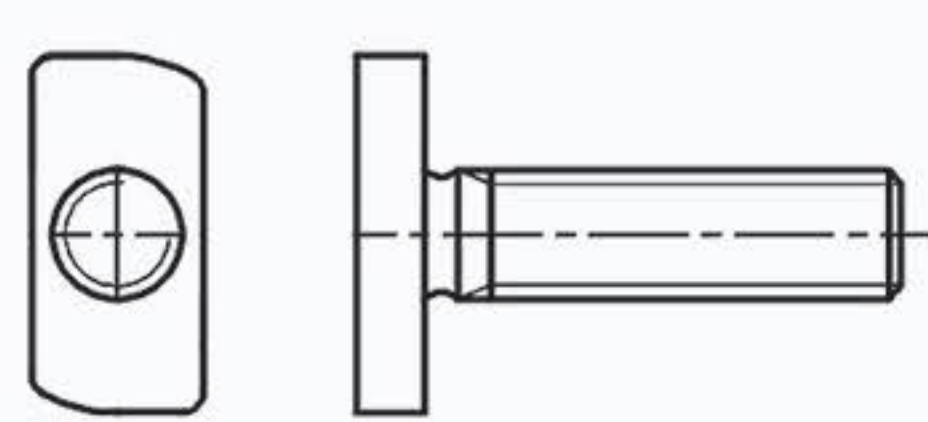
Screw M10x25


Installation variant A

Profile 40x40


for a T-bolt

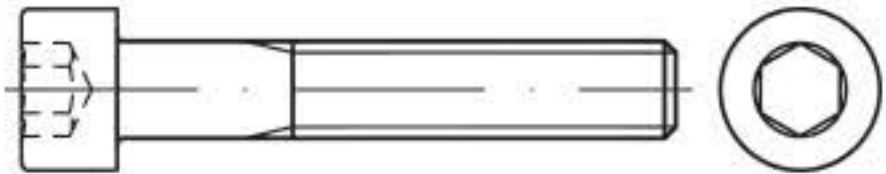
T-bolt M10x25



Slot nut M8


Installation variant B

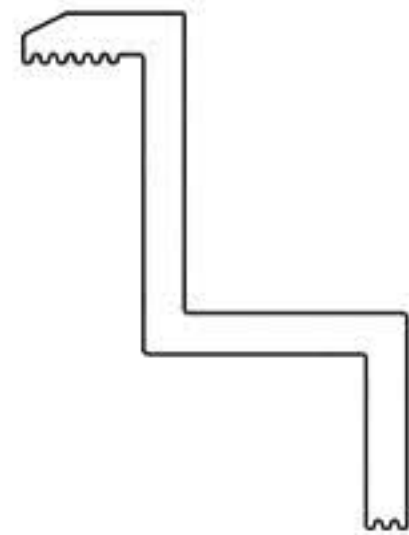
Allen key bolt M8x*



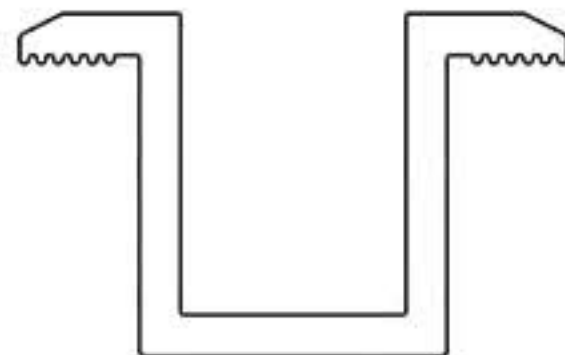
Spring washer M8



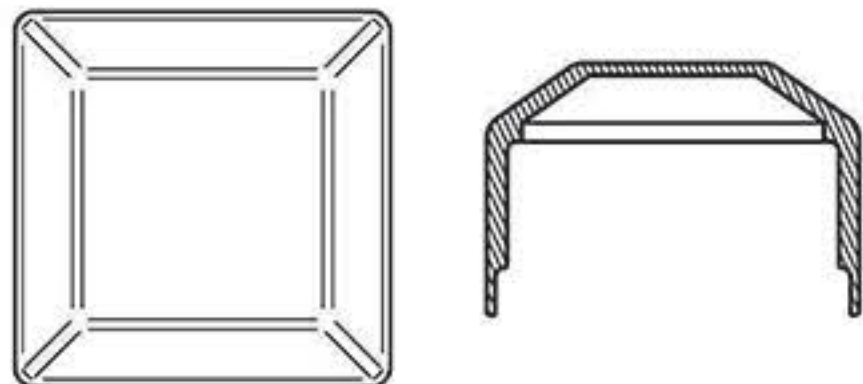
End clamp*

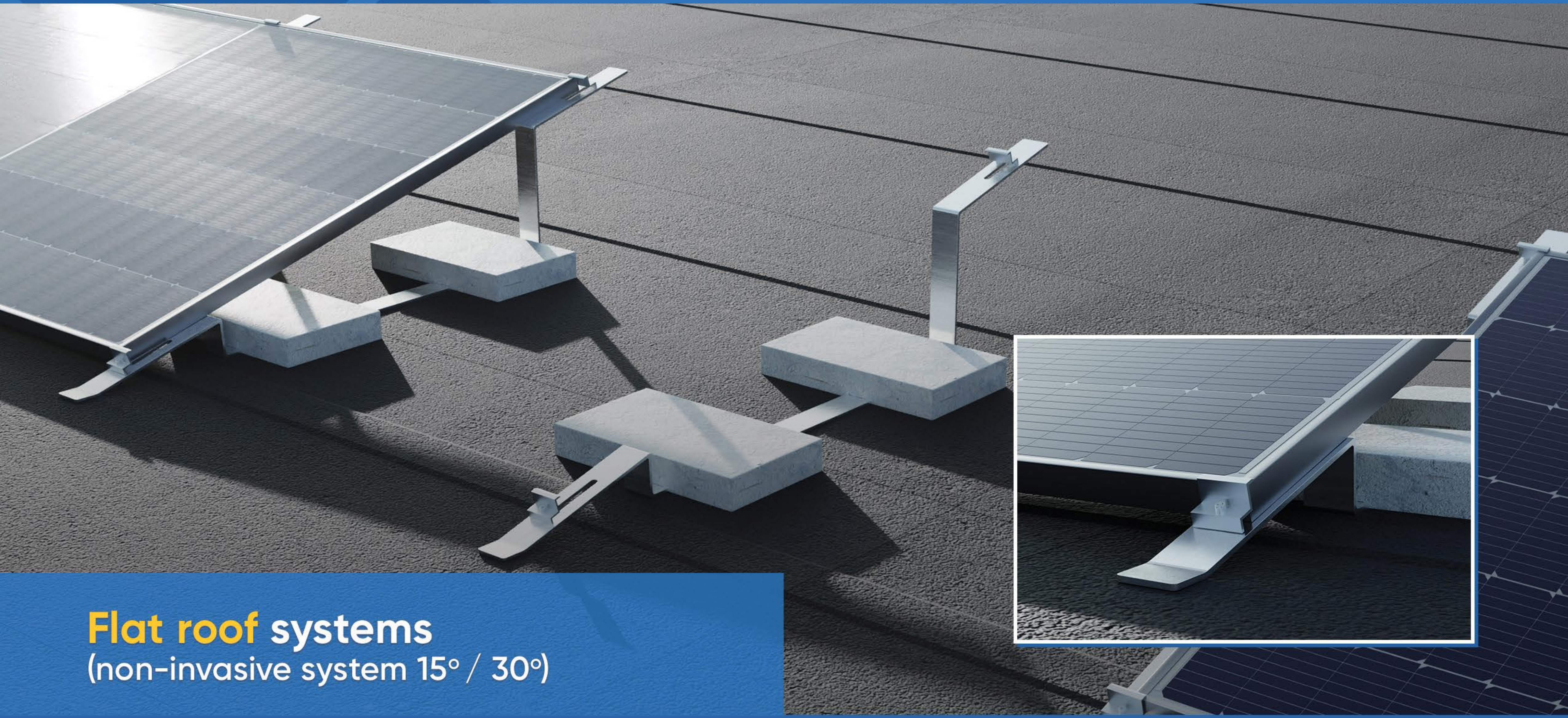


Central clamp*



Plastic cap 40x40



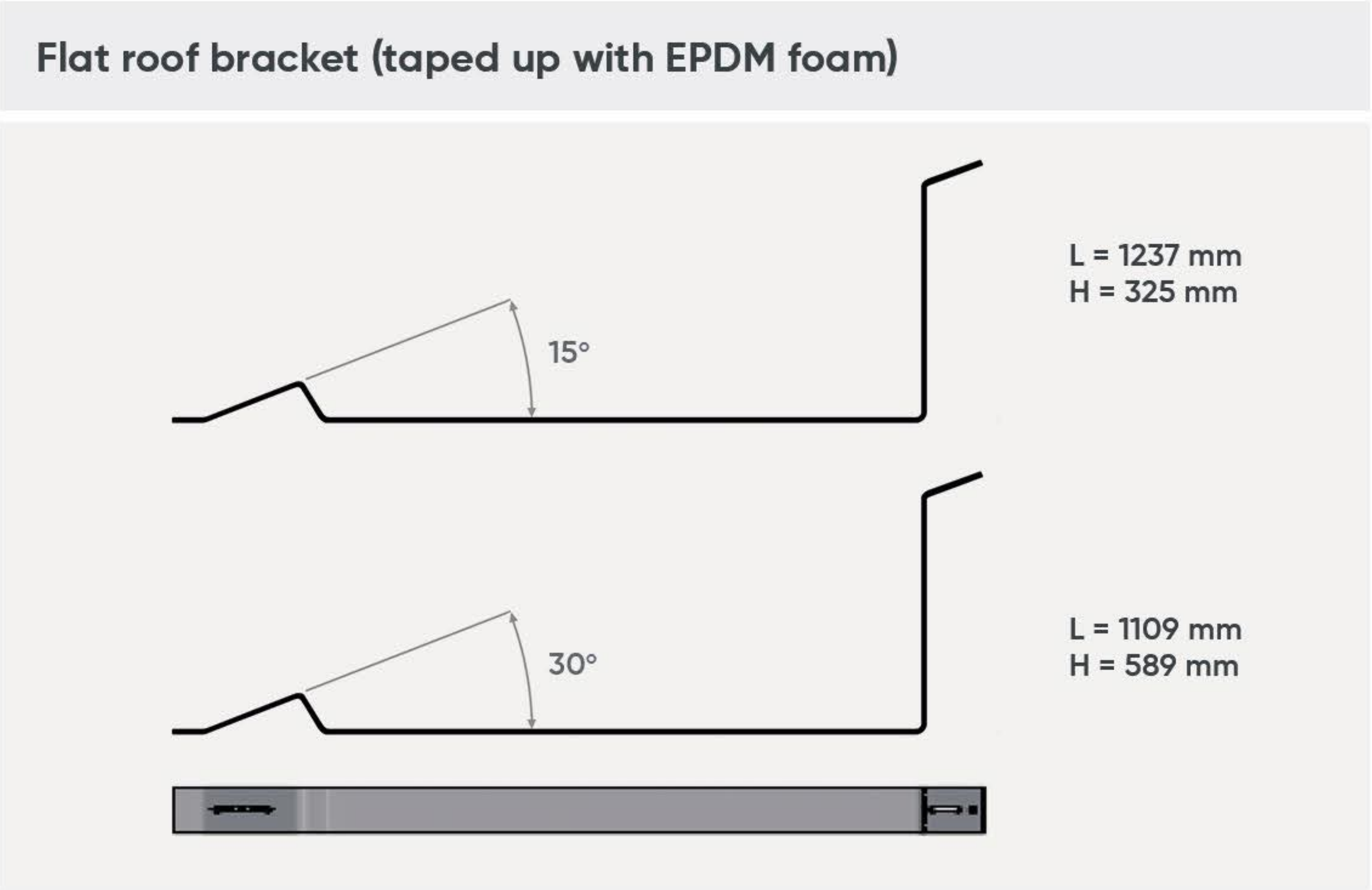


Flat roof systems
(non-invasive system 15° / 30°)

LP	Description	Material
1	Flat roof bracket	AL 6060 T6
2	End clamp*	AL 6060 T6
3	Alley key bolt M8x*	A2
4	Flange nut M8	A2
5	Spring washer M8	A2
6	Concrete block**	Concrete

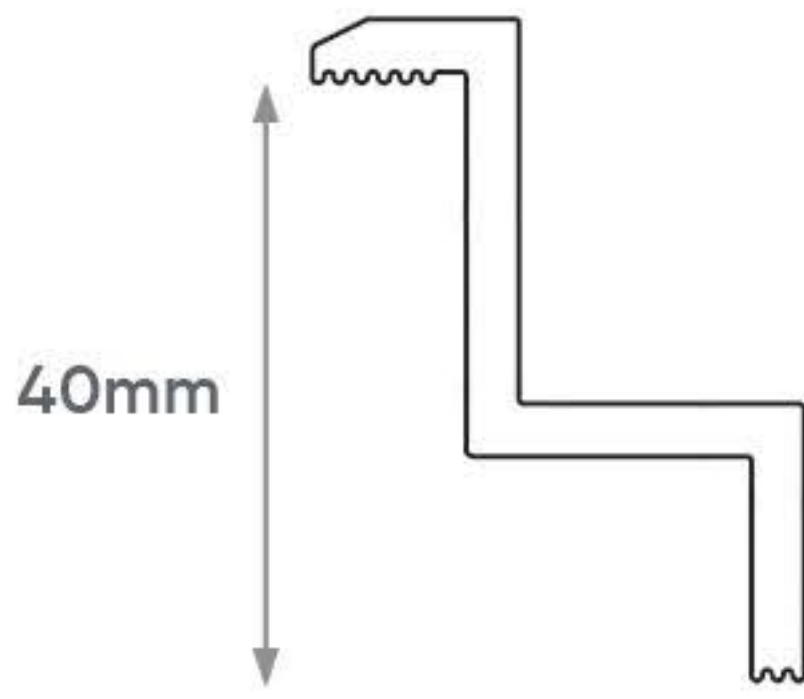
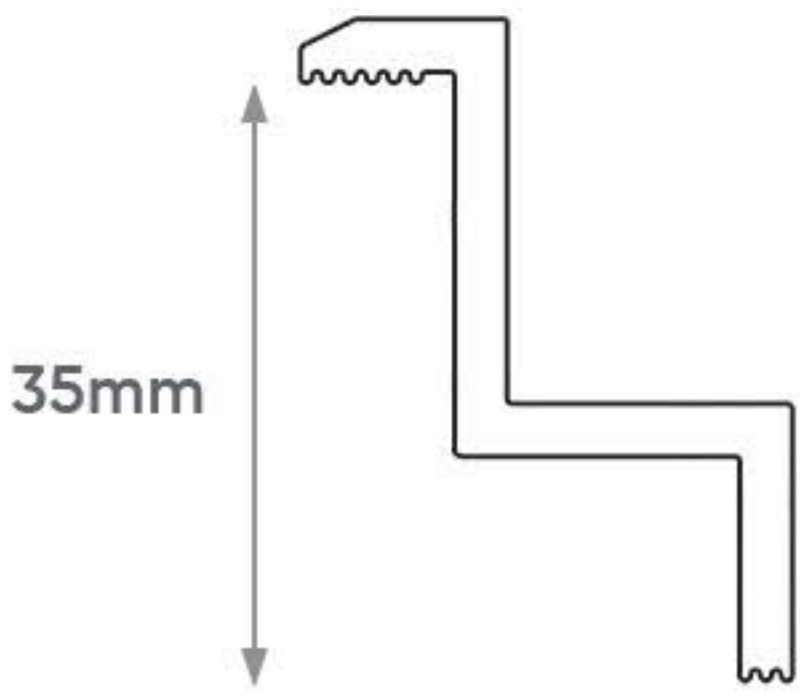
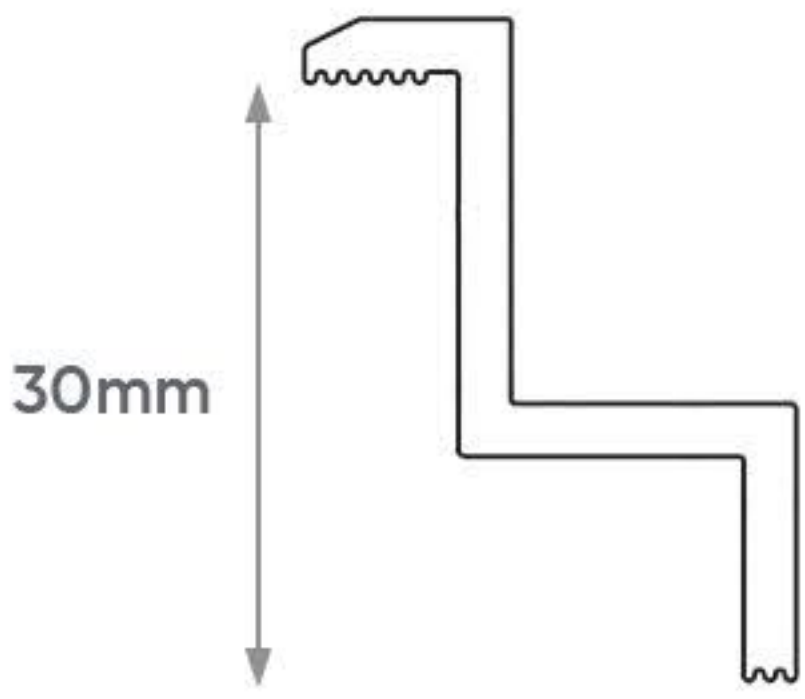
* the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

** Concrete blocks are not included in the set, available for purchase separately



End clamp L= 70mm

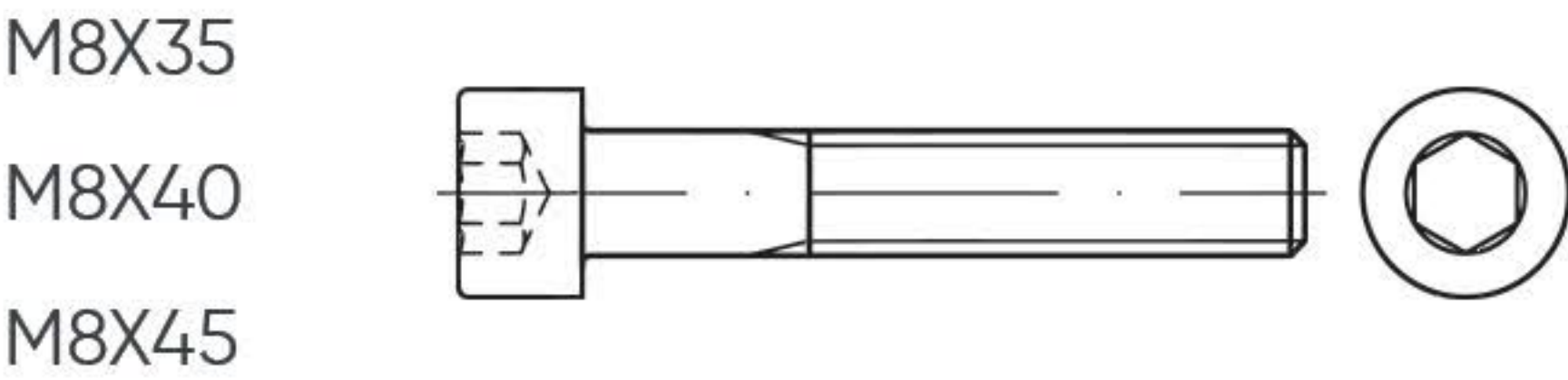
Available surface variants: raw, varnished, anodized

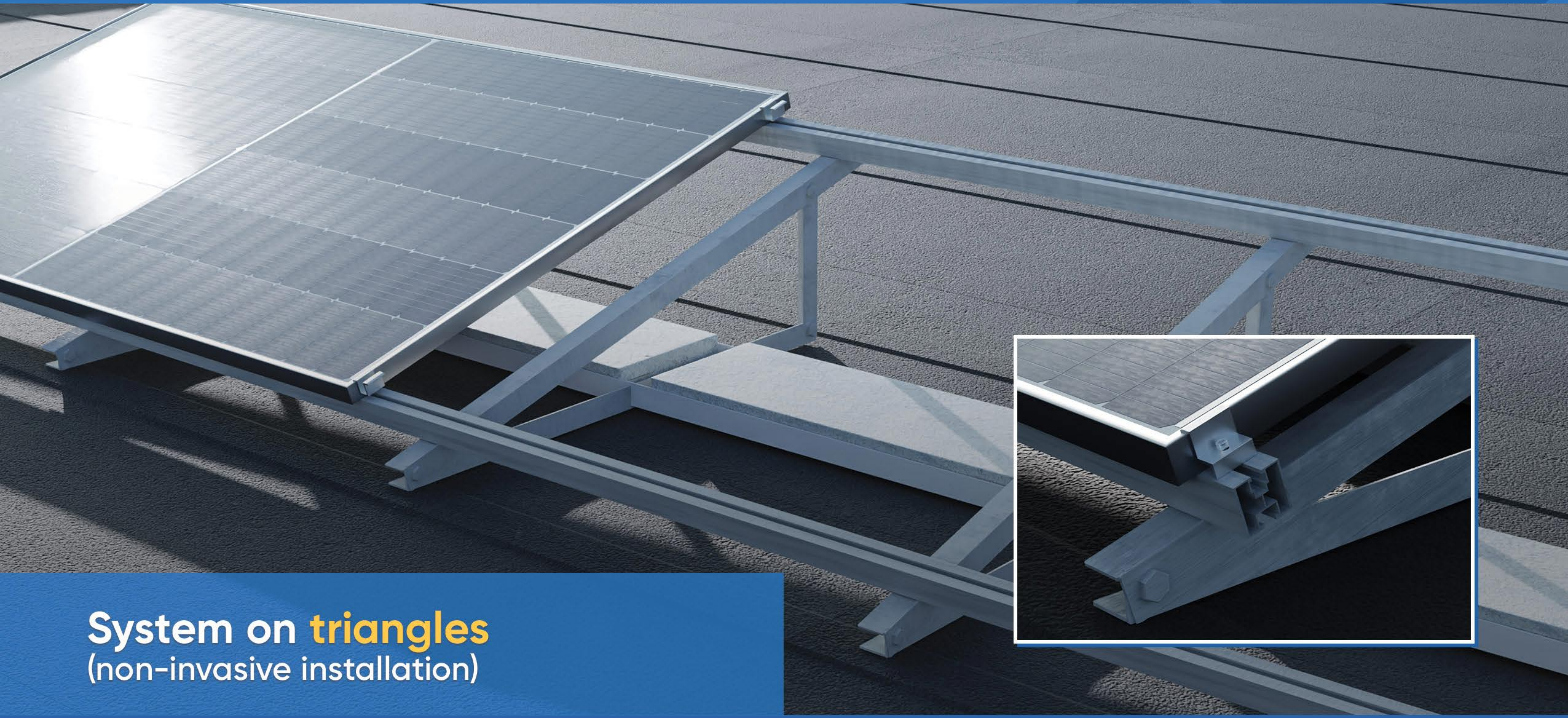


Alley key bolt

Flange nut M8

Spring washer M8

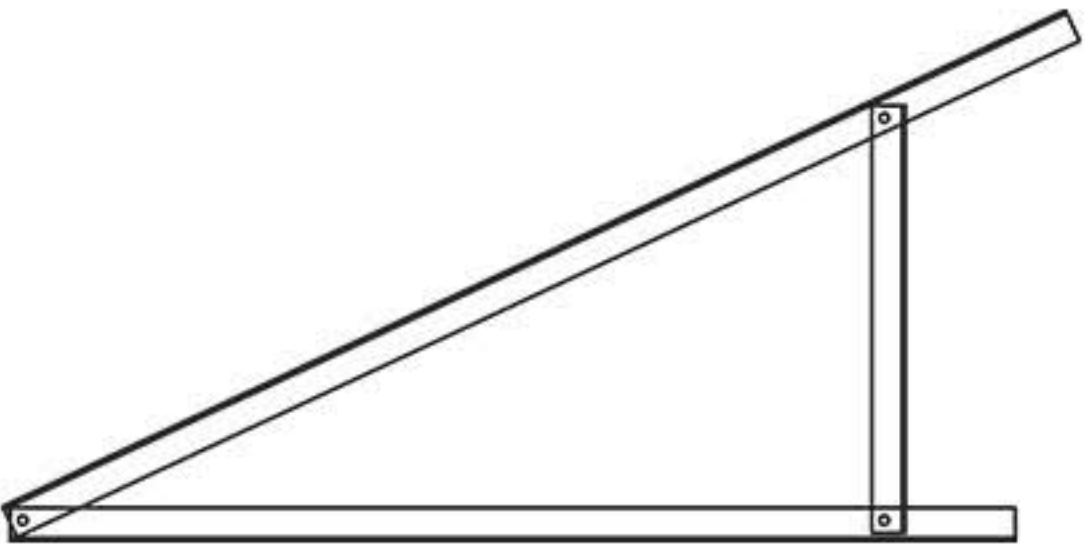
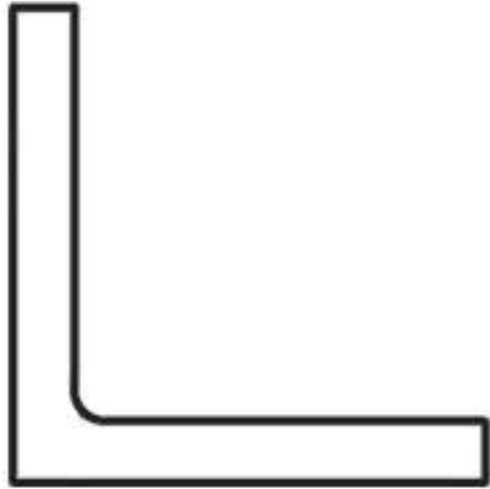
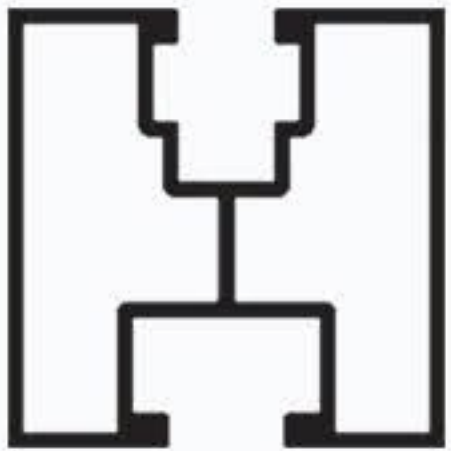
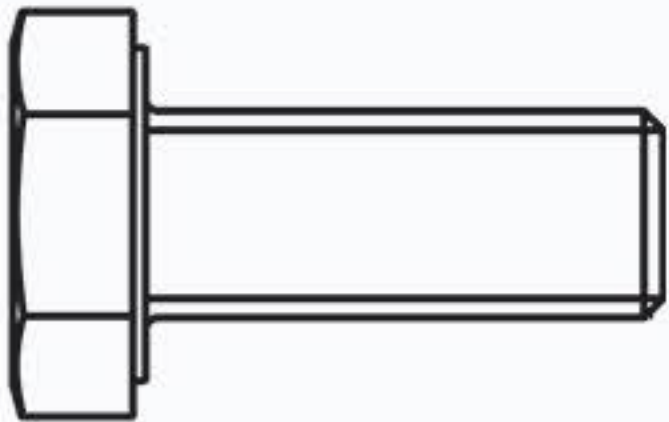
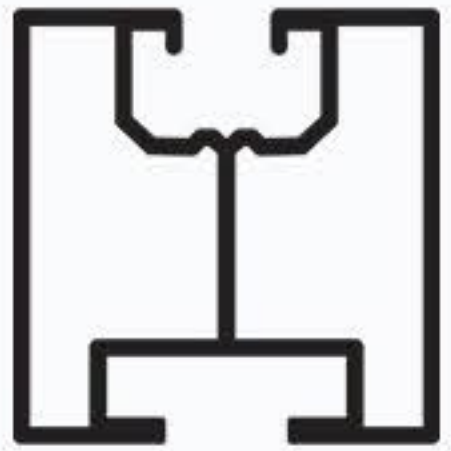
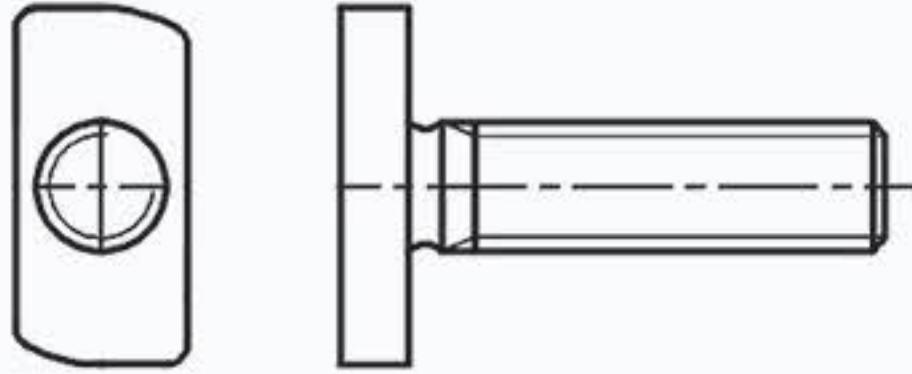
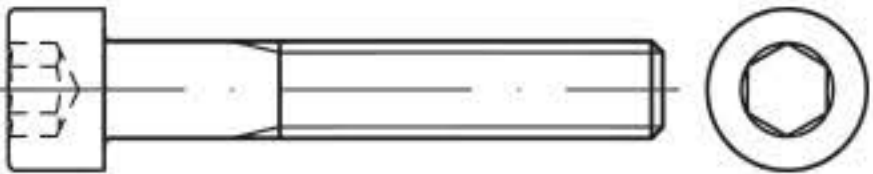
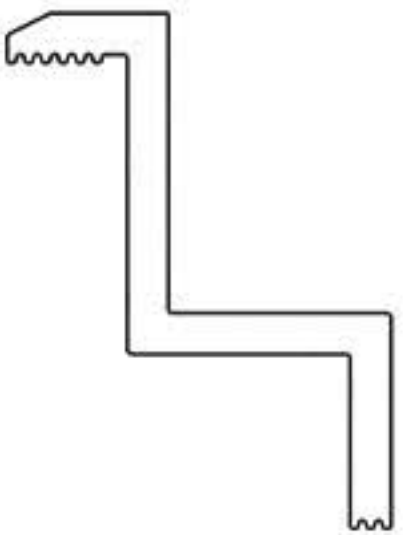
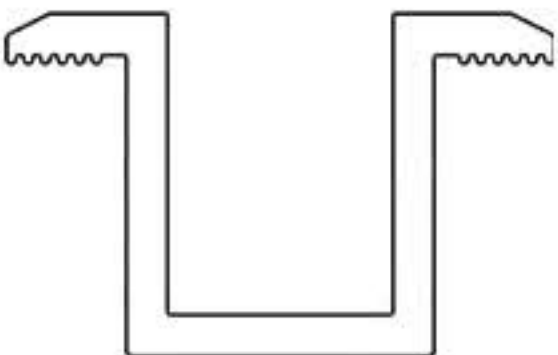
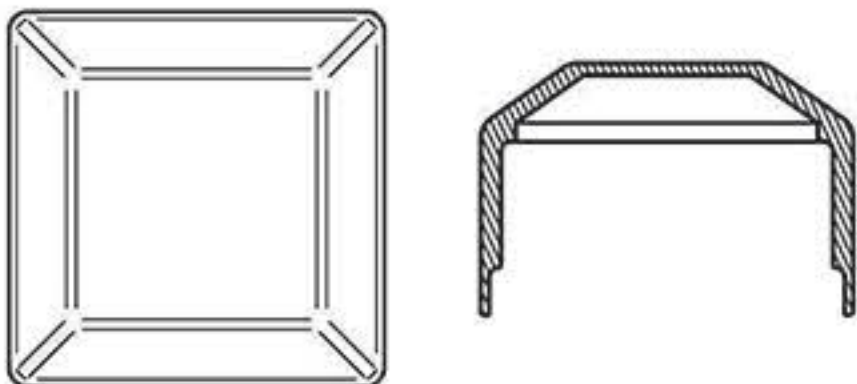




System on triangles
(non-invasive installation)

LP	Description	Material
1	Mounting profile*	AL 6060 T6
2	Triangle 15° / 35°	AL 6060 T6
3	Angle bracket 3mm	AL 6060 T6
4	End clamp **	AL 6060 T6
5	Central clamp **	AL 6060 T6
6	Alley key bolt M8x**	A2
7	Spring washer M8	A2
8	Square nut M8	A2
9	Slot nut	AL 6060 T6
10	Hexagon head bolt M10x25	A2
11	T-bolt M10x25	A2
12	Flange nut M10	A2
13	Plastic cap 40x40	ABS

* profiles are available in assembly variants A and B
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

Triangle 15° / 35°	Angle bracket	Flange nut M10		
				
Profile 40x40	Square nut M8	Screw M10x25		
 for a hexagon screw				
Profile 40x40	T-bolt M10x25	Slot nut M8		
 for a t-bolt				
Alley key bolt M8x*	Spring washer M8	End clamp*	Central clamp*	Plastic cap 40x40
				



System on triangles
(screwed in)

LP	Description	Material
1	Mounting profile*	AL 6060 T6
2	Triangle 15° / 35°	AL 6060 T6
3	Hanger bolt M10	A2
4	End clamp **	AL 6060 T6
5	Central clamp **	AL 6060 T6
6	Alley key bolt M8x**	A2
7	Spring washer M8	A2
8	Square nut M8	A2
9	Slot nut	AL 6060 T6
10	Hexagon head bolt M10x25	A2
11	T-bolt M10x25	A2
12	Flange nut M10	A2
13	Plastic cap 40x40	ABS

* profiles are available in assembly variants A and B
** the length of the screws and the height of the clamps should be matched to the thickness of the photovoltaic panel

Triangle 15° / 35°

Hanger bolt M10

Flange nut M10

Profile 40x40

Square nut M8

Screw M10x25

Profile 40x40

T-bolt M10x25

Slot nut M8

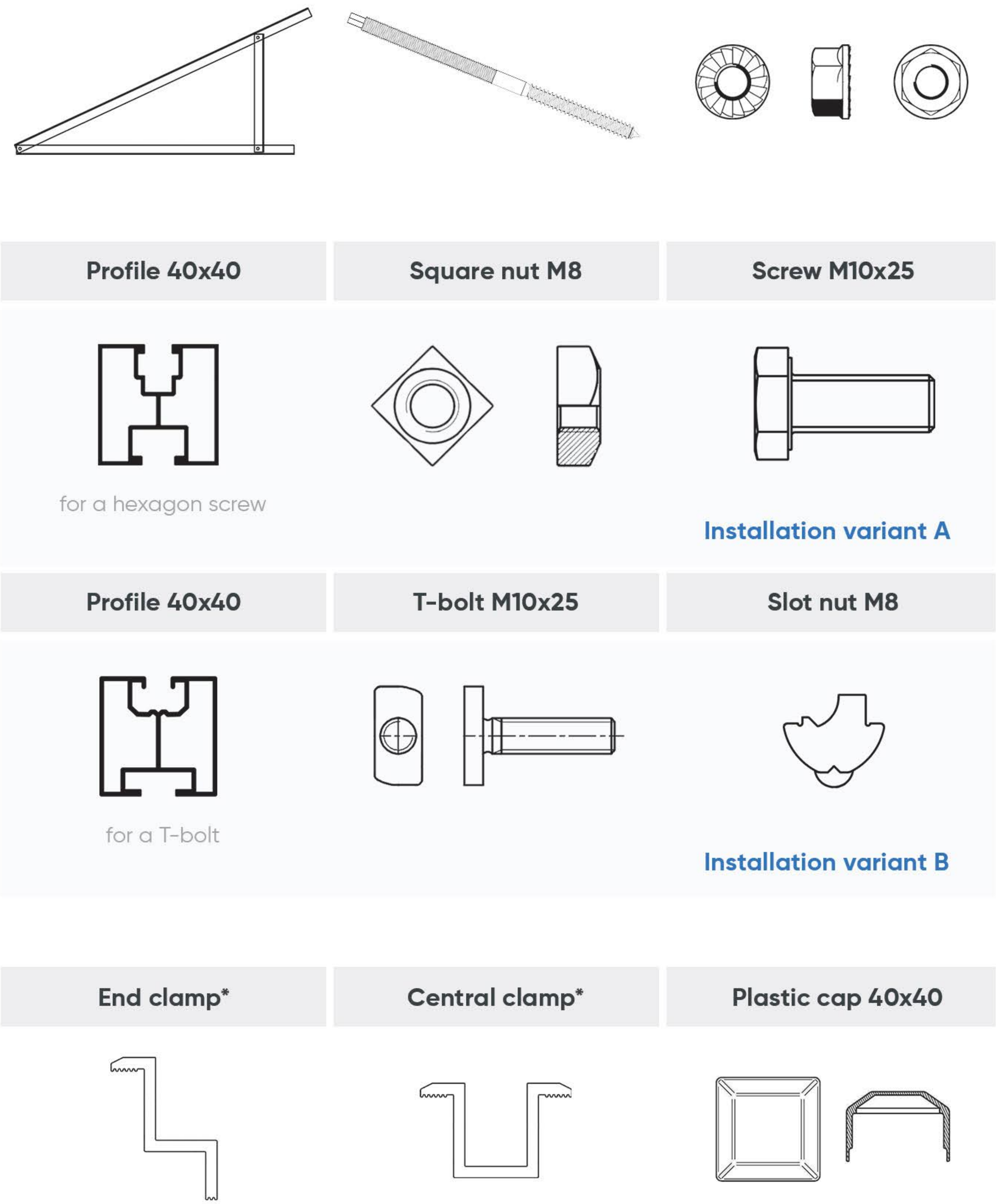
Alley key bolt M8x*

Spring washer M8

End clamp*

Central clamp*

Plastic cap 40x40



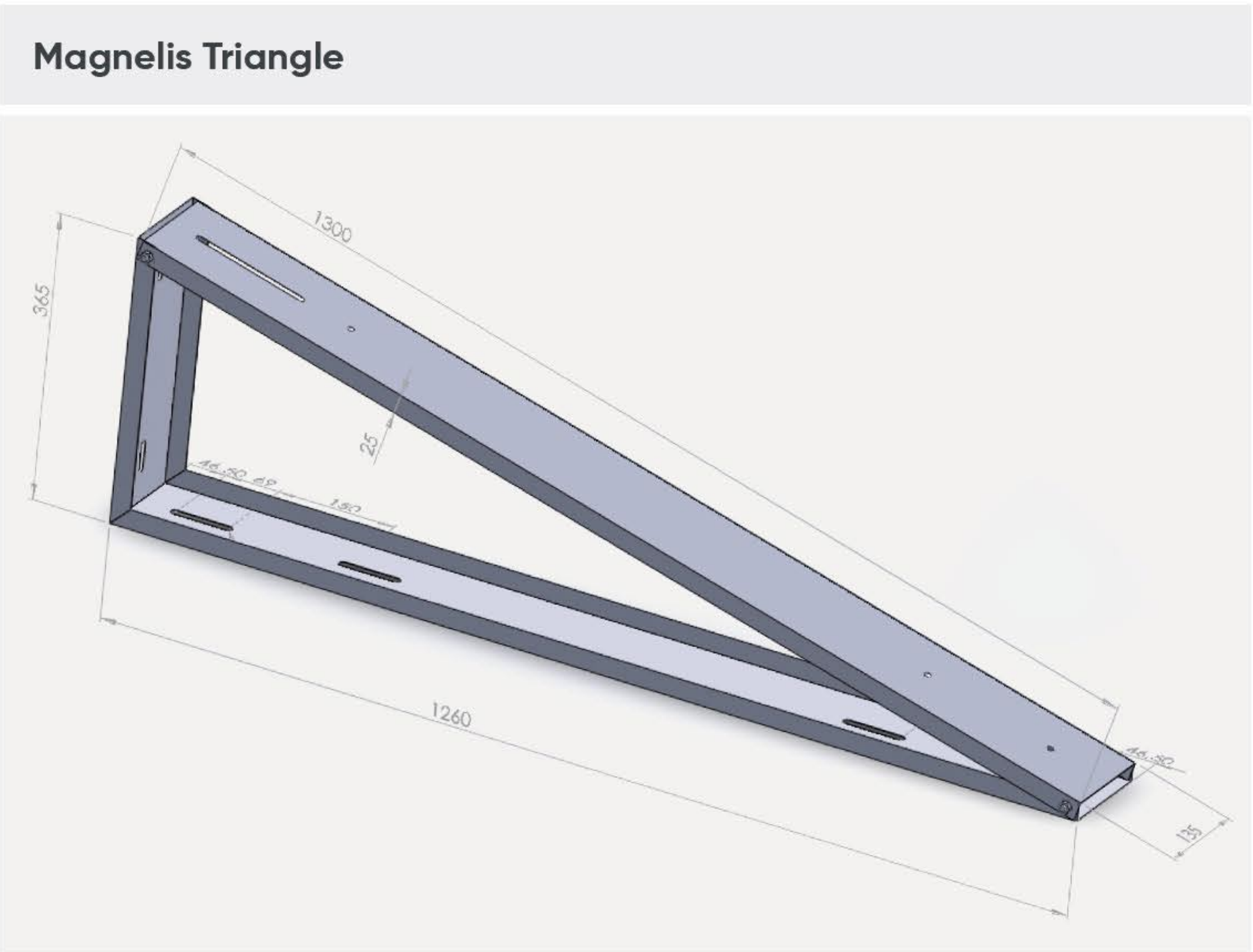


Flat roof system
(MAGNELIS Triangle - ballast)

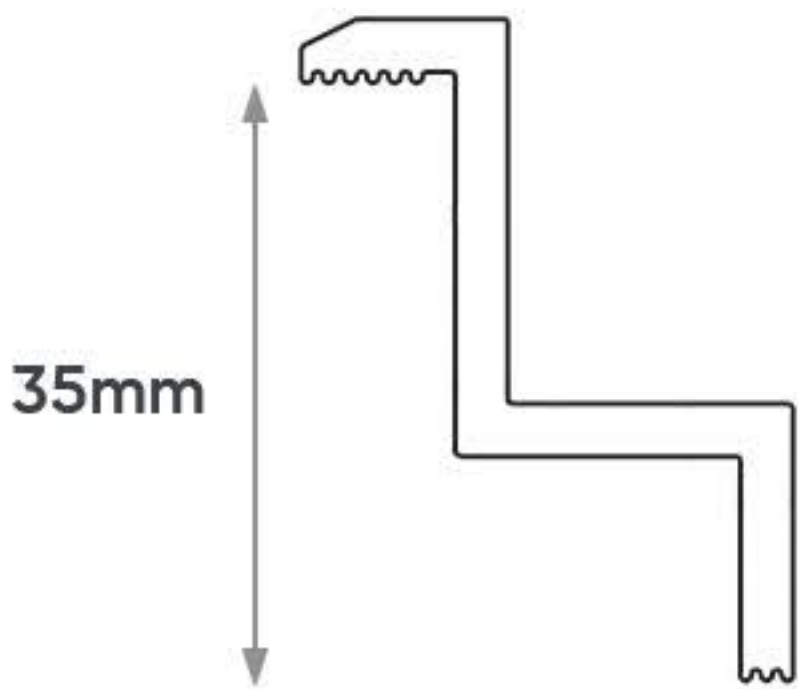
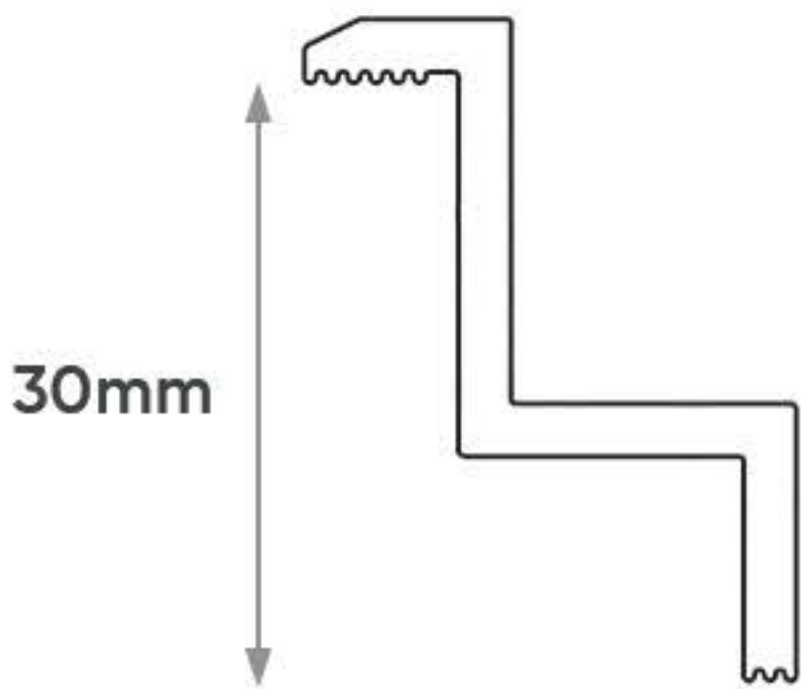
LP	Description	Material
1	Ballast holder	S350GD - ZM275
2	End clamp*	AL 6060 T6
3	Allen key bolt M8x*	A2
4	Spring washer M8	A2
5	Concrete block**	CONCRETE

* the length of the screws and the height of the clamps should be selected according to the thickness of the photovoltaic panel

** concrete blocks are not included in the set, they can be purchased separately

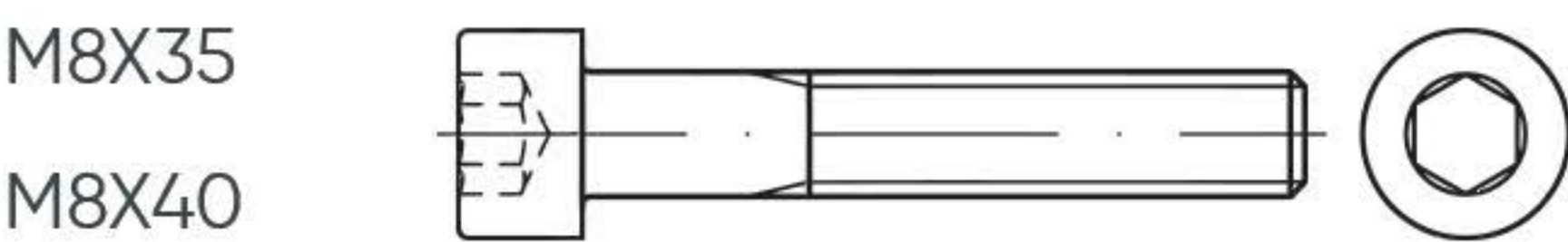


End clamps L= 50mm Surface variants: raw, black - varnished



Allen key

Spring washer M8





Flat roof system
(MAGNELIS Triangle - glued)

LP	Description	Material
1	Ballast holder	S350GD - ZM275
2	End clamp*	AL 6060 T6
3	Allen key bolt M8x*	A2
4	Flange nut M8	A2
5	Spring washer M8	A2
6	Carriage bolt M10	A2

* the length of the screws and the height of the clamps should be selected according to the thickness of the photovoltaic panel

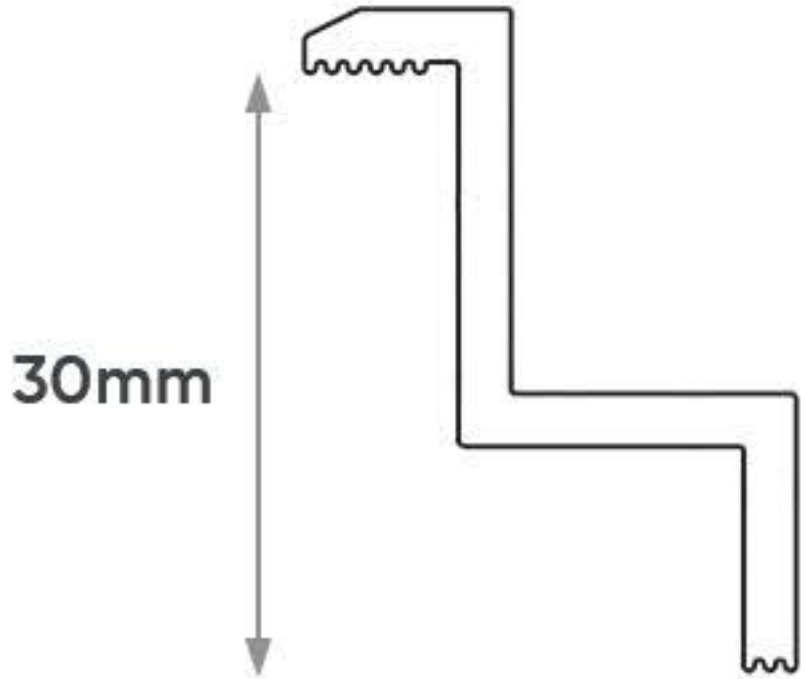
** concrete blocks are not included in the set, they can be purchased separately



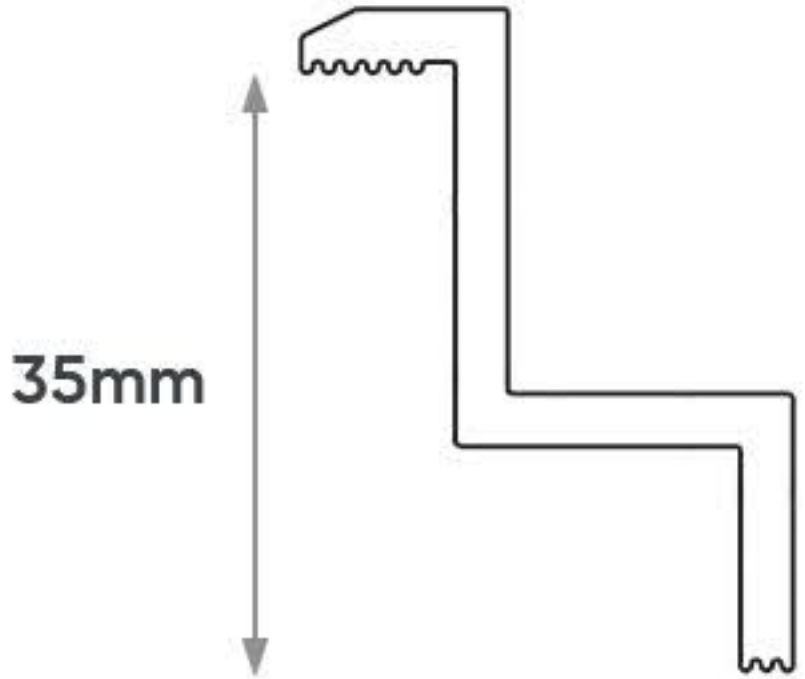
End clamps L= 50mm

Surface variants: raw, black - varnished

Allen key



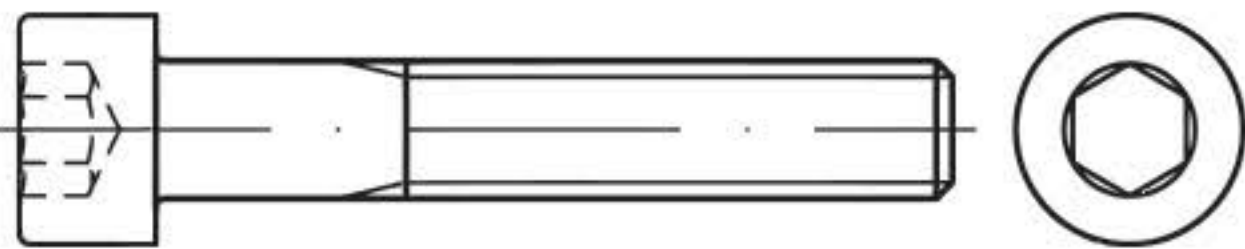
30mm



35mm

M8X35

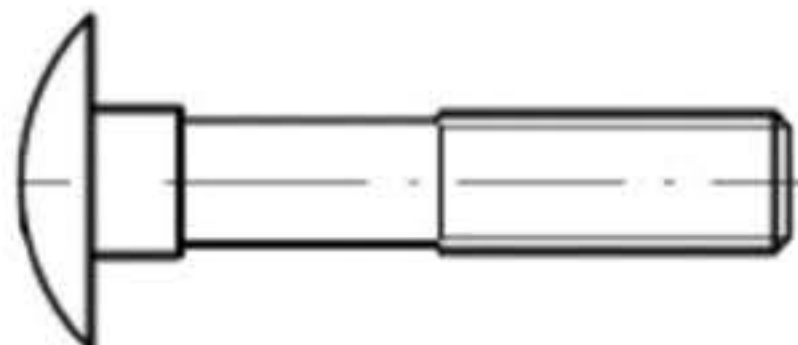
M8X40

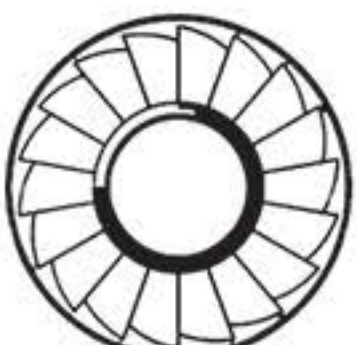


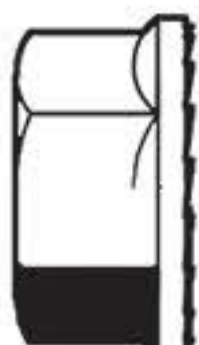
Carriage bolt

Flange nut M8

Spring washer M8







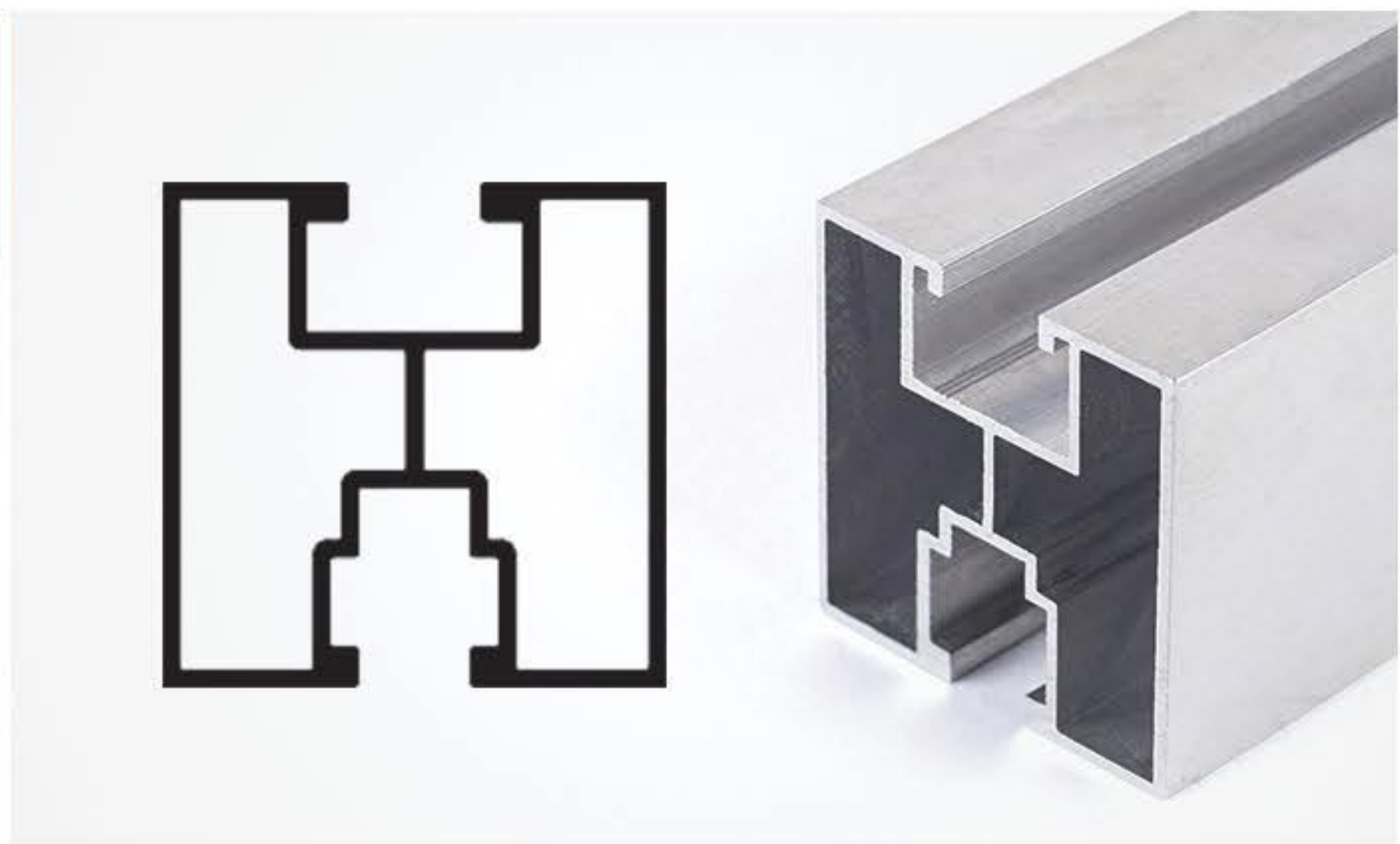






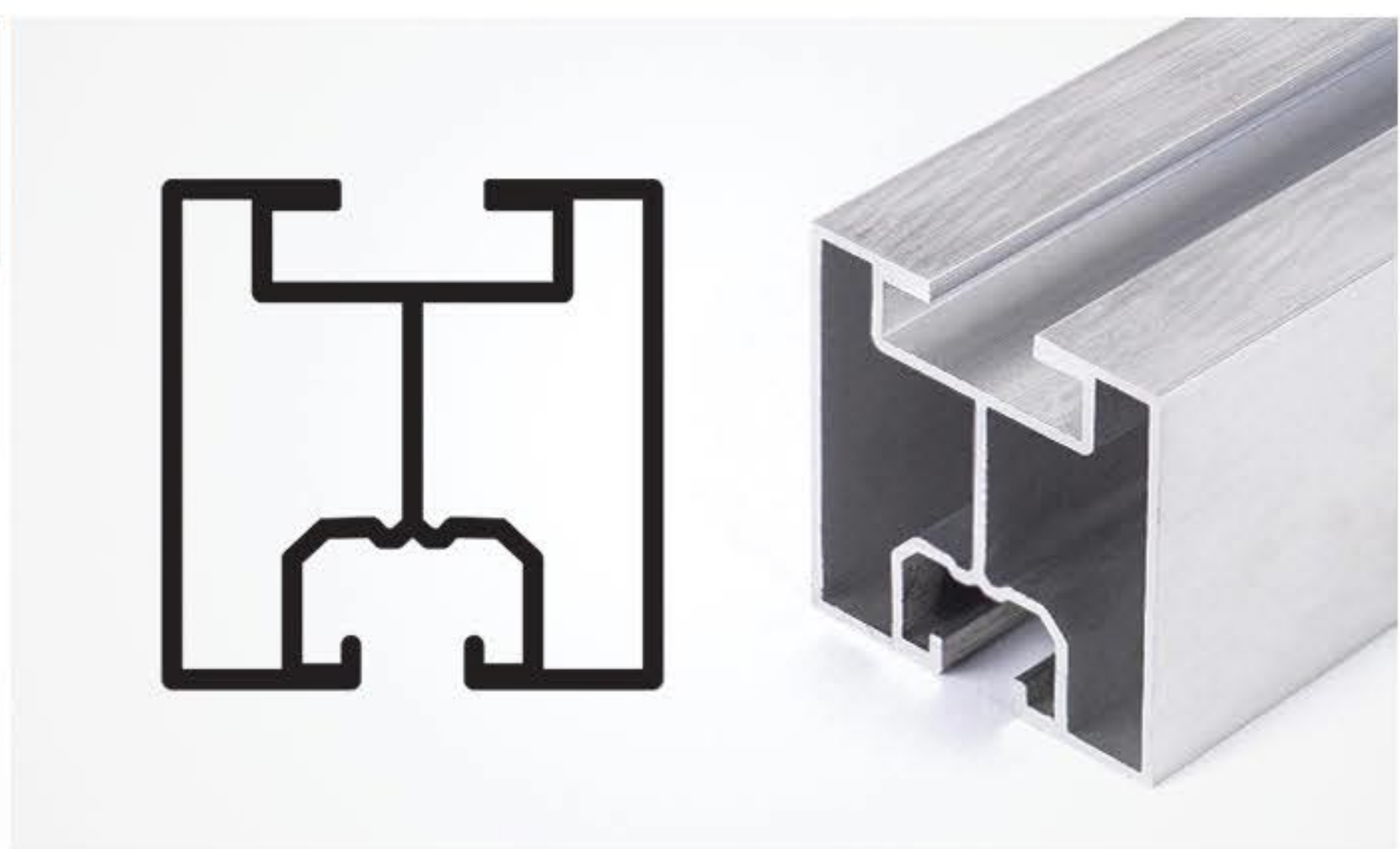
Profile for hexagon screw (raw, black)

Material	Aluminum
Dimensions (mm)	40 / 40/ 1,2
Weight (kg/m)	0,81



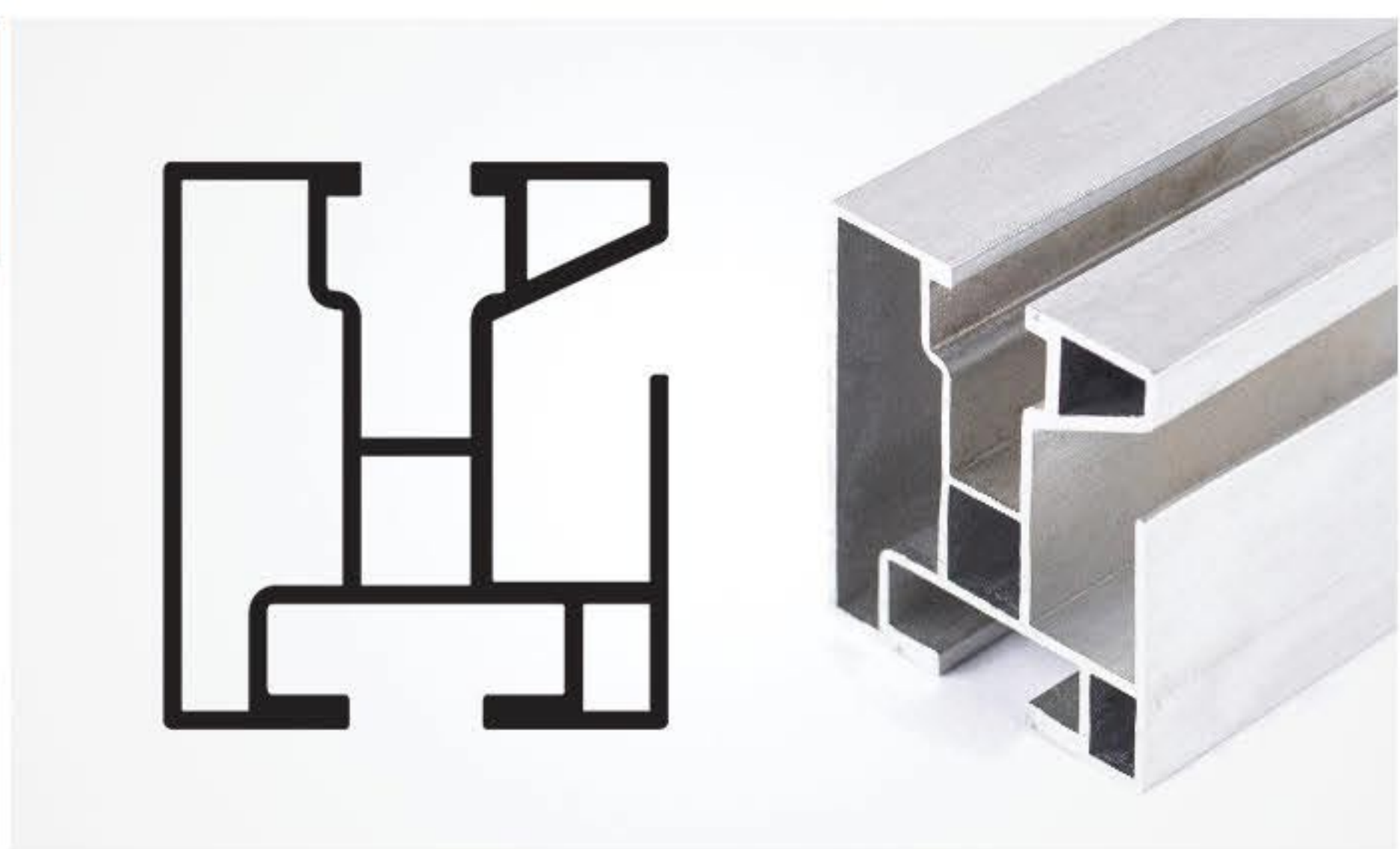
Profile for T-Bolt (raw, black)

Material	Aluminum
Dimensions (mm)	40 / 40/ 1,2
Weight (kg/m)	0,81



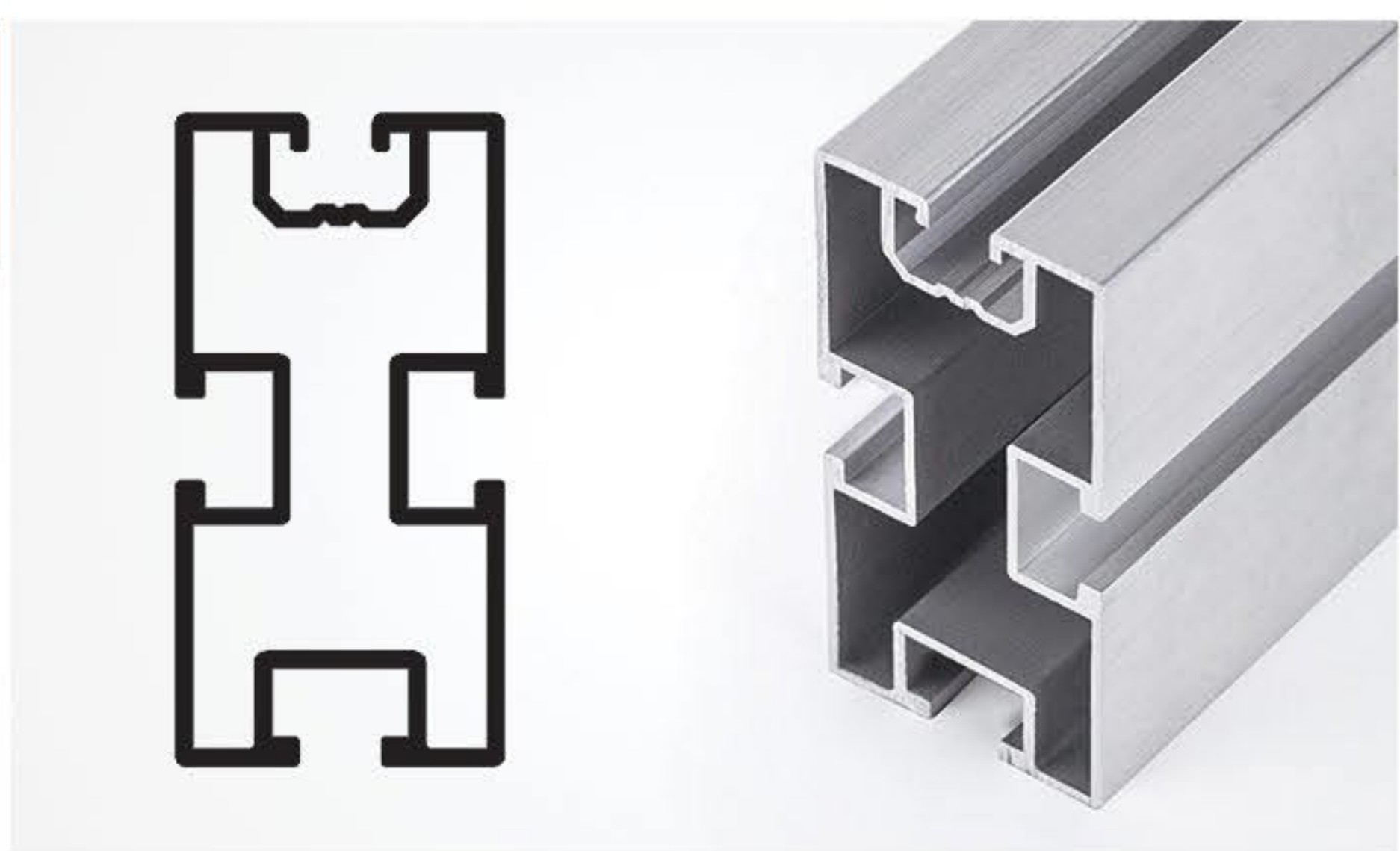
Profile for T-Bolt and Cable (raw, black)

Material	Aluminum
Dimensions (mm)	40 / 45/ 1,2
Weight (kg/m)	1



Profile reinforced 80x40

Material	Aluminum
Dimensions (mm)	80 / 40/ 1,3
Weight (kg/m)	1,55



Angle bracket (3mm)

Material	Aluminum
Dimensions (mm)	40x40x3
Weight (kg/m)	0,63

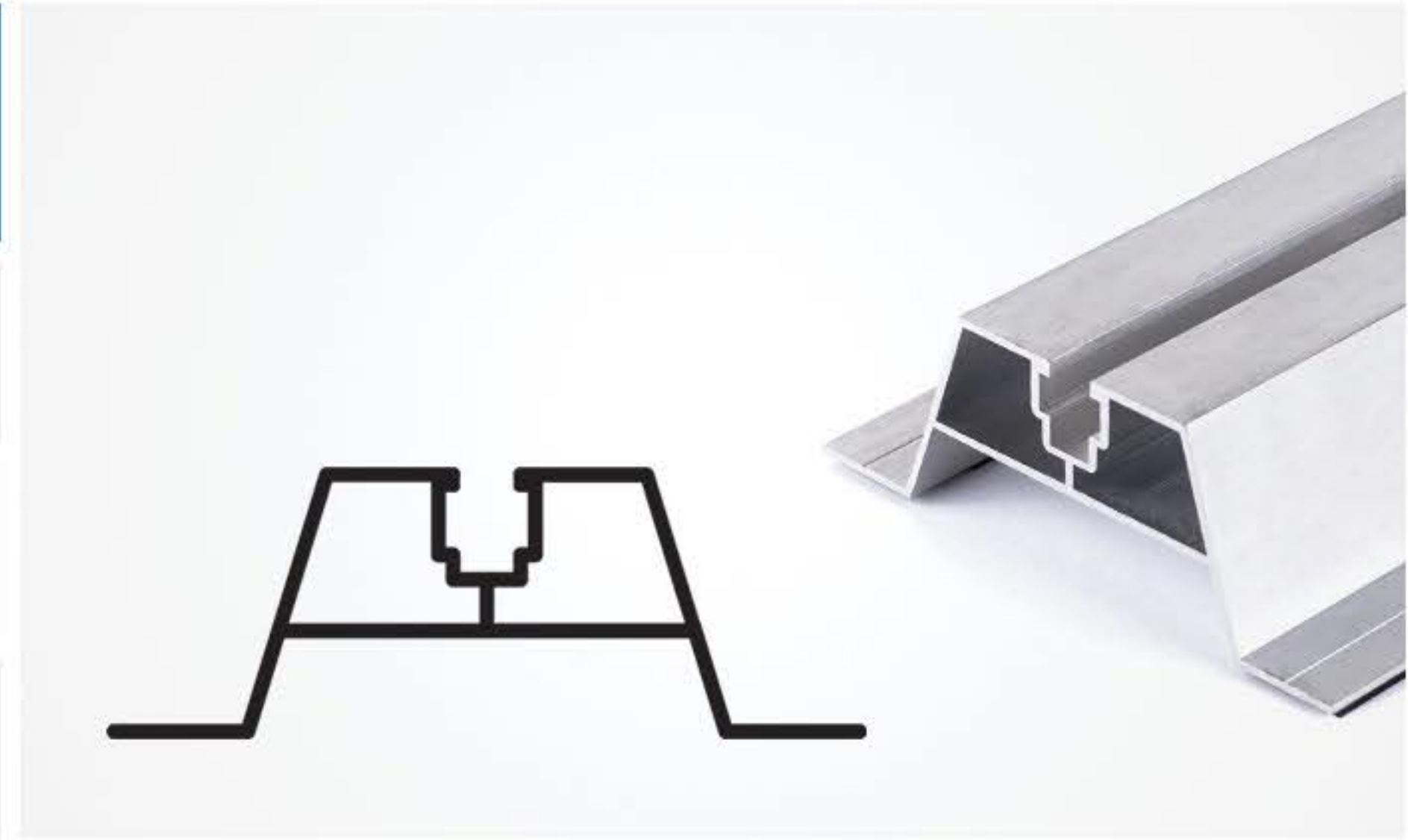


Angle bracket (4mm)

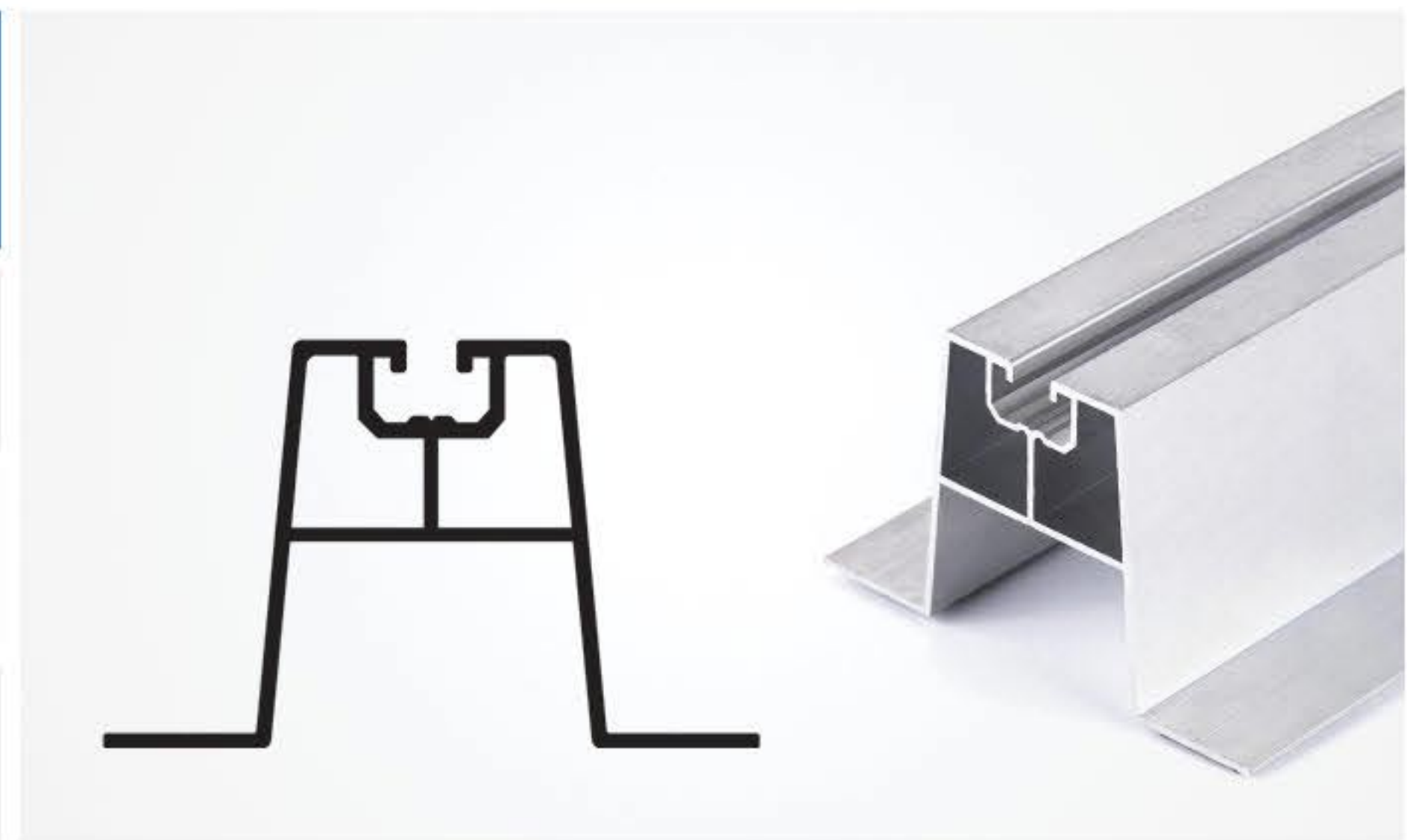
Material	Aluminum
Dimensions (mm)	40x40x4
Weight (kg/m)	0,83



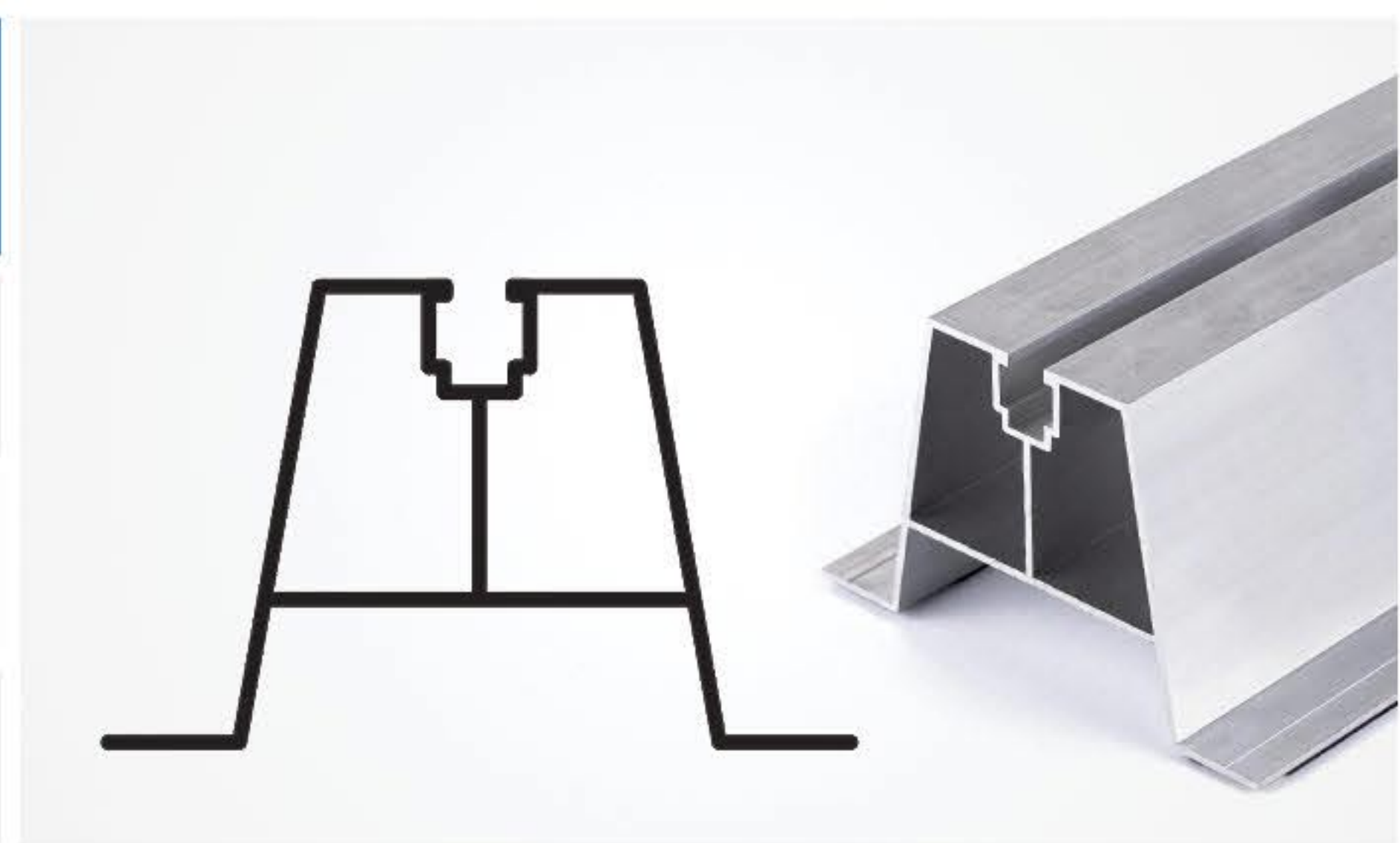
Low trapezoidal bridge: T40	
Material	Aluminum
Dimensions (mm)	114 / 40 / 1,6
Weight (kg/m)	1,2



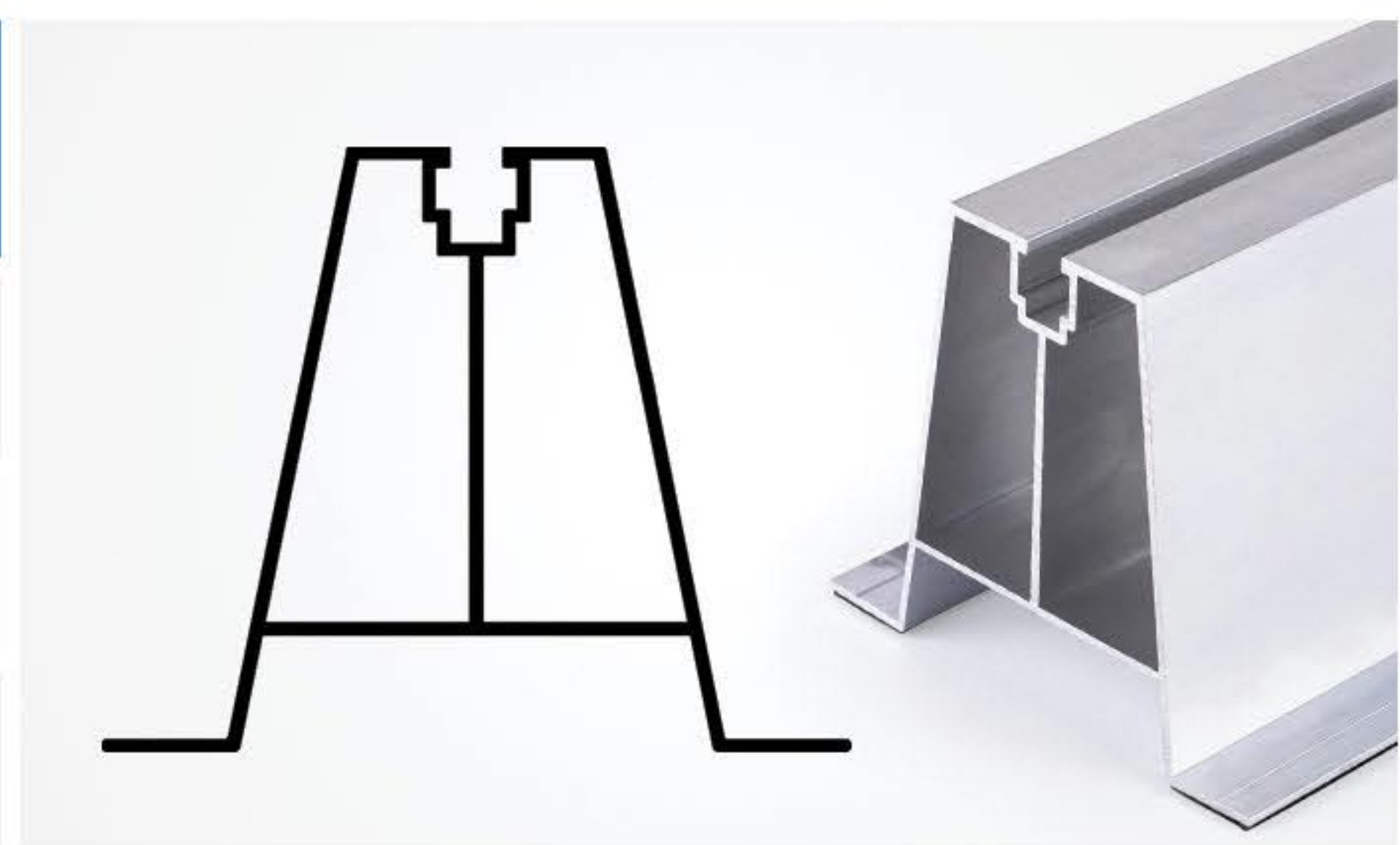
High trapezoidal bridge: T60	
Material	Aluminum
Dimensions (mm)	140 / 96 / 60
Weight (kg/m)	1,09



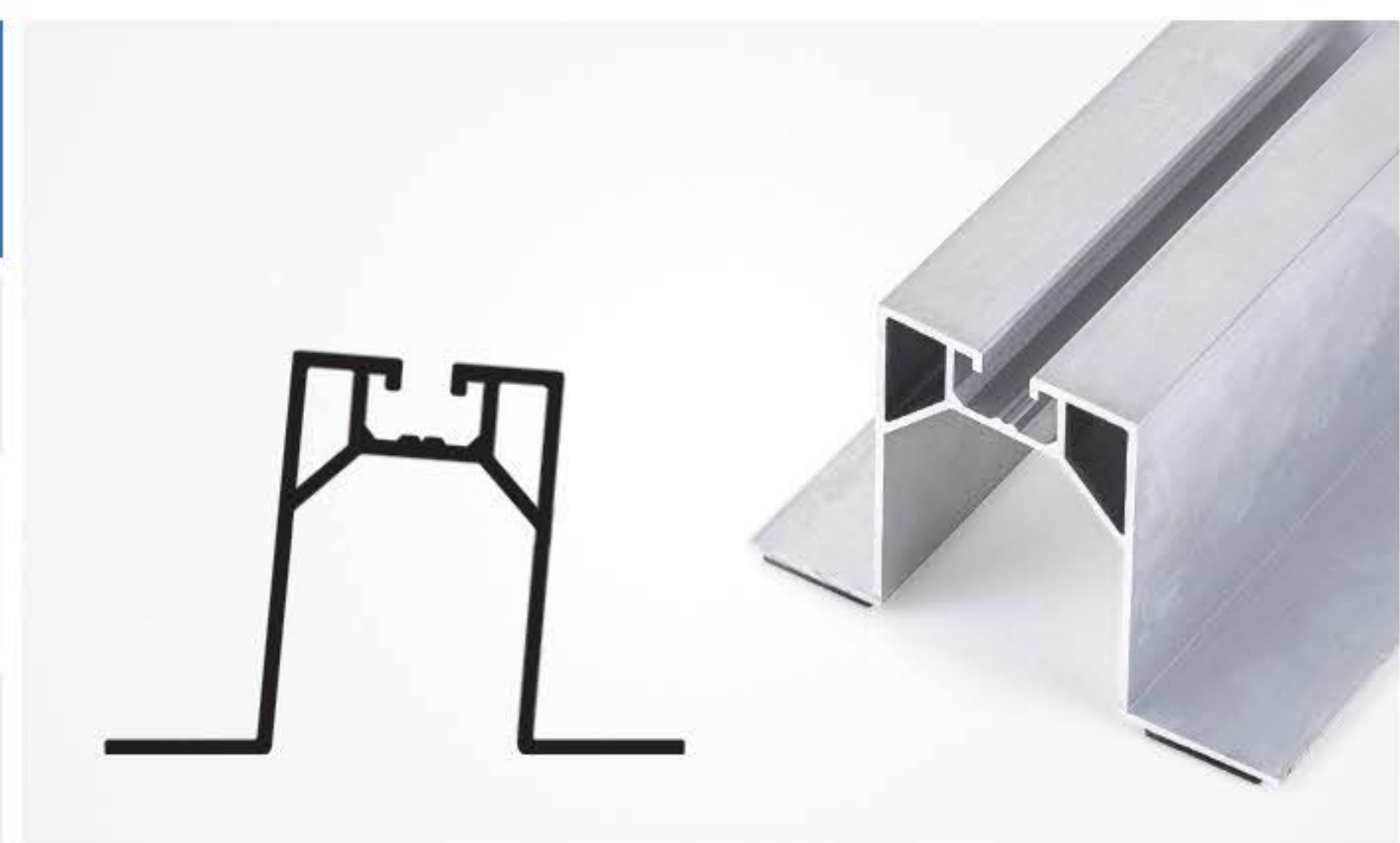
High trapezoidal bridge: T70	
Material	Aluminum
Dimensions (mm)	114 / 70 / 1,7
Weight (kg/m)	1,27



High trapezoidal bridge: T100	
Material	Aluminum
Dimensions (mm)	114 / 100 / 1,7
Weight (kg/m)	1,594



High trapezoidal bridge: T60 (slanting)	
Material	Aluminum
Dimensions (mm)	140 / 96 / 60
Weight (kg/m)	1,09



Allen key bolt: M8 x 20/25/30/35/40

Material	Stainless steel
Height (mm)	20 / 25 / 30 / 35 / 40
Diameter (mm)	8



Hexagon head bolt: M8 x 20/25/30

Material	Stainless steel
Height (mm)	20 / 25 / 30
Diameter (mm)	8



Hexagon head bolt: M10 x 20/25/30

Material	Stainless steel
Height (mm)	20 / 25 / 30
Diameter (mm)	10



T-Bolt: M8 x 20/25/30

Material	Stainless steel
Height (mm)	20 / 25 / 30
Diameter (mm)	8



T-Bolt: M10 x 20/25/30

Material	Stainless steel
Height (mm)	20 / 25 / 30
Diameter (mm)	10



Hanger bolt: M10 x 200/250/300

Material	Stainless steel
Width / Height (mm)	20 / 25
Lenght (mm)	200 / 250 / 300



Wood screw: M8 x 60/80/100	
Material	Stainless steel, galvanized steel
Height (mm)	64 / 84 / 104
Diameter (mm)	8



Sheet metal screw	
Material	Bi-metal
Lenght / Height (mm)	25 / 30
Diameter (mm)	6



Flange nut M8	
Material	Stainless steel
Height (mm)	8
Diameter (mm)	17,9



Flange nut M10	
Material	Stainless steel
Height (mm)	10
Diameter (mm)	21



Square nut M8	
Material	Stainless steel
Width / Height (mm)	13 / 6,5
Diameter (mm)	8

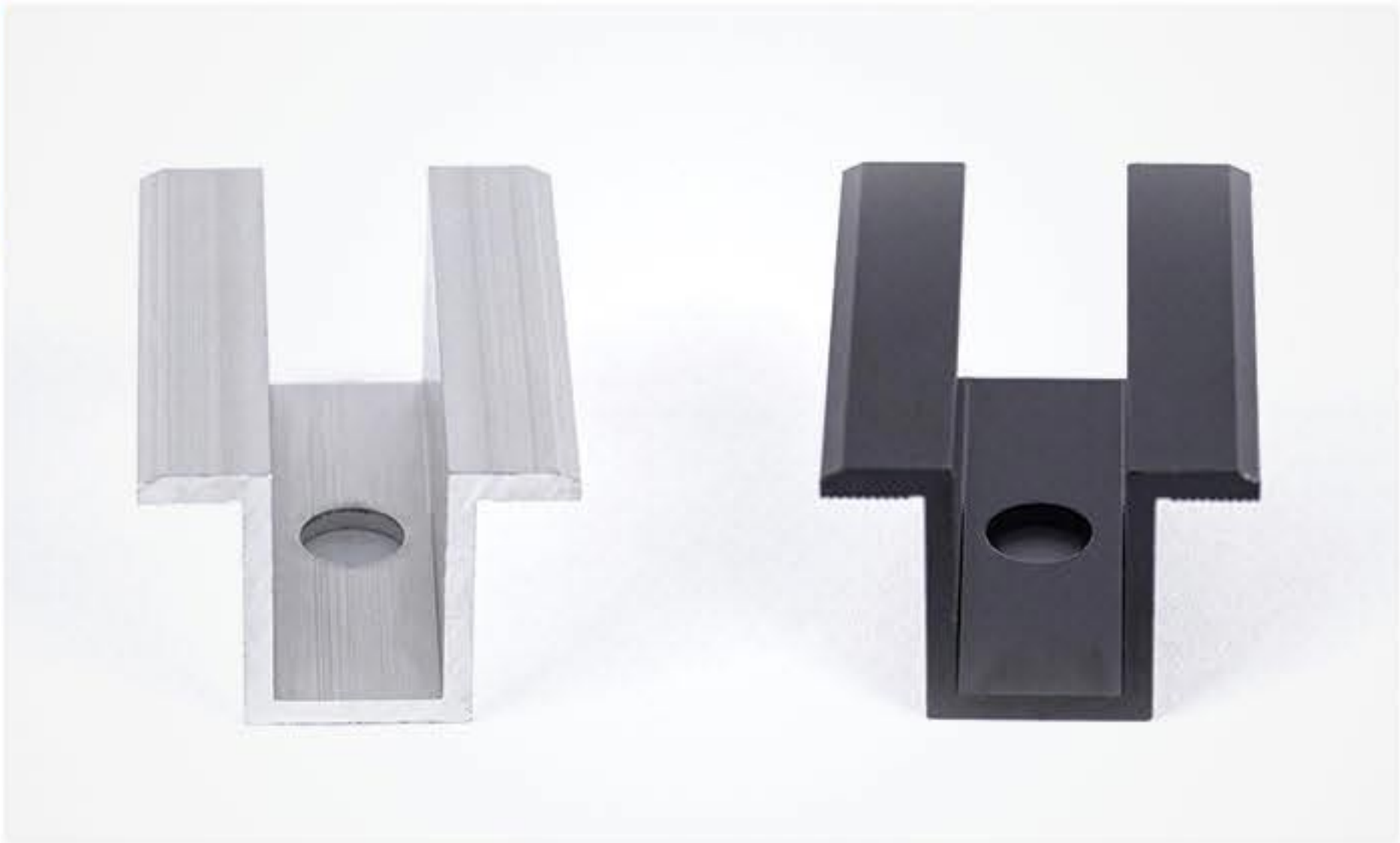


Slot nut	
Material	Aluminum
Width / Height (mm)	13 / 10
Lenght (mm)	22



Central clamp (plain, black)

Material	Aluminum
Width / Height (mm)	20 / 25
Lenght (mm)	50



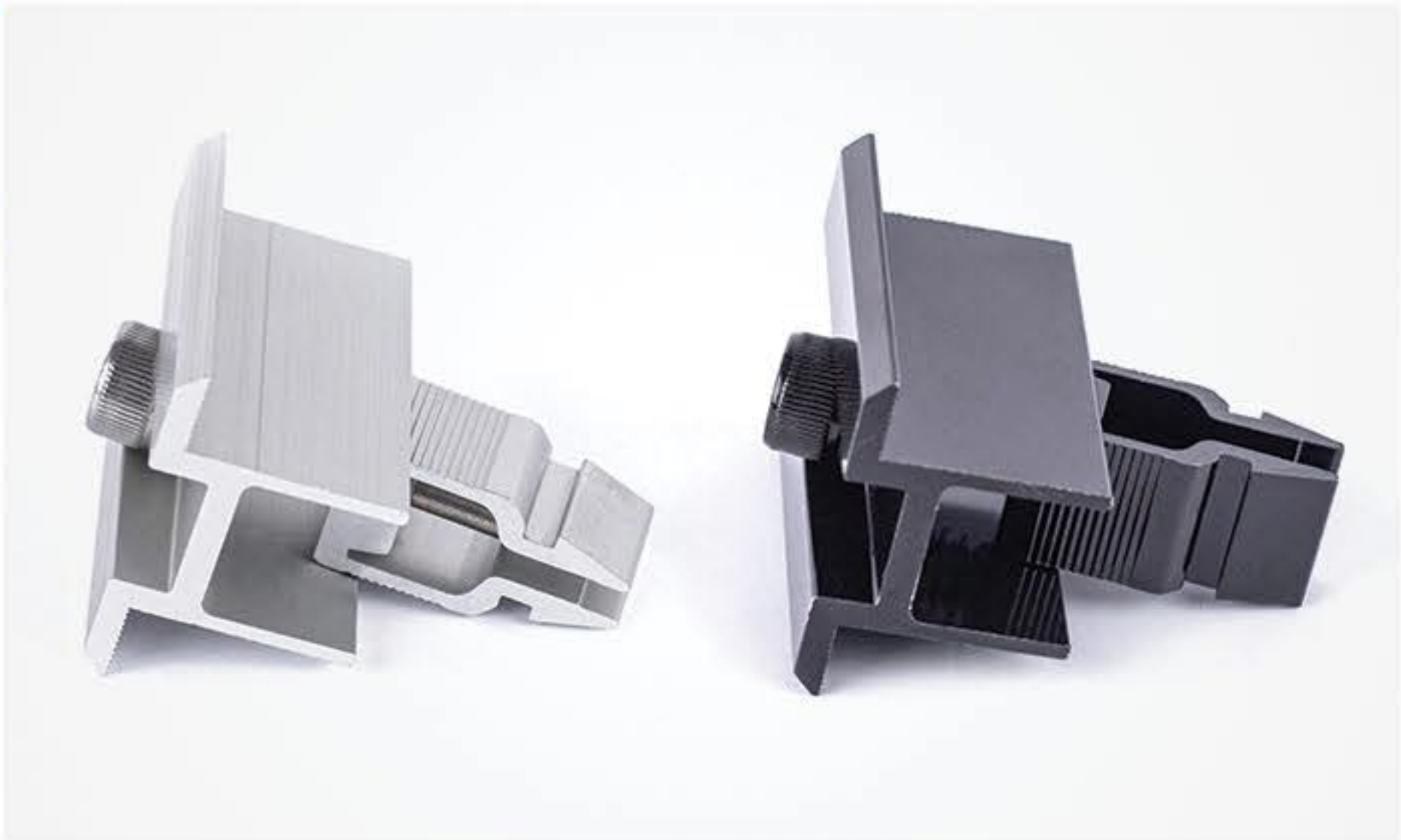
Middle clamp with grounding PIN (plain, black)

Material	Aluminum
Width / Height (mm)	20 / 25
Lenght (mm)	50



Central clamp KLIK (plain, black)

Material	Aluminum
Lenght / Width (mm)	50 / 35,5
Height (mm)	23



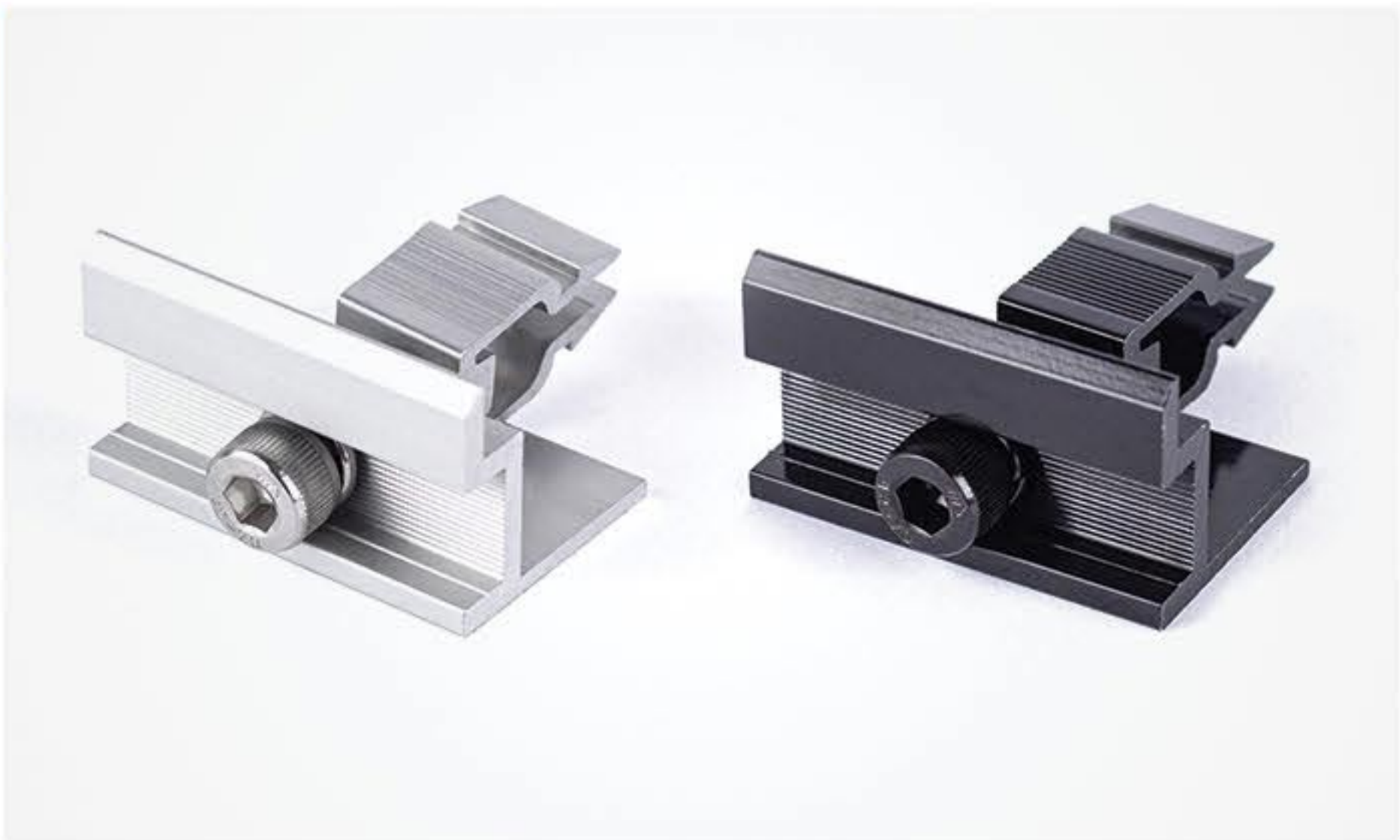
End clamp: 30/35 (plain, black)

Material	Aluminum
Height (mm)	33 / 44
Width (mm)	27



End clamp KLIK: 30/35 (plain, black)

Material	Aluminum
Lenght / Width (mm)	50 / 33,5
Height (mm)	43,5



Fastener for assembly profiles (plain, black)

Material	Aluminum
Lenght / Width (mm)	120 / 45
Height (mm)	25



Assembly adapter	
Material	Stainless steel
Lenght / Width (mm)	81 / 30
Thickness (mm)	4



Plastic cap: 40x40 (grey, black)	
Material	Plastic
Lenght / Width (mm)	44
Height (mm)	31



Grounding plate	
Material	Stainless steel
Lenght / Width (mm)	40
Height (mm)	6



Vario double-adjustable hook	
Material	Stainless steel
Lenght / Width (mm)	195 / 140
Height (mm)	135-175



Seamless sheet metal bracket (Type 1)	
Material	Stainless steel
Lenght / Width (mm)	90 / 44
Height (mm)	44



Seamless sheet metal bracket (Type 2)	
Material	Stainless steel
Lenght / Width (mm)	90 / 44
Height (mm)	44



Hook for trapezoidal sheet roof

Material	Stainless steel
Lenght / Width (mm)	65
Height (mm)	56



Z-type roof hook with EPDM (adjustable)

Material	Stainless steel
Lenght / Width (mm)	135 / 75
Height (mm)	45 - 65



S-type roof hook not adjustable/adjustable

Material	Stainless steel
Lenght / Width (mm)	470, 520 / 30
Height (mm)	4/5



Hook for plain tile roof

Material	Stainless steel
Lenght / Width (mm)	300 / 30
Height (mm)	70-100



Hook for plain tile roof (wide)

Material	Stainless steel
Lenght / Width (mm)	300 / 135
Height (mm)	240

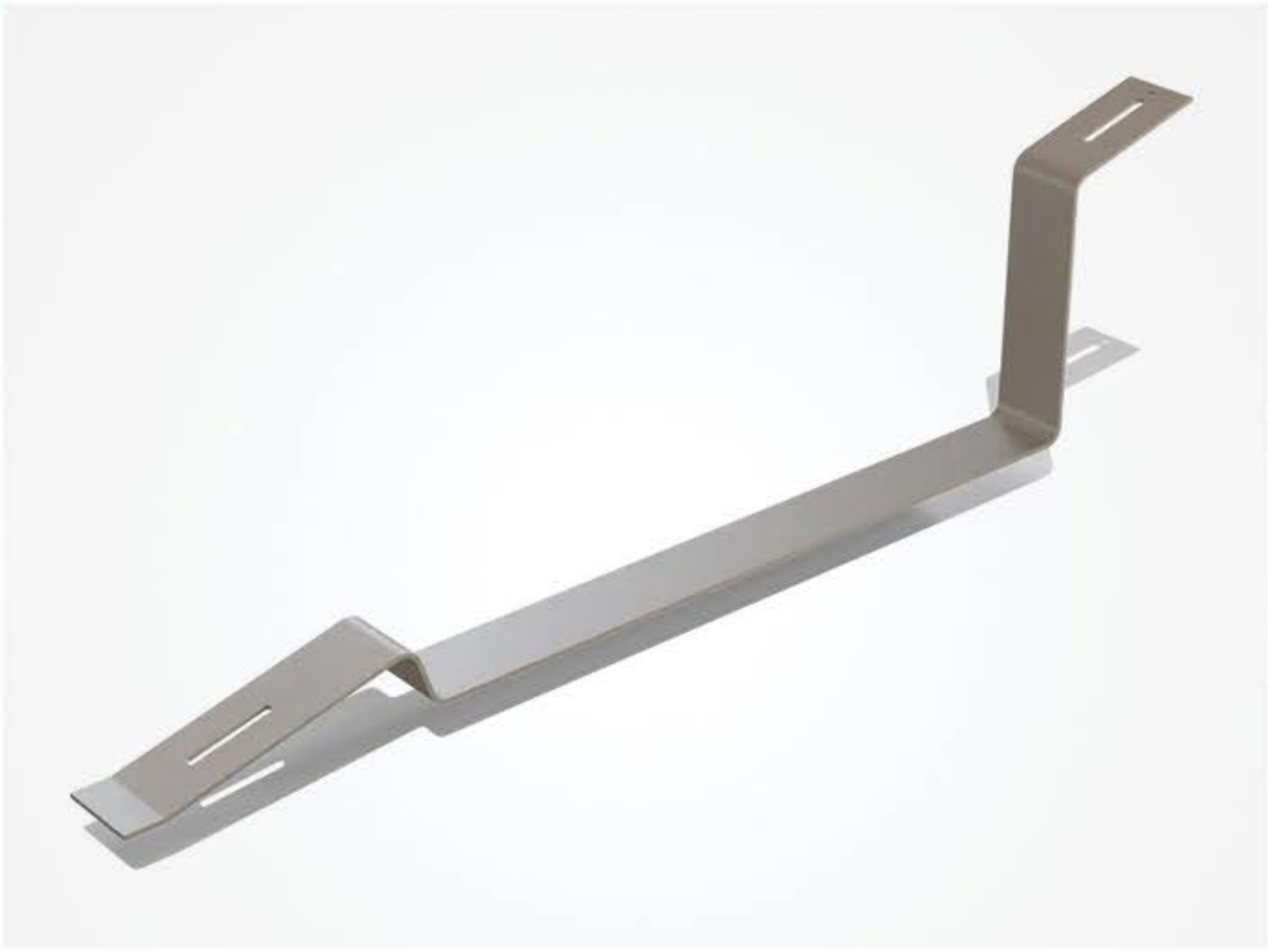


Adjustable J roof hook (adjustable)

Material	Stainless steel
Lenght / Width (mm)	30x4mm
Height (mm)	75-105



EPDM ballast profile for flat roof	
Material	Aluminum 5mm
Lenght (mm)	1240 x 324,5mm
Height (mm)	600 / 324,5mm
Inclination angle (degrees)	15 i 30 degrees



Horizontal triangle H: 15/25/35 degrees	
Material	Aluminum
Lenght (mm)	827 / 910 / 967
Width (mm)	40
Height (mm)	290 / 446 / 590
Thickness (mm)	3/4
Counter-angle (mm)	1000
Inclination angle (degrees)	15 / 25 / 35



Vertical triangle V: 15/25/35 degrees	
Material	Aluminum 3/4mm
Lenght (mm)	1318 / 1454 / 1547
Width (mm)	40
Height (mm)	445 / 700 / 935
Counter-angle (mm)	1600
Inclination angle (degrees)	15 / 25 / 35



Ballast structure - wide triangle	
Material	Magnelis / stainless steel
Dimensions (mm)	1300x1250x340
Width (mm)	130
Thickness (mm)	1
Inclination angle (degrees)	15 / 20



Solar sheet with sealing ring	
Material	Stainless steel, EPDM
Width (mm)	200
Lenght (mm)	270
Thickness (mm)	0.5



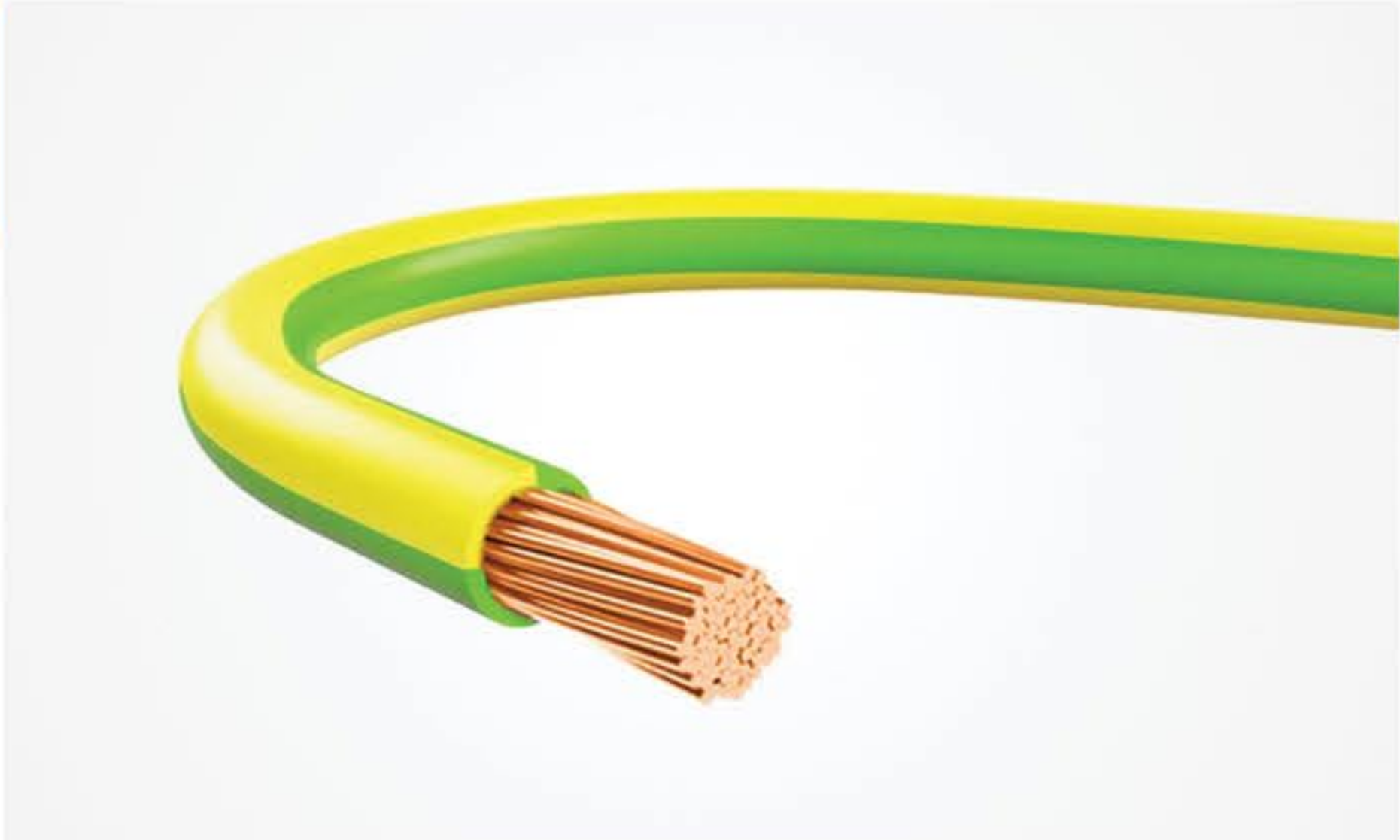
Construction for welding on roofing felt/membrane	
Material	Magnelis
Mounting plate (dimensions mm)	300 x 225 x 1.5
Pressure pad (dimensions mm)	Ø 80 x 2.5
EPDM washer (diameter)	Ø 80



Solar cable (4/6mm)	
Wire cross-section (mm²)	4 / 6
Thickness (mm)	4 / 6
Color	black / red



Installation LGY cable	
Wire cross-section (mm²)	16
Rated voltage UO	450V / 750V
Color	green-yellow



Solar cable mounting bracket/clip	
Dimensions	20 x 16 x 7 mm
Material	Stainless steel
Additionally	Possibility of installing 1-2 cables





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