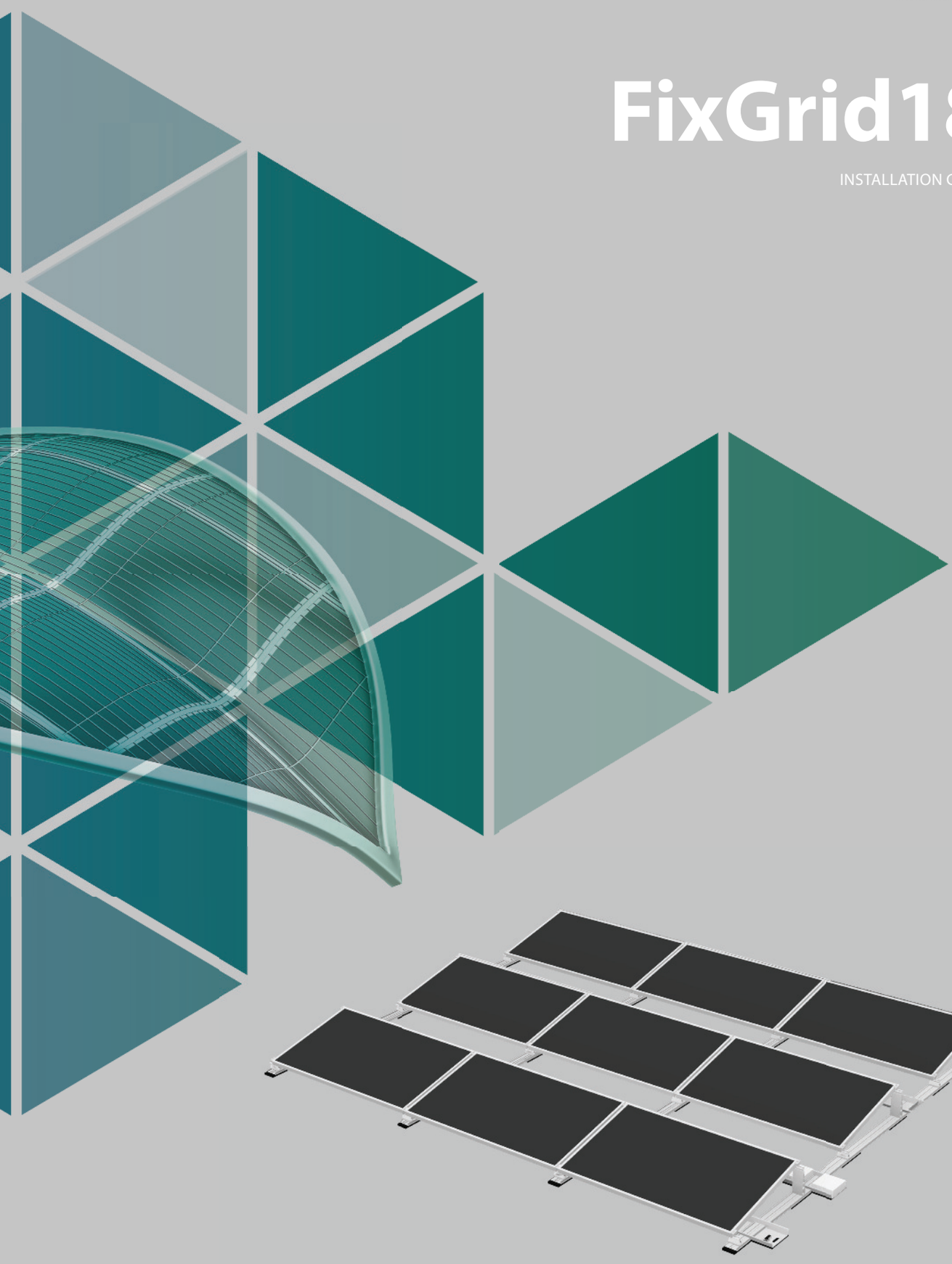
SCHLETTER
The Solar Mounting Group

FixGrid18

INSTALLATION GUIDE



Installation manual for simple alignment (e.g. south)

Tools needed

Tape measure, screwdriver with TX drive T40 bit (module assembly) and socket wrench with SW8 socket (Windsafe installation)

Other necessary documents

General installation manual – Installation and project planning
Installation manual Rapid16 module clamps
Product sheet FixGrid18, FixGrid18 kit

Fastening torques

M8 screw fittings: 15 Nm
Exception: Self-drilling screws must be screwed on in the direction of the end stop.

Safety instructions

The system must be installed with ballast according to load statics. You can get this with the system plan from the Schletter configuration tool.

Break hazard! PV modules can be damaged if they are entered.

Planning of the solar power system, installation and commissioning must be done only by qualified technical personnel. Improper execution can damage the system and endanger people.

Electrical current hazard! Installation and maintenance of the PV module must be done only by qualified professionals. Obey the PV module manufacturer's safety instructions!

Falling hazard! During all work on the roof, and when climbing up and down, there is a risk of falling. Always obey the accident prevention regulations and use appropriate fall protection equipment.

Injury hazard! People can be injured by falling objects. In the hazard area, before starting installation, set up barriers and warn people in the area.

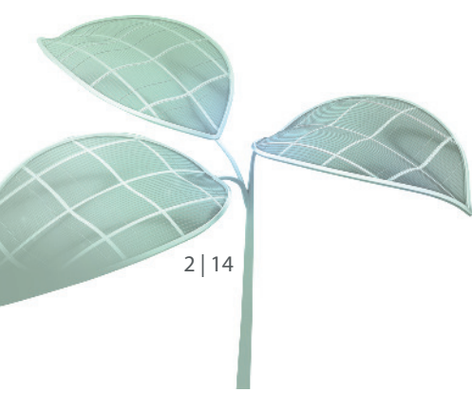
Installation instructions

Make sure the flat roof seal and the installation system are compatible. Roof drainage must be incorporated into the system plan.

For very uneven roofs or roof seals, compensation measures may need to be taken to ensure even loading.

The necessary gaps from the roof borders must be maintained.

The maximum field type depends on the type of roof.
For film roofs, it is no more than 10 m, and for concrete roofs, this can be even larger in some cases.



For roofs with a substrate or gravel covering, it must be ensured that the connection is slip-resistant enough.

Check the existing incline of the roof and whether the installation system needs to be secured against slipping.

The surface load must not exceed the building's remaining load capacity!

The partial surface pressure exerted under the base profiles and the roof cladding and insulation must never exceed the maximum permissible surface pressure.

Current country-specific laws and regulations must be followed!

Roof cleaning! To ensure flat support of the base profile, contamination like moss, leaves, dirt, stones, etc., absolutely must be removed.

If there is a lightning protection system, determine to what extent a certified lightning protection company must integrate it. It should also be checked whether the installation changes the lightning protection requirements.

For static reasons, installing a single row of modules is **not** permitted.

Before installation, the roof must be checked for all types of damage — especially water creasing and damage to the roof cladding. These should be documented with photos to protect against third-party claims.

The system is designed for modules with a width of 950–1050 mm (typical module dimensions according to the current state of the art). Other module dimensions are available upon request and with special verification. Observe the manufacturer's information on module clamping.

Install only original Schletter components!

Use the current installation manual! Can be found at our website: www.schletter-group.com in the solar area under Downloads

TECHNICAL DATA

1

Defining base profile lengths and module support gaps

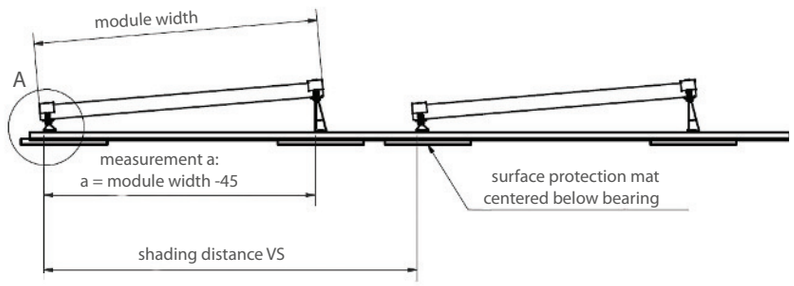
The length of the base profile depends on the selected shadowing distance versus the module width and the number of module rows. The shadowing distance can be calculated using the configuration tool. Distance "a" between "system profile 18 bottom" and "system profile 18 top" is determined from the module width:

For version 6:	Module width - 45mm
For version 13:	Module width - 56 mm

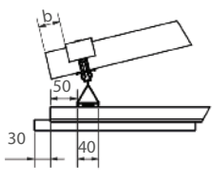
The first support must be placed at least 50 mm from the front edge of the base profile. When this rule is followed, the module frame width always closes flush with the Rapid16 module clamps (bottom and top).

The base profile length can be selected from the four standard lengths (2650, 4200, 6000, 6300 mm) and combined together. For this, the base profiles can be connected to the internal connector, item No. 129078-00. The maximum permissible field size must be observed!

Version 6:

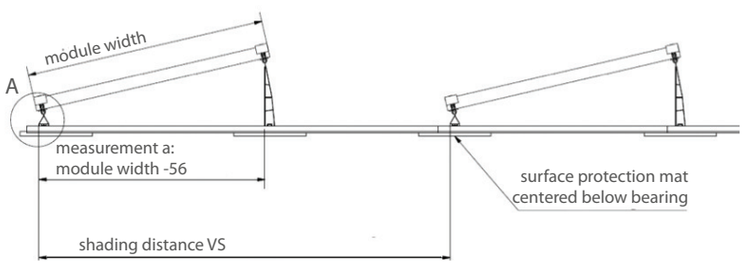


detail: A

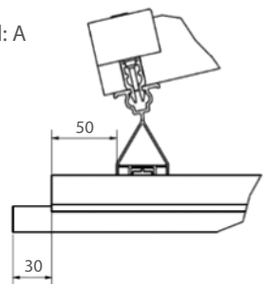


b = module width-950

Version 13:



detail: A



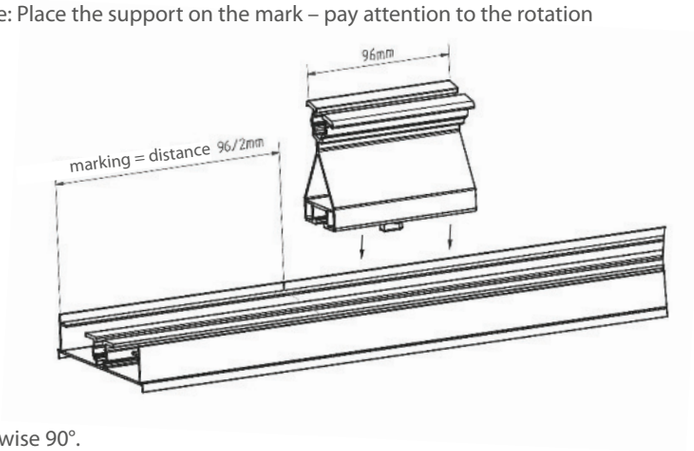
Installation times can be optimized by pre-assembling a row of base profiles side by side on assembly stands with the installation supports.

2

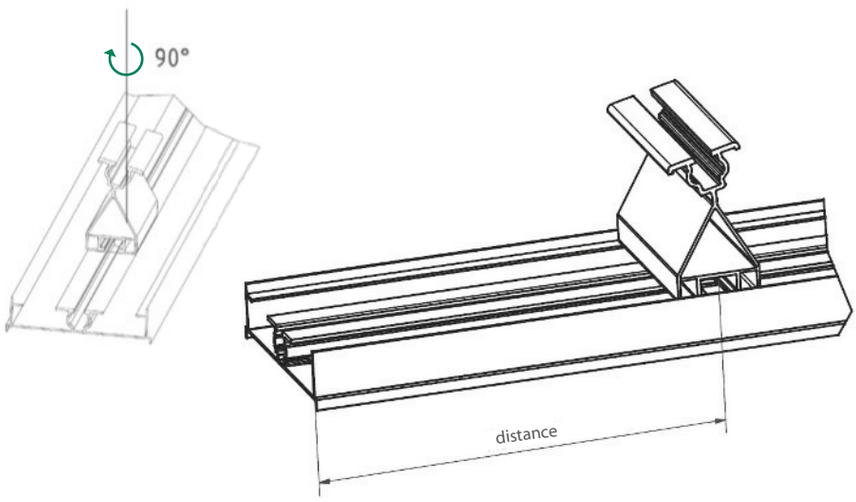
Installation of the module support with pre-assembled one-turn connector on the base profile

Marking for installation of the module support:
Front edge of the module support = Distance – 96/2mm

Front edge: Place the support on the mark – pay attention to the rotation direction!



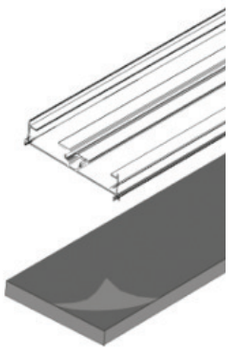
Turn clockwise 90°.

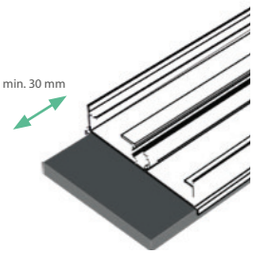


Observe the suitable module and row distances for profile and module installation.

3 Installation of the structure protection mat

Adhere the structure protection mat (300/110/20 mm) after removing the protective film on the base profile.
Observe the structure protection mat's minimum 30 mm excess length at the profile ends.





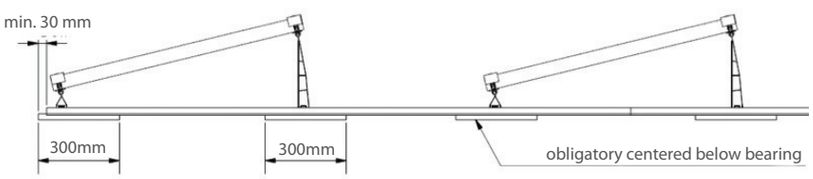
The structure protection mat installation distances below the base profile are based on the selected installation version.

Version A:

- Place 20 mm thick, 300 mm long strips centrally under under each support.
- Load placement on small surface (for light loads and/or firm substrate)
- Under impact from the base profiles, an additional structure protection mat should be positioned!
- For transverse flowing roof water, almost unhindered drainage is possible.

The permissible surface pressure of the roof must be checked!

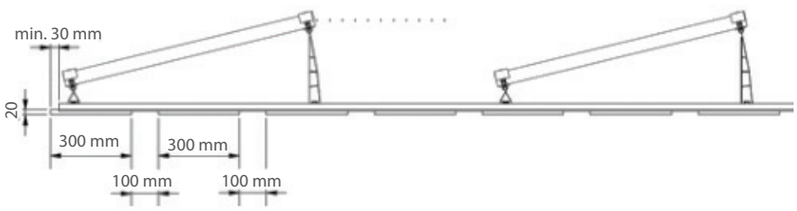
Adequate drainage of precipitation water must be ensured!



Version B:

- Place 20 mm thick, 300 mm long strips at a distance of 100 mm.
- Load placement on large surface (for high loads and/or soft substrate with low permissible surface pressure)
- Also suitable for transverse draining roof water.

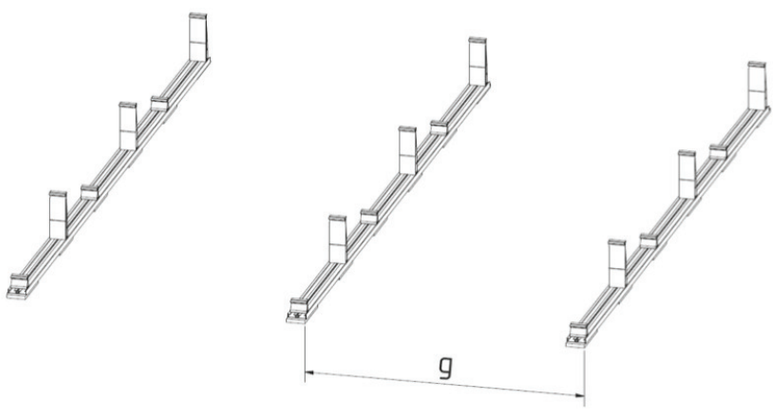
The permissible surface pressure of the roof must be checked!



With transverse draining precipitation water, adequate distance must be ensured. This must be measured on site according to the local precipitation quantity.

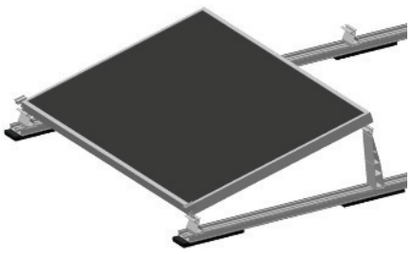
4 Aligning the base profiles

• Align the base profiles parallel to each other, the FixZ system profile18 aligned and at a right angle to the base profiles on the substrate.
• Distance g = Module length + 23 mm



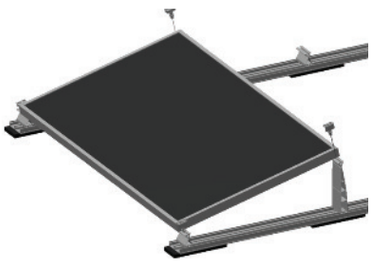
5 Placing the first module

- Snap in and position the Rapid16 end clamps on the module field border. Also click the Rapid16 middle clamp with a generous gap, so that the module can be inserted between the clamps.
- Place the module on the FixZ system profile 18 and align the lower edge with the previously inserted Rapid16 clamps. Observe the module alignment according to the module row.



6 Installing the first module

- Place and tighten the end clamps (bottom and top) on the module, fasten wit M8 (T40) screws.
- Place the central module clamp on the module but do not tighten.
- Connect the module cable according to the plan.



7 Installing further modules

- Installing another module.
- Tighten the middle clamps (bottom and top) between the modules with M8 screws (T40).
-
-
- Pre-install further middle clamps on the free side of the module.
-
- Connect the module cable according to the plan.
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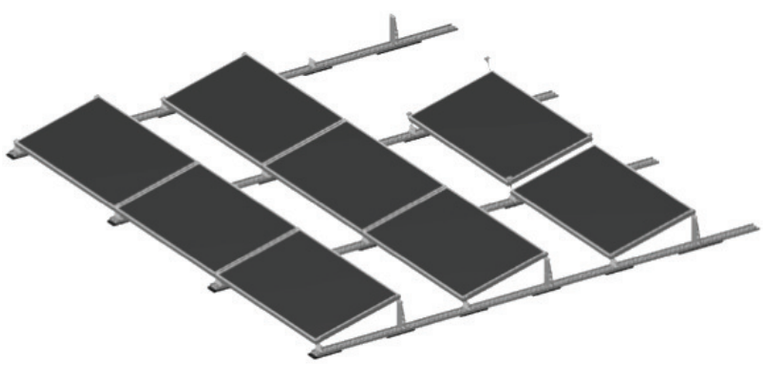
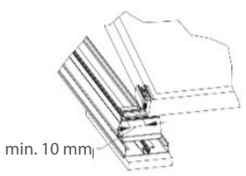
- Repeat the steps in order until the last module.
-



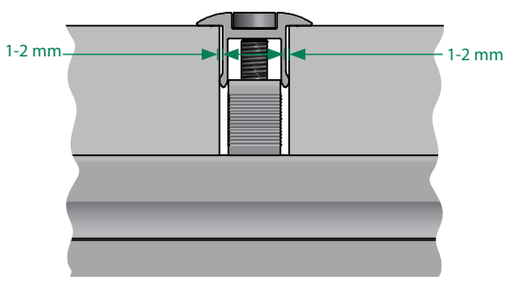
8 Installing the last module of the row

- Place the last module
- Tighten the middle clamps (bottom and top) between the modules with M8 screws (T40).
- Install the end clamps on the free side of the module and tighten.
- Connect the module cable according to the plan.

Insert end clamps at least 10 mm from the end of the profile.



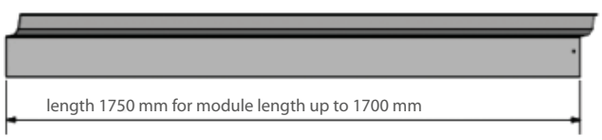
Observe the module distance for middle clamps.

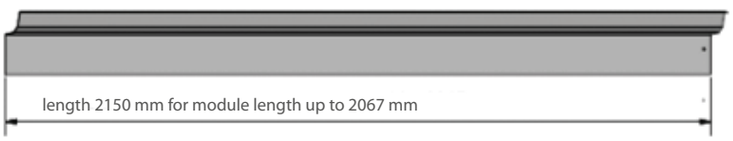


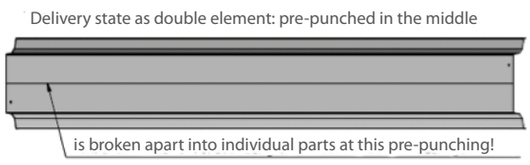
9 Installing Windsafes

For each incline variant, there are two length types for Windsafe sheets:

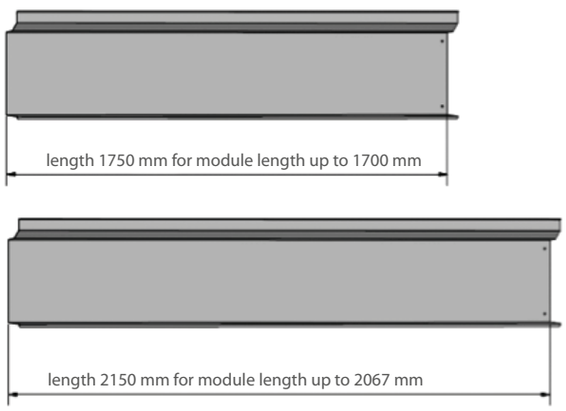
Version 6°:



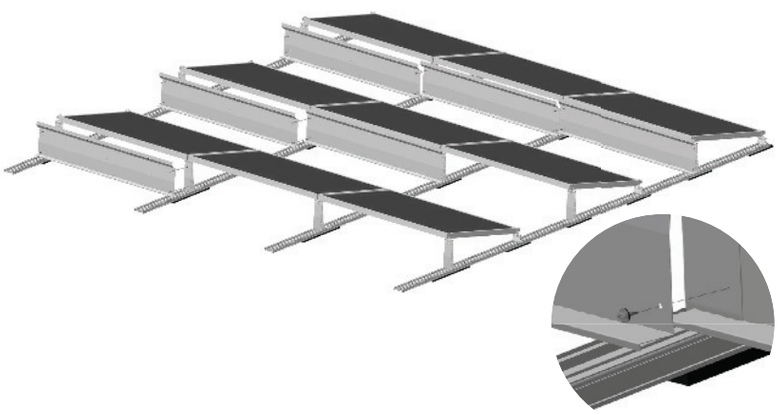




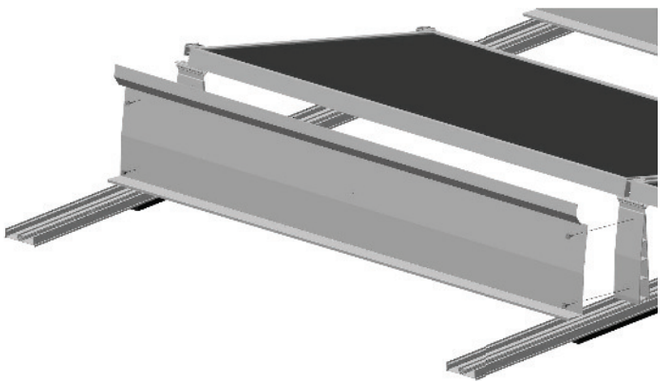
Version 13°:



- The Windsafes of the 6° version are fastened with one screw, and the 13° version with 2 screws per module support.
- Viewed from the back, the Windsafes are installed from right to left. For this, the first Windsafe must be placed on the base profile and distributed on the two supports.
- With thin sheet metal screws, the Windsafe is screwed on through the two holes (13° version) on the right side onto the upper FixZ system profile 18. (6° version with only one screw)
- Place further Windsafes on the base profile, align them laterally, and screw them on to the right through the holes of the upper Windsafe, both Windsafes on the FixZ system profile 18. The last Windsafe on the left side must be fastened with two thin sheet metal screws at the same height.



One Windsafe is fastened with two thin sheet metal screws per side.
(13° version, with 6° version with only one screw per side)



Windsafes are to be installed only at the intended locations according to the static layout. Inside the module field, in many cases no Windsafes are necessary.

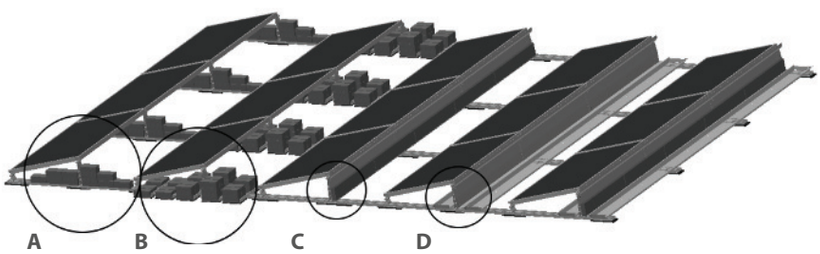
10

Installing the ballast

There are basically 4 possibilities for ballast installation:

- Ballast with concrete stones 100 mm wide on the base profiles (see detail A)
- Ballast with additional troughs (see detail B)
- Ballast with standing lawn edging stones on the Windsafe (see detail C, for 13° version only, securing the stones against tipping over is recommended)
- Ballast with additional ballast shafts (see detail D)

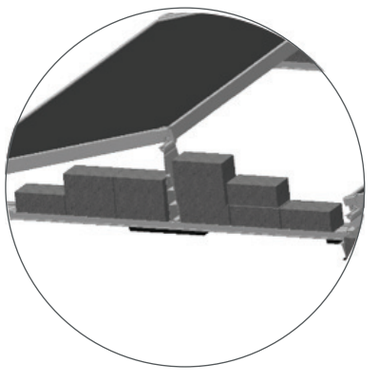
or ballast from a combination of the four options



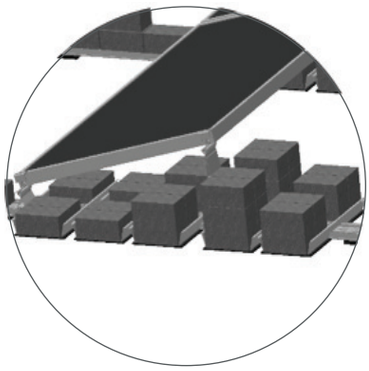
The information on ballast can be taken from the system plan from the Schletter configuration tool.

Fasten the structure protection mat pieces to the additional troughs with the fastening flaps. (Ballast does not come with delivery.)

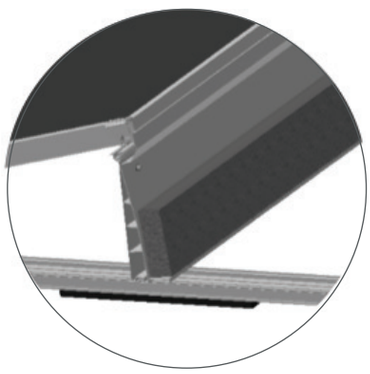
detail A:



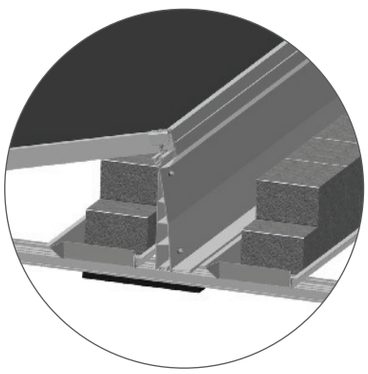
detail B:



detail C:



detail D:

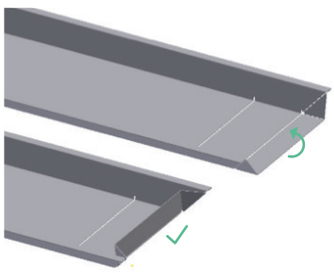


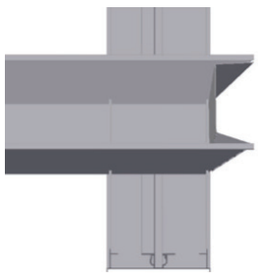
Ballast with additional ballast shafts (detail D)

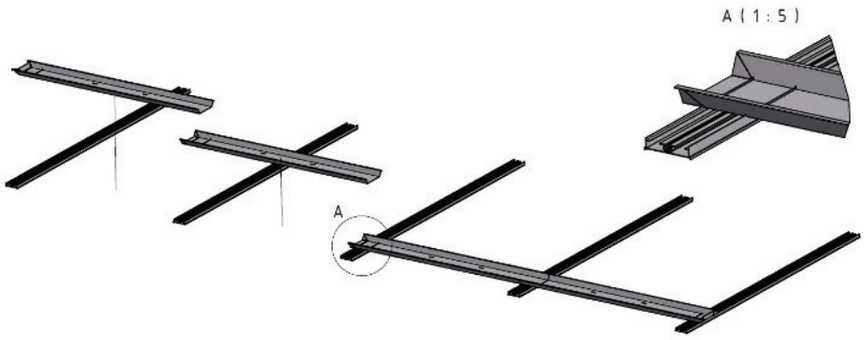
If the ballast shafts are filled with gravel, then gravel run-out at the ends of the rows can be prevented by folding the shaft ends up. For this, the ends of the ballast shafts must be folded at the perforation.

The first ballast shaft is placed from the right with the recesses and upstand on the base profiles.

All other shafts are turned 180 degrees (left recesses) from right to left. With this, the shaft always lies with the side of the slot flush in the base profile. On the last ballast shaft, the end must be folded up again.







More information on our systems can be found at our website: www.schletter-group.com, in the solar area under Downloads.

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