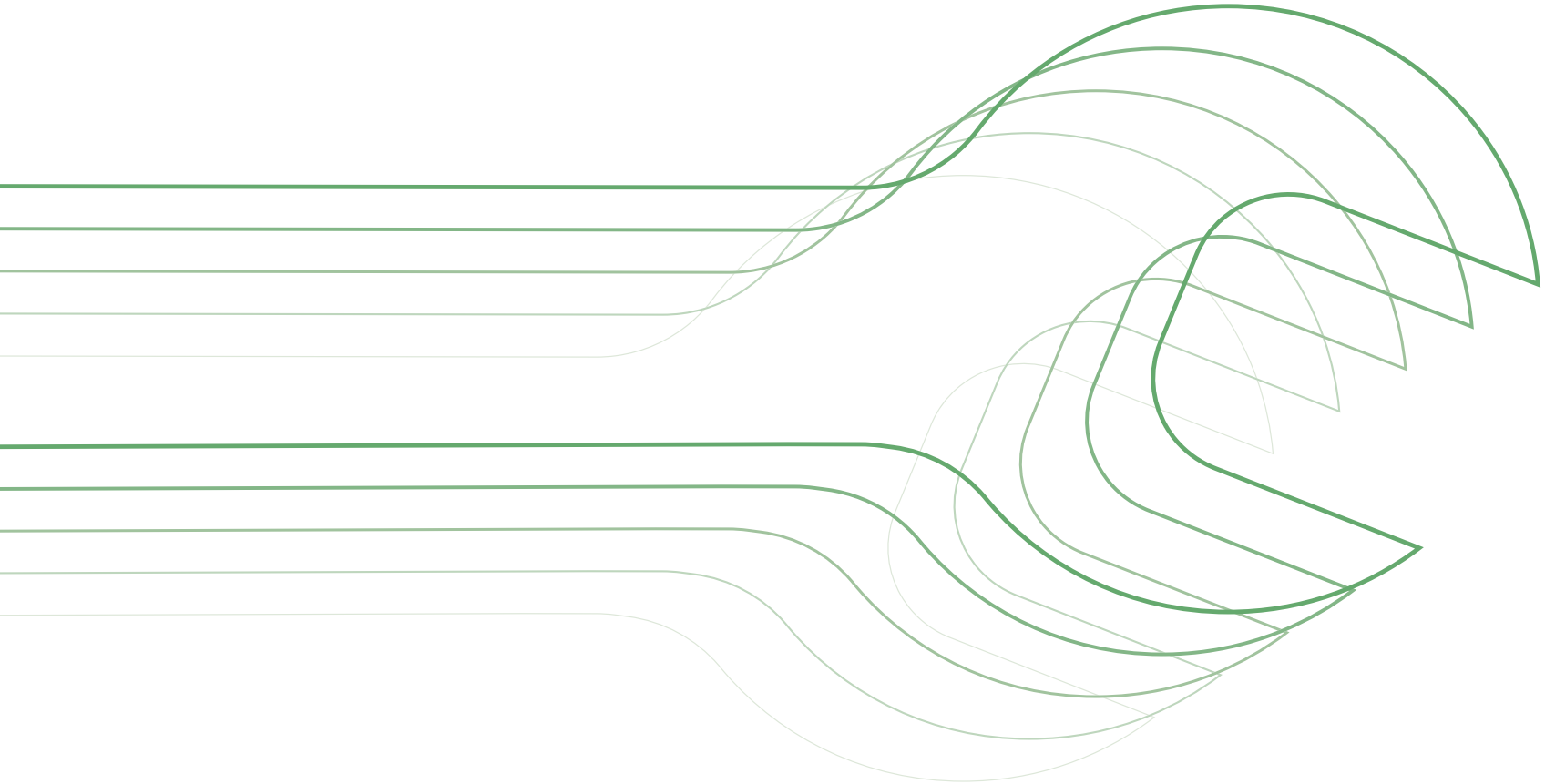
ALUMERO

EN



SUSTAINABLE
SOLAR
SOLUTIONS

# easySEAM
## ASSEMBLY MANUAL

**Please read the safety instructions at the end of this manual before starting the installation. Make sure you are using the latest version of the assembly manual.**

The layout and planning of the mounting system should be done using the **ALUMERO.PRO.TOOL** software. Refer to the required materials, positions, and arrangement of individual components as detailed in the project report provided by ALUMERO.PRO.TOOL or your ALUMERO sales representative. This data has been statically calculated and are essential for the safe and proper functioning of the system.

The installer of the photovoltaic system must ensure before installation begins that the roof substructure provided is designed for the additional loads.

This manual describes the assembly processes for the according ALUMERO system, attachment in open terrain, and the installation of modules.

This ALUMERO mounting system is designed exclusively for mounting PV modules. Any other use is considered inappropriate.

Installation must only be performed by qualified personnel.
Roofing work in particular should be carried out by a roofing professional.

For further questions, use ALUMERO‘s professional and comprehensive consulting service.

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# GENERAL INFORMATION

| | |
|---|---|
| **Min. sheet thickness:** | Sheet steel min. 0.5 mm<br>Aluminium, Rheinzink min. 0.7 mm |
| **Roof pitch:** | Max. 65° |
| **Max. Module field size:** | 3 m length or 3 modules |
| **Screw mounting:** | M8 (A2-70)<br>M10 (A2-70)<br>Fixing screw M10x1 x12.5 |
| **Torque:** | 15 Nm 30 Nm 18 Nm |

**Please note:** The tightening torque of the sheet metal seam clamps must be limited so that the sheet metal seams are not damaged and the thermal expansion of the sheets is not hindered! A sufficient distance between the clamps and the sliding clamp must be taken into account.

# REQUIRED TOOLS

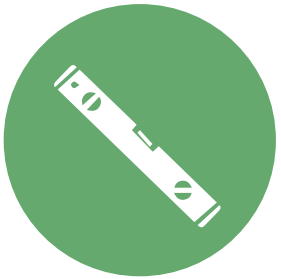
**Cordless screwdriver**
with bit inserts:
**Hexagon SW 5, SW 6**
**Hexagon SW 13**

**Open-end spanner**
**SW13, SW15**

**Torque spanner**

**Measuring tape**

**Impact cord**



**Spirit level**

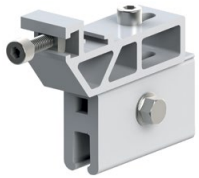
# COMPONENTS

## STANDARD

**Double seam clamp 2.1 TBK**
(Double lock standing seam roof)
Product No.: **802467**

**Angled standing seam clamp 2.1 TBK**
(Angled standing seam roof)
Product No.: **802463**

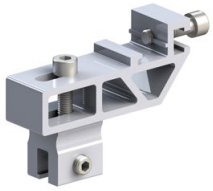
**Round seam clamp 2.1 TBK**
(Angled standing seam roof)
Product No.: **802461**



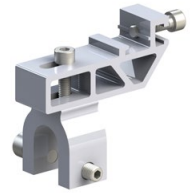
**Seam clamp 2.1 RD-80 TPF**
(Domico GBS, Zambelli 465)
Product No.: **802469**

**Seam clamp 2.1 RD-80 TBK**
(Domico GBS, Zambelli 465)
Product No.: **802470**

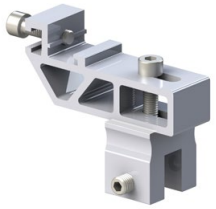
**Seam clamp 2.1 K15 TBK**
(Domitec-profile roof)
Product No.: **802472**



**Double seam clamp 2.1 TPF**
(Double lock standing seam roof)
Product No.: **802466**



**Round seam clamp 2.1 TPF**
(Angled standing seam roof)
Product No.: **802460**



## Angled seam clamp 2.1 TPF
(Angled standing seam roof)
Product No.: **802462**

## End clamp Click
Product No.:
Sheer: **802304C P1 30-42**
Black: **802304C P1 30-42**

## Profile connector 37
Product No.: **802155**

## Profile connector 45
Product No.: **802150**

## Carrier profile TP 37
Product No.: **802105-36/48/6**

## Carrier profile TPS 37 black
Product No.: **802195-36/48/6**

## Carrier profile TP 45
Product No.: **802100-36/48/6**

## Carrier profile TPS 45 black
Product No.: **802190-36/48/6**

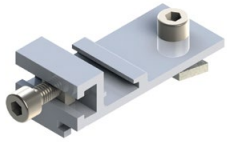
## Seam clamp 2.1 K15 TPF
(Domitec-profile roof)
Product No.: **802471**

## Middle clamp Click 2.1
Product No.:
Sheer: **802301C P1 30-45**
Black: **802391C P1 30-45**


## End cap 37 / 45
Product No.: **802601**

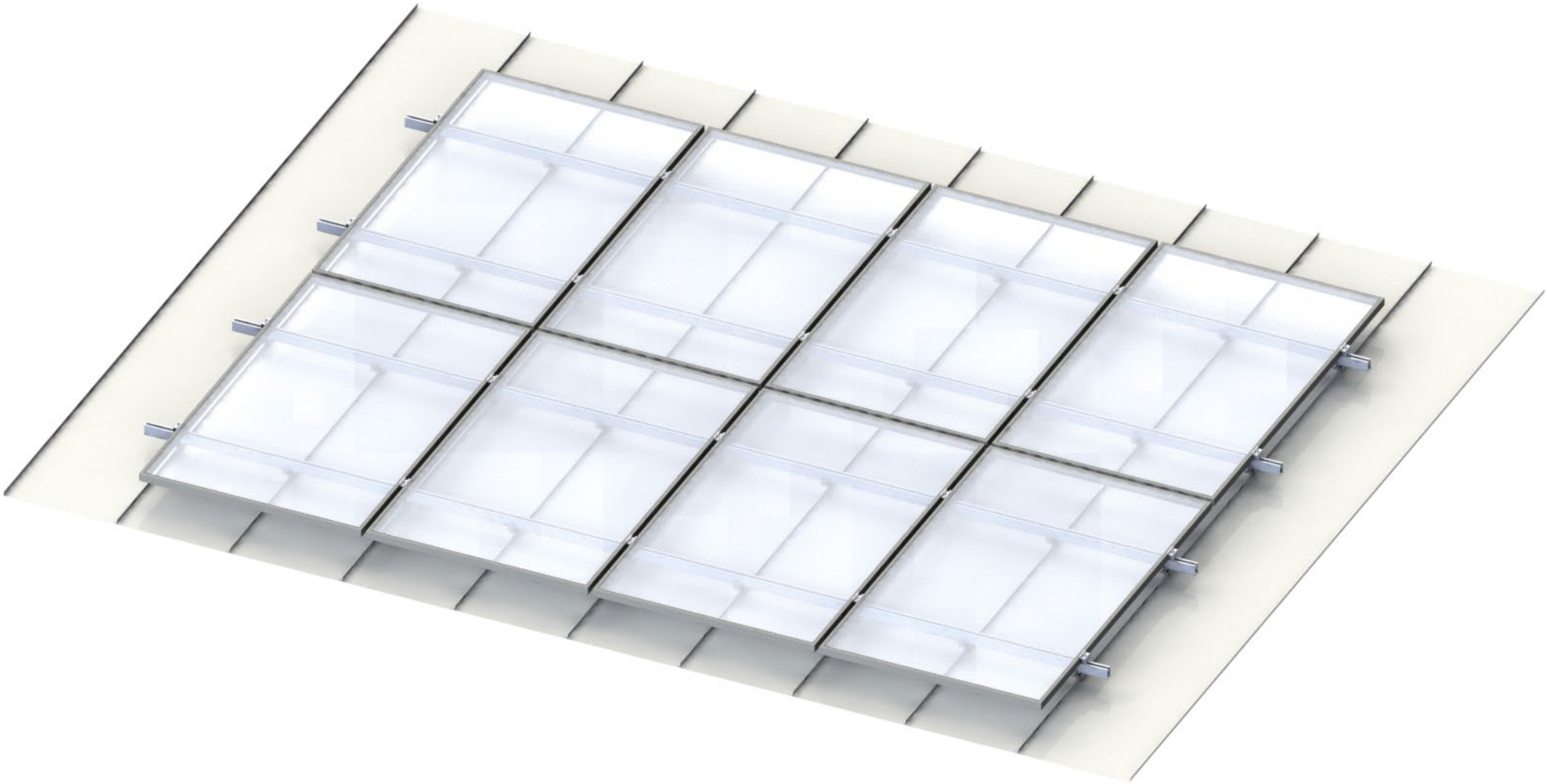
## End cap 65
Product No.: **802609**

## End cap 95
Product No.: **802610**



## Cross connector
Product No.: **802200**

# STRUCTURE OF THE STANDING SEAM CLAMP 2.1 TPF VERTICAL MODULE ARRANGEMENT



# INSTALLATION

## 1 Measure and mark positions

Measure the positions of the standing seam clamps on the roof according to the Solar.Pro.Tool project report and mark them using a chalk line.
Position the standing seam clamps.

## 2 Fitting the TPF sheet metal clamps

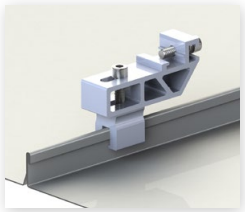
There are 2 different types of round seam clamps, double and angled standing seam clamps in the ALUMERO pitched roof system AS 2.1.

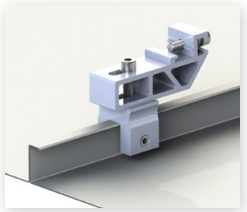
The respective installation procedures for the **2.1 TPF sheet metal clamps** are described below.

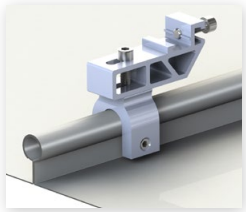
**Attention:**It is recommended that the number and arrangement of the metal seam clamps be selected in such a way that the load is transferred as evenly as possible to the existing roof covering and roof structure.

### Double standing seam clamp 2.1 TPF / Angled standing seam clamp 2.1 TPF / Circular seam clamp 2.1 TPF

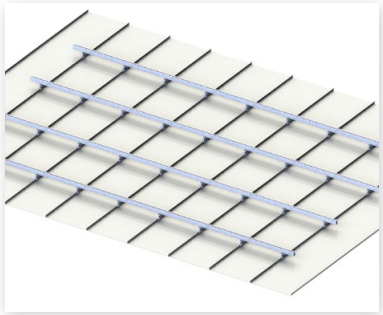
Place the clamp flush on the rebate. The support profile quick-fit adapter must point towards the roof, towards the ridge. Position the clamps, align and tighten the fixing screw with a torque of **18 Nm**.







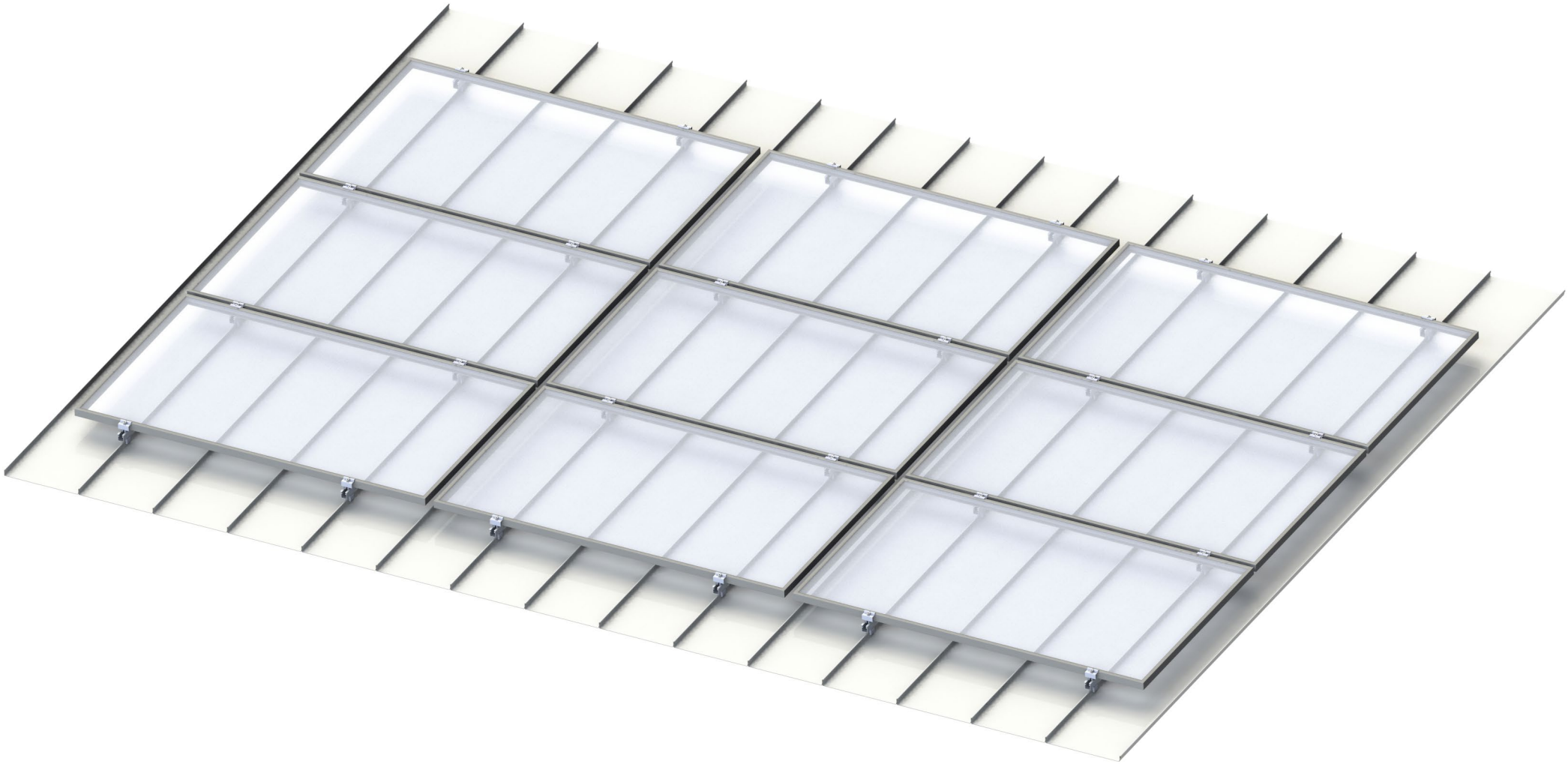
Fit the support profiles and tighten to a torque of **15 Nm**.
Installation of the support profile is described from page 11 onwards.



**Please note:** Mounted standing seam clamps must not be used as stepladders!

**Hint:** The clamps must never be attached to the sliding clamps or in the joint area of the sheets.

# ASSEMBLY WITH SHEET METAL CLAMP 2.1 TBK
# HORIZONTAL MODULE ARRANGEMENT



# INSTALLATION

## 1 Measure and mark positions

Measure the positions of the standing seam clamps on the roof according to the Solar.Pro.Tool project report and mark them using a chalk line.
Position the standing seam clamps.

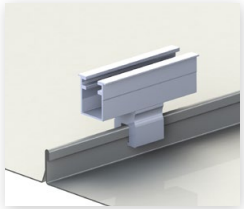
## 2 Fitting the TBK sheet metal clamps

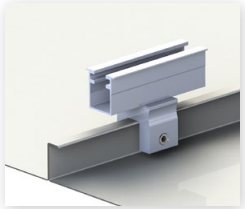
The respective installation procedures for the **2.1 TBK sheet metal clamps** are described below.

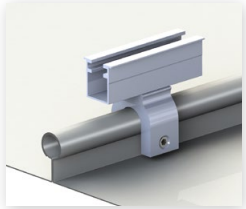
**Attention:** It is recommended that the number and arrangement of the metal seam clamps be selected in such a way that the load is transferred as evenly as possible to the existing roof covering and roof structure.

### Double standing seam clamp 2.1 TBK / Angled standing seam clamp 2.1 TBK / Circular seam clamp 2.1 TBK

Place the clamp flush on the rebate. Align the clamp and tighten the fixing screw to a torque of **18 Nm**.







No support profiles are required when using sheet metal clamps 2.1 TBK. The modules are mounted directly onto the pre-assembled short rail.

**Please note:** Mounted standing seam clamps must not be used as a stepladder!

# OPTIONAL: VARIANT WITH STAINLESS STEEL SHEET METAL REBATE CLAMP AND ROUND REBATE CLAMP

## 1 Measure and mark positions

Measure the positions of the standing seam clamps on the roof according to the Solar.Pro.Tool project report and mark them using a chalk line. Position the standing seam clamps.

## 2 Fitting the sheet metal seam clamp and round seam clamp

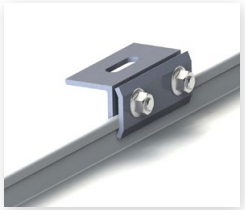
The respective installation procedures for the **standing seam clamp** and **round seam clamp** are described below.

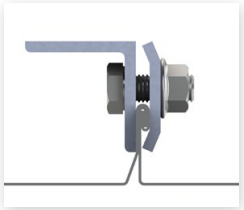
**Attention:** It is recommended that the number and arrangement of the metal seam clamps be selected in such a way that the load is transferred as evenly as possible to the existing roof covering and roof construction.

**Please note:** Mounted standing seam clamps must not be used as a stepladder!

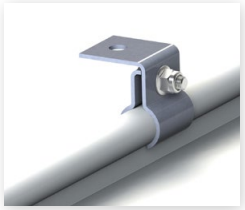
### Sheet metal seam clamp / round seam clamp

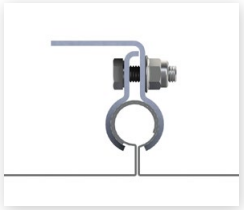
Place the standing seam clamp on the double standing seam, align and push upwards as far as possible. Tighten the side screws with a torque of **15 Nm**. **The screw must not rest on the standing seam under any circumstances.**



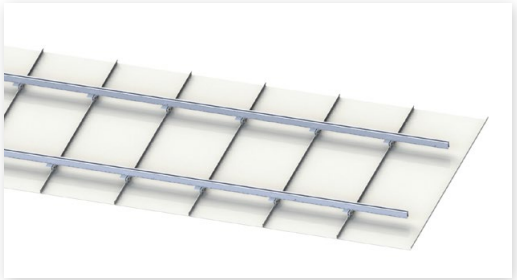


Place the round rebate clamp on the rebate, align and tighten the side screws with a torque of **15 Nm**.



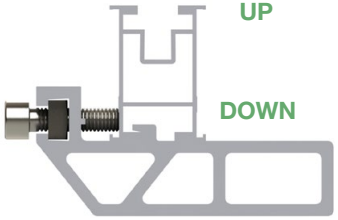


Mount the support profiles and tighten to a torque of **15 Nm** (see page 11).

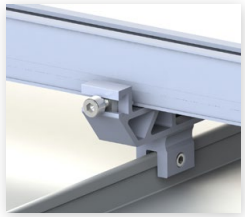
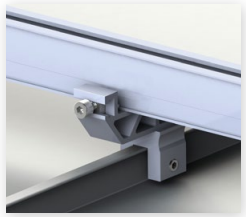
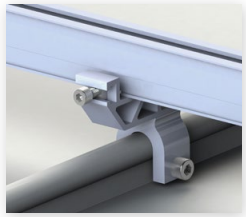


# INSTALLING THE CARRIER PROFILE

## 1 Fitting the carrier profile



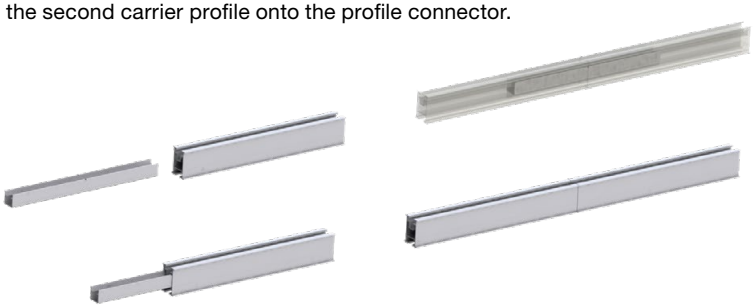

Mount the carrier profile parallel to the ridge with the correct side facing upwards and tighten to a torque of **15 Nm**.

## 2 Connecting carrier profiles

Required if the width of the module field is greater than the length of the carrier profile.

Insert the profile connector halfway into the first carrier profile and then insert the second carrier profile onto the profile connector.

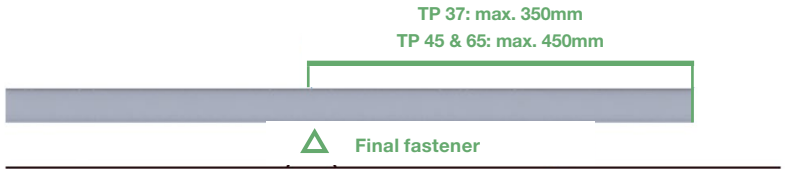


**! Please note:**

+ Fix each carrier profile to at least two fixing points
+ Carrier profile joints must not be located in the area of fixing points



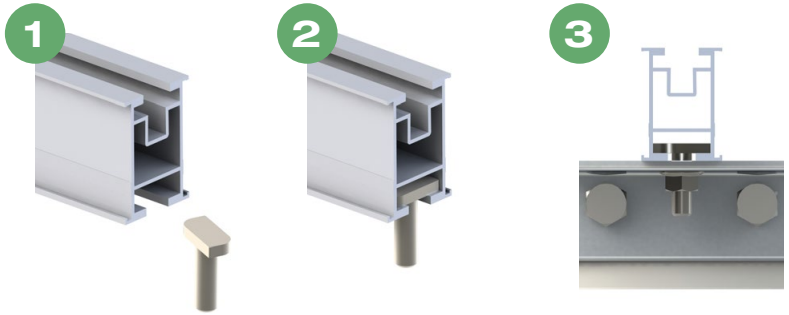
+ Carrier profile length: **max. 12 m**!
+ After **max. 12 m** form an expansion joint of at least **5 cm**!
+ Projection of the carrier profiles over the last fastening: **according to sketch!**
+ Overhang should be the same on both sides.




+ Measure the positions of the profile connectors on the roof according to the Solar. Pro.Tool project report and optionally **screw the profile connectors together**.

## 3 Optional: Mounting with a hammerhead screw

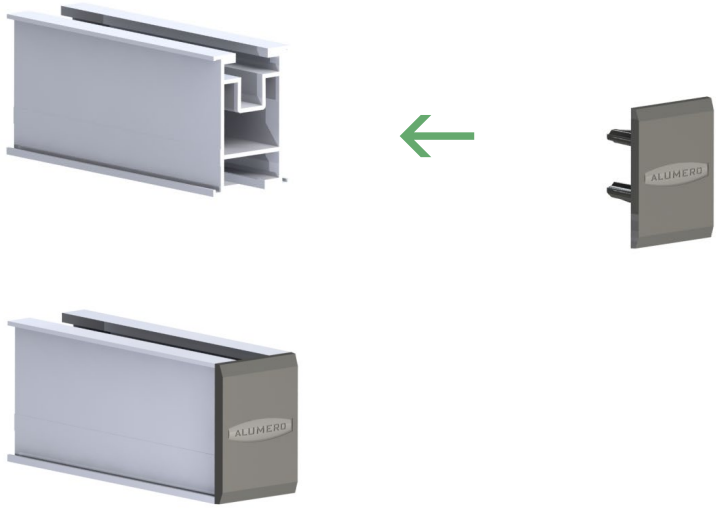
Insert the hammer-head screw with the hammer head into the lower profile channel of the carrier profile and turn it at right angles to the profile channel. Fix the carrier profile to the rebate clamp with a hexagon nut.




**Attention:** When loosening and tightening the hammer head screw several times, ensure that the hammer head is correctly aligned in the profile channel. This is indicated by a slot in the screw.

## 4 Mounting end caps

Press the end caps into the beam end by hand.

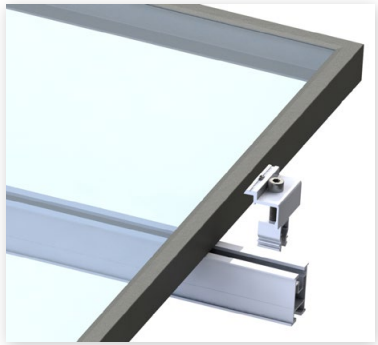


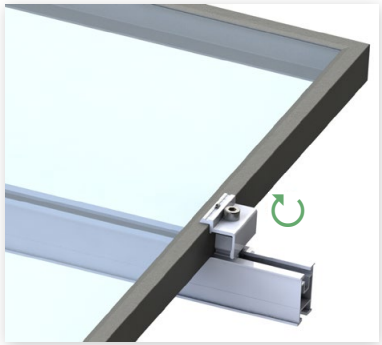
# MODULE INSTALLATION

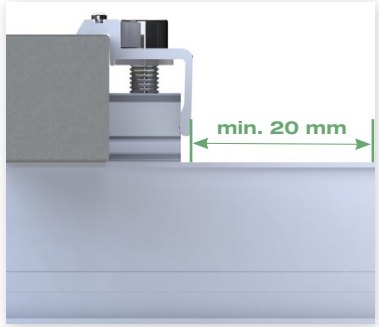
## 1 Installing end clamps

Start with the bottom row of modules. Place the first module on the support profiles and align.

Click in the Click end clamp at a slight angle and slide it towards the module frame. Tighten the Allen screw with a torque of **15 Nm.**







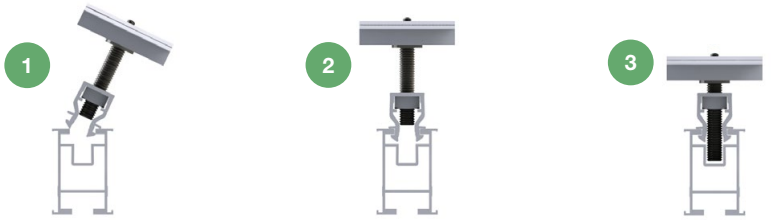

**Please note:**
The end clamps must be fitted at least 20 mm from the end of the respective mounting profile.

**Attention:** When using end clamps with threaded plates, attention must be paid to the alignment.
The threaded plate must be at right angles to the profile channel.

## 2 Installing middle clamps

Place the Click centre clamp on the frame of the previous module and click in at a slight angle. Push the module in so that both modules are firmly in place.
Tighten the Allen screw with a **torque of 15 Nm**.

Install the last module of each module row with end clamps as already described above. Install the remaining module rows in the same way.




**Please note:**

+ Distance of the clamps to the ends of the trapezoidal sheet metal bridges: **min. 20 mm!** Clamp the modules only in the specified fastening areas!
+ These can be found in the module manufacturer‘s module data sheet.
+ Distance (horizontal and vertical) between modules: **approx. 20 mm!**

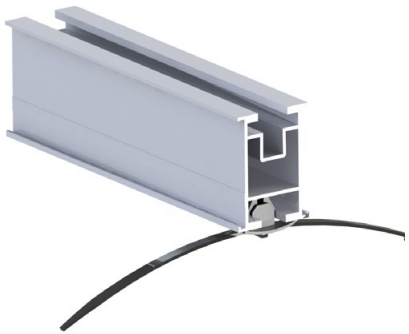
# INSTALLING THE MODULE CABLES

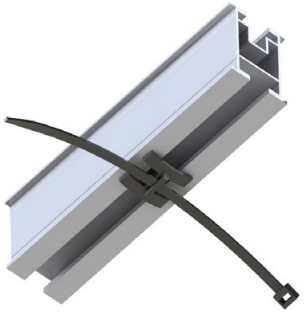
1

Module cables should not hang down or rest on the roof covering.

Press the clip attached to the cable tie into a profile channel of the carrier profile. Tie the cable together with the cable tie.

**Remove the clip by sliding it out of the profile channel from the side.**





# POTENTIAL EQUALISATION

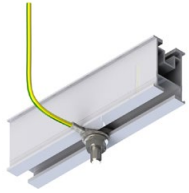
The potential equalisation between the individual system components must be carried out in accordance with the respective country-specific regulations. One way of earthing the ALUMERO system is shown below. Cable cross-sections and the overall earthing concept are not included in these instructions and must be calculated or created by the installer in accordance with the applicable standards and guidelines.

Other professional earthing methods than those listed here are also possible.

## 1 Grounding the carrier profile rows

Insert a wire clamp into the lower profile channel of the support profile in each row of carrier profiles. Insert the aluminium wire into the wire clamp and secure it by tightening the screw. Connect all rows of modules together in this way.

**Fastening the aluminium wire using a wire clamp**



**Fastening the earthing wire using a hammer-head screw**

## 2 Grounding the modules

Whether the modules must be earthed is specified by the module manufacturer in the respective module data sheet. If so, the potential equalisation of the modules can be created in the following way recommended by ALUMERO.

To integrate the modules into the potential equalisation, you can use ALUMERO end and centre terminals with pins. The pins are located in the terminals, pierce the anodised layer of the module frames and thus connect all module rows with each other.

Click end clamp with pin

Click centre clamp with pin

! All product illustrations contained in these installation instructions are for illustrative purposes only and are not true to scale. Changes and errors excepted!

# Finished!

# PLEASE NOTE THE FOLLOWING ADDITIONAL DOCUMENTS!

The following documents are required in addition to the installation instructions and for correct installation of the system:

+ Project report from ALUMERO.PRO.TOOL
+ Planning documents and drawings
+ The generally applicable document “Installation instructions” at https://www.alumerogroup.eu/service under “General” -> “Other”

Please also inform yourself about the safety regulations of the other system components.

ALUMERO

As of May 2025

# CONGRATULATIONS,
# WELL DONE!

**SUSTAINABLE SOLAR SOLUTIONS**

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