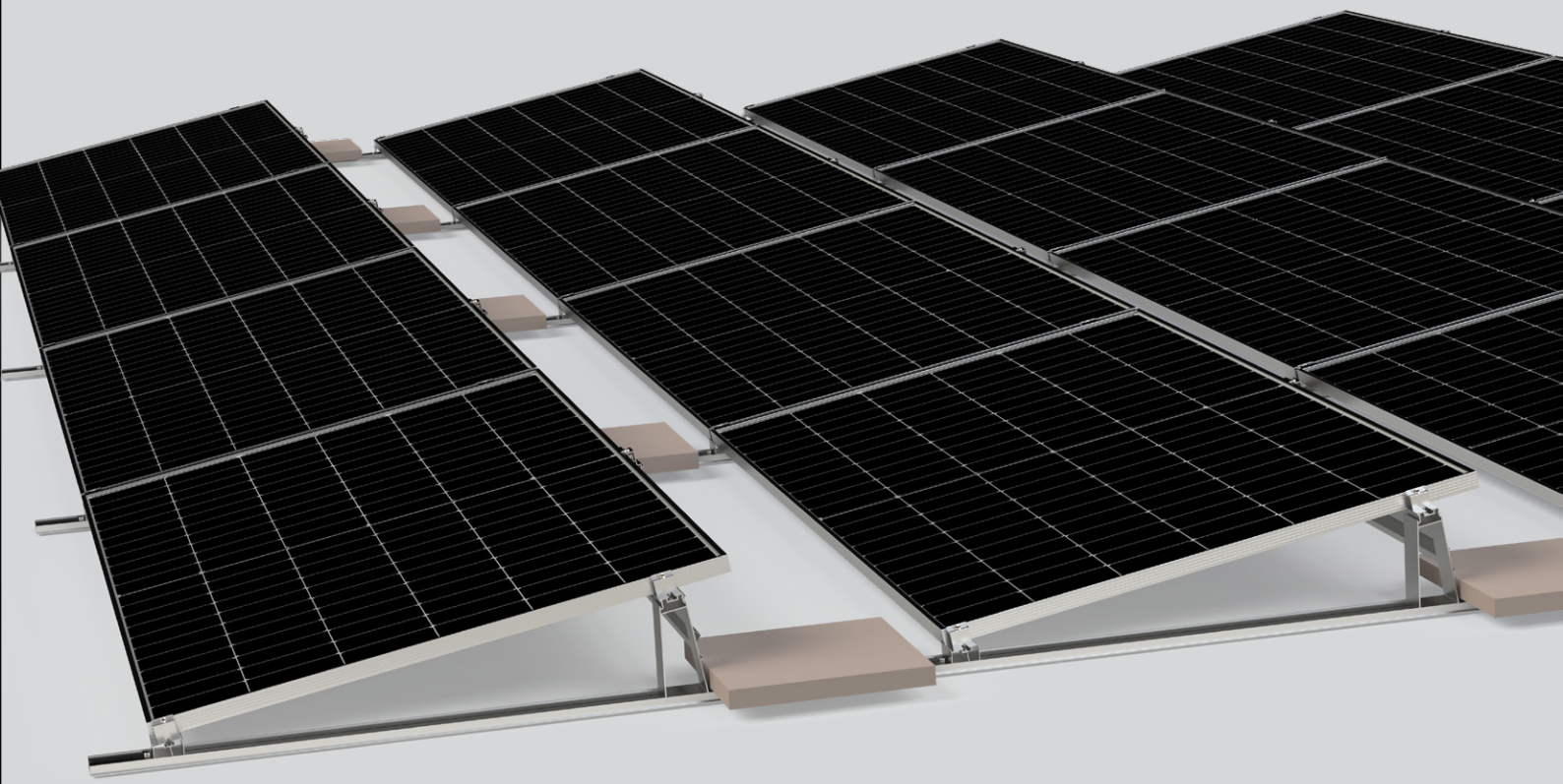
Installation Manual

BISOL EasyMount™

Slim BASE



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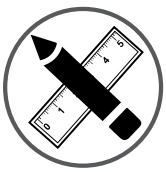
GENERAL REQUIREMENTS

The sole purpose of this installation manual is to demonstrate the installation of BISOL EasyMount™ mounting systems, therefore PV module installation guidelines and related safety precautions are not a part of this manual. For guidelines on how to safely and effectively install BISOL PV modules please refer to the PV installation manual, published on www.bisol.com.



PV design:
The installer carries all responsibility for PV system dimensioning, static calculations of the roof, weather and environmental conditions at location, proper selection and use of components and their mounting. The installer is responsible for the mechanical durability and water tightness of the installed interface connections at the building surface. All safety warnings outlined in this manual are to be closely considered.

Roof:
The continual pressure loading capacity (point load) of the insulation and the roofing material must be checked thoroughly and found to be sound before installation. If the compression strength of the roof surface is not sufficient, extra support surfaces must be added.
The roof must be in good condition and strong enough to bear the weight of the solar panels, including associated materials, ballast, wind and snow load. The customer is responsible to check the stability of the roof structure and, when necessary, employ a builder to correct it.
The customer is responsible to check the compatibility of EasyMount™ Slim BASE mounting materials with local climate conditions (salt, acidity, sulphates etc.) and roof materials. The types of materials used in the Slim BASE are stated in the product datasheets.

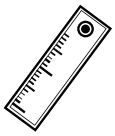
Installation work:
All installation work must be carried out by a specialised company with qualified personnel. Strict safety and accident prevention measures as defined by relevant regulations must be carried out and should be known by the installer. Appropriate protective equipment for work at height must be used throughout the installation process.

Electrical work:
Although electrical connections are strictly not part of this manual, some safety warnings are in place. PV modules and mounting structure must be grounded even when the site is already equipped with lightning protection. PV modules are under high voltage and generate electrical current even in low light conditions. When modules are connected in series, life-threatening voltage is present at the end of the terminals. Open circuited branches can cause electric arc when in touch with conductive surface. Electrical installations must not be carried out in case of dampness.

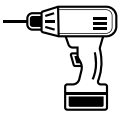
COMPONENTS OVERVIEW

	Component	ID Code	Component description
1		EM-BAS_B1530A.3	Bottom profile, Base Bottom 1530 mm Aluminium
2		EM-BAS_B1900A.3	Bottom profile, Base Bottom 1900 mm Aluminium
3		EM-BAS_B2500A.3	Bottom profile, Base Bottom 2500 mm Aluminium
4		EM-BAS.F10A.3	Front leg, Base front 10 Aluminium
5		EM-BAS.F20A.3	Front leg, Base Front 20 Aluminium
6		EM-BAS.B10A.3	Back leg, Base back 10 Aluminium
7		EM-BAS.B20A.3	Back leg adapter, Base Back 20 Aluminium
8		EM-BAS.BC10S.3	Middle leg, Base Back Centre 10 Steel
9		EM-BAS.BC20S.3	Middle leg, Base Back Centre 20 Steel
10		EM-BAS.BCA.3	Profile connector, Base Bottom Connector Aluminium
11		EM-CLA.EA30S.3	End clamp, Clamp end EasyMount™ 30mm, assembled
12		EM-CLA.EA35S.3	End clamp, Clamp end EasyMount™ 35mm assembled
13		EM-CLA.MA30S.3	Middle clamp, Clamp Middle EasyMount™ 30 mm, assembled
14		EM-CLA.MA35S.3	Middle clamp, Clamp Middle EasyMount™ 35 mm, assembled
15		EM-CLA.E_30S.3	End clamp EasyMount™ 30 mm
16		EM-CLA.E_35S.3	End clamp EasyMount™ 35 mm
17		EM-CLA.E_40S.2	End clamp EasyMount™ 40 mm
18		EM-CLA.M_S.3	Middle clamp EasyMount™
19		EM-CLA.SA.3	Clamp Slider EasyMount™ Aluminium
20		SEK-PT_6_15	Self-tapping screw 6,0 x 15 mm
21		SEK-PT_6_50	Self-tapping screw 6,0 x 50 mm
22		SEK-PT_6_55	Self-tapping screw 6,0 x 55 mm
23		EM-DIN912_6_30	Screw Inbus M6x30 A2-70
24		EM-DIN912_6_35	Screw Inbus M6x35 A2-70
25		EM-DIN912_6_45	Screw Inbus M6x45 A2-70
26		EM-DIN6923_6	Nut M6 flange A2-70
27		SEK-JF3_48_19	Selfdrilling screw 4,8 x 19 mm JF3-2
28		SEK-PREPDM	EPDM protective rubber 300 mm
29		EM-SIK_L150_95	Sika Foil FPO/TPO laminated, 150 x 95 x1,5 mm
30		EM-BP.3	Ballast pan, EasyMount
31		SEK-LOAD_CP15	Load Concrete plate 40/40/3,8 cm (13,5 kg)
32		EM-WDE.10_183	Wind deflector 10 degrees, lenght 1830 mm, width 115 mm
33		EM-WDE.10_203	Wind deflector, 10 degrees, length 2030 mm, width 115 mm
34		EM-WDE.20_183	Wind deflector, 20 degrees, length 1830 mm, width 300 mm
35		EM-WDE.20_203	Wind deflector, 20 degrees, length 2030 mm, width 300 mm

TOOLS REQUIRED



Measuring tool



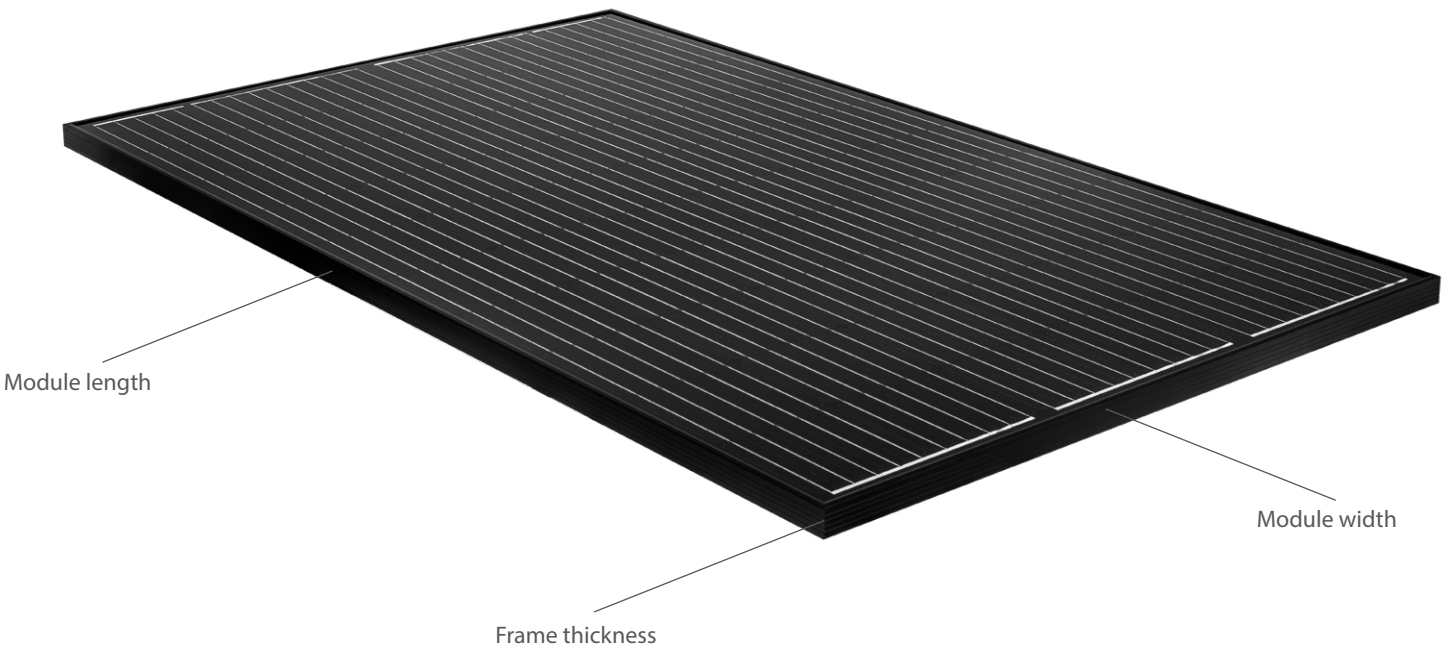
Electric drill

Torque wrench

Torx T30 socket

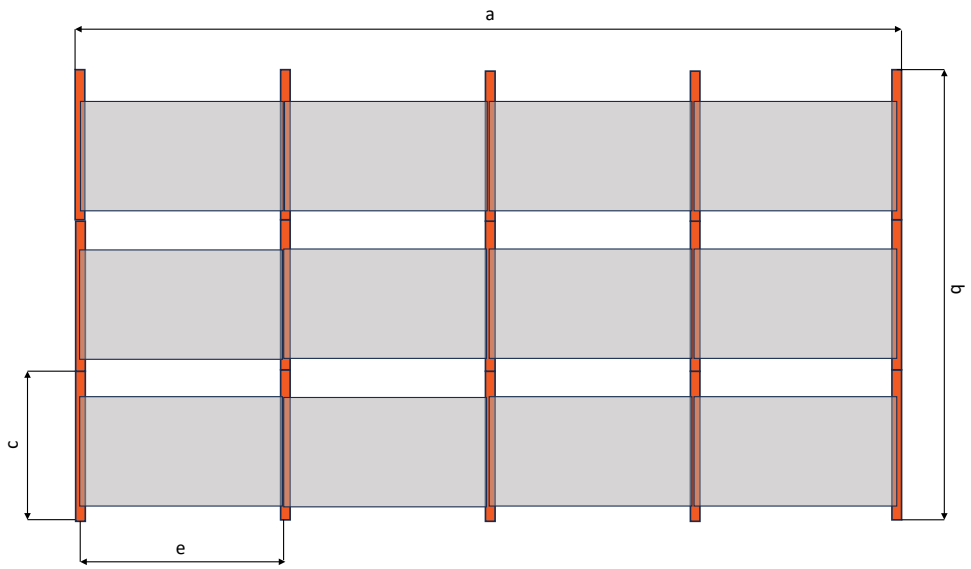
PLANNING THE PV LAYOUT

Project Design



Designing the PV Module Layout

10 degree system

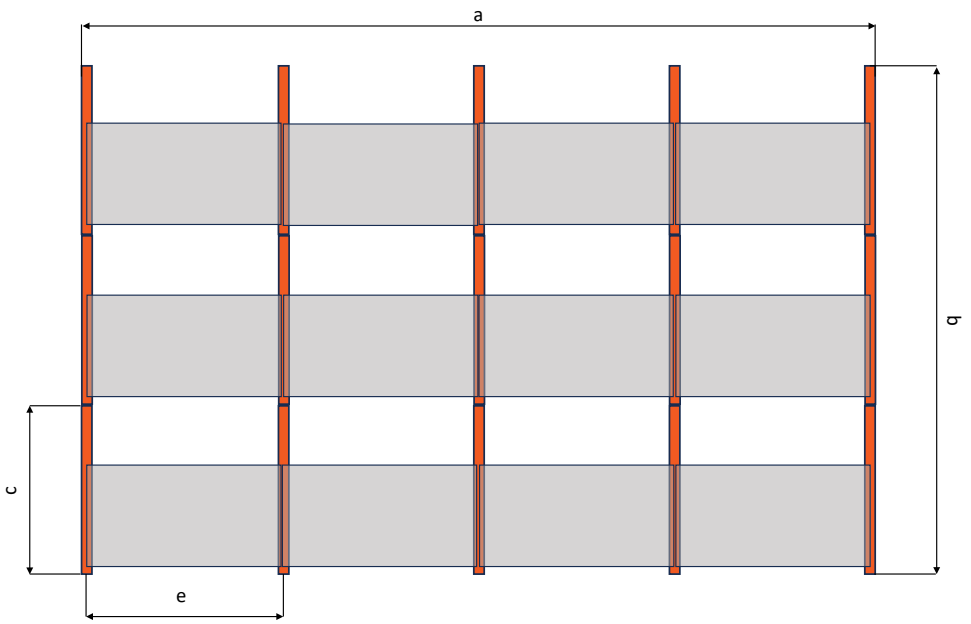


Required minimum horizontal roof space:
a = No. of modules * (module length + 20 mm) + 80 mm

Required minimum vertical roof space:
b = No. of rows * r
c = 1530 mm
e = module length + 20 mm

Distance between rows(r), 10°: 1530mm

20 degree system



Required minimum horizontal roof space:
a = No. of modules * (module length + 20 mm) + 80 mm

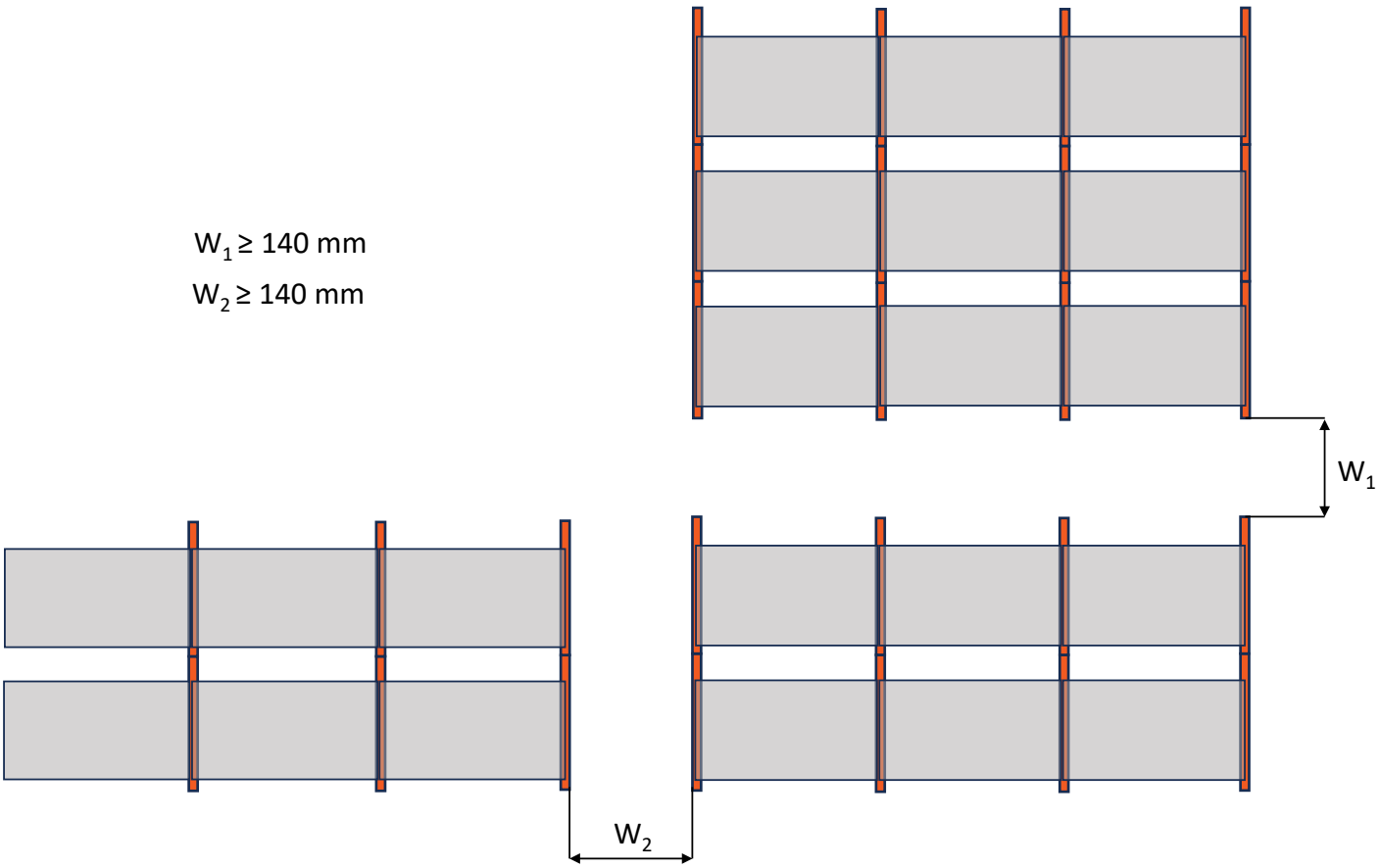
Required minimum vertical roof space:
b = No. of rows * r
c = 1900 mm
e = module length + 20 mm

Distance between rows(r), 20°: 1900mm

Distance between rows:

$W_1 \geq 140$ mm

$W_2 \geq 140$ mm

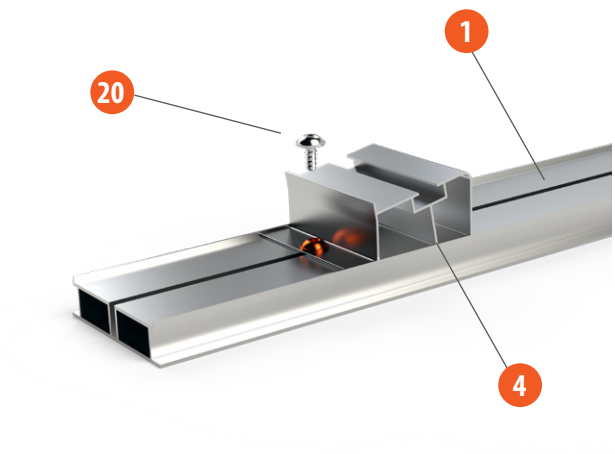


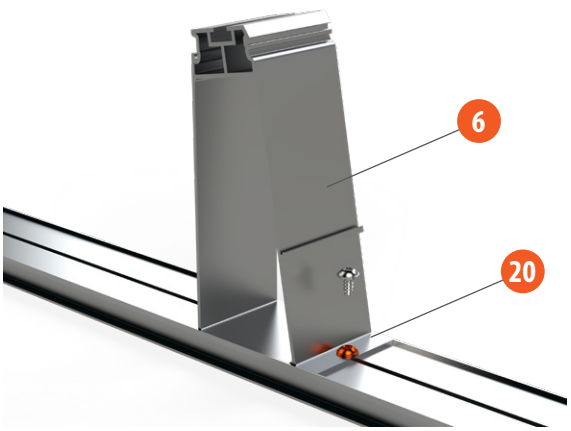
ASSEMBLY

STEP 1: Assembling the Frames

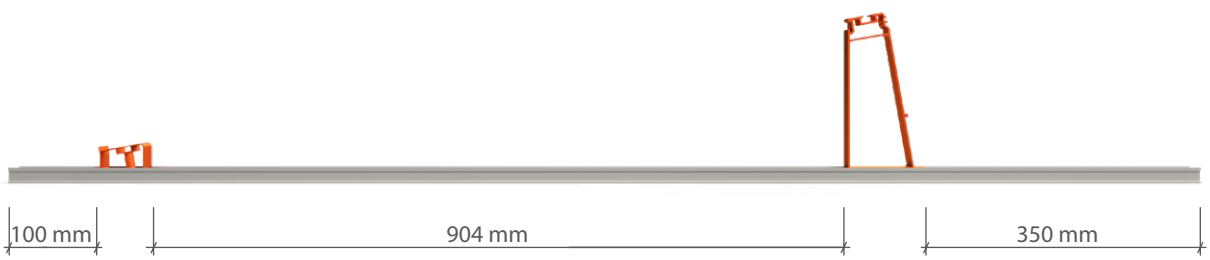
Attach front and rear legs of the Slim BASE to the bottom profile, according to the project design, described in the previous chapter and the distance in the next step. The tightening torque is 10 Nm.

10 degree system

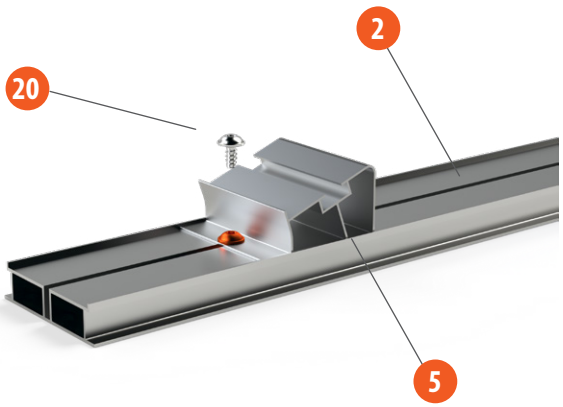


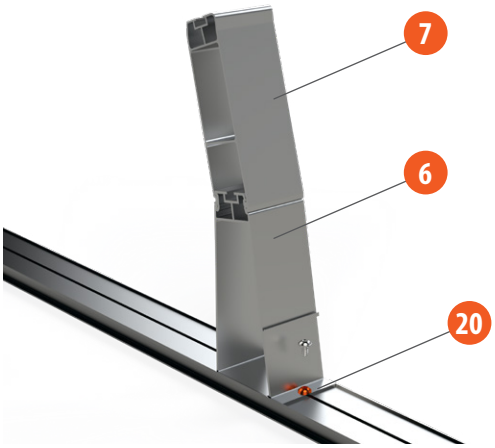


Finished frame

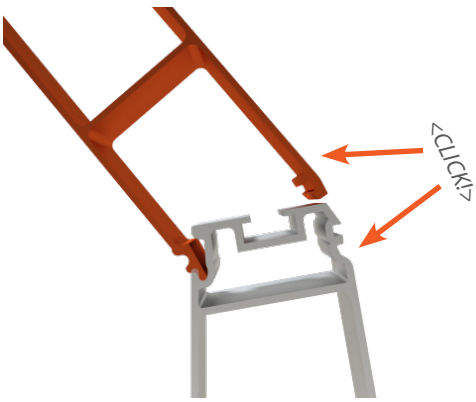


20 degree system

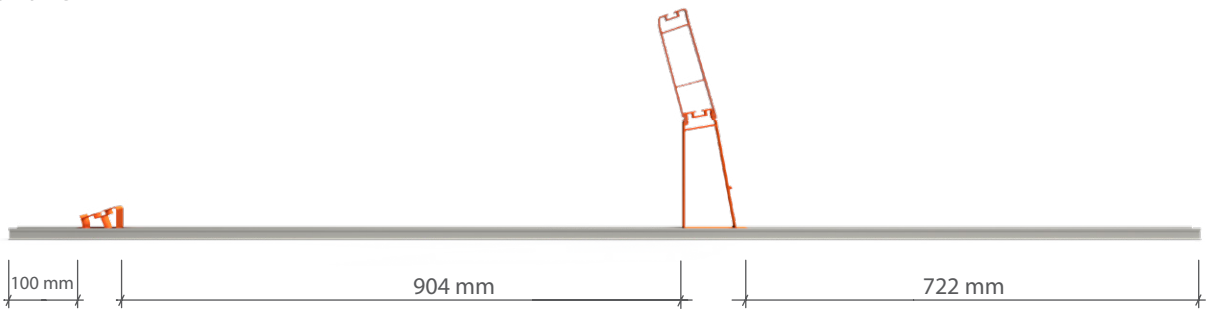




For a 20-degree system attach a connector with an additional tilt.



Finished frame

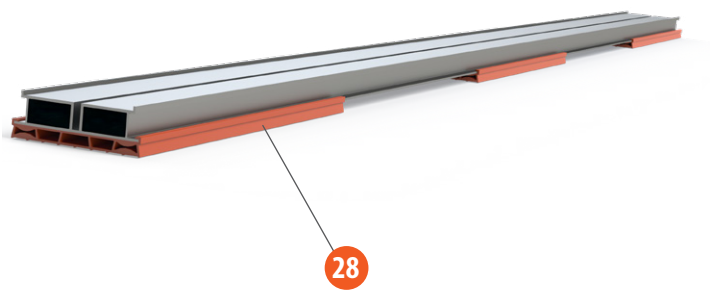


OPTIONAL

For additional roof protection, add EPDM rubber, on bottom profiles.

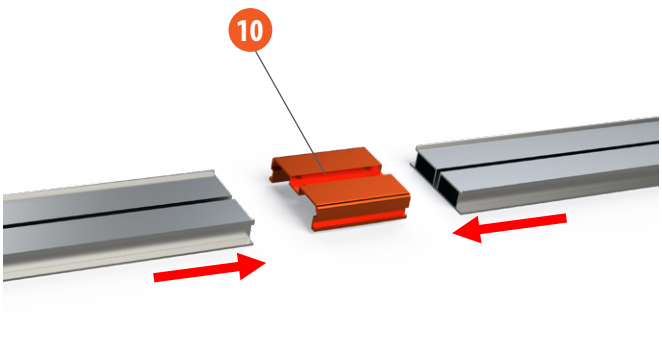
2x rubber for profile length 1530 and 1900 mm

WARNING: The profile must be placed in the slot of EPDM rubber on both sides, 10mm over the edge.



Connecting profiles

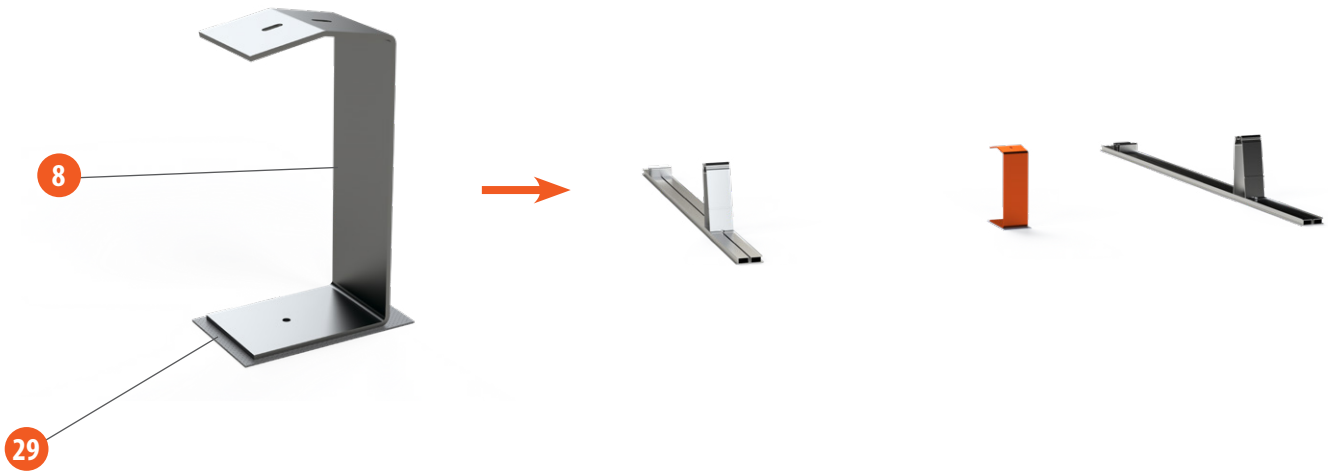
Connect the profiles with connector and screw.



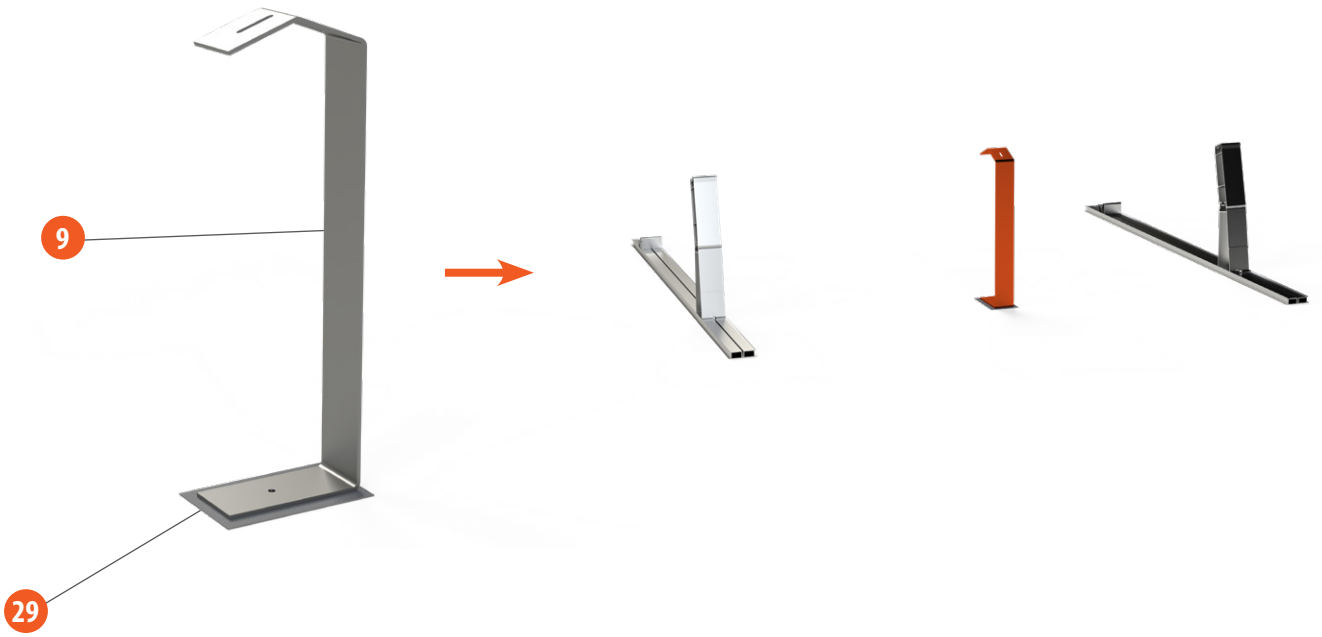
MIDDLE LEG

Position the middle leg, with the pad in the middle, between rear legs and the side of the module as shown in the picture and glue the protective foil under the leg.

10 degree system

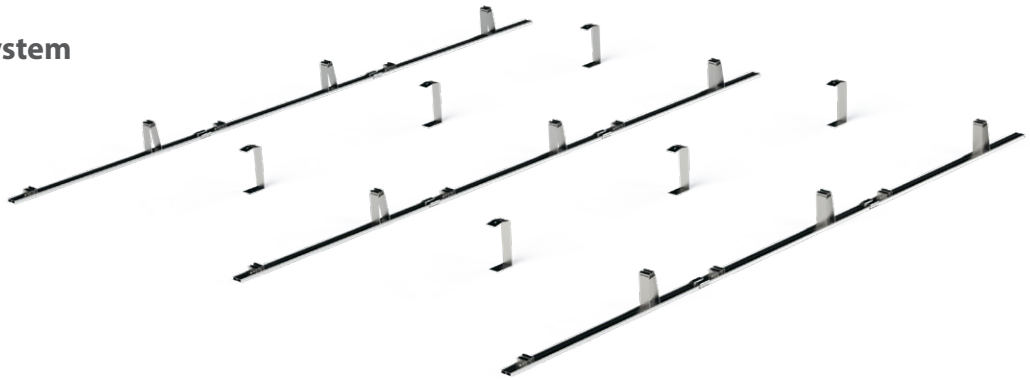


20 degree system

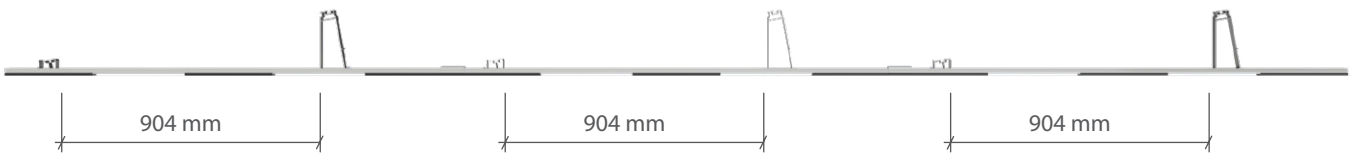


STEP 2: Placement of frames

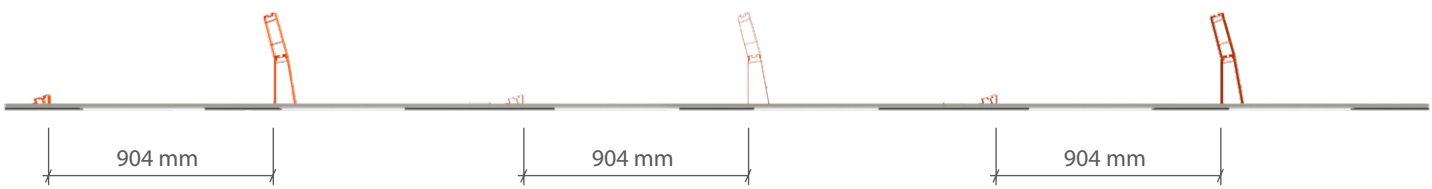
10 degree system



Place the assembled frames according th the design of the project.

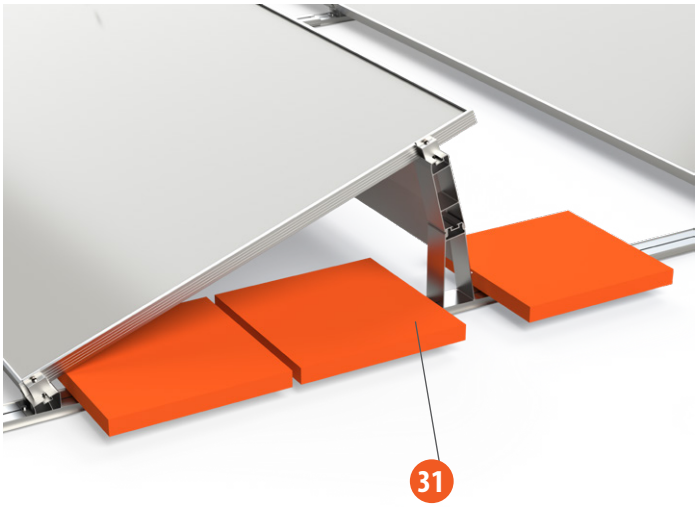


20 degree system

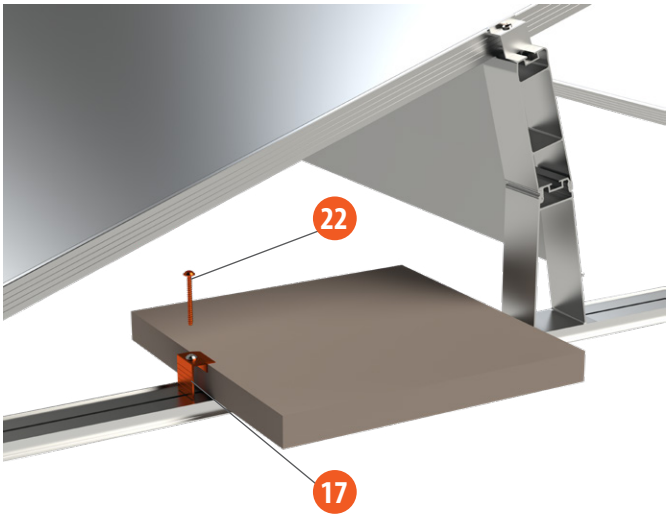


STEP 3: Adding concrete plates

Possible locations for attaching the ballast are along the profile.
Ballasting is optimal in the immediate vicinity of the rear legs.

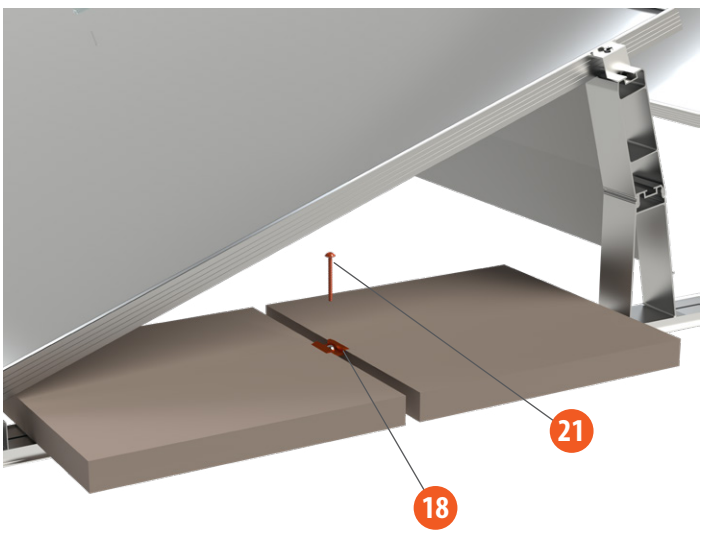


Insert ballast pan on profiles.
Use the end clamp to attach the ballast.

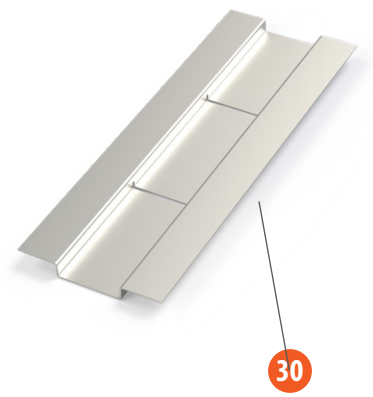


All calculations regarding concrete plates must be approved by the local engineer in accordance with local building regulations. Please, contact BISOL sales team for concrete plates recommendation and report, as BISOL also requires local engineer approval.

Use the middle clamp to attach the double ballast.



OPTIONAL: Install ballast supports on the profiles, on which we place the concrete slabs.

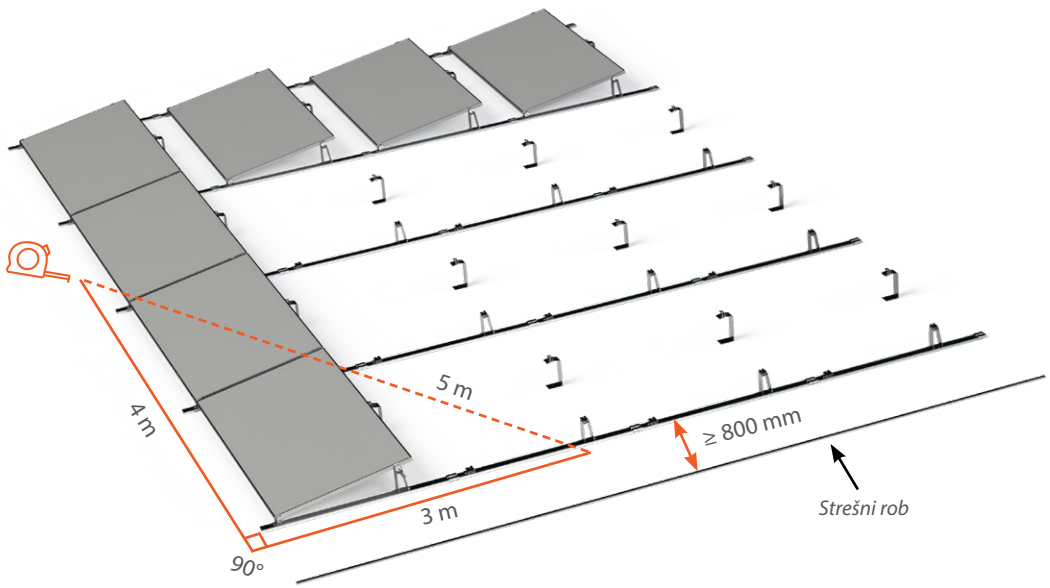


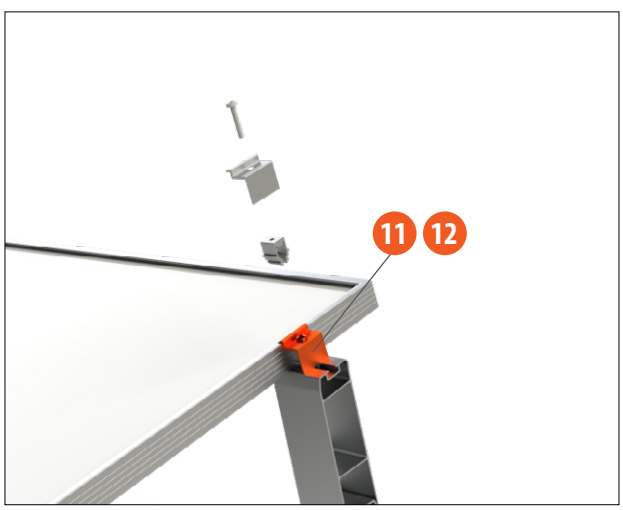
For Slim BASE system, concrete plates 400 x 400 x 38 must be used.

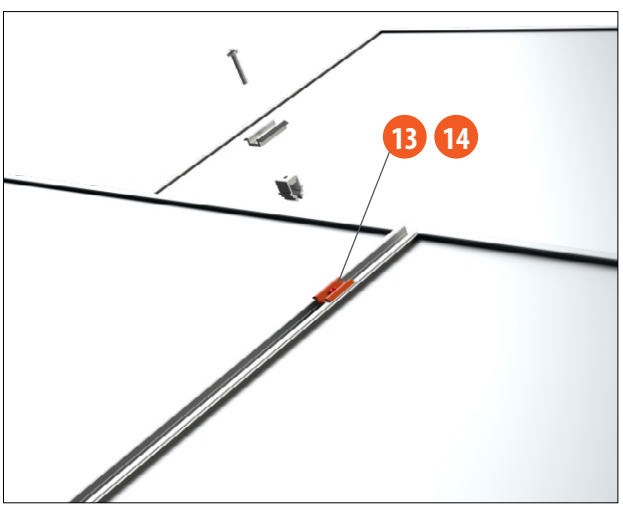
Annual inspections/checking of concrete plates are recommended due to potential roof vibrations.

STEP 4: Attaching PV Modules

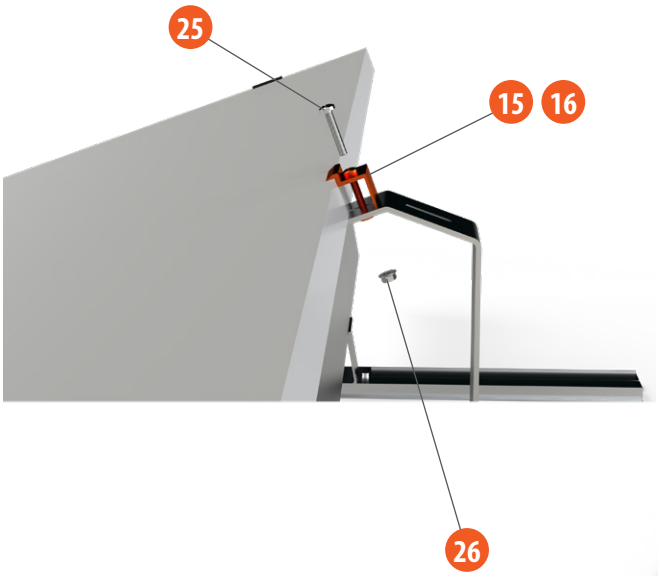
Before installing the modules, check if the profiles are perpendicular.



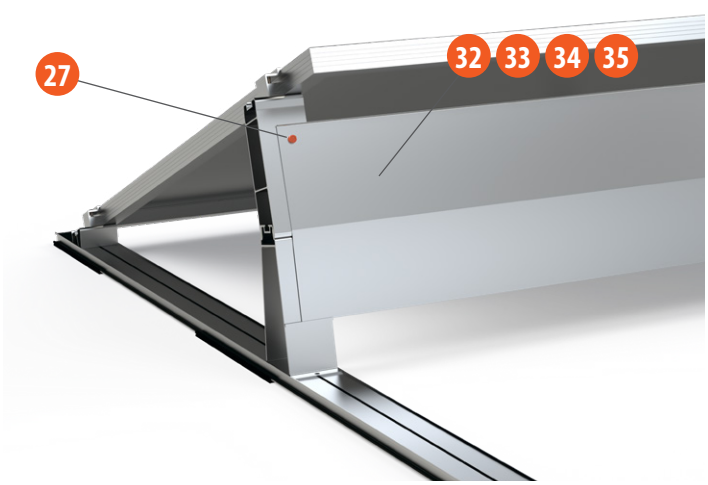


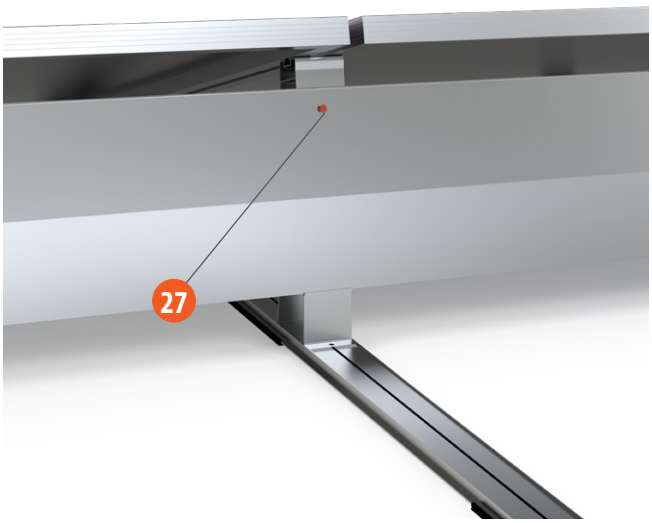


Fasten the PV modules with clamps, using 10 Nm of torque. Use the end clamp on the edges and the middle clamp between two PV modules. The clamps are preasembled.



STEP 5: Attaching Wind Deflectors





To improve the aerodynamics of the system, attach the wind deflectors using drilling machine with 6 mm hexagon head.

TERMS AND CONDITIONS

BISOL Production Ltd. as manufacturer of BISOL EasyMount™ mounting solutions in connection with their installation takes no responsibility for the design solutions of individual designers, also assumes no responsibility in connection with the installation of BISOL EasyMount™ mounting solutions by a third party and contrary to these instructions, as well as for the choice of mounting structure in this regard.

BISOL Production Ltd. does not accept liability and expressly disclaims liability for loss, damage or costs arising from or in any way related to the design and dimensioning, installation work, operation, use or maintenance of the solar system.

Failure to follow the guidelines set out in this document and / or in the construction plan may invalidate all claims for product guarantees and liabilities.

The information in this manual is based on the knowledge and experience of the BISOL Production Ltd., but such information, including product specifications (without limitation), and suggestions do not constitute guarantees, expressed or implied. BISOL Production Ltd. reserves the right to change the installation instructions and product specifications without prior notice. The most recent version of this installation manual is published on official website www.bisol.com.

In addition, our General Sales Terms and Conditions for Supply of Goods and Services (GSTC) as well as Standard Limited Guarantee terms and conditions for mounting systems, both published on the website www.bisol.com, apply.

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