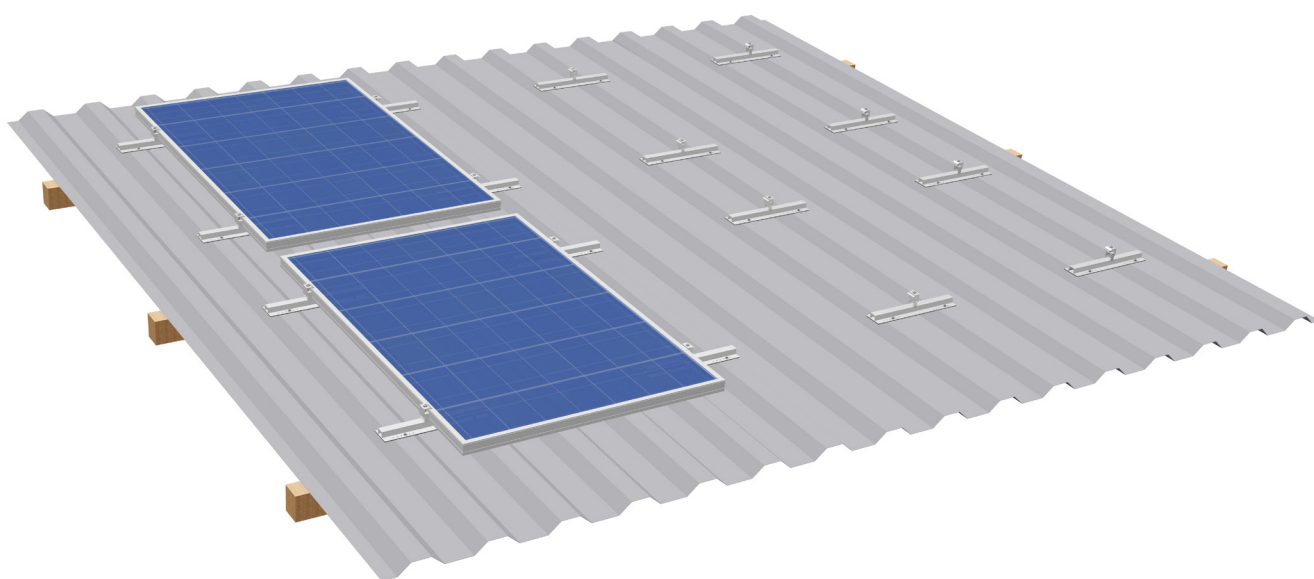
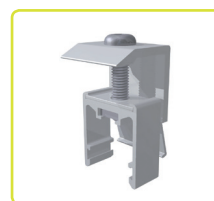
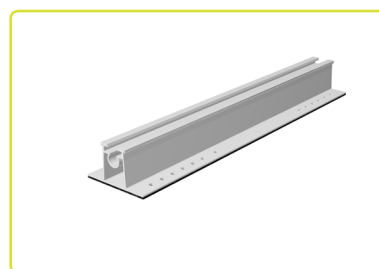
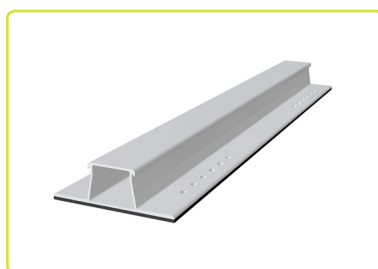




Assembly Instructions

TRAPEZOIDAL SHEET METAL RAIL AK

Frame system for coverings with trapezoidal sheet metal



1 Introduction

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Read these installation guidelines carefully before installing the S:FLEX mounting system and retain them for future reference!

These installation guidelines are only complete with the project-specific implementation plans (project report)!

These installation guidelines describe assembly of the S:FLEX PV fastening system on roofs with trapezoidal and corrugated sheet metal coverings. These installation guidelines are intended for a group of people with relevant qualifications who have been instructed by the operator of the PV system. Installation of the S:FLEX PV fastening system on trapezoidal and corrugated roofs requires extensive expertise on the part of the installer. We therefore recommend contacting a specialist roofing contractor for this purpose.

With the S:FLEX fastening system, vertical installation of the modules is possible.

An outstanding feature of the S:FLEX PV fastening system for trapezoidal sheet metal roofs is the high availability of pre-assembled parts. Thanks to our innovative and patented one-click technology, the installation time can be reduced to a minimum.

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

1.1 Intended use

The S:FLEX PV fastening system for trapezoidal sheet metal roofs is a frame system for mounting PV modules. It is designed exclusively for the installation of PV modules.

Any other use in this regard is considered misuse of the product. Observance of the information in these installation guidelines in particular, is a prerequisite for intended use. S:FLEX GmbH accepts no liability for damage resulting from non-observance of the installation guide or from misuse or incorrect use of the product.

1.2 About this document

The S:FLEX PV fastening system for trapezoidal sheet metal enables installation of PV systems parallel to the roof.

These installation guidelines describe the installation process with trapezoidal sheet metal rails. This is possible with:

- Trapezoidal and corrugated sheets
- If necessary, sandwich profiles (provided the manufacturer has approved attachment to the cover shell)

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

Within the scope of these assembly instructions, the installation is illustrated using the Trapezoidal Sheet metal rail AK complete I=395/24 as an example. I=395/24 dargestellt.

1.3 Warnings

The warning texts provided in these installation guidelines relay safety-related information. They are:



Unless observed, there is a major risk of injury as well as a risk of death.



Failure to observe this may lead to property damage.

1.4 General information – standards and guidelines

Every photovoltaic system must be installed in accordance with the instructions contained in the respective installation guidelines and the project report.

These installation instructions are based on state-of-the-art technology and many years of experience of installing our systems on site. It must be ensured that only the current and complete installation instructions are used for the installation, and that a print-out of the installation guidelines is stored in the immediate vicinity of the system. The system and these guidelines are subject to technical changes.

The project report is part of the installation instructions and is created on a project-specific basis. All of the information contained in the project report must be strictly observed. The project report contains the location-based static calculations. The S:FLEX mounting system must be designed and created with the S:FLEX software (Solar.Pro.Tool).

Since individual project-specific features must be considered with every roof, expert advice must always be sought prior to installation. Before installation, the PV system creator must ensure that the existing roofing and roof substructure are suitable for the additional loads. The condition of the roof substructure, the quality of the roof covering and the maximum load-bearing capacity of the roof construction must be checked by the system creator. Contact a local structural engineer for this purpose.

When installing the PV system, always comply with the module manufacturer's installation instructions. 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; alternatively, the mounting system must be adapted in accordance with the module manufacturer's specifications.

The requirements for the protection of PV mounting systems against lightning and surges must be met in accordance with the DIN and VDE regulations. The specifications of the relevant power supply company must be observed.

Care must be taken that the PV system to be installed does not impair the functioning of the existing lightning protection system. It is also important to ensure that the PV system is designed so that it can be included in the protection zone of the building's lightning protection system. The separation distances between the PV system and the lightning protection system specified in the relevant regulations must be adhered to. During installation, the local fire regulations must be observed, e.g. firewalls must not be built over and the required clearances must be maintained.

If the roofing is altered, the manufacturer's guidelines must be observed. During and after 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 must 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 mounting systems is obligated to independently inform himself/herself about all rules and regulations for professionally correct planning and installation, and to comply with said rules and regulations during the installation process. This also includes compliance with the latest versions of the respective rules and regulations.

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



All system components must be checked for damage before installation. Damaged components must not be used!



Installation of the S:FLEX substructure and the PV system may only be carried out by trained specialists. System components must not 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 climbing aids and fall-protection equipment (e.g. scaffolding) are provided as well as protection from falling parts.



Check the building statics and construction/condition of the roof substructure 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 may result in damage to the PV system and to the building.

1.5 Description of the system

The S:FLEX trapezoidal sheet metal rail AK offers suitable solutions for a range of different requirements:

System features of trapezoidal sheet metal rail AK

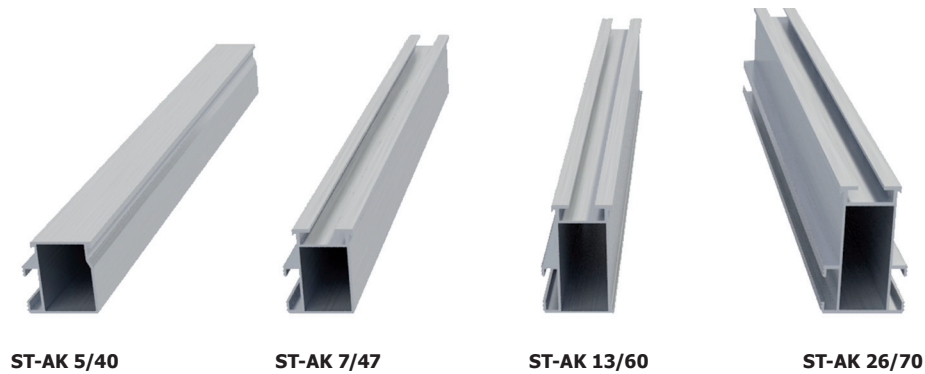
Application:	Trapezoidal and corrugated sheets, possibly sandwich profiles
Module type:	Framed modules
Module orientation:	Vertical
Roof inclination:	max. 20°
Module field length:	max. 6.00 m connected module array
Max. load:	5.4 kN/m ²
Connection:	Sheet metal screws
Material:	Aluminium EN AW-6063 / T6, stainless steel
Colour:	Natural aluminium



The module manufacturer's installation instructions must always be observed. All of the manufacturer's specifications relating to installation on the roofing must be observed.

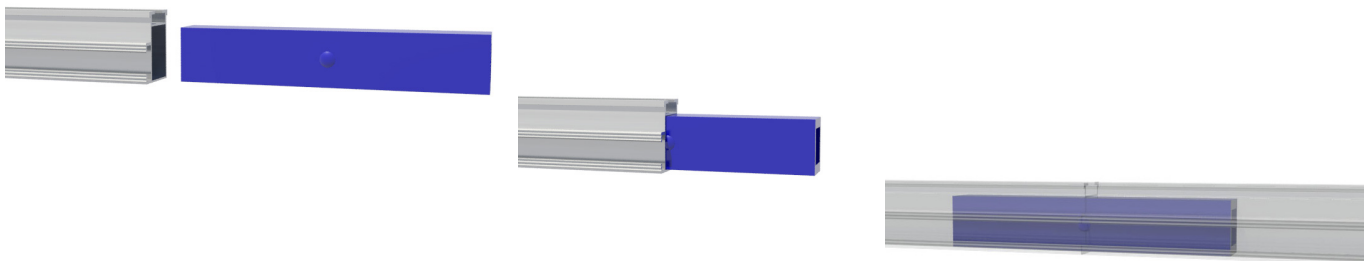
Mounting rails

The S:FLEX PV mounting system offers mounting rails of different strengths in order to achieve optimised systems in accordance with the structural requirements of the location and the installation situation:



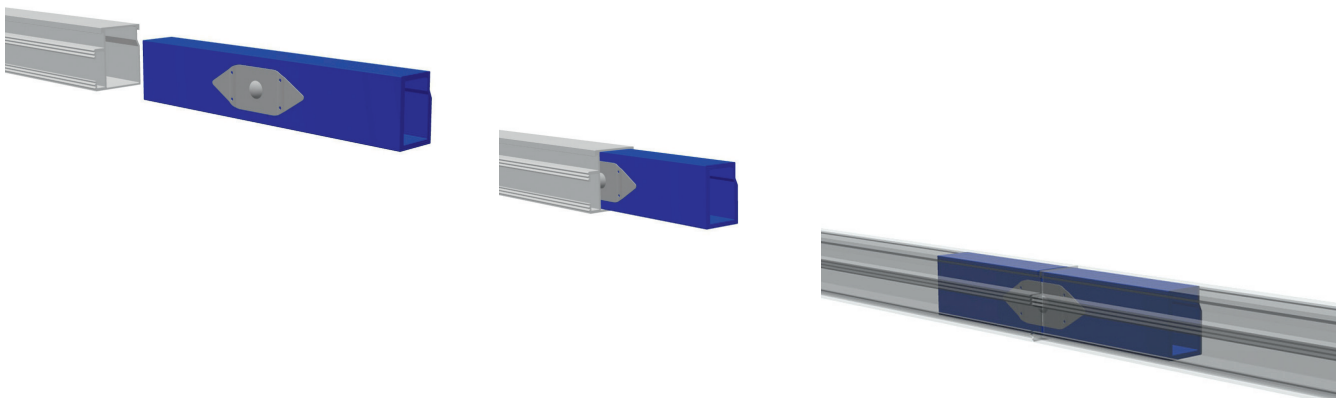
Splice technology

Besides facilitating installation, our connector technology enables alignment of the system without reducing the load capacity in the area of the connectors, since they have the same static values as the respective mounting rails. In addition, our connector technology makes it possible to easily and quickly produce expansion joints according to the conditions on the roof.



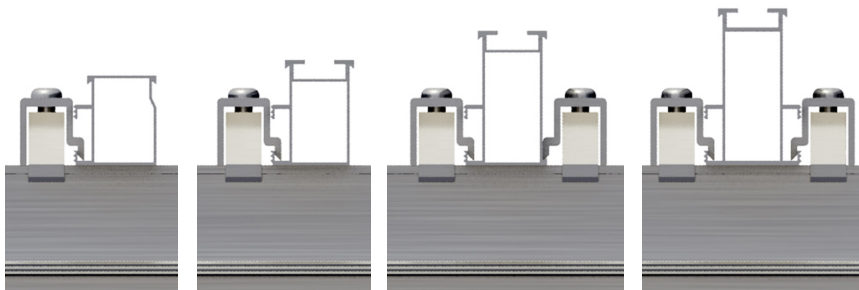
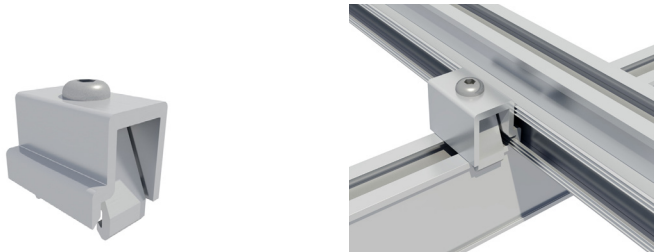
Splice technology Earthing

When the mounting rails are connected together by means of connectors, a short-circuit to earth is created by pushing the mounting rails together flush on the connector using appropriate pressure. The customer must have the short-circuit to earth professionally checked after installation.



Cross adapter clamps

Crossing points (in double layer systems) can be quickly and viably achieved by using cross adapter clamps with patented and proven click technology. Depending on the structural requirements of the location and the installation situation, one or two cross adapter clamps must be used per crossing point.



ST-AK 5/40

ST-AK 7/47

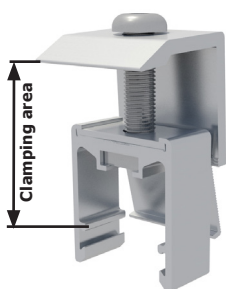
ST-AK 13/60

ST-AK 26/70

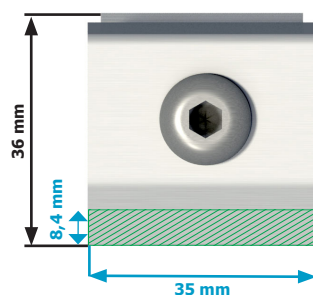
Mid clamps and end clamps

Height-adjustable mid clamps and end clamps, both with click technology, allow for maximum flexibility during the installation of nearly all framed module types with a frame height of 30 to 50 mm. When fastening the PV module on to the mounting rails, the module manufacturer's installation instructions must always be observed.

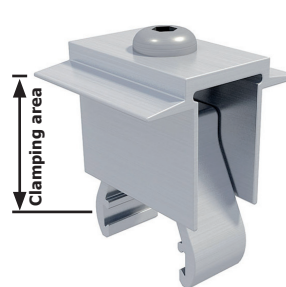
When fitting using mid clamps and end clamps, it must be ensured that they clamp the module frame at the clamping area defined by the module manufacturer. Every person that mounts the S:FLEX PV mounting system must ensure that existing clamping areas correspond to the module manufacturer's installation instructions. If the maximum clamping areas of the mid clamps and end clamps are not sufficient, it is possible to obtain the components in other lengths.



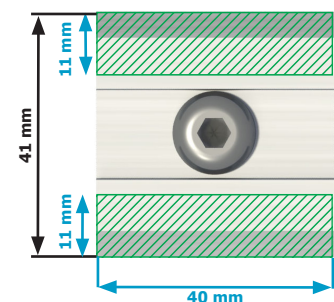
End clamp (EH)



Maximum clamping area EH II:
 $A = 8.4 \times 35 = 294 \text{ mm}^2$



Mid clamp (MH)



Maximum clamping area MH:
 $A = 11 \times 40 = 440 \text{ mm}^2$ (per side)

Earthing

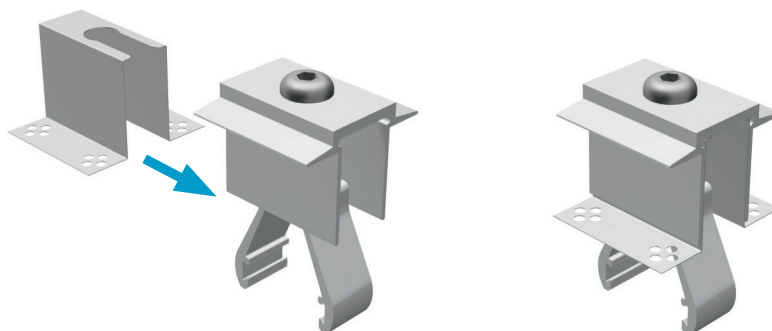
The equipotential bonding between the individual system components must be ensured in accordance with the respective country-specific regulations and standards. These may include the use of system-specific properties (see connector technology).

An earthing concept is not included in this installation manual and must be calculated and created by the installer in accordance with the applicable standards and guidelines.



Earthing is not the same thing as a lightning protection system! For the installation of a lightning protection system, consult a specialist company and prepare a project-specific lightning protection plan. Always observe the installation instructions provided by the module manufacturer.

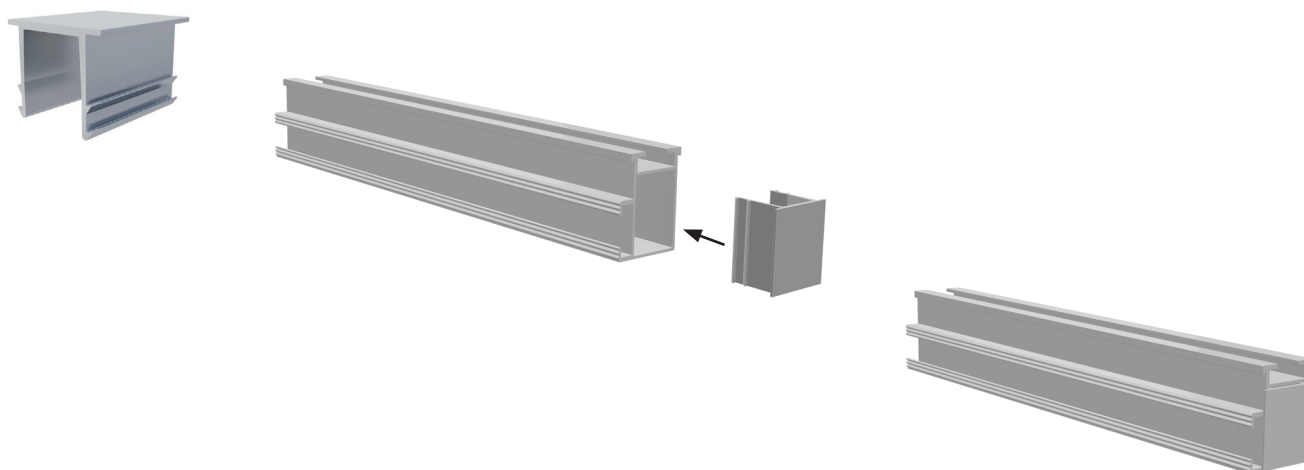
The short-circuit to earth for the mounting rail is created by the connector. Additional earthing of the modules can be achieved via the earthing plate by mounting it to the module clamps. When earthing the modules, the specifications provided by the module manufacturer must be observed.



Optional items

Covering caps

The S:FLEX PV mounting system offers suitable covering caps for the rails.



2.1 System components

① Components for roof fastenings

Trapezoidal sheet metal rail AK complete l=395/24

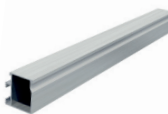


S:FLEX Lift Trap sheet metal Rail 375

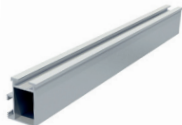


② Mounting rails

ST-AK 5/40



ST-AK 7/47



ST-AK 13/60



ST-AK 26/70



③ Splice

Splice 5



Splice 7



Splice 13



Splice 26



④ End clamp

EH AK II Klick 30-50



EH AK II Klick 30-50 schwarz



⑤ Mid clamp

MH AK II Klick 30-50 A



MH AK II Klick 30-50 schwarz



⑥ Slipping protection

Slipping protection



⑦ Slider locks

Slider lock AK



⑧ Sheet metal screws

Sheet metal screw A2



⑨ Cross adapter clamp

Cross adapter clamp



⑩ Covering caps

Covering cap 5



Covering cap 7



Covering cap 13



Covering cap 26



⑪ Cable clips (optional)

Cable straps edge clip KC 15



2.2 Direct roof fastening using sheet metal screws

When attaching the sheet metal screws, the regulations stated in the approvals from the building authorities regarding the sheet metal screws must be observed (e.g. area of application, pre-drill diameter, minimum strength of the materials to be connected, hole diameter for existing holes).

The required sheet metal screws are included with your order. Selecting the fasteners depends on the roofing and the occurring forces. Sheet metal screws must only be positioned in the raised corrugations/crests.

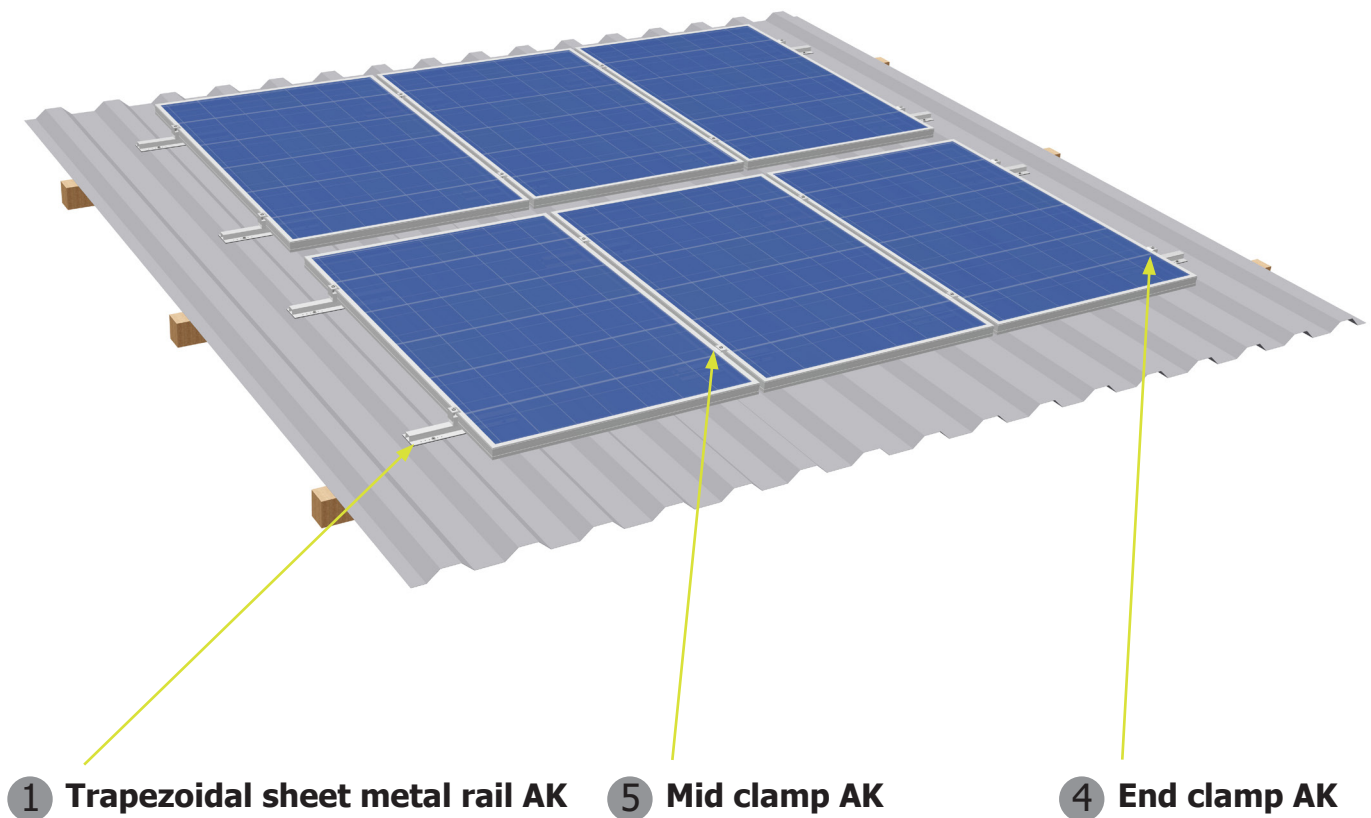
Sheet metal screws:

4.5 x 25 A2 / bimetal

Installation: - SW 8
 - Tool external dimension (socket wrench) \leq 15mm

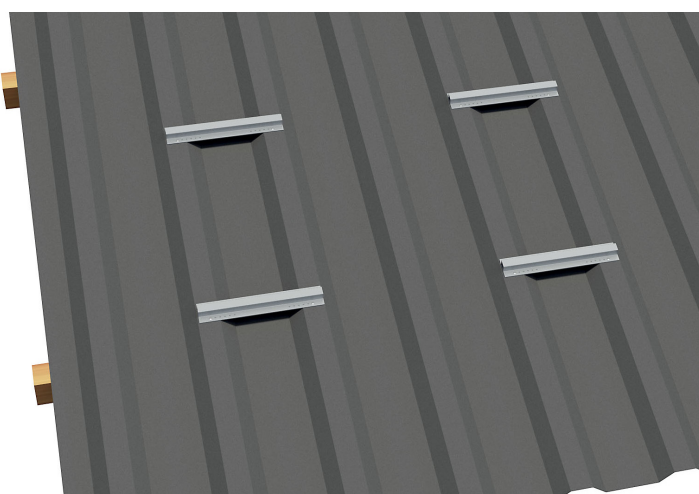


2.3 Installation – single layer substructure



Installation – 1 (positioning of the bracket for sheet metal installation, lower layer of rails)

The positioning of the trapezoidal sheet metal rails (trapezoidal sheet metal rail AK complete $l = 395$ (24x)) must be determined according to the structural requirements of the location and the installation situation. The trapezoidal sheet metal rails are to be positioned so that the end clamps and mid clamps can later be mounted between the fixing points on the trapezoidal sheet metal. In doing so, it must again be checked whether the measurements taken as a basis in the planning match the actual measurements found on the roof (if necessary, adjustments must be made). For single layer substructures, the position of the trapezoidal sheet metal rails must be checked against the module's prescribed clamping distances.



Check the basis of the plans



Position according to structural requirements and respective installation situation



Align the trapezoidal sheet metal rails using a plumb line

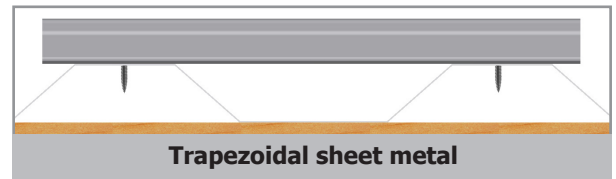
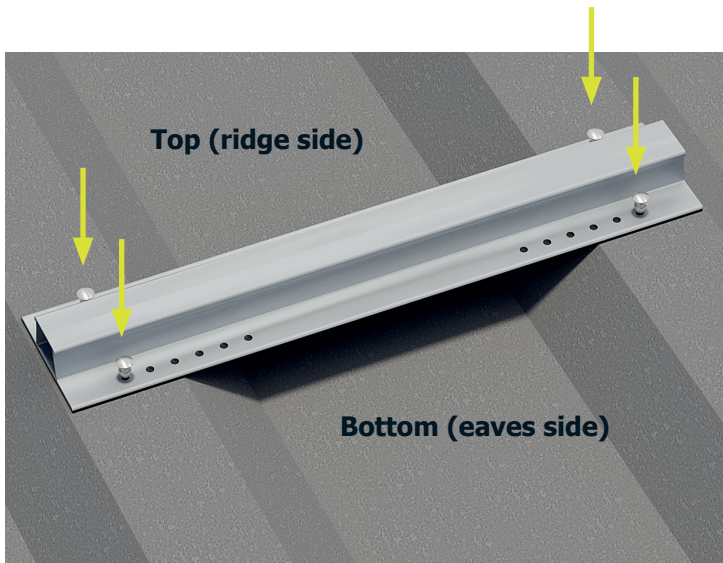
Attach the trapezoidal sheet metal rail with the sheet metal screws. Use 4 sheet metal screws per trapezoidal sheet metal rail (2 sheet metal screws per raised corrugation/crest). To prevent water from penetrating between the trapezoidal sheet metal rail and the roofing, the trapezoidal sheet metal rail must always be mounted on a raised corrugation/crest. The Trapezoidal Metal Sheet AK complete $l=395$ 24 is pre-drilled with a 5.0 mm hole for conventional corrugation distances/crest lengths of 173 mm to 333 mm and the underside is extensively bonded with EPDM sealing tape.



When mounting on corrugated sheet metal roofing, the sheet metal screws must only be screwed in at the apex of the corrugation. Affixing the screws on the side area of the corrugated sheet will jeopardise the roof's structural stability and watertightness.

2 Installation of trapezoidal sheet metal rail AK

Single layer installation with framed PV modules, vertically mounted



SW 8, tool external dimension
</= 15mm



**2 Sheet metal screws per
corrugation/crest (4 per
trapezoidal sheet metal rail AK)**



The trapezoidal sheet metal rails AK are also available without EPDM sealing (e.g. in length $l=3.15\text{m}$). To protect the roof from water penetration in the area of the screw connection, an EPDM seal must always be fitted between the support of the trapezoidal sheet metal rail and the trapezoidal metal.

2 Installation of trapezoidal sheet metal rail AK

Single layer installation with framed PV modules, vertically mounted



If the module array is longer than 6m horizontal to the eaves with single-layer substructure, it must be separated by fitting an additional trapezoidal sheet metal rail (Trapezoidal Metal Sheet AK complete l=395 24) with end clamp.

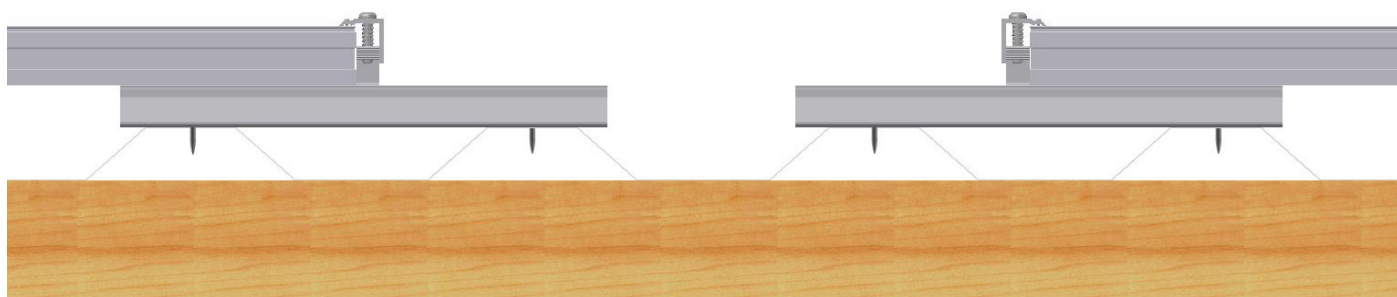
The trapezoidal sheet metal rail must be separated in the area between the end clamps (expansion joint). The arrangement of the expansion joints must be adapted in accordance with the structural conditions of the roof and the expansion properties of the respective materials.



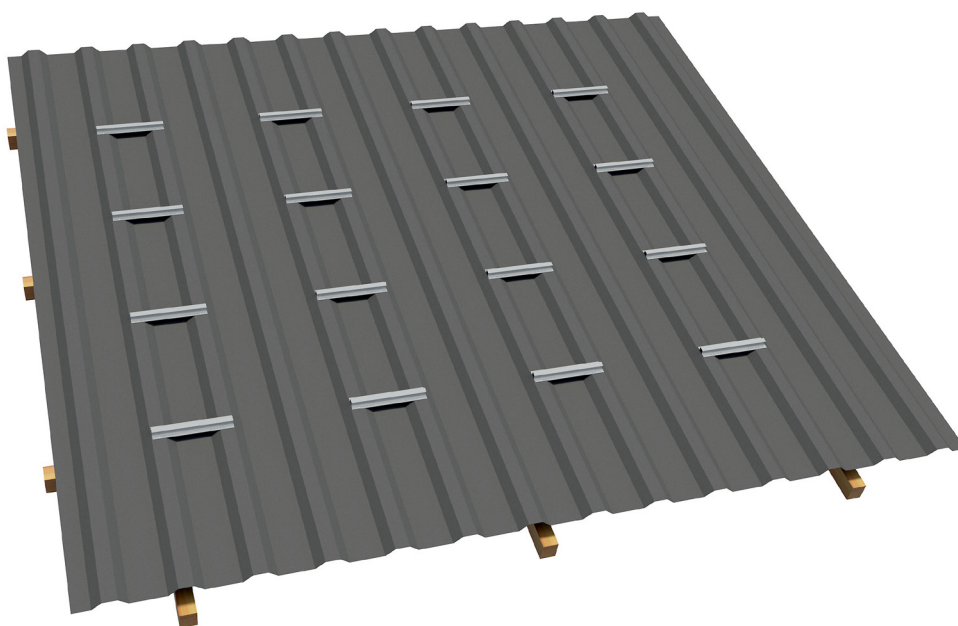
Modules must not be built over expansion joints.

There is no connection to earth.

This must be established without restricting the effect of the expansion joint.



Completed installation of the rail layer.



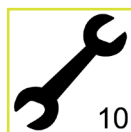
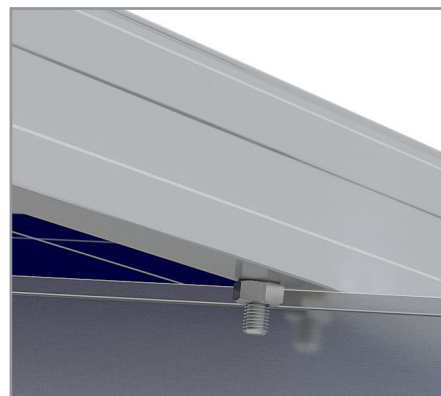
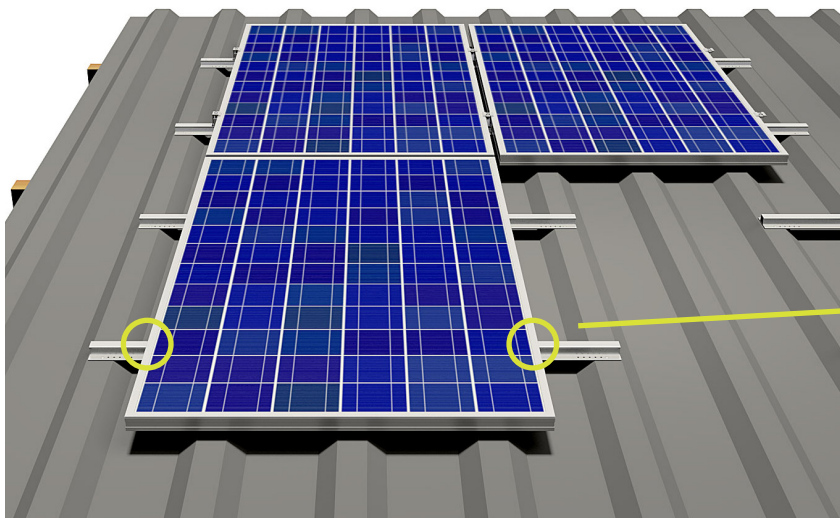
Single layer installation with framed PV modules, vertically mounted

Installation - 2 (module installation, slipping protection for roof inclination greater than 5°)



Before installing the modules in the lowest row of modules, the modules generally need 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.).

Attach two M6 x 20 screws (with the shank downward) with M6 nuts into two of the module's frame holes (8 mm) so that the screws are at the same level and when installed they are above at least one horizontal mounting rail layer, and if necessary ensure that the screws on the underside of the module frame touch the horizontal mounting rails from above. If the lower mounting hole is larger than 8 mm, please use an appropriately sized screw.

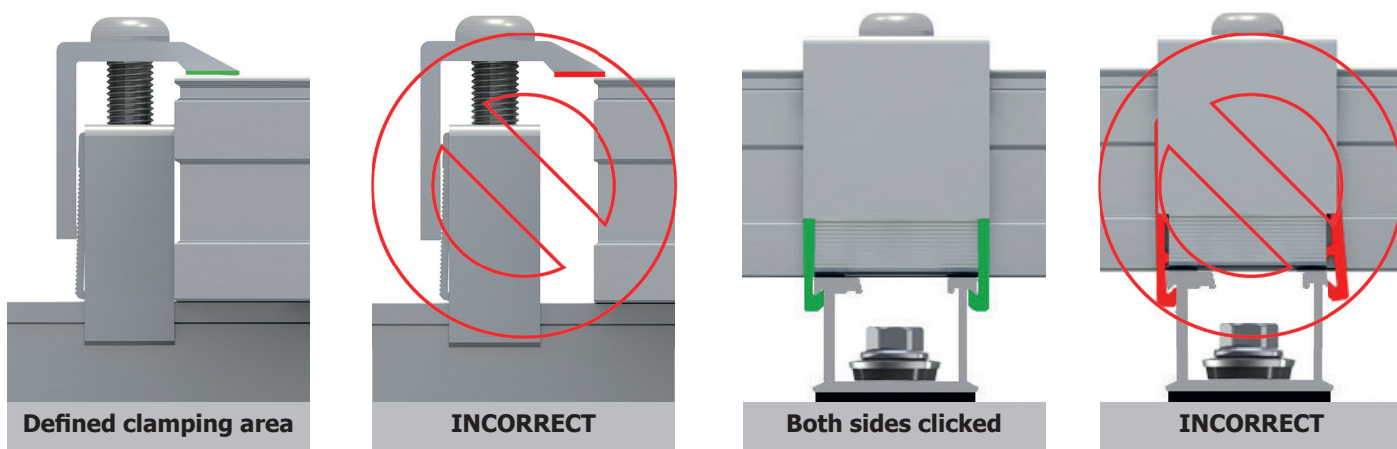
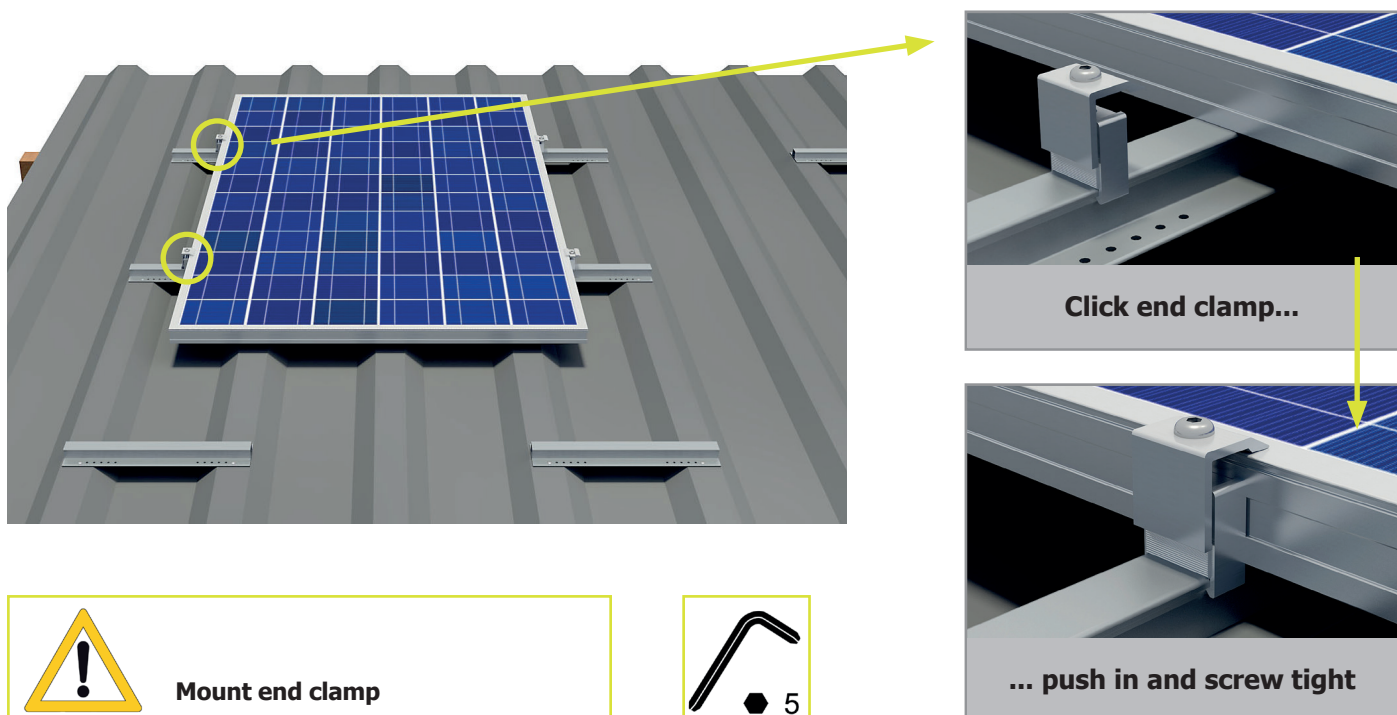


Single layer installation with framed PV modules, vertically mounted

Installation – 3 (module installation, end clamp)

Place the module on the trapezoidal sheet metal rails. Mount the end clamps. To do this, click the end clamp on to the trapezoidal sheet metal rail and push it on to the module. It must be ensured that the end clamp is clicked into both sides of the trapezoidal sheet metal rail. Now adjust the end clamp to the height of the module and tighten the screw (torque 8-10 Nm). Ensure that the end clamp clamps the module frame at the clamping area defined by the module manufacturer.

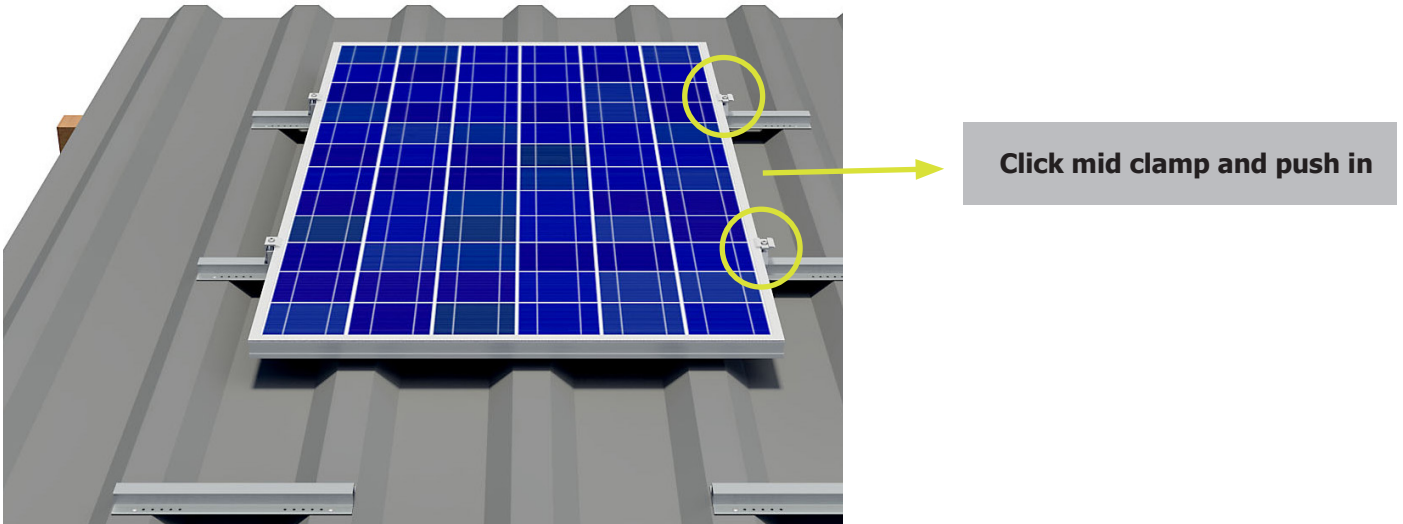
The end clamps must be mounted between the fixing points of the trapezoidal sheet metal rails. Mounting the end clamps outside of the fixing points/on the cantilever arm is not permitted.



Single layer installation with framed PV modules, vertically mounted

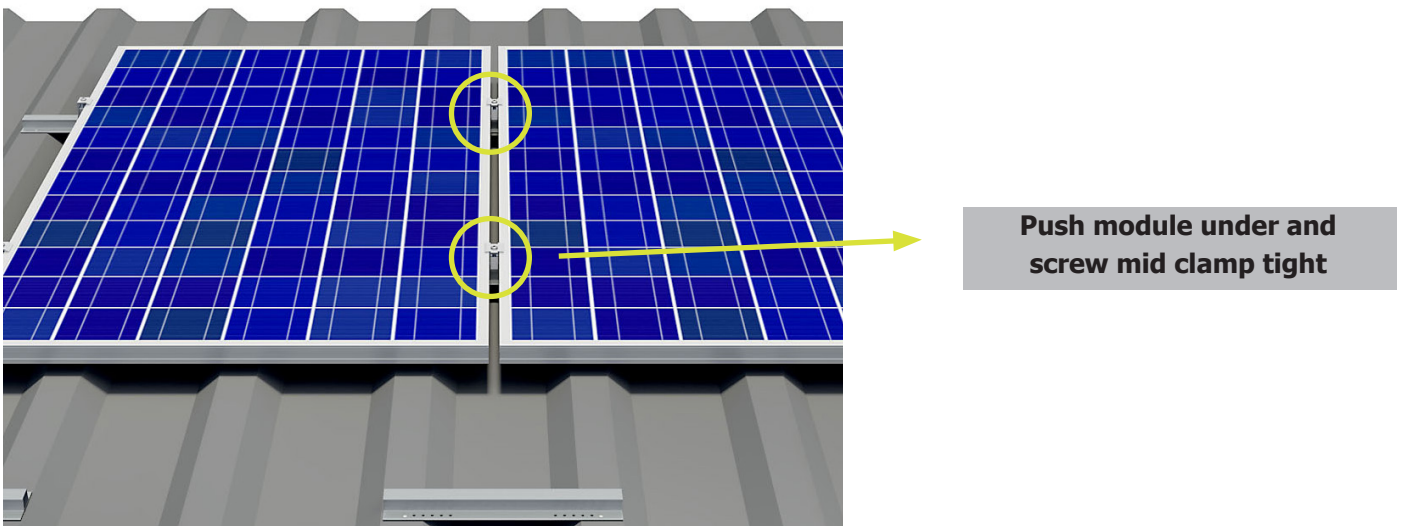
Installation – 4 (module installation, mid clamp)

Now mount the mid clamps. To do this, click the mid clamp on to the trapezoidal sheet metal rail and push it on to the module. It must be ensured that the mid clamp is clicked into both sides of the mounting rail.



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

The mid clamps must be mounted between the fixing points of the trapezoidal sheet metal rails. Mounting the mid clamps outside of the fixing points/on the cantilever arm is not permitted.



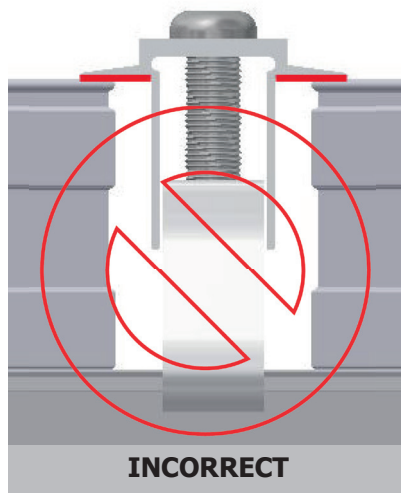
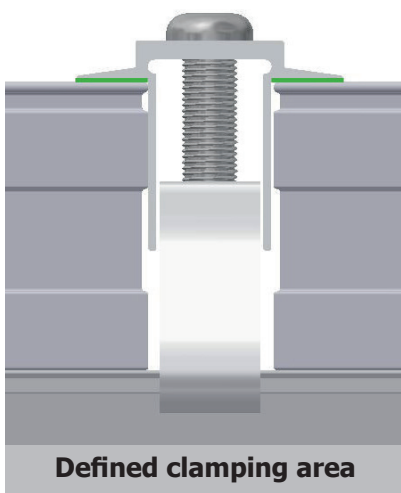
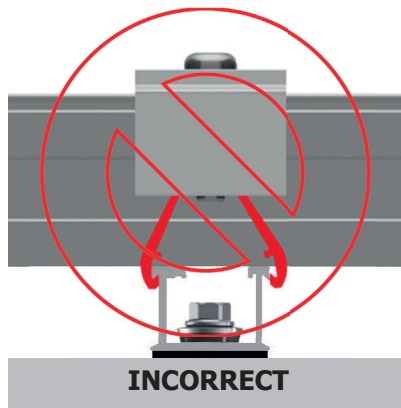
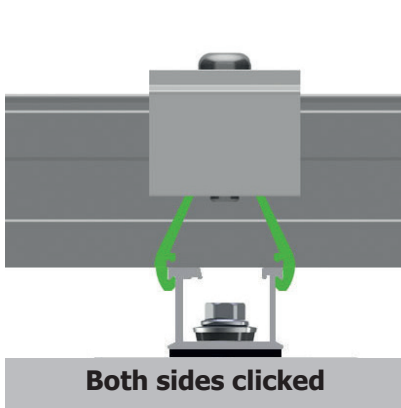
Mount mid clamp



2 Installation of trapezoidal sheet metal rail AK

Single layer installation with framed PV modules, vertically mounted

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



Check that the mid clamp has been clicked in



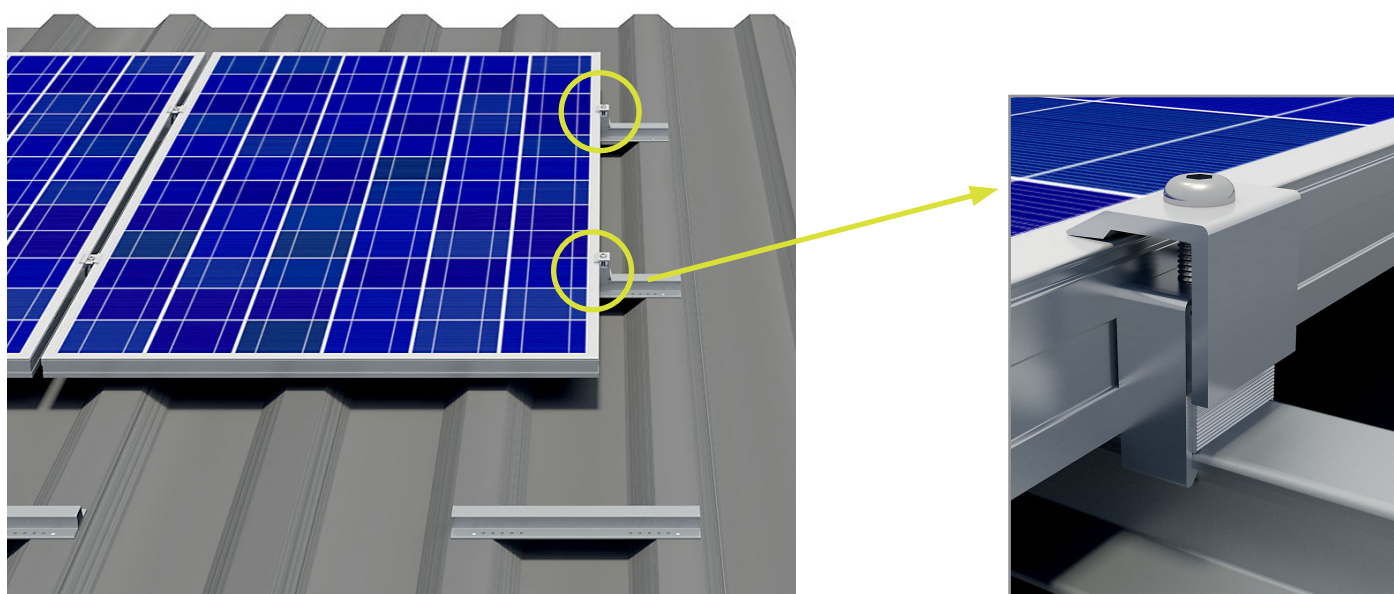
Check the defined clamping area and observe the module manufacturer's specifications

Single layer installation with framed PV modules, vertically mounted

Installation – 5 (module installation, end clamp on row end)

On the last module in the row (if applicable, on expansion joints), end clamps are again to be mounted. To do this, click the end clamp on to the trapezoidal sheet metal rail and push it on to the module. It must be ensured that the end clamp is clicked into both sides of the trapezoidal sheet metal rail. Now adjust the end clamp to the height of the module and tighten the screw (torque 8-10 Nm).

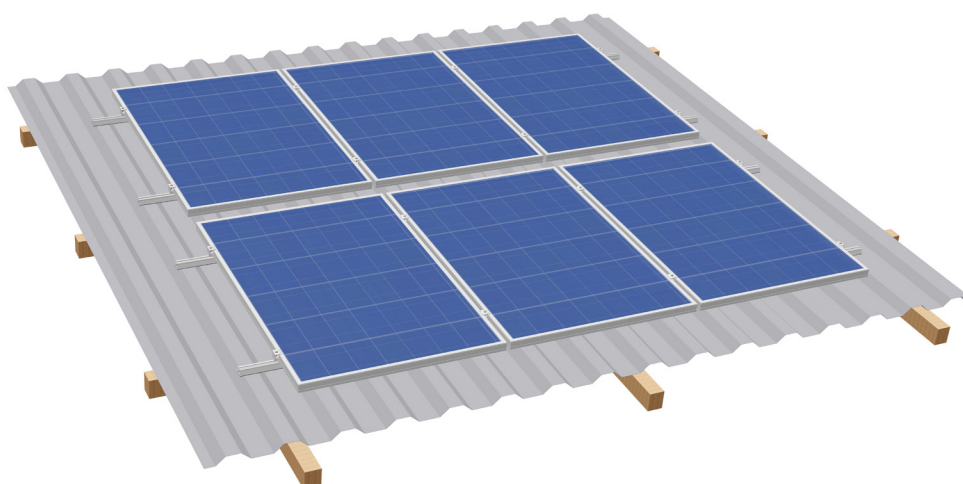
Ensure that the end clamp clamps the module frame at the defined clamping area (see Installation – 3).



Mount end clamp on the last module

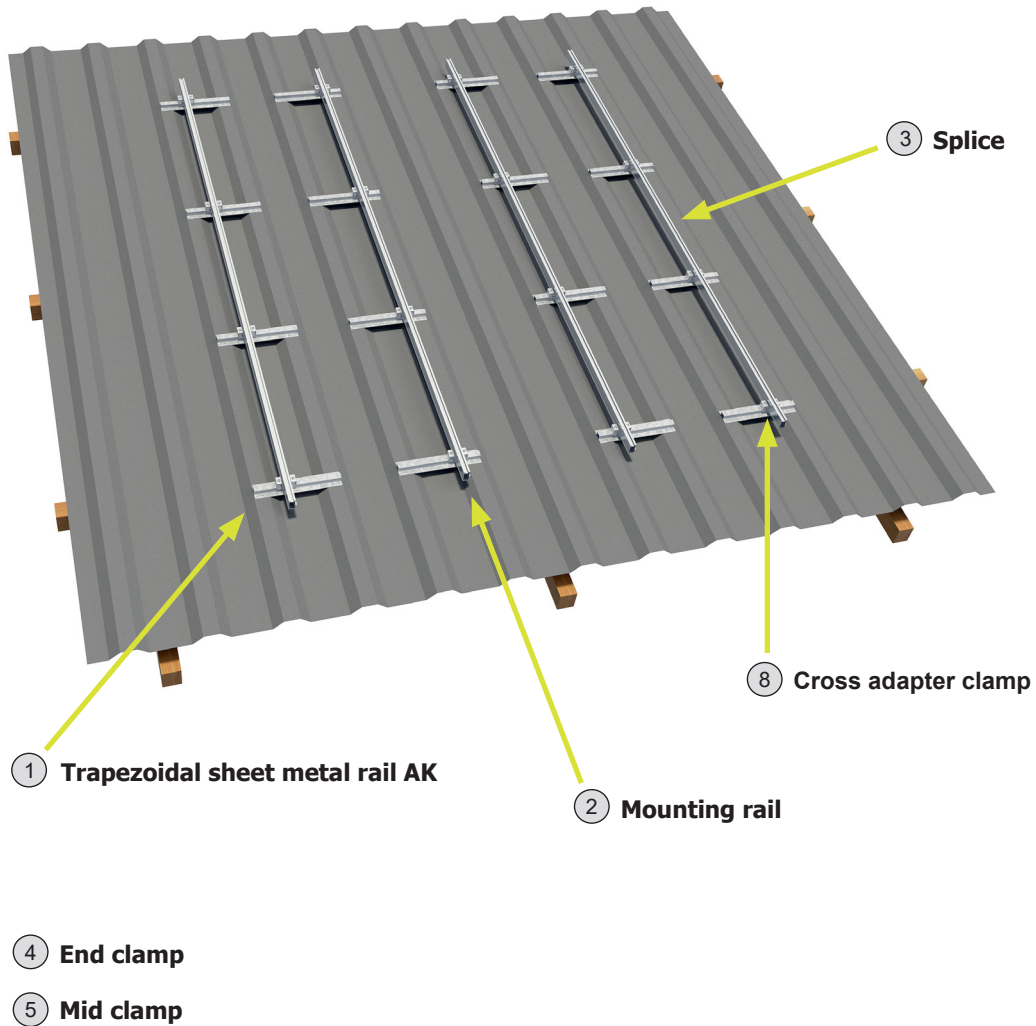


Proceed as described for the following rows.



Double layer installation with framed or frameless PV modules, horizontally mounted

2.4 Installation – double layer substructure



Double layer installation with framed or frameless PV modules, horizontally mounted

Installation – 1 (positioning of the trapezoidal sheet metal rail as lower layer of rails)

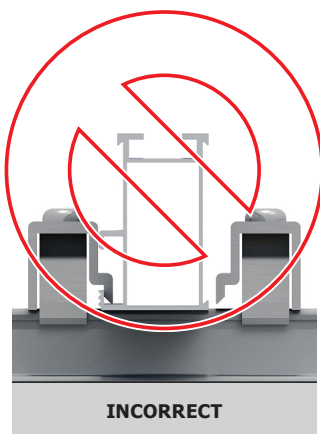
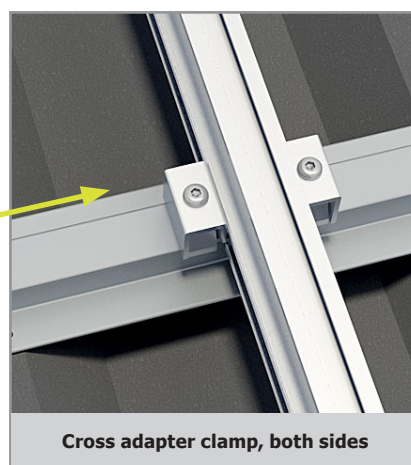
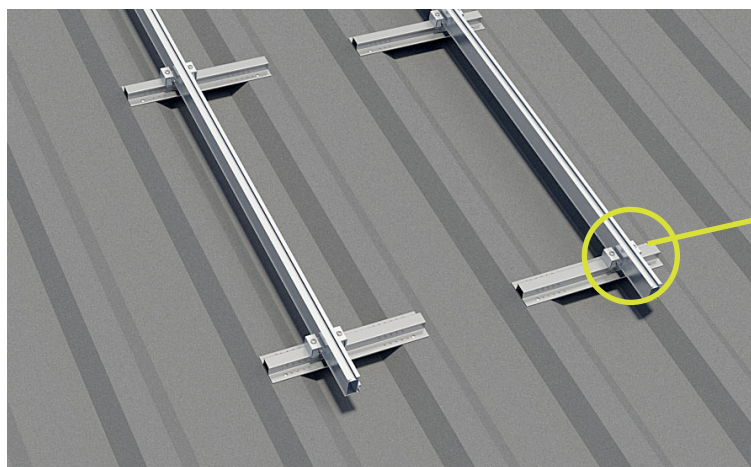
The installation of the trapezoidal sheet metal rails for double layer substructures is carried out as is described in Section 2.3 (Installation – 1) for single layer systems.

Installation – 2 (installation of upper layer of rails)

Mount the mounting rails on to the trapezoidal sheet metal rails for each row of modules using the cross adapter clamps. To do this, click the cross adapter clamp on to the trapezoidal sheet metal rails and fix the horizontal mounting rail with it. Check the distance of the mounting rails against the module's prescribed clamping distances.

Ensure that the cross adapter clamp is clicked in on both sides of the trapezoidal sheet metal rail and tighten the screw (torque 8-10 Nm).

The mounting rails must be mounted between the fixing points of the trapezoidal sheet metal rails. Mounting the end clamps outside of the fixing points/on the cantilever arm is not permitted.

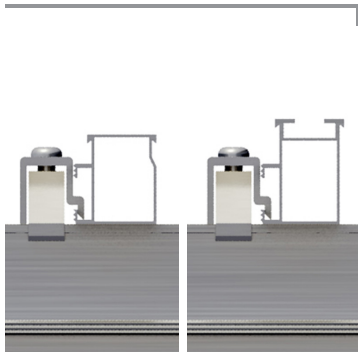


Double layer installation with framed or frameless PV modules, horizontally mounted

Depending on the structural requirements of the location and the installation situation, several cross adapter clamps may be required per crossing point. If a cross adapter clamp is required, it is fixed to the opposite side, as described above (torque 8-10 Nm).

Crossing points:

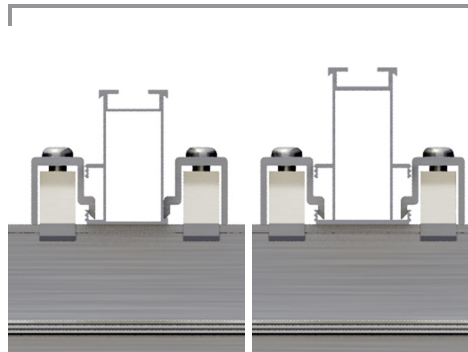
1 CAC in side HHB channel



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1 CAC in side HHB channel and 1 CAC opposite



ST-AK 13/60

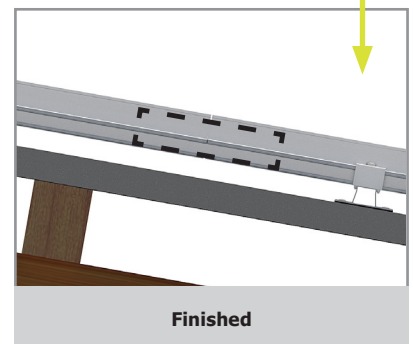
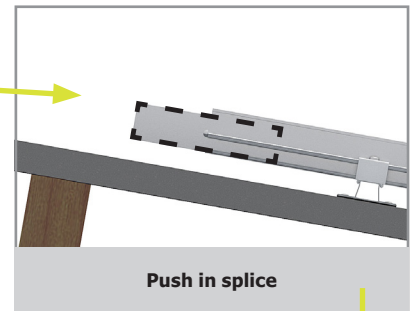
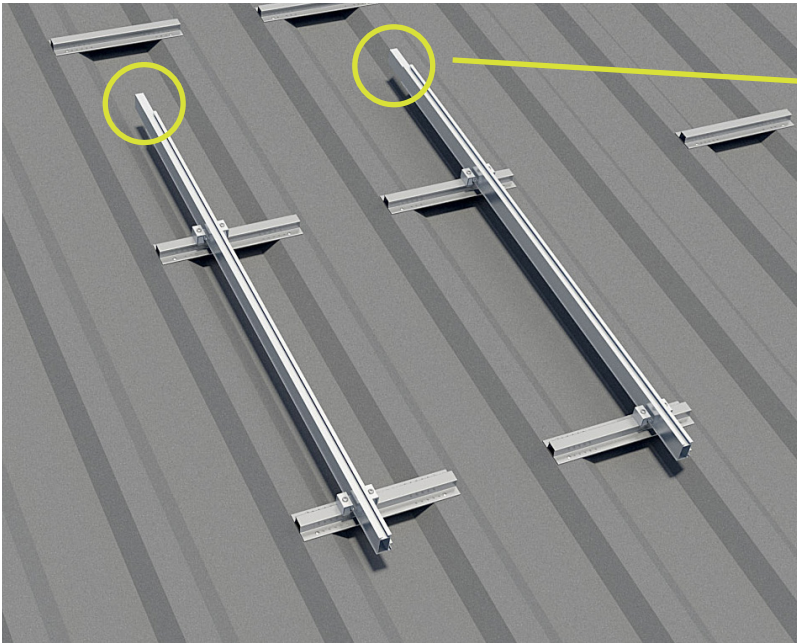
ST-AK 26/70

Observe the module's installation instructions for the distance between the vertical mounting rails.

Double layer installation with framed or frameless PV modules, horizontally mounted

Installation – 3 (splice)

In order to link several mounting rails, half of the splice, which has the same structural values as the mounting rails, 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. Fix the joined mounting rail on to the trapezoidal sheet metal rails using a cross adapter clamp, as described in Installation – 2.



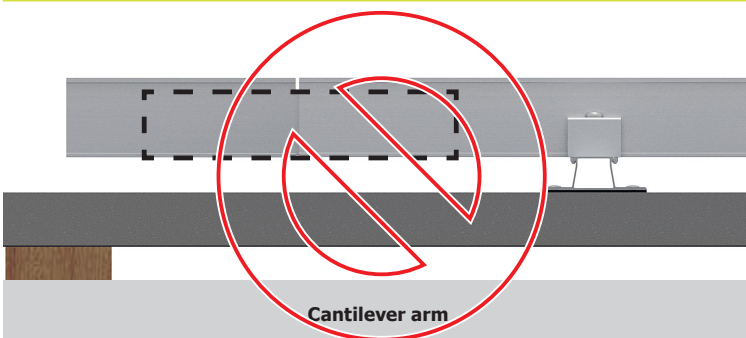
Push in splice



Check connection to earth



No cantilever arms with splices.
Position the splices so that they lie between 2 trapezoidal sheet metal rails. When extending the vertical mounting rails on the lower eaves, it is to be ensured that the short mounting rail sections, which are connected underneath, run over at least 2 trapezoidal sheet metal rails.



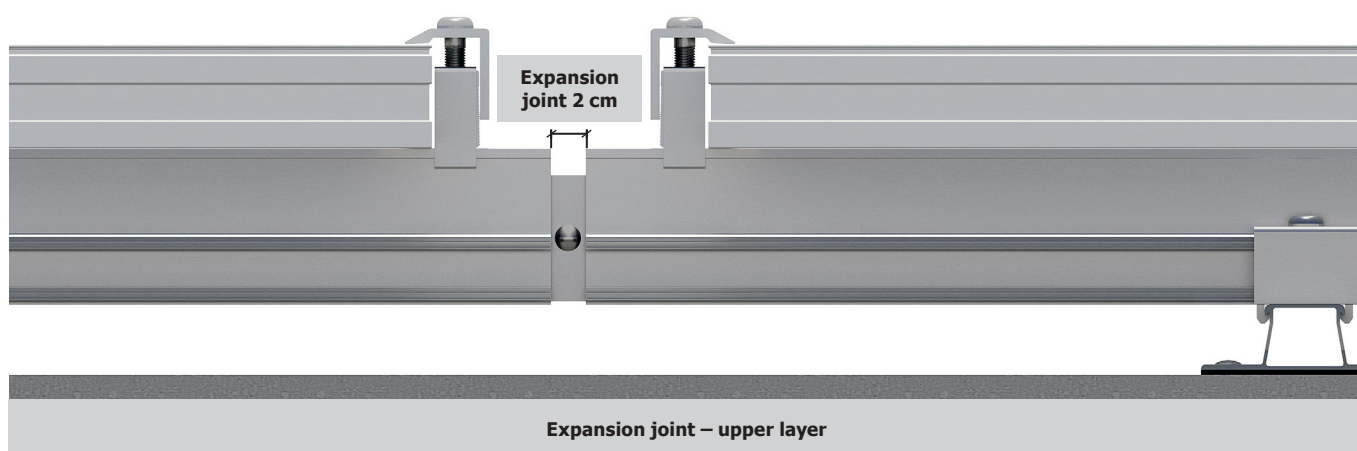
Double layer installation with framed or frameless PV modules, horizontally mounted



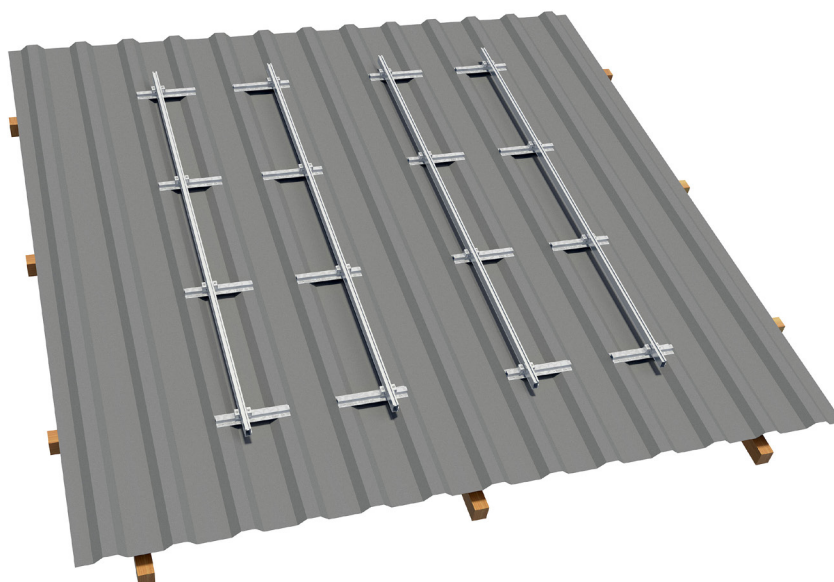
If the mounting rail is longer than 6.00 m, the module array is to be separated by placing two end clamps. In the zone between the end clamps, the mounting rail is to be separated and connected using a splice to allow the rail to move by 2 cm (expansion joint). The alignment of the expansion joints is to be adjusted according to the structural conditions of the roof and the different expansion properties of the materials. Observe the instructions in Installation – 4 of these installation guidelines when placing the endclamps.



Modules may not be built over expansion joints.
There is no connection to earth.
This must be established without limiting the expansion joint's mode of operation.



Completion of the installation of the upper rail layer.

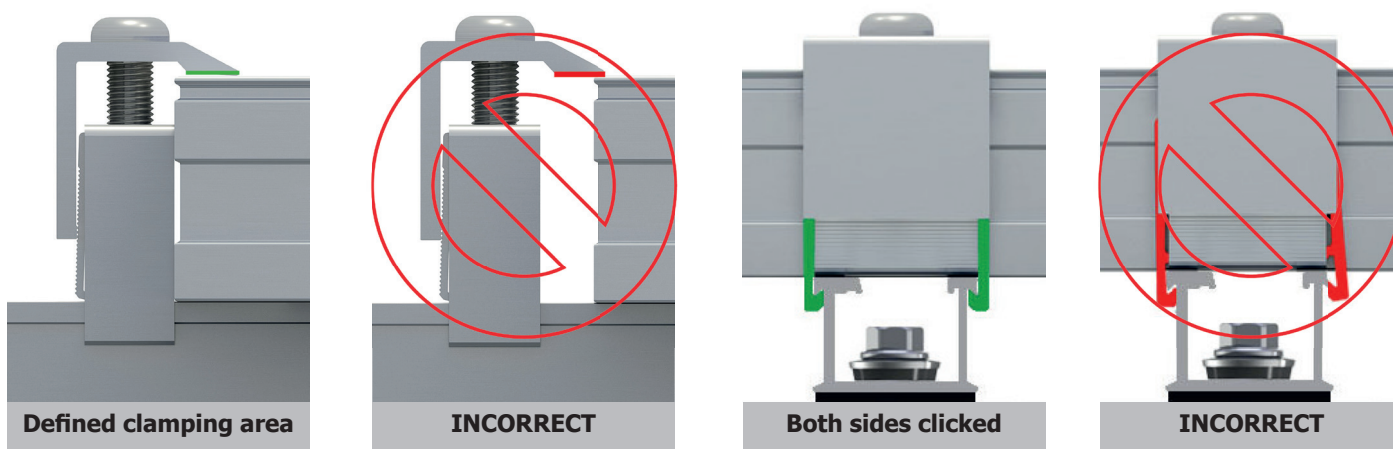
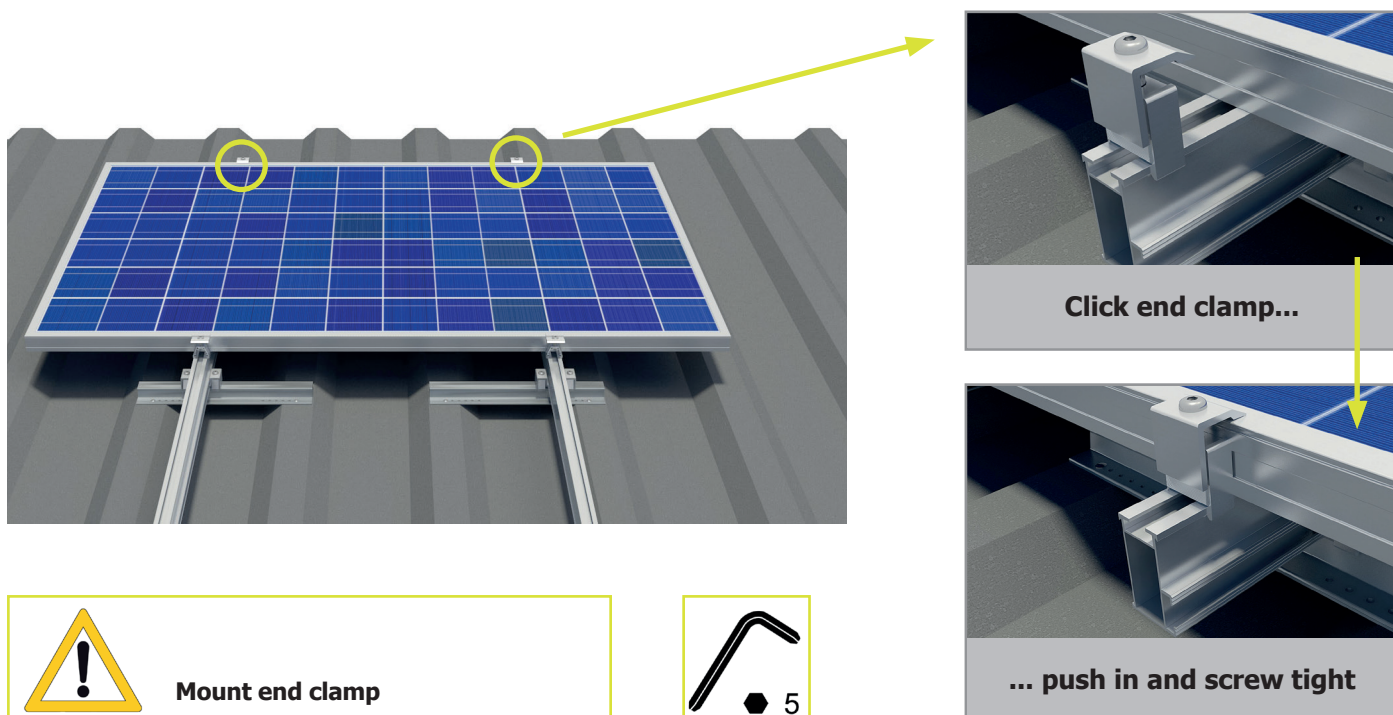


In the following, the column for column installation of the modules from top to bottom is described. The installation can also be carried out from bottom to top if the location requires it and the installation situation allows for it. In the case of installation from bottom to top, a slider lock is to be pushed on to each lower mounting rail and tightened (torque 8-10 Nm) before the module installation. Ensure that all slider locks are fixed in a horizontal line. The end clamps are then clicked on to the mounting rails and pushed on to the slider locks.

Double layer installation with framed or frameless PV modules, horizontally mounted

Installation – 4 (module installation, end clamp)

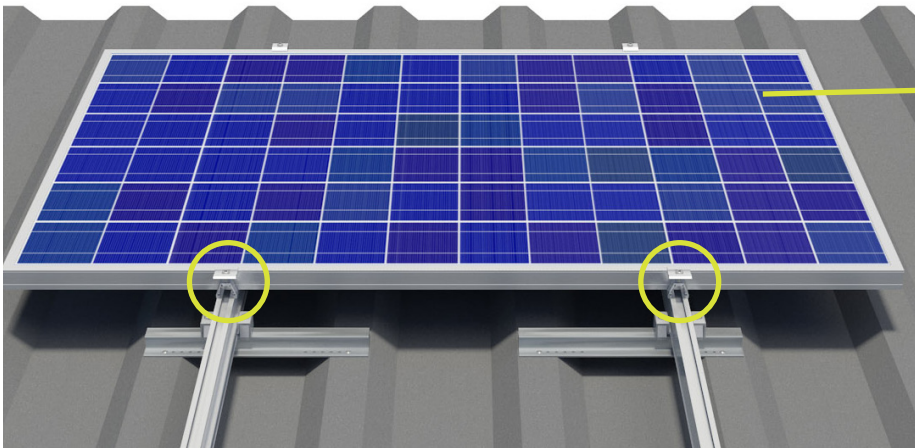
Place the module on the mounting rails. Mount the end clamps. To do this, click the end clamp on to the mounting rail and push it on to the module. It must be ensured that the end clamp is clicked into both sides of the mounting rail. Now adjust the end clamp to the height of the module and tighten the screw (torque 8-10 Nm). Ensure that the end clamp clamps the module frame at the clamping area defined by the module manufacturer.



Double layer installation with framed or frameless PV modules, horizontally mounted

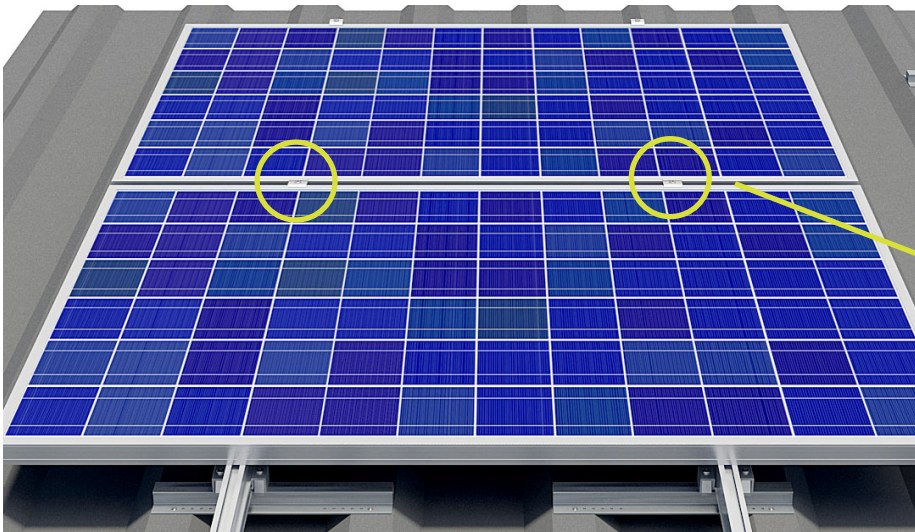
Installation – 5 (module installation, mid clamp)

Now mount the mid clamps. To do this, click the mid clamp on to the mounting rail and push it on to the module. It must be ensured that the mid clamp is clicked into 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).



Push module under and
screw mid clamp tight

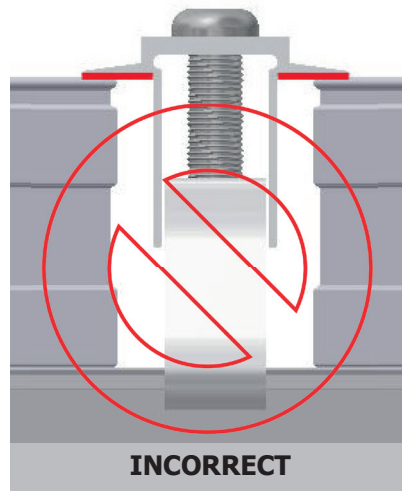
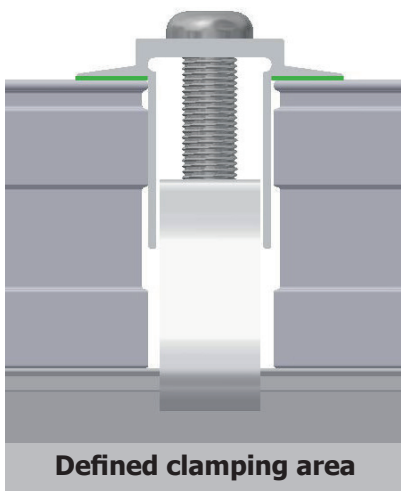
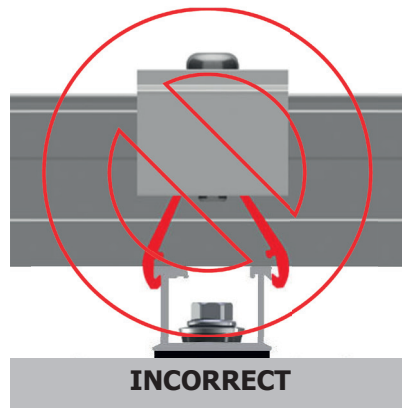
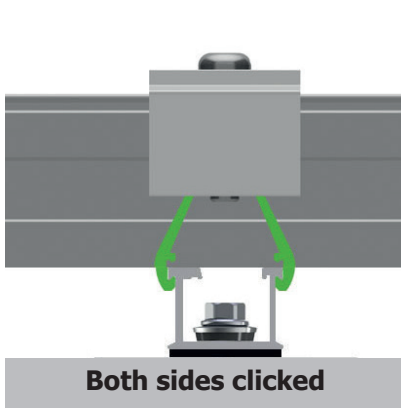


Mount mid clamp



Double layer installation with framed or frameless PV modules, horizontally mounted

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



Check that the mid clamp has been clicked in



Check the defined clamping area and observe the module manufacturer's specifications

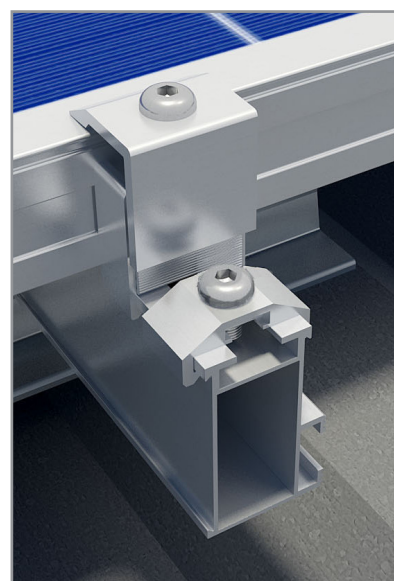
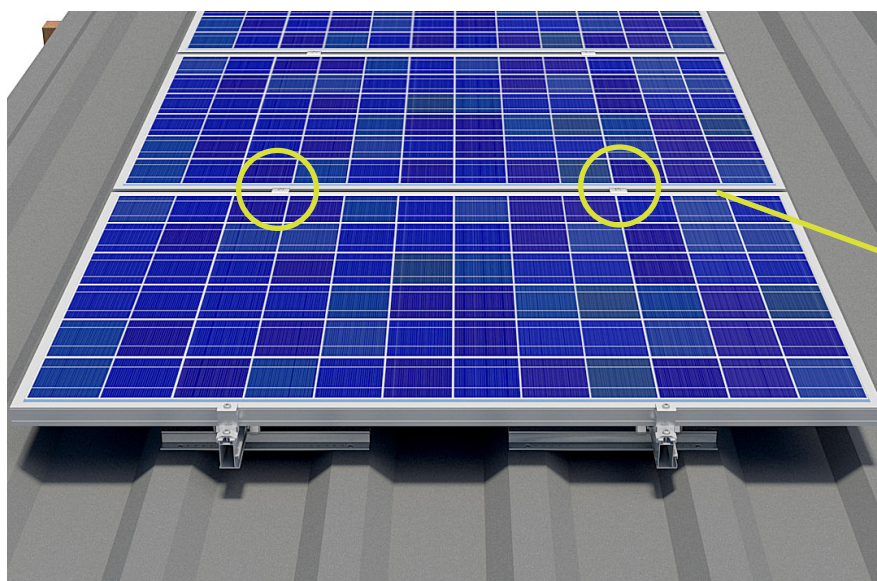
Double layer installation with framed or frameless PV modules, horizontally mounted

Installation – 6 (module installation, end clamp and slider lock on row end)

On the last module in the row (if applicable, on expansion joints), end clamps and slider locks are again to be mounted. To do this, click the end clamp on to the mounting rail and push it on to the module. It must be ensured that the end clamp is clicked into both sides of the mounting rail. Now adjust the end clamp to the height of the module and tighten the screw (torque 8-10 Nm).

Ensure that the end clamp clamps the module frame at the clamping area defined by the module manufacturer (see Installation – 4).

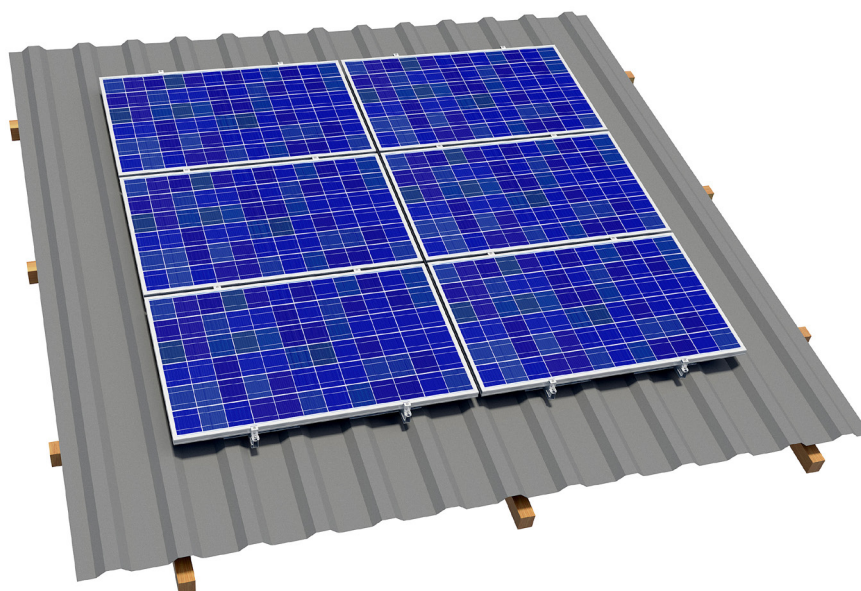
Push the slider lock from below on to the mounting rails up to the end clamp and fasten it (torque 8-10 Nm).



Mount end clamp and slider lock on the last module



Proceed as described for the following rows.
Ensure that all end clamps are fixed in a horizontal line.



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 provided 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.
Any 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 company. Observe the applicable national standards and guidelines.

4.1 User agreement for use of the trapezoidal sheet metal rail AK

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

Its installation/processing or acquisition by a third party is not carried out in the name of, or on behalf of, S:FLEX GmbH. Installation/processing of the system must be carried out 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, nor for obtaining and documenting the approval of the roof manufacturer for use of the respective fastening system on the roof in question (in the terms of the warranty), nor for correct installation of the fastening system.

S:FLEX GmbH accepts no liability for faults and damage and/or a restricted or limited operational capability of the system which has resulted from incorrect installation and/or installation which was not undertaken in accordance with the installation instructions and/or the project report (Solar.Pro.Tool). In the case of incorrect installation, the buyer's right to assert claims for material defects shall expire.

The system warranty is only valid if all system components were acquired from S:FLEX GmbH.

4.2 Warranty / disclaimer

The information regarding dimensioning provided in these instructions is merely suggested values based on prior experience. Binding structural analyses for installation frames 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 commercial system quotations.

As the installation company, you are responsible for the mechanical durability of the installed interface connections on the building envelope, in particular also for their watertightness. The components supplied by the company S:FLEX GmbH are designed for the expected loads and in accordance with the currently available technology.

In this context, you must provide the company S:FLEX GmbH with information about all general technical conditions in writing via the project data collection sheet (information about the supporting structure, snow load zone, building heights, wind loads, etc.).

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 due to the increased risk of corrosion. Provided that the system is handled properly and dimensioned according to the structural conditions and normal environmental and ambient conditions, the company S:FLEX GmbH provides a warranty from transfer of risk to the warranty holder, which guarantees that the metallic components of the racks will remain free from defects with regard to material and workmanship for a period of 10 years. This warranty does not apply to wear parts. For additional information, please refer to the separate warranty provisions.

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