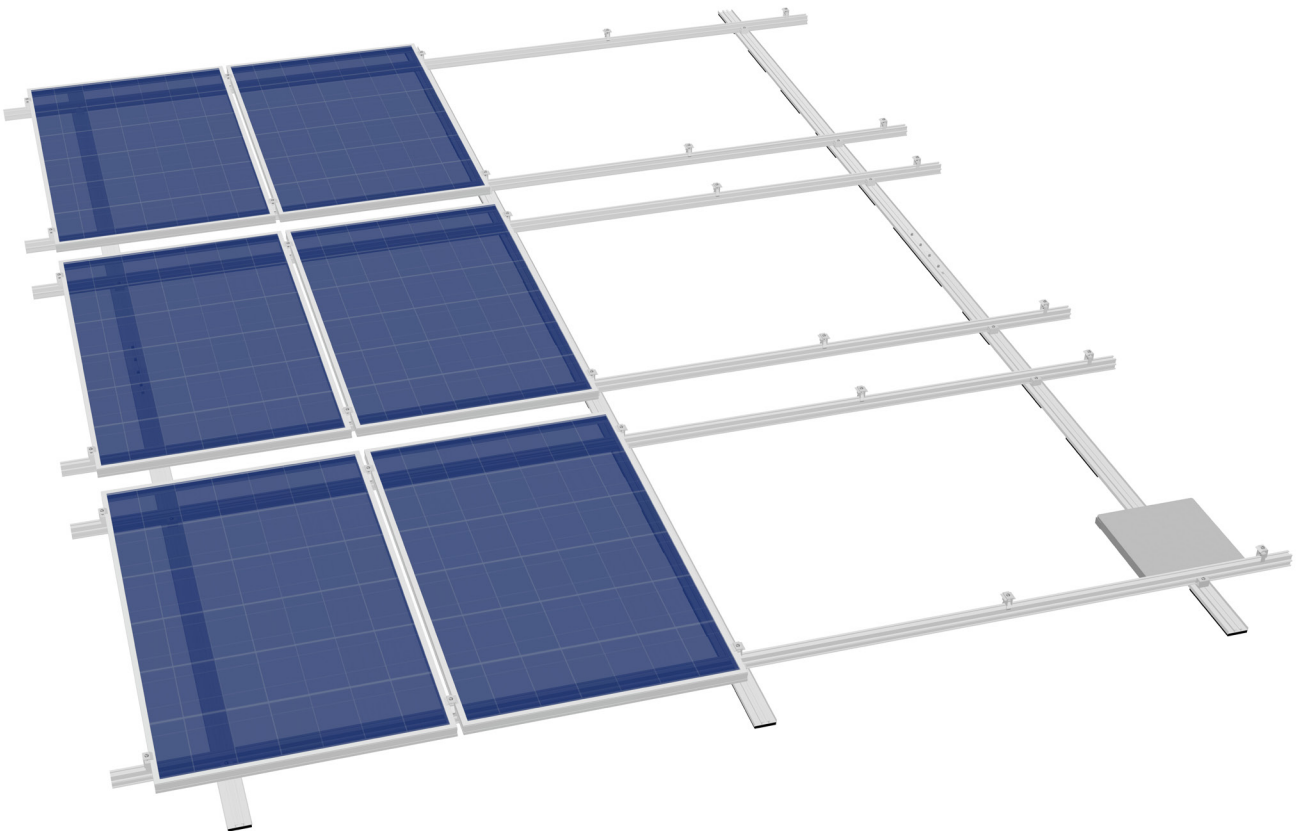




## Assembly Instructions

### **S:FLEX FLAT DIRECT**

For foil, bitumen and sandwich roofs  
- WITHOUT roof penetration



## 1 Introduction

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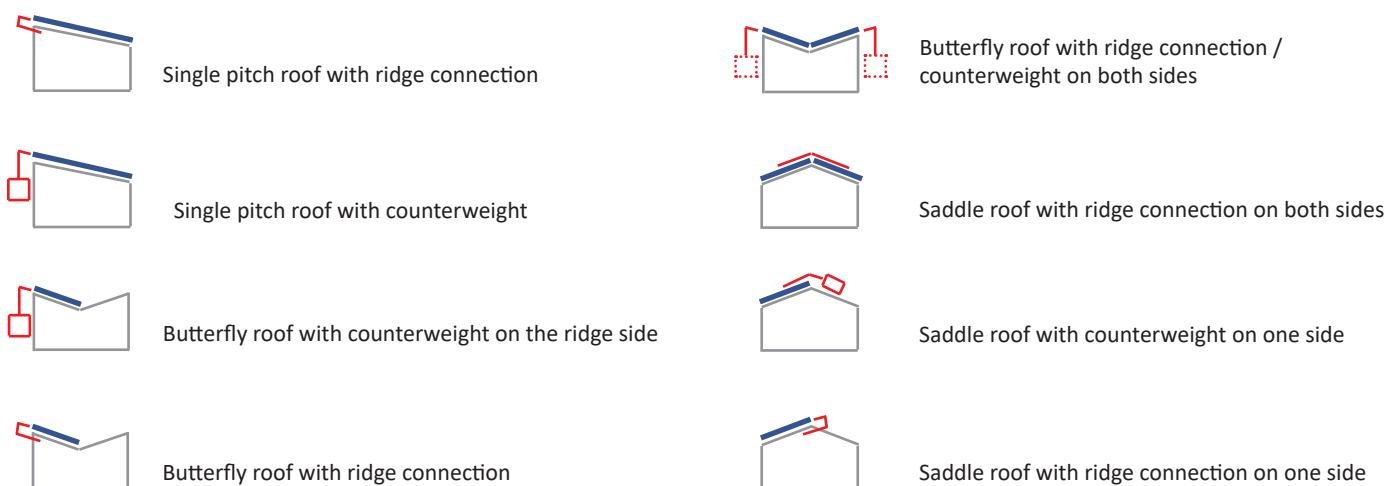
## 4 Terms of use and warranty

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**Read these installation guidelines carefully before installing the S:FLEX mounting system and retain for future reference! These installation guidelines are only complete with the project-specific implementation plans (project report)!**

The S:FLEX FLAT DIRECT system for flat roofs and low roof pitches up to 30° is an aerodynamic frame system for the installation of PV modules without roof penetration. It includes prefabricated aluminium ground rails with glued on sponge rubber pads, which ensure maximum material compatibility and excellent friction coefficients at the same time.

S:FLEX FLAT DIRECT can be installed on almost all roof shapes with roof pitches up to 30° using commercially available modules.



All components are generally made of aluminium and stainless steel. The high degree of corrosion resistance ensures a long service life and offers the possibility of complete recycling.

### 1.1 Intended use

The S:FLEX FLAT DIRECT system is designed to accommodate PV modules. The system is suitable for use on roofs with a pitch up to 30° and the following roofing: Foil roofs, bitumen roofs, sandwich roofs.

Any use that deviates from this must be regarded as not the intended use. In particular, the observation of the information in these installation guidelines counts as intended use.

The project report is part of the assembly instructions and is created on a project-by-project basis. All of the information given in the project report must be strictly observed. The location-based static calculations are carried out in the project report. The S:FLEX FLAT mounting system must be designed and created with the S:FLEX software (Solar.Pro.Tool).

S:FLEX GmbH is not liable for damages that result from not observing the installation guidelines or from the improper and not intended use of the product.

### 1.2 About the document

These installation guidelines describe the installation of the S:FLEX FLAT DIRECT system on roofs with a roof pitch of up to 30°.

It must be ensured that only current and complete installation guides are used for the installation process.

### 1.3 Warnings

The warning information given in these installation guidelines indicate safety-related information. They are:



**If not observed, there is a major risk of injury as well as a risk of death.**



**Failure to observe this can lead to property damage.**

### 1.4 General information - Standards and guidelines

Every photovoltaic system must be installed in accordance with the instructions stipulated in the installation guidelines provided and the project report. The installation guidelines provided are based on the latest technology and many years of experience installing our mounting systems. It is to be ensured that only the current and complete installation guidelines are used for the installation and that a print-out of the installation guidelines is stored in the immediate vicinity of the system. Subject to technical changes.

Each roof has particular features that must be taken into account. This requires preliminary expert advice. Before installation, the PV system creator must ensure that the existing roofing and roof substructure are suitable for the occurring additional loads. The condition of the roof substructure and roofing must be thoroughly checked (e.g. quality of the roofing, that the roofing is adequately secured to the substructure, maximum load-bearing capacity of the roofing). Contact an on-site structural engineer for this purpose.

When installing the PV system, always comply with the installation instructions of the module manufacturer. In particular, it is necessary to check that the module manufacturer's instructions regarding the module clamping guidelines (module clamping surface and clamping range) are complied with. If this is not the case, the customer must obtain a declaration of consent from the module manufacturer before the installation, or the mounting system must be adjusted according to the module manufacturer's guidelines.

The requirements for the protection of PV mounting systems against lightning and surges are to be met in accordance with the DIN and VDE regulations.

The specifications of the relevant power supply company are to be observed.

During installation, local fire regulations have to be observed, e.g. firewalls must not be built over and a certain distance has to be observed.

If the roofing is altered, the manufacturer's guidelines are to be observed. During and after the installation, the frame components may not be stepped on or be used as a climbing aid. There is a risk of falling and the roofing underneath could be damaged.

Prior to installation, the creator of the photovoltaic system is to ensure that the installation is carried out while strictly adhering to national and location-specific building regulations, safety and accident prevention regulations, standards and environmental protection regulations.

Every person who installs the S:FLEX PV fastening systems is obligated to independently inform himself/herself of all rules and regulations for a professionally correct planning and installation and to adhere to said rules and regulations during the installation. This also includes compliance with the current state of the rules and regulations.

The installation of the PV system may only be carried out by trained specialists.



**Please note: The installation of the S:FLEX substructure and the PV system may only be carried out by trained specialists.**

**System components are not to be used as step ladders. The modules must not be stepped on.**

**When working on roofs, there is a risk of falling off and falling through roofs. A fall can result in injury or death. Ensure that appropriate safe access equipment and fall protection (e.g. scaffolding) are provided as well as protection from falling parts.**



**Check the building statics and construction/condition of the roof substructure and roofing before starting the installation. During installation, the instructions in the installation guidelines and project report must be strictly observed. Failure to observe the installation guidelines and the project report can result in damage to the PV system and to the building.**

## 1.5 Description of the system

The S:FLEX Flat Direct system offers suitable solutions for different requirements:

### System properties

Roof pitch:	The S:FLEX FLAT DIRECT is available for a roof pitch up to a maximum of 30°
Roof edge spacing:	Roof areas F and G can be used
Module dimensions:	all commercially available modules can be used
Building height:	max. 25 m
Wind load:	up to 2.4 kN/m <sup>2</sup>
Snow load:	up to 5.4 kN/m <sup>2</sup>
Materials:	extruded aluminium EN AW-6063 T6
Small parts:	Stainless steel X5CrNi18-10 A2-70A
Prerequisites:	Proof of static load capacity of the roof and the roof insulation needs to be provided by customer. General terms / warranty conditions and usage agreement apply.



**The module manufacturer's installation instructions are always to be observed.**

### Roofing

The S:FLEX FLAT DIRECT can be installed on the following flat-roof coverings:  
Foil roof, bitumen roof, sandwich roof.

The S:FLEX FLAT DIRECT does not use conventional protective mats, but special material-compatible foam protective mats. The system can therefore be used on all conventional roofing materials. No plasticisers are released. The material meets the requirements of DIN EN 13501-1 with the fire classification E.

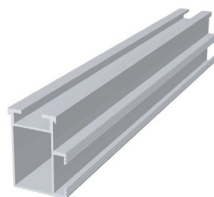


**S:FLEX GmbH may provide a measuring device in order to determine the project-specific friction co-efficient.**

## Mounting rail

The S-FLEX rail ST-AK 7/47 is used for the installation of the modules. The maximum rail length without expansion joints is 13.00 m. When positioning the splices, it must be taken into account that the system supports always rest on at least two ground rails. Splices, which were mounted below modules, must be bolted to both rails with positive locking. Modules must not be built over expansion joints.

Separation joints are used to separate the module arrays and to position the expansion joints.

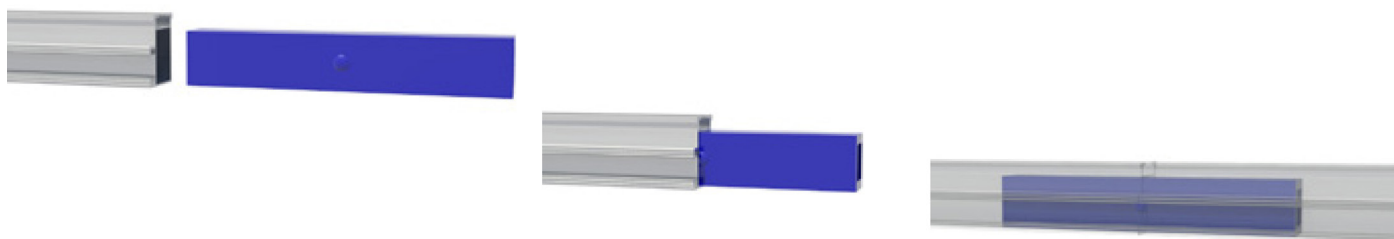


ST-AK 7/47

## Splice technology

In addition to the simple installation, the splice technology allows a system orientation without a reduction in the load-bearing capacity in the area of the splices, since they have the same static values as the associated rail.

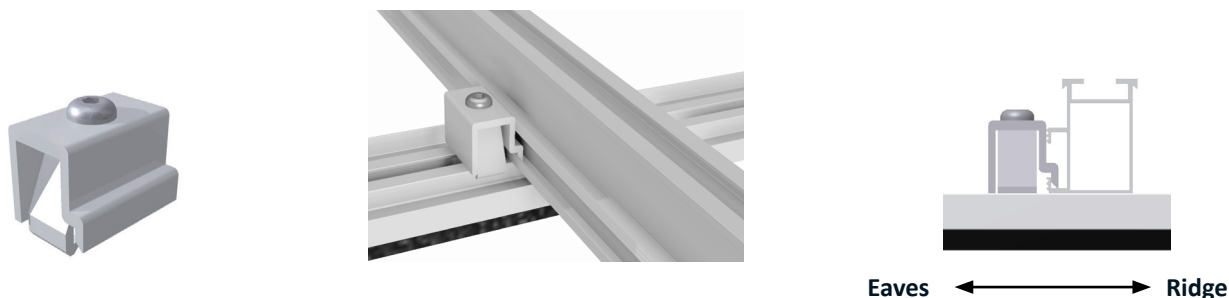
When connecting the rails in succession using splices, an earthed connection is possible if the rails are pushed together flush to the splices with pressure. It is to be ensured that the earthed connection is professionally inspected on site after installation.



In addition, the splice technology offers the possibility to quickly and easily create expansion joints according to the conditions of the roof. In this case, no earthed connection exists. This is to be professionally established on site without restricting the effect of the expansion joint.

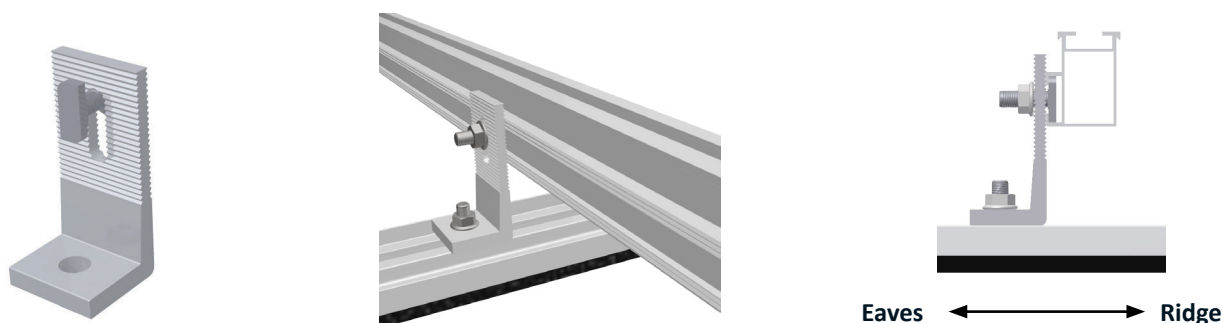
## Cross adapter

Intersection points (for double-layer systems) can be quickly realised in a load-bearing manner with cross adapters with patented and proven click technology. A cross adapter must be installed on the bottom side of the module rail per intersection point.



## Bracket 40 mm M8

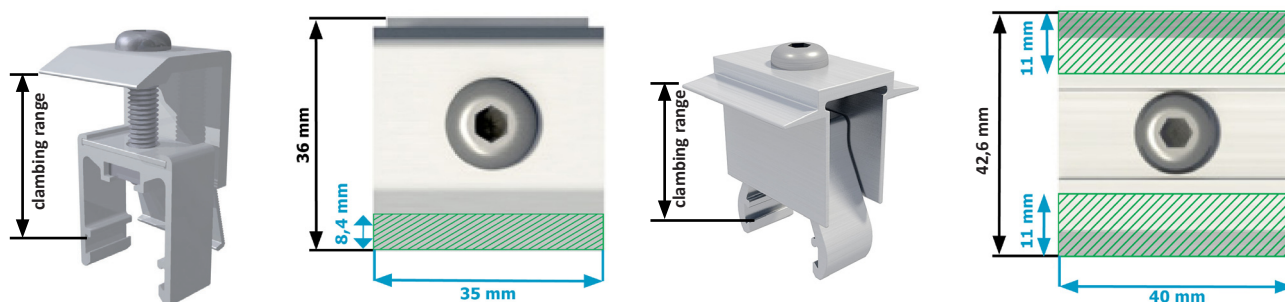
For installations on sandwich roofs, a bracket is used instead a cross connector. A bracket must be installed on the bottom side of the module rail at each crossing point.



## Module mid clamps and module end clamps

Height-adjustable module mid clamps and module end clamps with one-click technology allow for maximum flexibility when installing virtually all framed module types with a frame height of 30 – 50 mm. When installing the PV modules to the rail, always comply with the installation instructions of the module manufacturer.

When performing the fastening by means of the module mid clamp and module end clamp, ensure that these clamp onto the module frame with the respectively defined clamping surface of the module manufacturer. Every person who installs the S:FLEX PV fastening systems is obligated to ensure that the existing clamping surfaces correspond with the installation instructions of the module manufacturer. Mid clamps and end clamps are available in other lengths (e.g. 80 mm) if necessary.



**Module end clamp (EC)**

**Maximum clamping surface EC II:**  
 $A = 8.4 \times 35 = 294 \text{ mm}^2$

**Module mid clamp (MC)**

**Maximum clamping surface MC II:**  
 $A = 11 \times 40 = 440 \text{ mm}^2 \text{ (per side)}$



## Earthing

Equipotential bonding between the individual system components is to be ensured according to the respective country-specific guidelines and standards. System-specific properties (see splice technology) among other things can be used for this purpose.

This installation recommendation does not include an earthing concept and must be calculated or compiled by the executing installer in accordance with the applicable standards and guidelines.

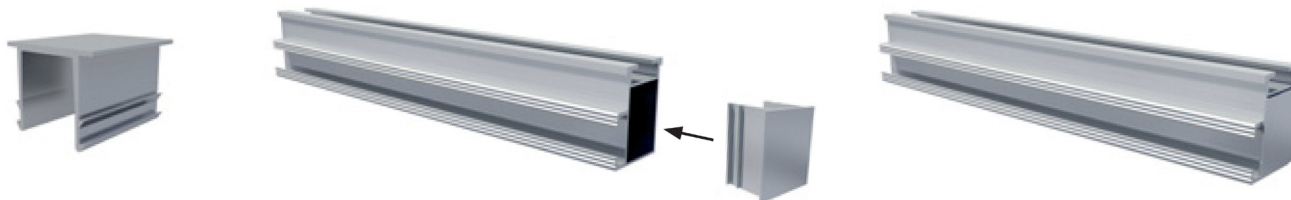


**The module manufacturer's installation instructions are always to be observed.**

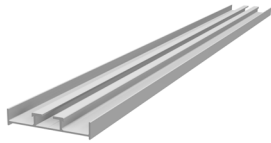
## Optional items

### Covering caps

The S:FLEX PV mounting system offers suitable covering caps for the rail ST-AK 7/47.



### 2.1 System components



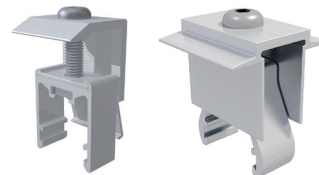
Ground rail  
(different lengths)



Bracket 40 mm, M8 complete



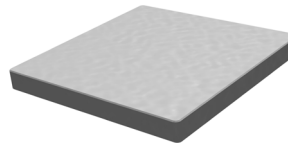
Splice ground rail



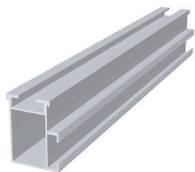
End clamp and  
mid clamp



Ridge connector



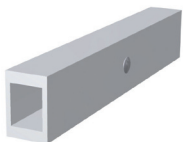
Ballast block



Rail ST-AK 7/47  
(different lengths)



Covering cap 7



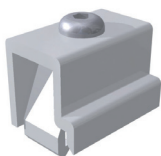
Splice 7



Cable clip

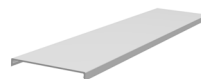


Slipping protection

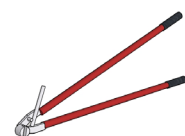


Cross adapter

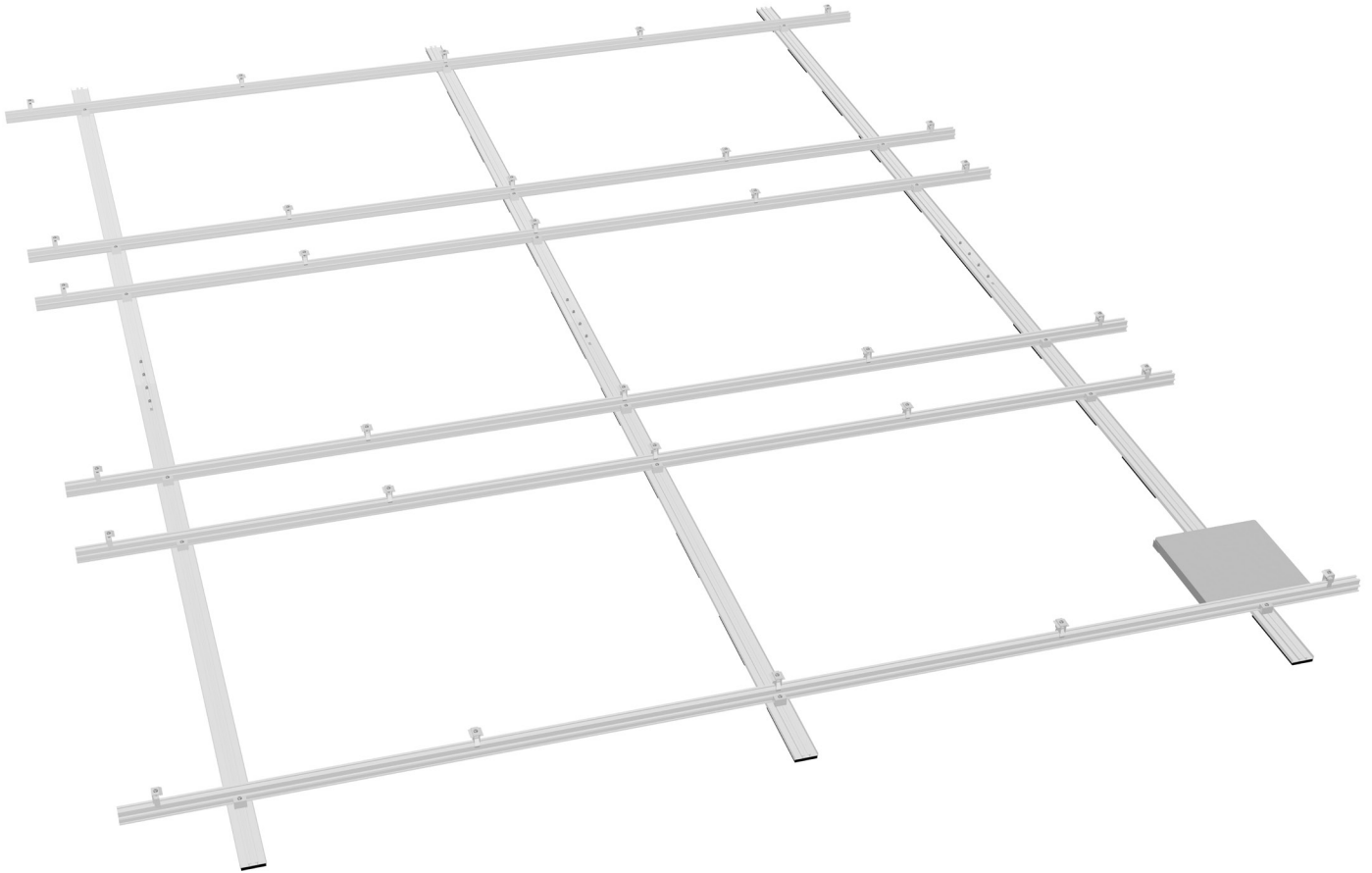
#### OPTIONAL



Covering cable duct



Bending tool



Decisive factors in determining the distance and layout of the rails and modules are only in the planning documents. All of the information given in the project report must be strictly observed.

- Number and position of ground rails and mounting rails
- Number and position of the ballast blocks
- Minimum distance between the solar modules and the edge of the roof / verge
- Minimum distance between the solar modules and the ridge / eaves
- Distance between the individual module rows

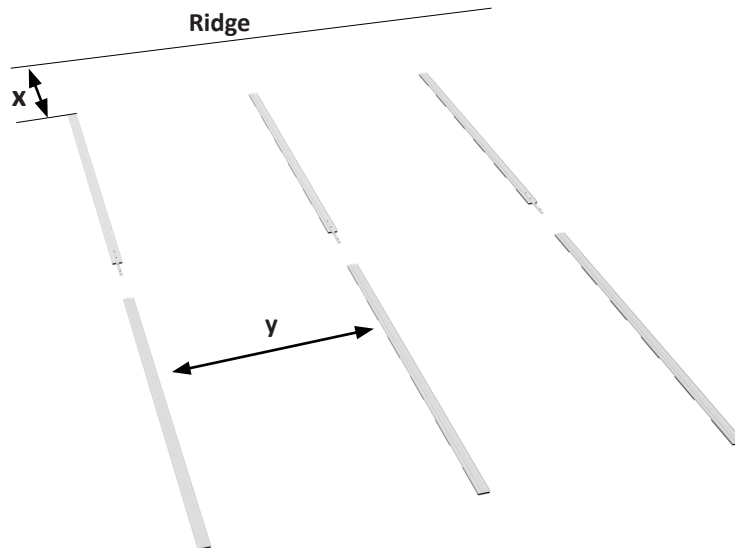
Any deviations from these specifications will falsify and invalidate the underlying static and aerodynamic calculations.

There is a risk of injury to people, damage to the PV system, the building and the surrounding area.

S:FLEX GmbH is not liable for damages that result from not observing the installation guidelines and specifications in the project report.



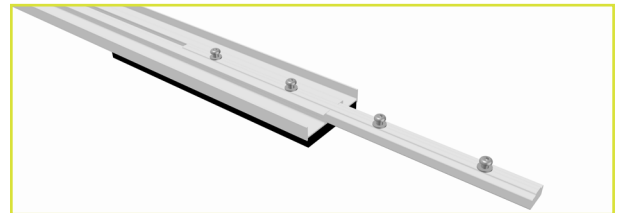
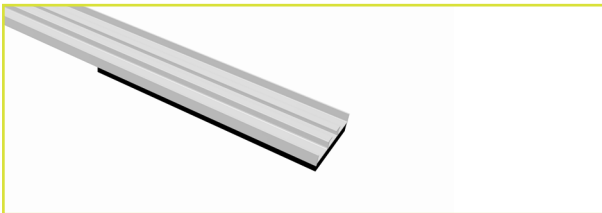
## 2.2 Installing the ground rail



x = Spacing according to planning documents

y = ground rail type, sequence and spacing according to the planning documents

All ground rails are provided with an 11 mm thick high-tech protective foam mat. This ensures a free water drainage and prevents damage to the roof covering due to mechanical impacts and long-term damage from plasticizer migration.



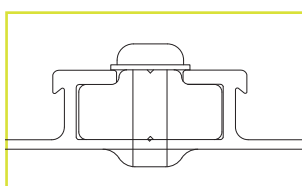
### Preparatory work:

Clean the roof surface and clear it of obstructive objects. Measure the roof surface and compare it with planning documents. Draw the system dimensions.

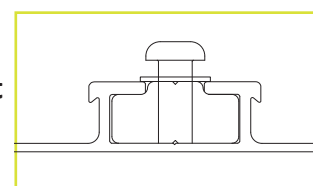
### Procedure:

The ground rails and the splice ground rails are to be arranged one after the other according to the planning documents. The sequence here is from the ridge to the eave. Insert the splice halfway into the ground rail and tighten the two screws. Then insert the ground rails while adhering to the planning documents and tighten both screws. All ground rails are now to be connected to each other according to the planning documents and set up with the correct spacing. The minimum tightening torque is 12 Nm and the maximum tightening torque is 15 Nm. (Please note the MAINTENANCE information).

Correct



Incorrect

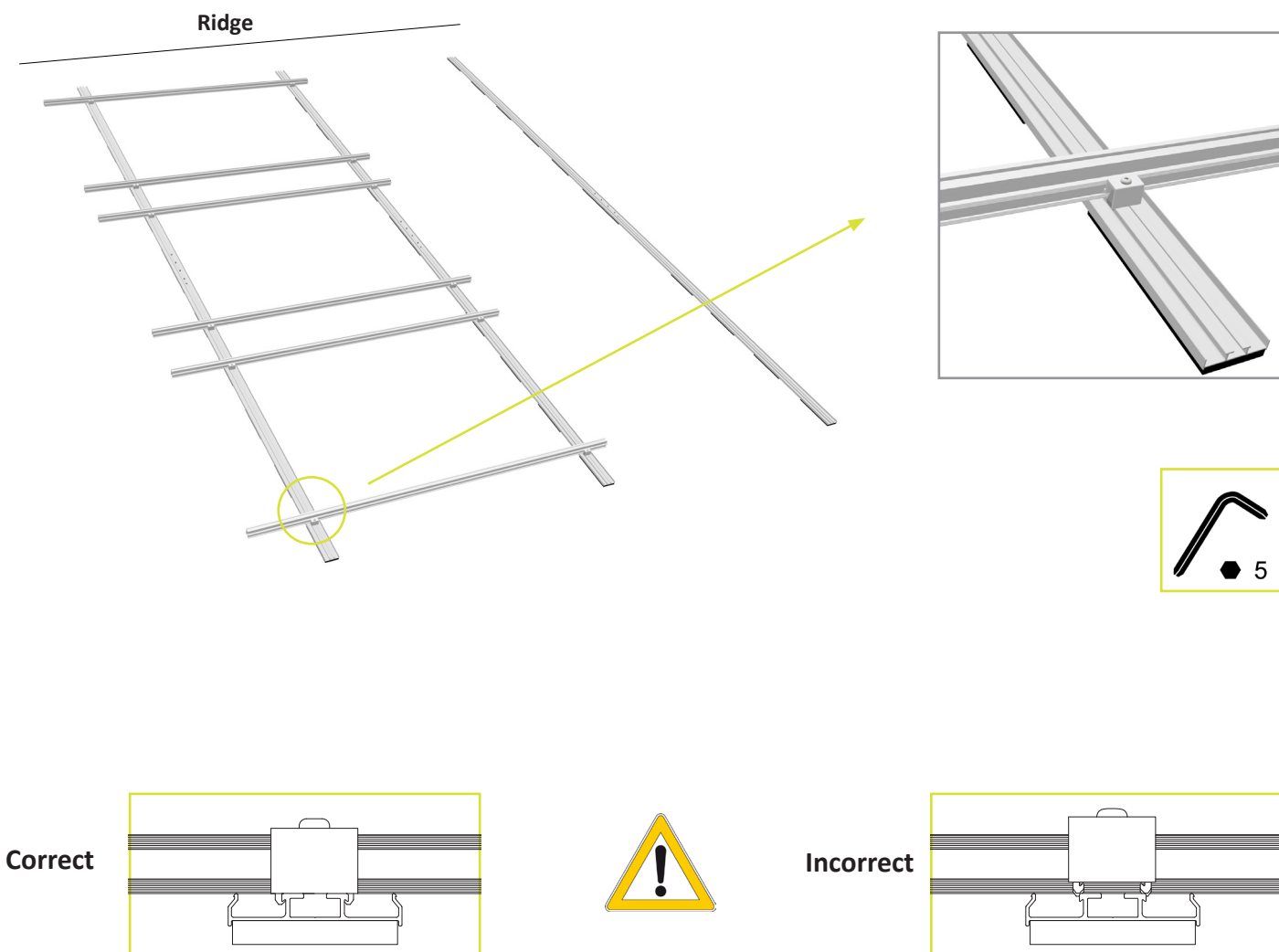


## 2.3 Installing the rail ST-AK 7/47

### 2.3.1 Install rail using cross adapters (for foil and bitumen roofs)

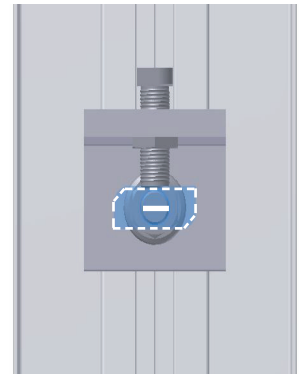
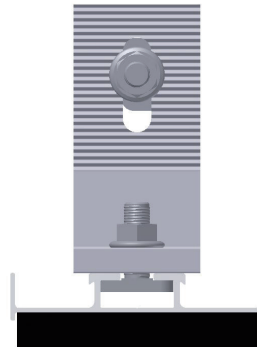
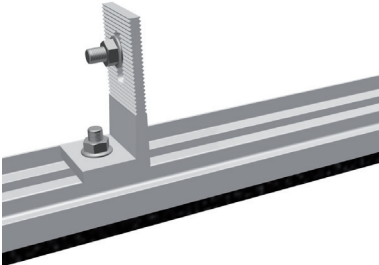
Install the mounting rail for each module row using cross adapters crossways on the ground rails. To do this, click the cross adapter onto the ground rail and use it to secure the mounting rail. Check that the spacing between the mounting rails is in line with the specified clamping distances for the module.

Ensure that the cross adapter is clicked in on both sides of the ground rail and fasten the screws tightly (torque 8-10 Nm). The cross adapter must always be attached to lowest point of the roof on the side facing the mounting rail! To do this, position the mounting rail on the roof surface accordingly!

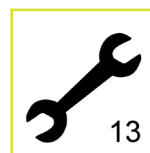
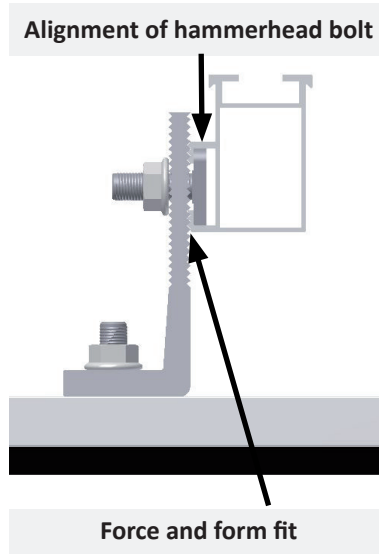
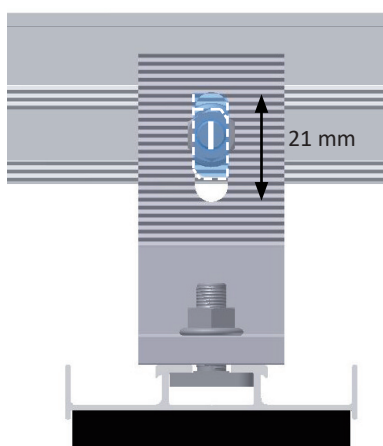
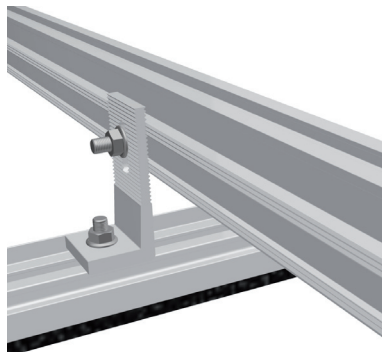


### 2.3.2 Rail ST-AK 7/47 using bracket 40 mm M8 (for sandwich roofs)

Mount the bracket 40 mm M8 onto the ground rail using a hammerhead bolt M8x25 and a self-locking nut. Ensure that the hammerhead bolt is correctly aligned in the ground rail channel (torque 12-15 Nm).



Attach the mounting rail to the bracket using a hammerhead bolt M8x25 and a self-locking nut. Ensure that the hammerhead bolts are correctly aligned in the mounting rail channel (torque 12-15 Nm) and that the mounting rails are installed stress-free. To do this, use the adjustability that is created by the corrugation of the components and the elongated hole. Ensure that a force-fit and form-fit connection is created by interlocking the corrugations. The bracket must always be attached to the lowest point of the roof on the side facing the mounting rail! To do this, position the mounting rail on the roof surface accordingly. Select the height of the mounting rails so that they span the upper flange of the sandwich panels without touching. The maximum possible height of the mounting rail above the roofing = 82 mm.



Create force-fit and form-fit connection



Check the alignment of the hammerhead bolts



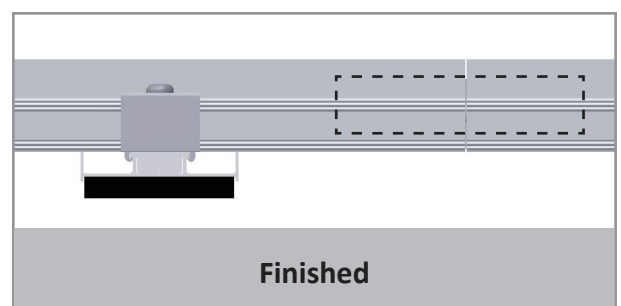
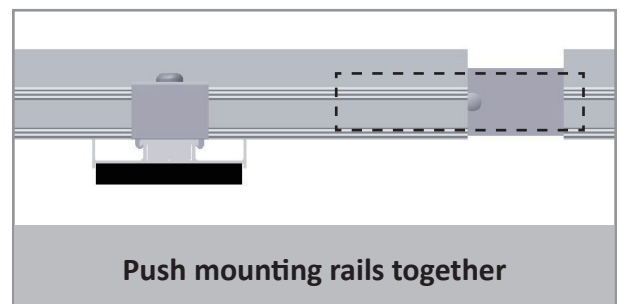
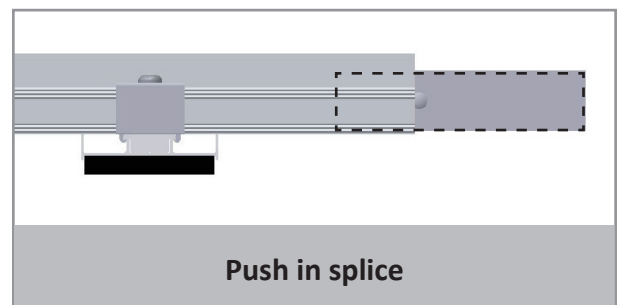
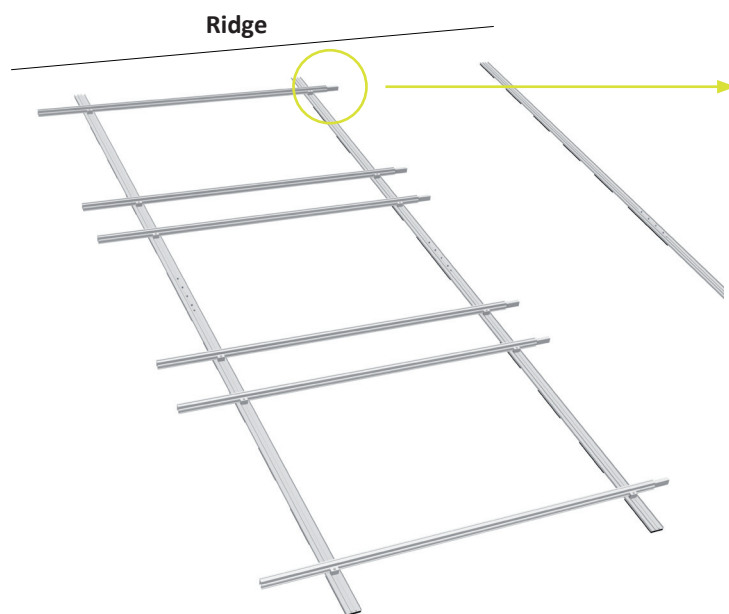
Use the adjustability due to corrugation and elongated hole



It is important to ensure that the groove in the hammerhead bolt is perpendicular (at right angles to the rail) after installing the clamp. Only then is the head of the hammerhead bolt correctly inserted in the rail and the bracket is correctly attached.

## 2.4 Installing the splice

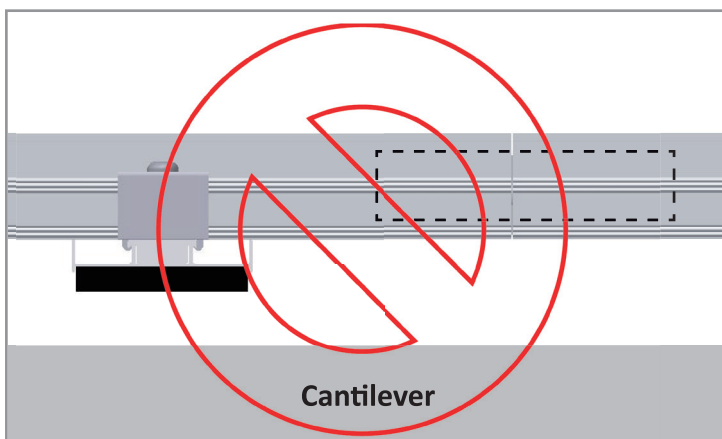
In order to link several rails in a row, half of the splice, which has the same static values as the mounting rail, is pushed into the already installed mounting rail. Then push the other mounting rail on to the splice. Use pressure to push the mounting rails flush together and check if a connection to earth has been created. The connection is finished. When positioning the splices, it must be taken into account that the system supports always rest on at least two base rails. Fix the joined rails to the ground rails as described using a cross adapter or bracket 40 mm M8.



**Check connection to earth**



**No cantilevers with splices.  
Position the splices so that they lie  
between 2 fastening points.**





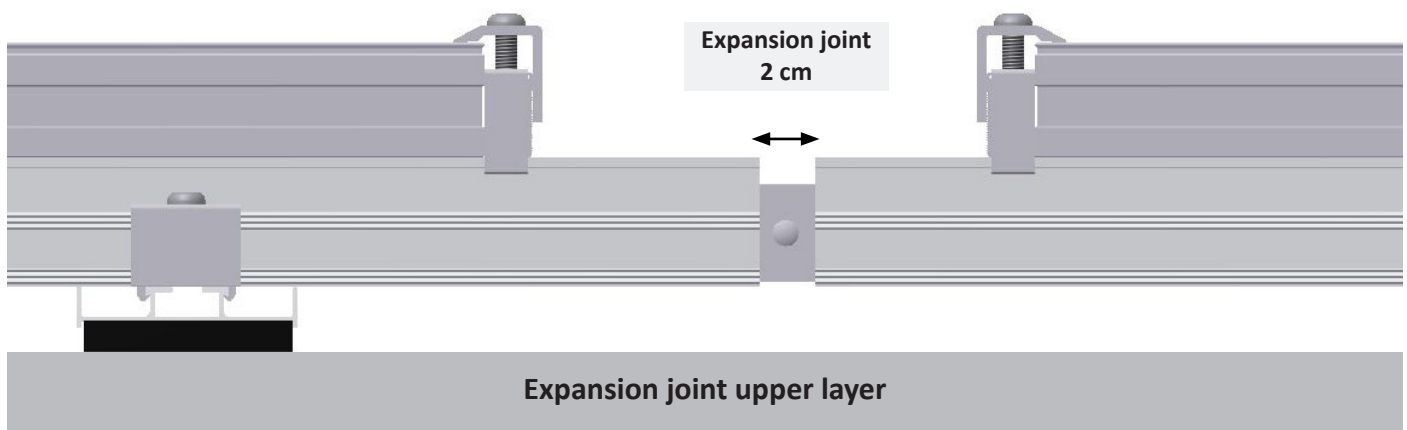
When positioning the splices, it must be taken into account that the system supports always rest on at least two base rails.



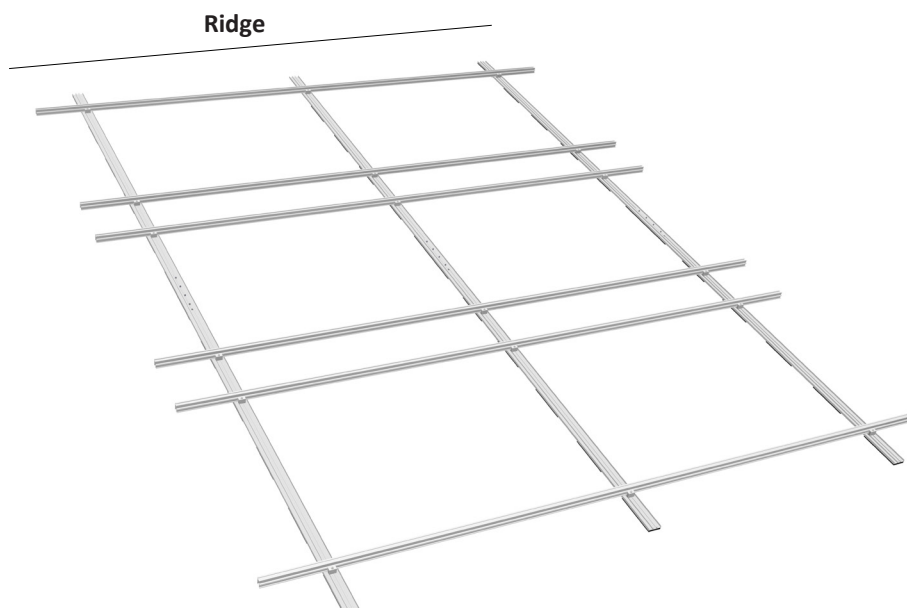
If the mounting rail is longer than 13.00 m, the module array is to be separated by placing two end clamps. The mounting rail is to be separated in the area between the end clamps and connected using a splice to allow the length of the rail to be adjusted by 2 cm (expansion joint). The alignment of the expansion joints is to be adjusted according to the structural conditions of the roof and the different expansion properties of the materials.



Modules must not be built over expansion joints. There is no connection to earth. This is to be established without restricting the effect of the expansion joint.



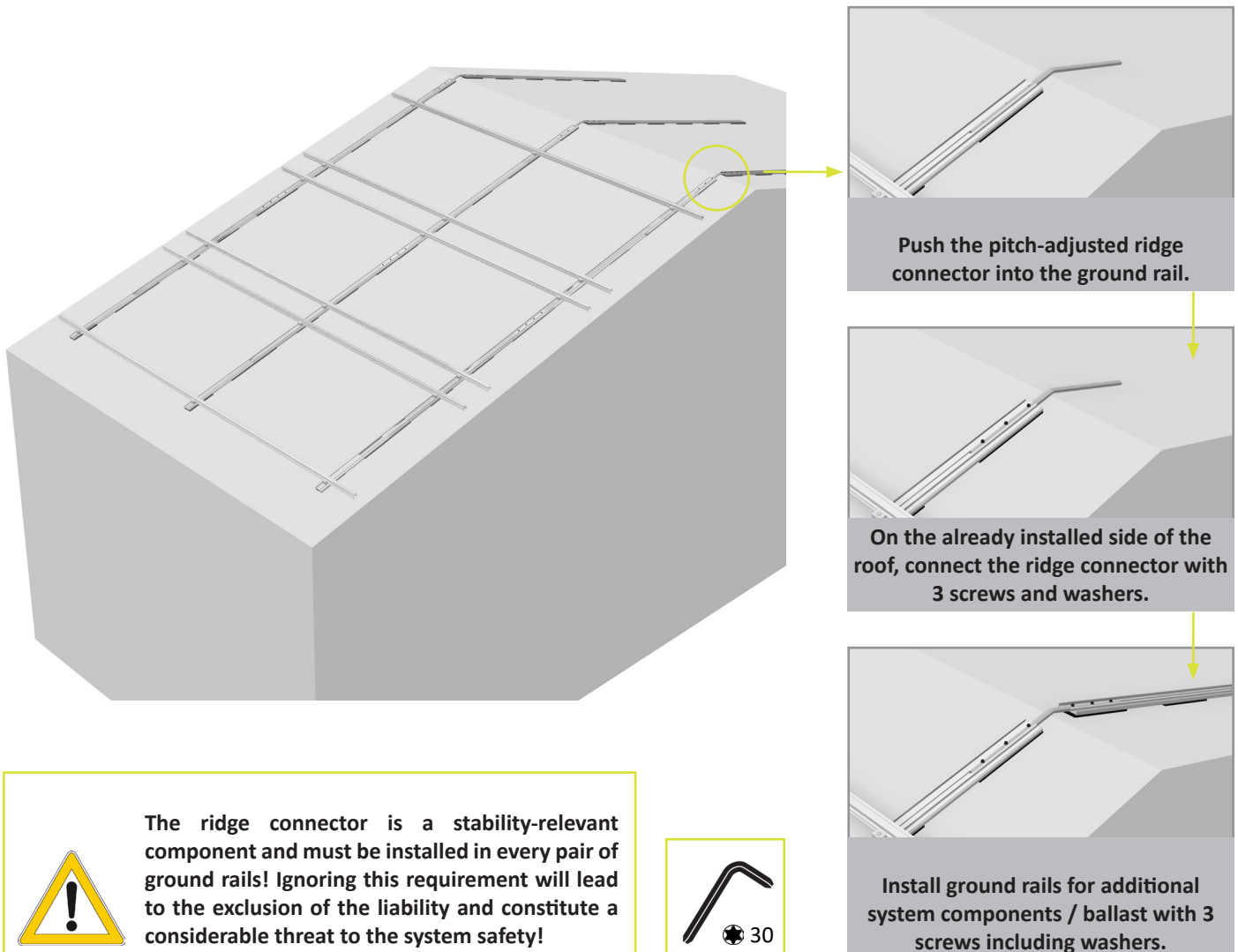
Completed installation of the upper rail layer





## 2.5 Ridge connector

Before the ridge connector is mounted, it must be adjusted to the pitch of the roof using the bending tool. The bending tool is available separately.

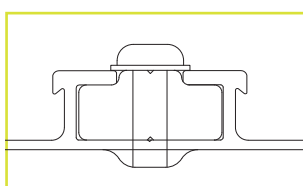


The roof ridge line is to be checked for an even consistent course. Contact of the ridge connector with the roofing must be avoided. If necessary, additional protective mats are to be added.

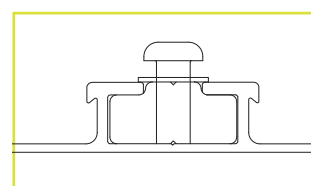
Using the supplied bending tool, bend the ridge connector to the inclination angle determined on the roof. Insert the ridge connection into the first ground rail assembly and tighten. Insert the ground rail on the opposite roof side into the ridge connection as well and screw together.

The minimum tightening torque is 12 Nm and the maximum tightening torque is 15 Nm. (Please note the MAINTENANCE information).

**Correct**

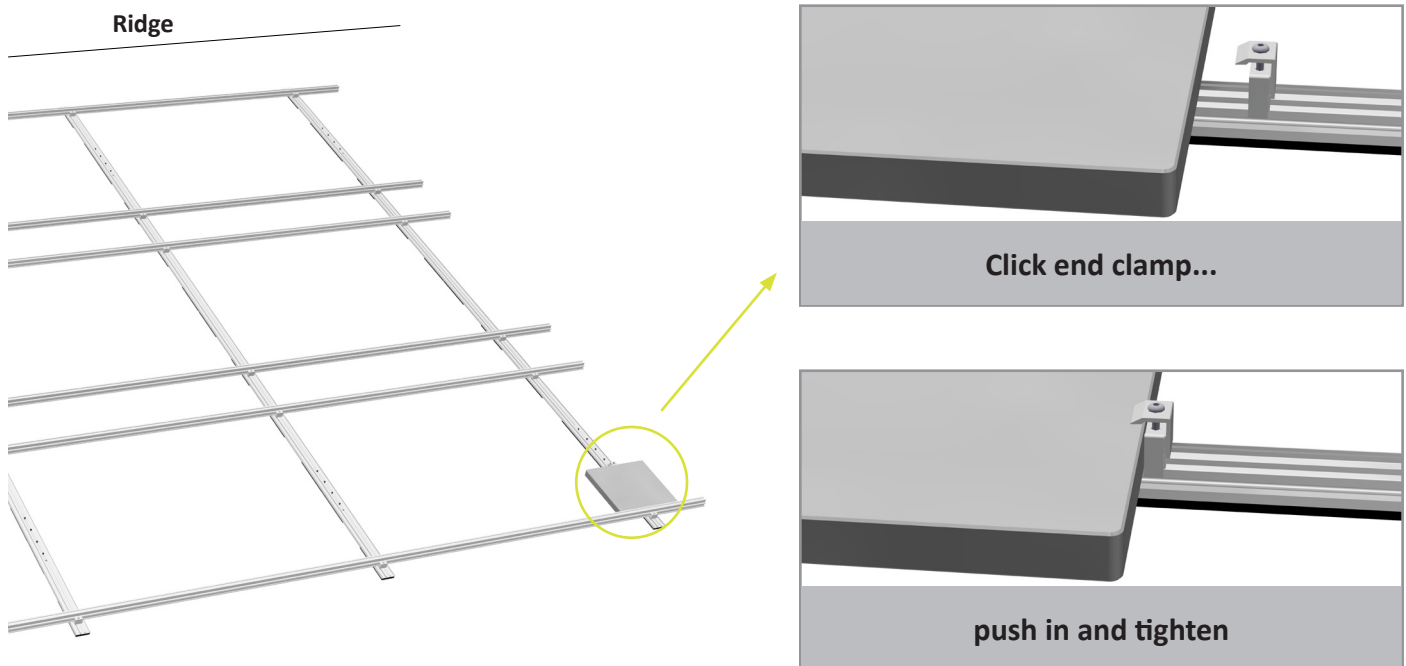


**Incorrect**



## 2.6 Ballast blocks

In general, additional ballast is required to prevent the PV system from lifting, moving or slipping. The quantity and distribution of the ballast depend on parameters such as location, building height, building surroundings, roofing type and roof pitch. This information is included in the planning documents.



**Mount end clamp**



Install the ballast onto the ground rails according to the planning documents.

Stone slabs with bevelled edges need to be positioned so that the bevelled edges face downwards and the right-angled edges face upwards. Fix the ballast with end clamps or end and mid clamps accordingly to prevent slipping and moving. When installing several ballast blocks on top of each other, mid clamps are to be used between the blocks and end clamps on the upper block (torque mid clamp and end clamp 8-10 Nm). Precise installation details for installing mid clamps and end clamps are provided in section 2.8 (module assembly).

- Recommended block size for foil and bitumen roofs: 400x400x40mm; max. block height 40 mm
- Recommended block size for sandwich roofs: 500x200/ 250x50 mm; max. block height 50 mm

The ballast must not be clamped in the area directly under the module frame. That has already been taken into consideration in the planning documents (distribution of ground rails).



**The position of the ballasting must always be carried out in strict adherence to the planning documents. A different distribution or omission of ballast elements may compromise the positional stability of the entire system and represents a major risk. Deviations from the planning are always to be agreed with S:FLEX GmbH and are only to be carried out after written approval.**

**The position of the ballasting elements must be chosen so that slipping down, tipping or wobbling are prevented. The ballast must lie completely flat. It is insufficient to merely lean the ballast.**

## 2.7 Counterweight / roof fastening

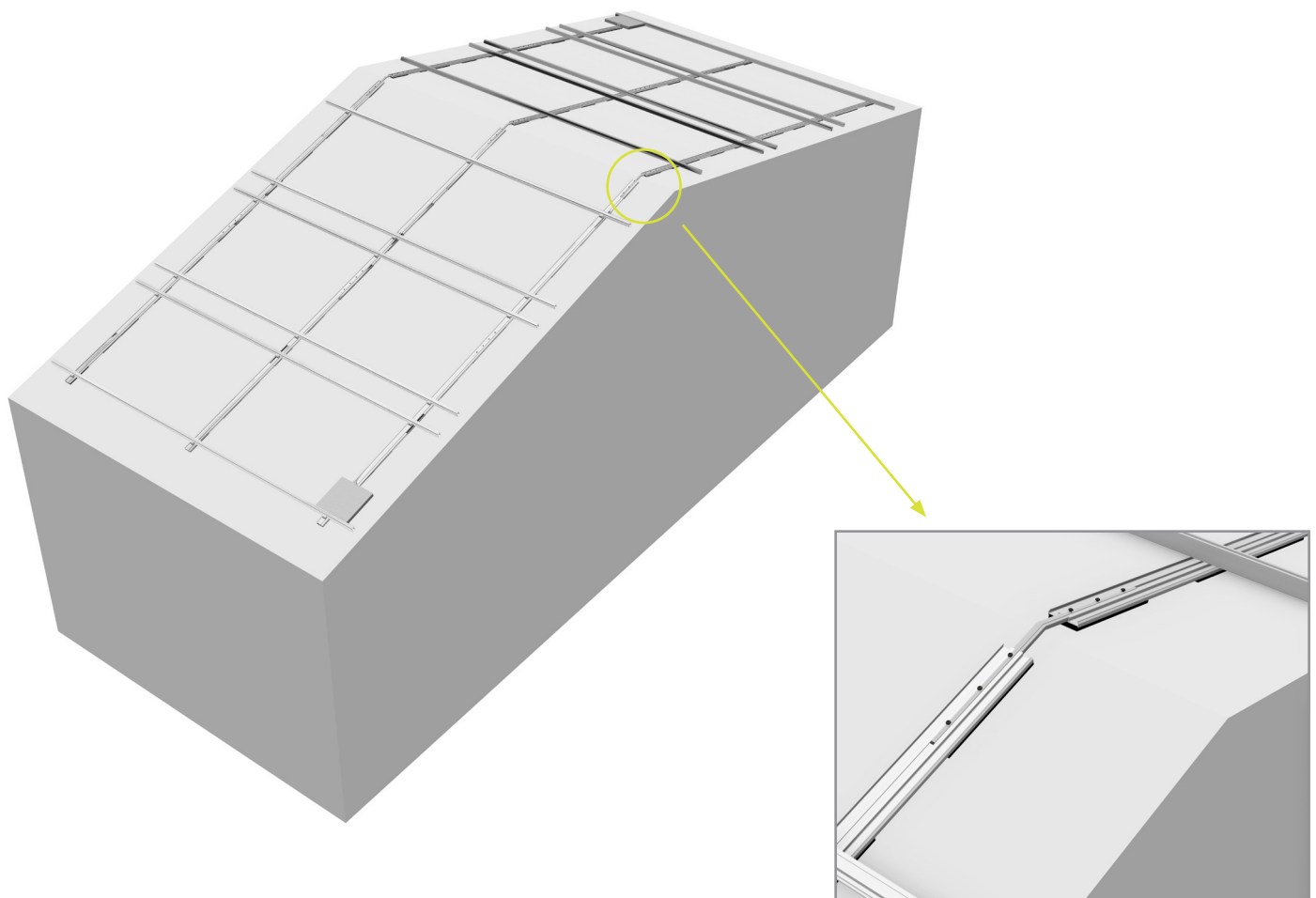
The module array must be secured to prevent slippage by means of a suitable counterweight or roof fastening. The type of counterweight depends on the roof shape and the intended module layout. The most common options are the double-sided module layout with ridge connection (saddle roof), the counterweight with ridge connection (saddle roof) and the fastening to the roof substructure or ridge connector (saddle roof, single pitch roof, butterfly roof). Another special option is fastening to the rafter ends (single pitch roof, butterfly roof) with specially made metal brackets. The required counterweight and number of fastening points are included in the project report.



**The module array must always be secured with a counterweight or roof fastening to prevent slippage.**

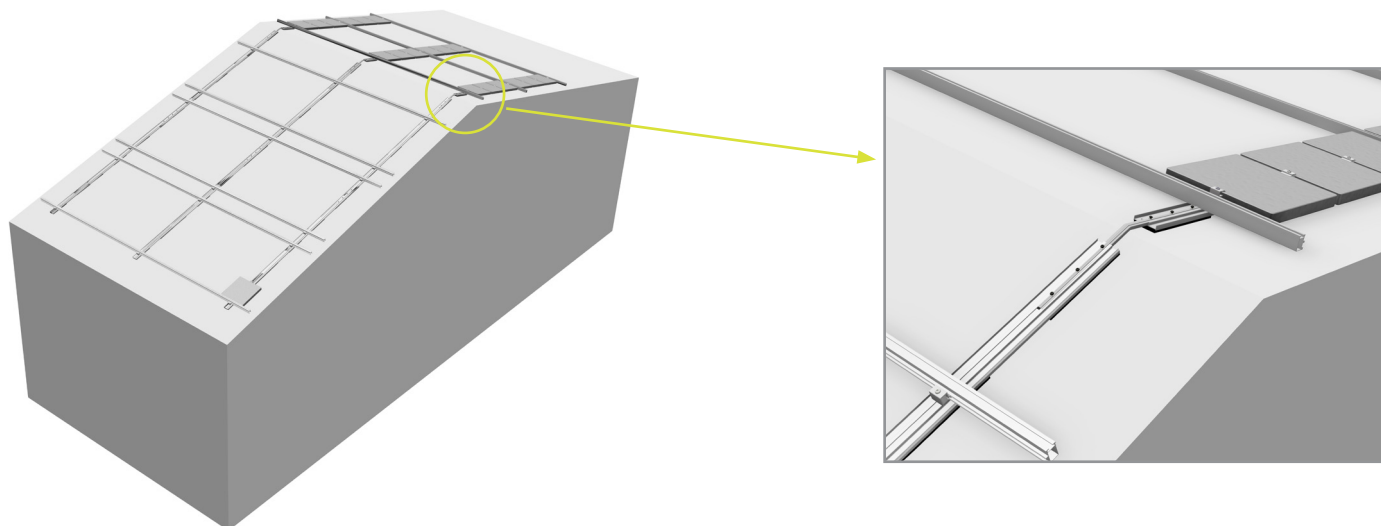
### Option 1: Counterweight with double-sided module layout and ridge connection

The substructure is installed on both sides of the roof as described in the previous sections. The module array is connected using the ridge connector and the ground rails.



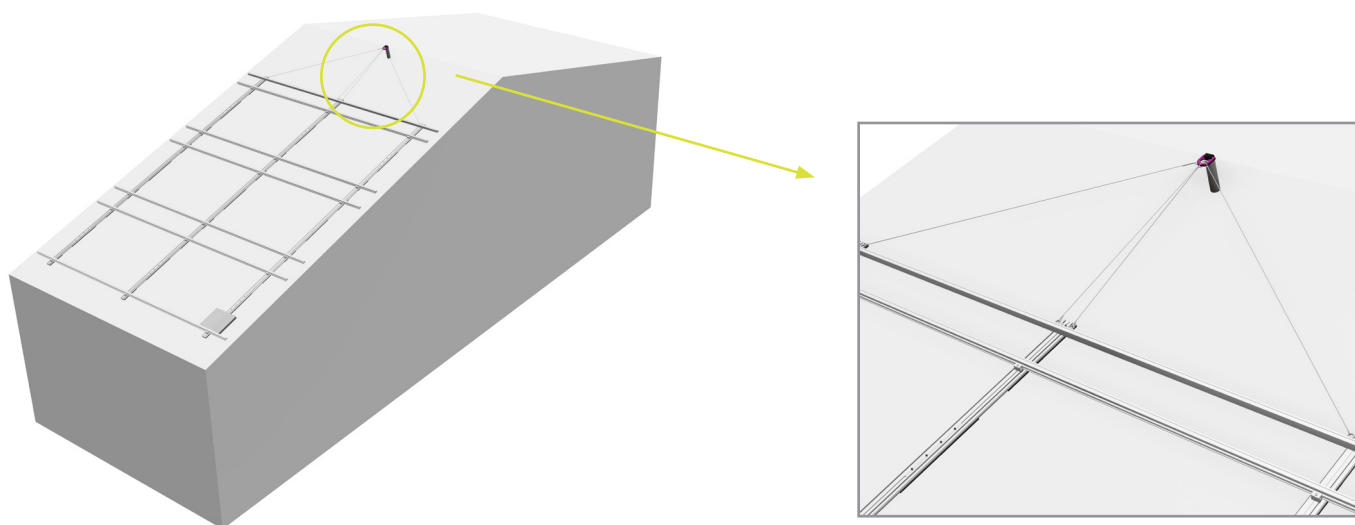
### Option 2: Counterweight with ballast and ridge connection

The module array is connected to the ground rails on the other side of the roof (D2) using ridge connectors, as described in section 2.4. One or more rows of mounting rails are installed on the ground rails (D2), according to the instructions in the project report. The ballast is applied as described in section 2.5.



### Option 3: Fastening to the roof substructure (schematic representation)

Fastening to the roof substructure is carried out using suitable anchor points. The selection of anchor points is dependent on the existing roofing and the load capacity requirements (information included in the project report). The selection and installation of the anchor points should always be carried out by specialised personnel (e.g. roofers). An additional mounting rail needs to be installed above the top module row to fasten to the anchor point. The rails are to be positioned using the hammerhead slot on the ridge side. In this case, the cross adapter is to be installed on the upper side of the rail.



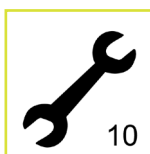
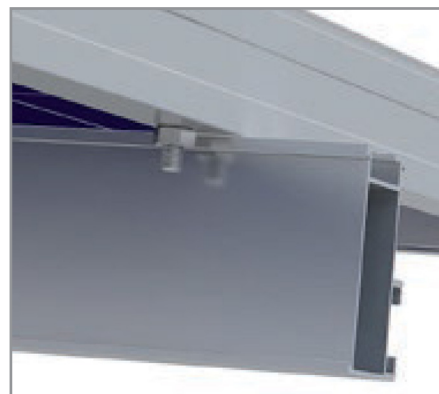
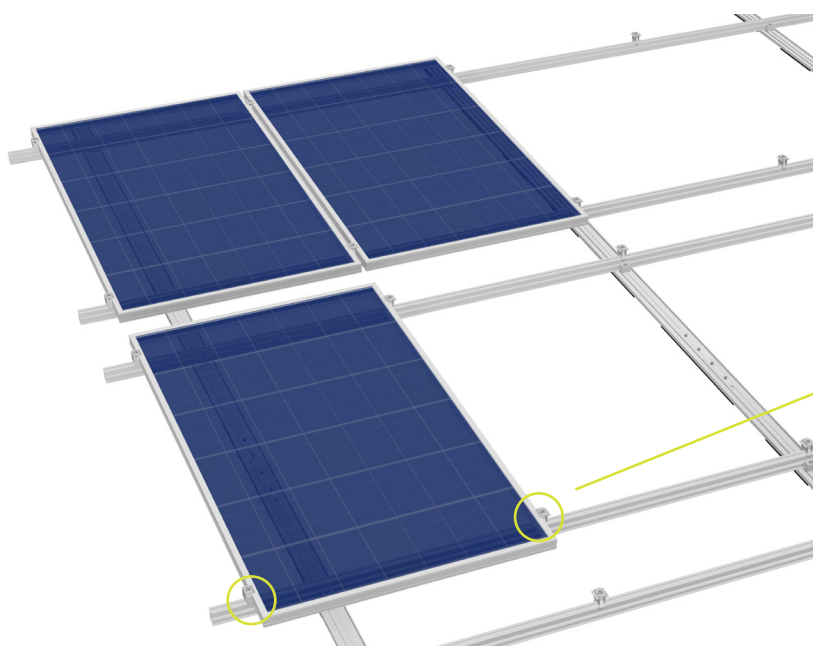
**Ballast blocks and anchor points for roof fastenings are not included with the S:FLEX purchase.**

## 2.8 Module assembly (slipping protection (for roof pitches greater than 5°))



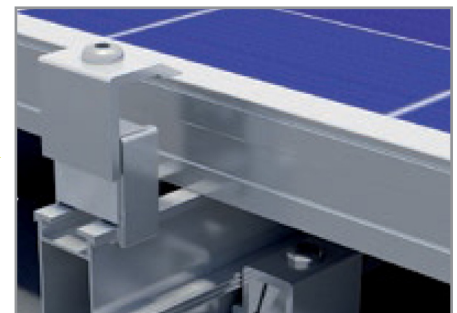
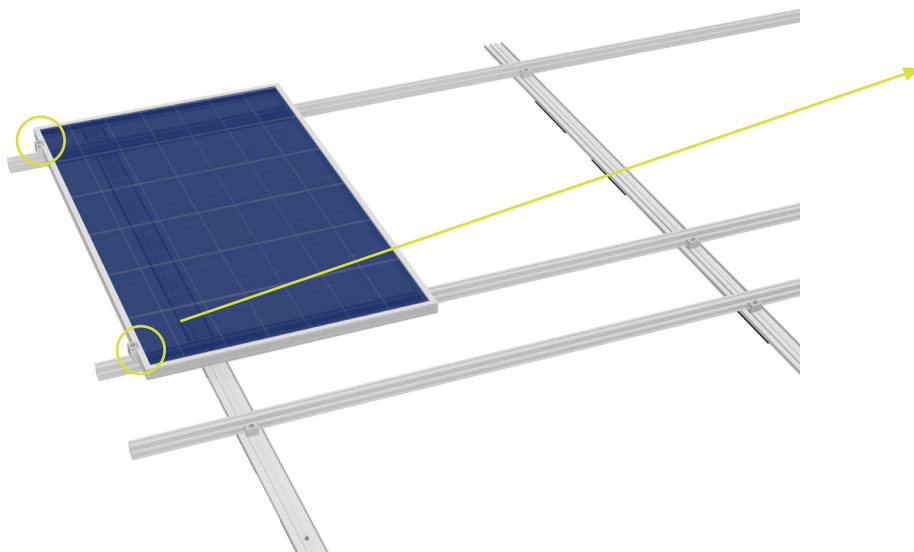
For roof pitches greater than 5°, before the installation of the modules in the lowest row of modules, the modules are to be equipped with slipping protection. The same applies to modules which do not have any modules directly below them (modules above obstructions such as windows, chimneys, etc.).

Fix 2 screws M6 x 20 (with the shank downward) with nuts M6 in 2 of the module's frame holes (8 mm) so that the screws are at the same level and that when installed they are above at least one horizontal mounting rail layer, if necessary so that the screws on the underside of the module frame touch the horizontal mounting rails from above. If the lower fastening borehole is larger than 8 mm, please use a screw appropriate for this.

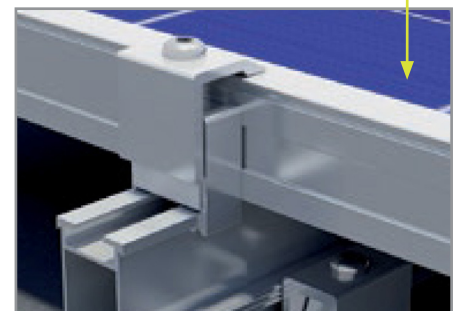


## Module assembly (end clamps)

Place the module on the mounting rails. Install the end clamps. Click each end clamp onto the mounting rail and push them on to the module. Ensure that the end clamp is clicked in to both sides of the mounting rail. Now adjust the end clamp to the height of the module and tighten the screw (tightening torque 8-10 Nm). Ensure that the end clamp clamps the module frame at the clamping area defined by the module manufacturer.



Click end clamp...



Push in and tighten



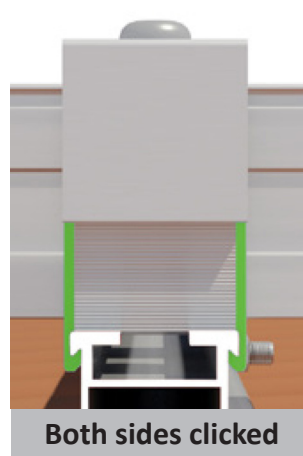
Mount end clamp



Defined clamping area



Incorrect



Both sides clicked



Incorrect



Check the end clamp has been clicked in

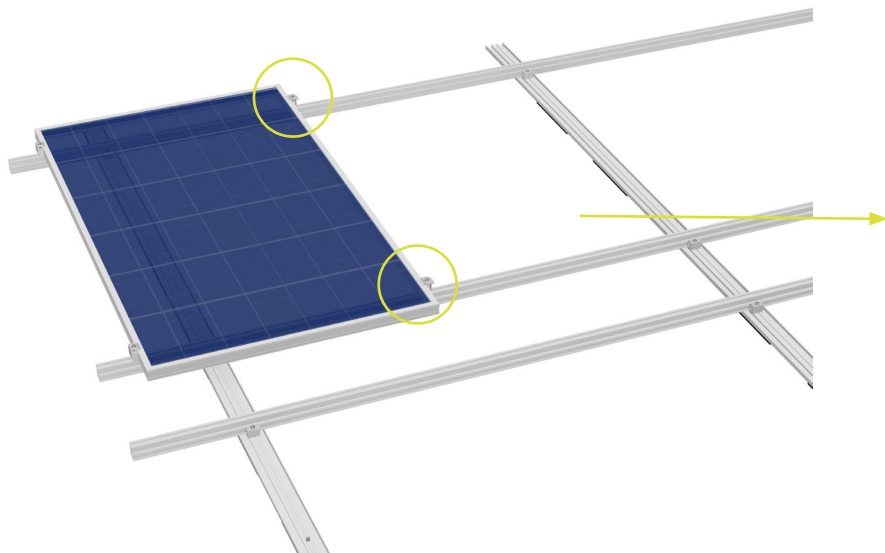


Observe the module manufacturer's instructions:  
Check the defined clamping area



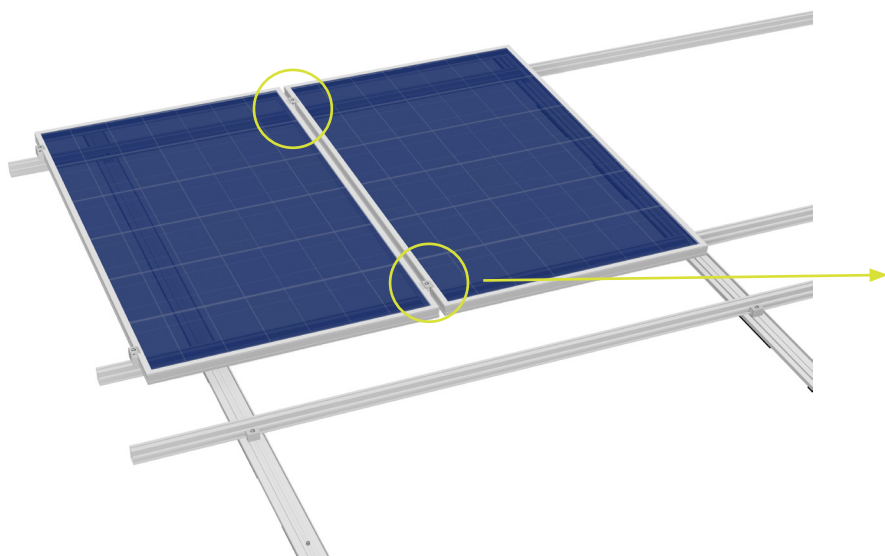
**Module assembly (mid clamps)**

Now install the mid clamps. Click each mid clamp onto the mounting rail and push them on to the module. Ensure that the mid clamp is clicked in to both sides of the mounting rail.



**Click mid clamp and push in**

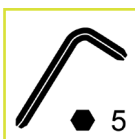
Now push the next module under the mid clamp, adjust the mid clamp to the height of the module frame and tighten the screw (torque 8-10 Nm).



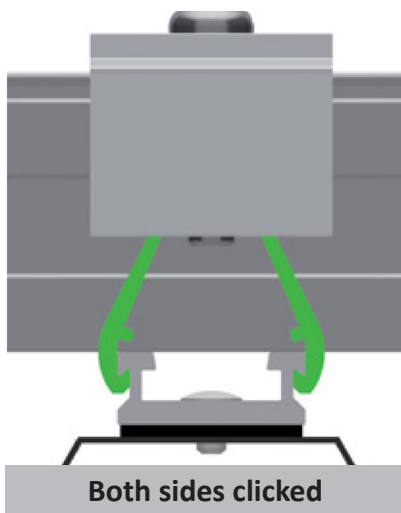
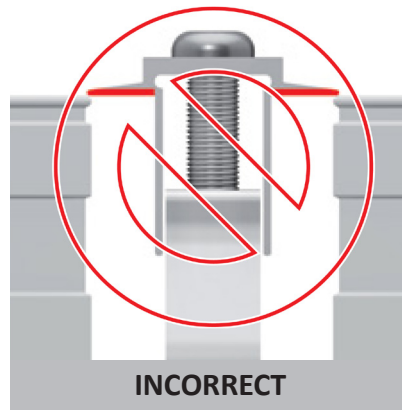
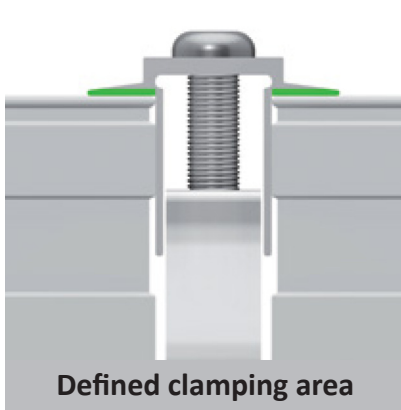
**Slide module underneath and tighten module clamp**



**Install mid clamp**



Ensure that the mid clamp clamps both of the module frames at the clamping area defined by the module manufacturer.



Check the end clamp has been clicked in

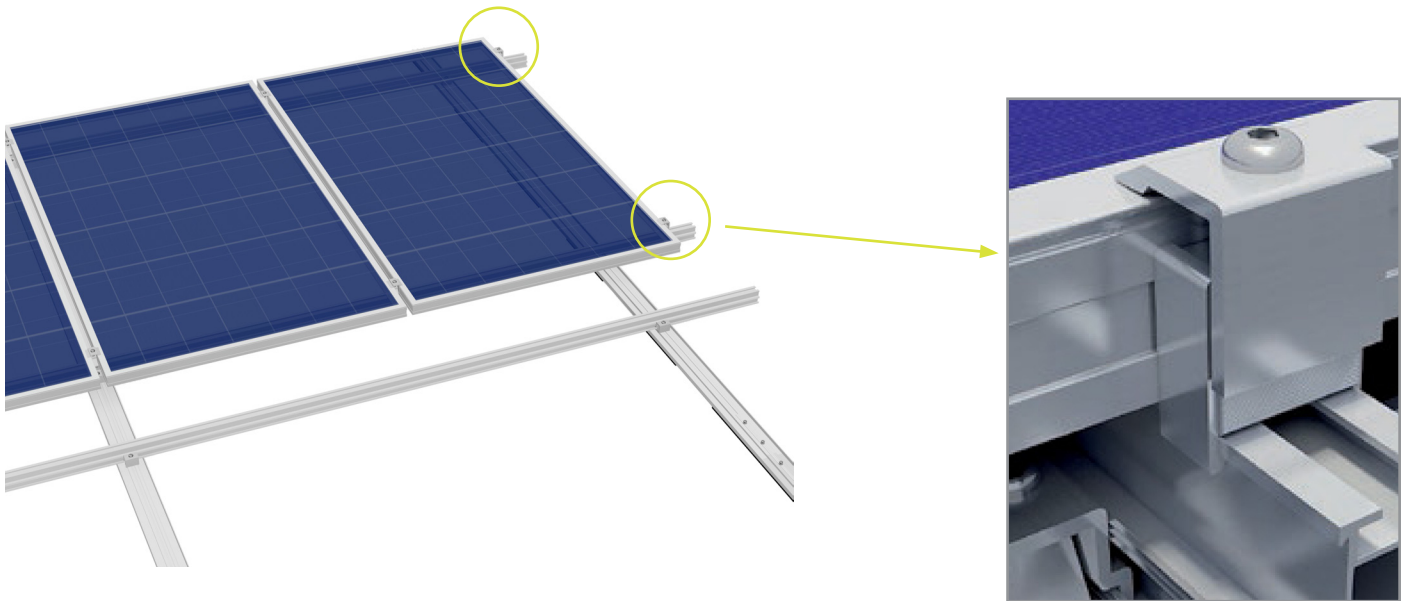


Observe the module manufacturer's instructions:  
Check the defined clamping area



**Module assembly (end clamps at the end of the row)**

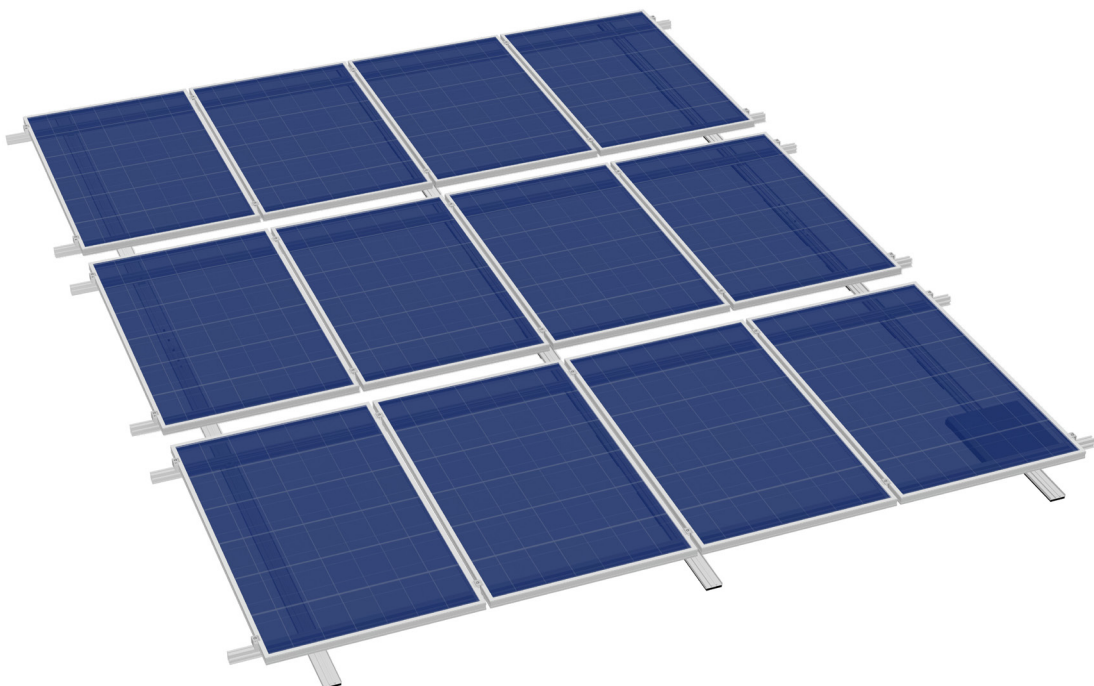
End clamps must be installed on the last module in each row (if applicable, on expansion joints). Click each end clamp on to the mounting rail and push them on to the module. Ensure that the end clamp is clicked in to both sides of the mounting rail. Now adjust the end clamp to match the height of the module and tighten the screw (tightening torque 8-10 Nm). Ensure that the end clamp clamps the module frame at the clamping area defined by the module manufacturer.



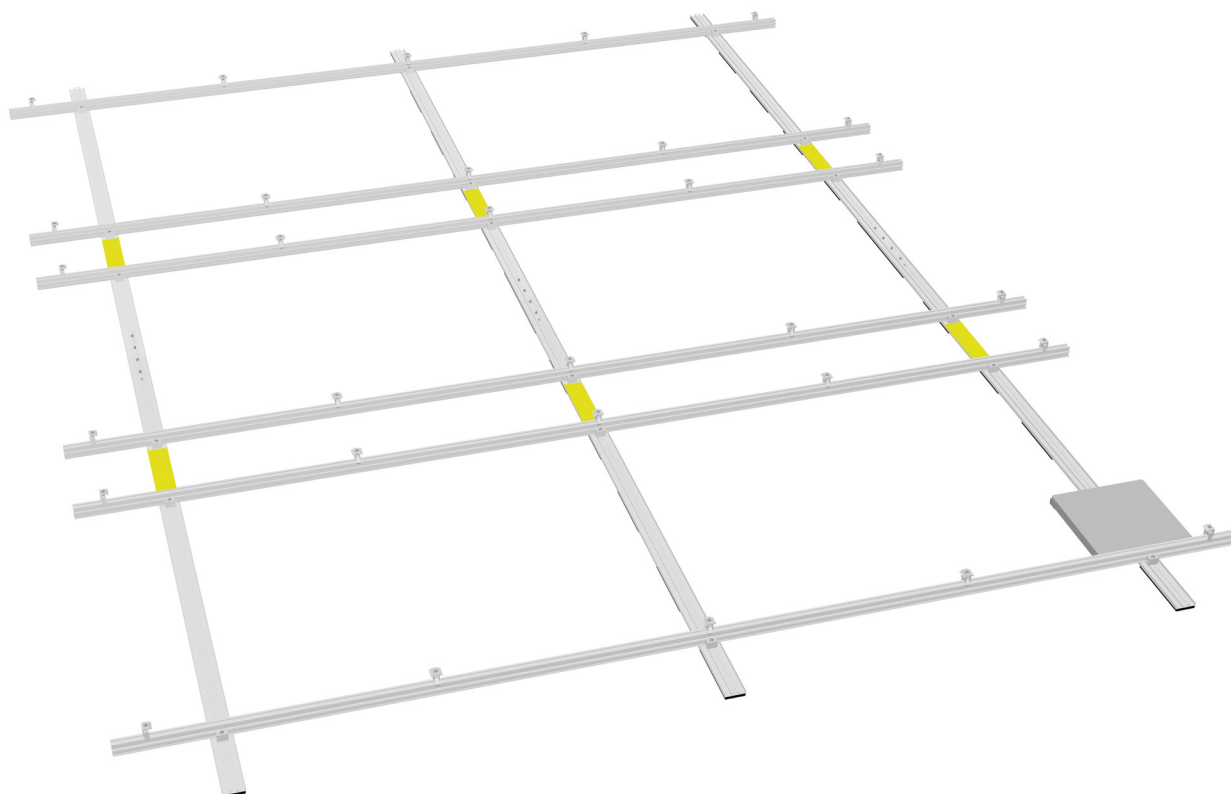
**Install end clamp on the last module**



Proceed as described for the following rows.



## 2.9 OPTIONAL STEP - Covering cable duct



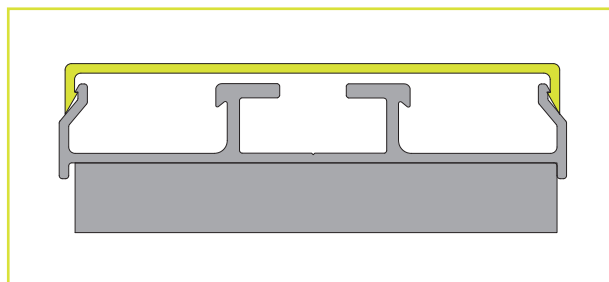
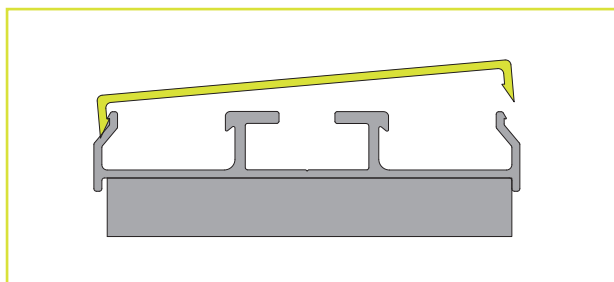
All ground rails have covering cable duct receptacles to protect the string lines from permanent and harmful environmental influences, in particular UV radiation. Installation of the covering cable ducts is possible after every work step of the system installation. The covering cable duct is installed after the cable routing.

### Preparatory work:

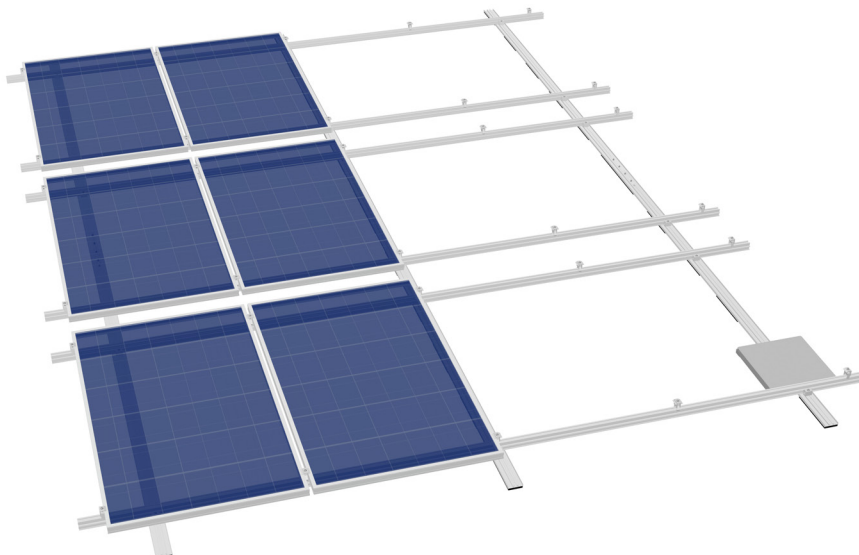
Check the clean condition of the string lines. Check the permanent and secure fastening of the string lines in order to avoid damage to the lines from movement (wind).

### Procedure:

Install the covering cable duct on the ground rails between the modules and load in the centre until the click locks into place with an audible noise.



## 2.10 Final inspection



- Check whether the entire system and ALL components have been installed according to the planning documents and there are no deviations.
- Check whether ALL hexagon socket head screws have been installed at the positions provided (crossbars and ballast bars).
- Check whether ALL screws have been tightened with the torque specified in the installation instructions (module mid clamp, module end clamp, cross adapter, splice ground rail, splice 7, ridge connector).
- Check whether ALL ballasts have been attached with sufficient weight according to the planning documents and their condition is durable and secure.



**CAUTION! This is important for safety reasons and can lead to considerable damage if not observed!**

### 3.1 Disassembly

Disassembly of the S:FLEX mounting system may only be carried out by trained specialist personnel. Observe the same safety instructions, standards and guidelines as given for the installation. In general, disassembly is carried out in reverse order to the described installation.



**Before disassembly, disconnect the PV modules from the mains network. Disconnect all of the PV modules' electrical cables (string lines and plug connectors) and remove them from the frame system.**



**Then remove the modules and store them safely. Improper disassembly can lead to damage to the modules.**



**Disassemble frame system and safely store all of the parts.  
Possible holes in the roof must be sealed by a specialist.**

### 3.2 Disposal

The S:FLEX mounting system is made from aluminium, stainless steel and steel components. These materials can be recycled after disassembly. The frame system must only be disposed of by a specialist waste management facility. Observe the applicable national standards and guidelines.

#### 4.1 S:FLEX FLAT Direct User Agreement

We point out that the mounting system is sold as part of a purchase agreement.

Installation / processing or the acquisition by a third party is not carried out in the name of or on behalf of S:FLEX GmbH.

It must be undertaken by appropriately qualified personnel and strictly in accordance with the installation instructions.

The design and planning of the system must be undertaken using the S:FLEX Planning Software (Solar.Pro.Tool). S:FLEX GmbH is neither responsible for the project-specific structural analysis of the roof structure, for obtaining and documenting the consent of the roof manufacturer in respect of being able to use the relevant mounting system on the roof in question (in the terms of the warranty) nor for the correct installation of the mounting system.

S:FLEX GmbH will not be liable for faults and damage and/or a restricted or limited operational capability of the system which has resulted from defective installation and/or installation not undertaken in accordance with the installation instructions and/or the project report (Solar.Pro.Tool). In the case of improper handling, the rights of the buyer due to a defect shall expire.

The system guarantee is only valid when all system components are acquired from S:FLEX GmbH.

#### 4.2 Warranty / product liability (exclusion)

The information regarding dimensioning provided in these instructions is based on experience. Binding installation frame structural analyses can be created using the S:FLEX planning software (Solar.Pro.Tool).

As an installation company, you are responsible for the correct execution of the installation. S:FLEX GmbH is not liable for the dimensional information contained in the commercial system offers.

As an installation company, you are responsible for the mechanical durability of the interface connections mounted on the building's structure. In particular, this includes ensuring that these are leak-tight. The components of the company S:FLEX GmbH are designed for the expected loads and they are in compliance with the effective state of the art. For this purpose, you have to specify in writing all general technical framework conditions in the project documentation form (information on the support structure, snow load zone, building heights, wind loads, etc.) when requesting information/ordering from the company S:FLEX GmbH.

S:FLEX GmbH is not liable if the installed components are not properly handled. Any use close to the sea needs to be clarified with S:FLEX GmbH directly on a case-by-case basis because of the increased risk of corrosion. If the components are properly handled, the dimensions comply with the structural framework conditions and normal environmental conditions and normal conditions of the surroundings, the company S:FLEX GmbH grants the guarantee for a period of 10 years beginning with the transfer of risk that the metal components of the racking systems are free of material and processing defects. Excepted from this guarantee are wear parts. For additional information, please take a look at the separate warranty provisions.

This applies within the framework of generally prevalent weather and environmental conditions.