



ALL-IN SUPPLIER
FOR SOLAR PANEL INSTALLERS

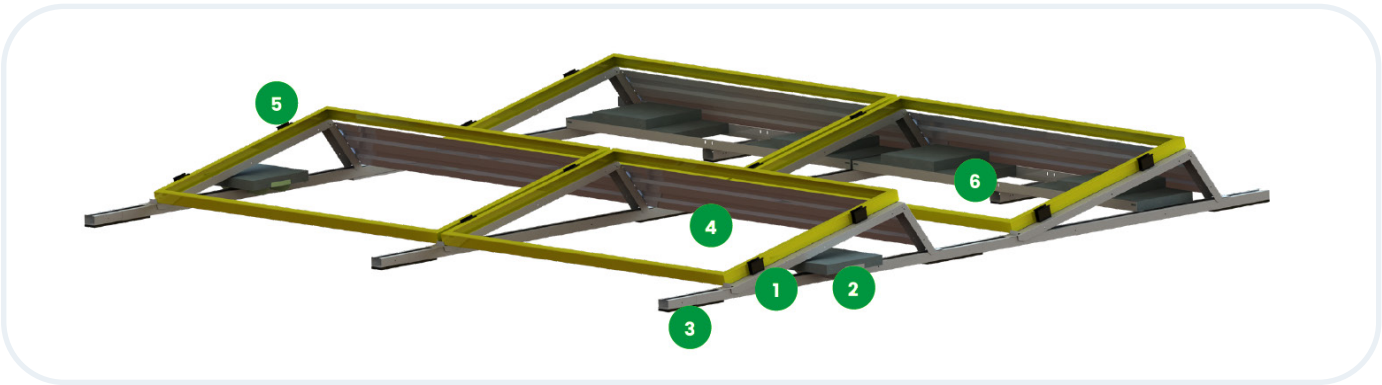
MANUAL

SolarSpeed
South facing landscape

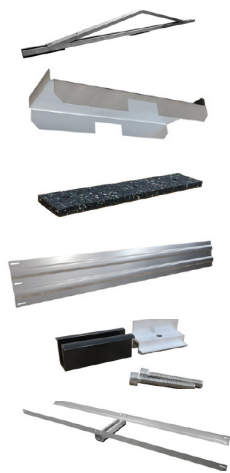
ALLIMEX
Green Power

Headquarters: Mijnwerkerslaan 33/3, B-3550 Heusden-Zolder | T. +32 11 72 96 50
Dutch branch: Gladsaxe 45, NL-7327 JZ Apeldoorn | T. +31 857 326 946

info@allimex-greenpower.eu | www.allimex-greenpower.eu



STANDAARD ONDERDELEN



- 1 Base unit: premounted brackets + rail + protective rubbers*
- 2 Ballast holder
- 3 End rubber*
- 4 Backplate
- 5 Middle and end clamps + exagonal socket screw M8
- 6 Set L-profiles + middle piece

***For PVC roofs we recommend rubber with an aluminium coating.**

EXTRA PARTS

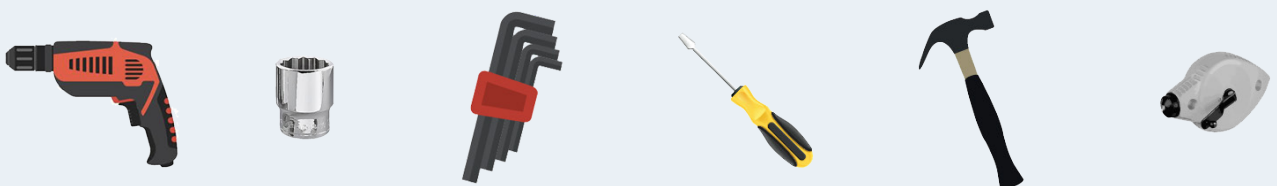


- Pebble stone bin
- Alignment tool
- Concrete base (12 kg) + impact anchor



- PP-base
- Cable tray support
- Cable clips

MOUNTING TOOLS



- Cordless drill
- Socket 8
- Hex keys
- Screwdriver
- Hammer
- Chalk line

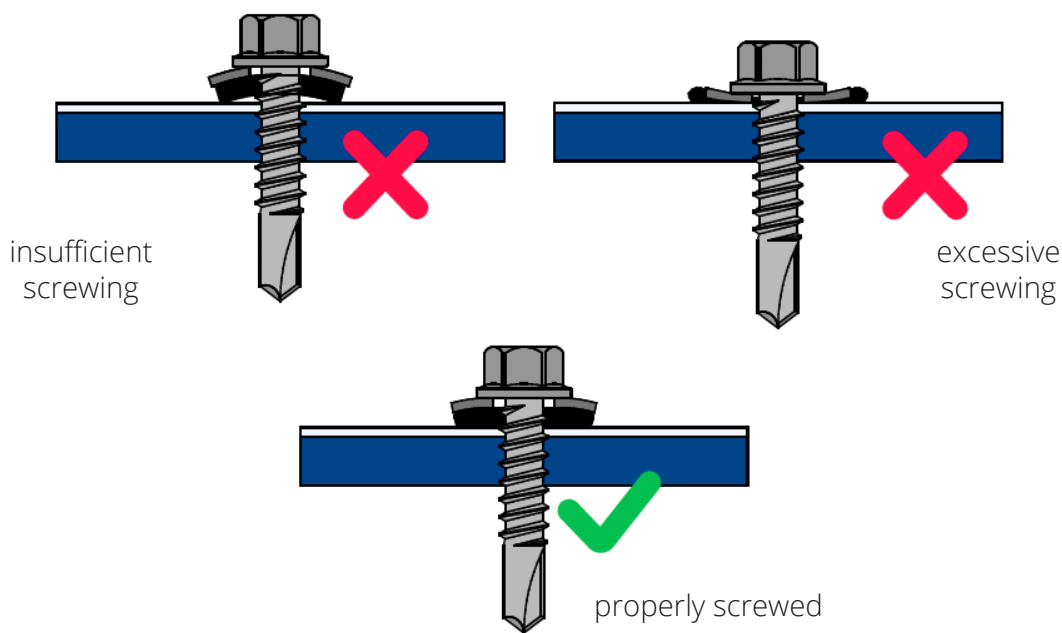
Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

BEFORE THE INSTALLATION

Make sure that the roof surface, where the panels should be installed, is clean, dry and even. Impurities such as gravel, sand and pebbles can cause damage to the roof or instability of the installation.

Correcte assembly plate screws

When assembling with a screwdriver: The use of impact wrenches is prohibited. When using a screwdriver, the rotation speed may not exceed 1500 rpm. The washer must be mounted perpendicularly and not too hard, but also not too little.



Follow all safety measures in accordance with the relevant guidelines before starting the installation!

1. MOUNTING BASE UNITS

From semi-mounted to mounted base units



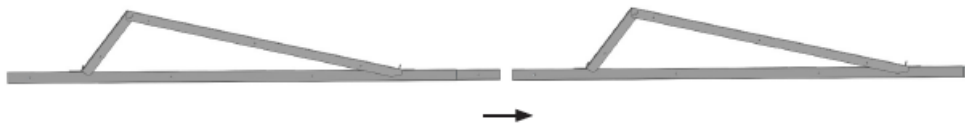
SolarSpeed base unit



Plate screws

Assembling base units

- Place the base units on a flat en stable roof surface.
- Connect the base units by sliding the top of the rail of the first base unit into the connection piece at the back of the next base unit.
- Fix by drilling 2 self-tapping screws (Ø6.5) or SS rivets into the pre-drilled holes on the side or on top of the connection pieces.
- First, attach the connector with rubber protection onto the base units at the end of each row, before attaching the base units to each other.



Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

2. ATTACH END RUBBER AT THE END OF THE ROW

Skip this step if you use concrete or PP bases.



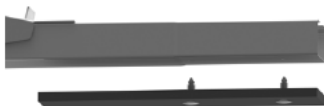
SolarSpeed end rubbers



Plastic plugs



Push the plugs into the predrilled holes of the connectors.



Attach the connectors onto the rail, by pushing the plugs into the pre-drilled holes.



Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

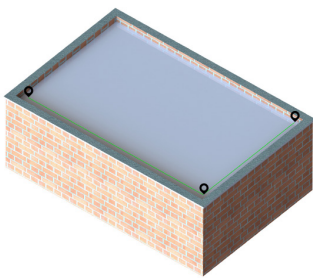
3. ALIGN THE ROWS



SolarSpeed alignment tool

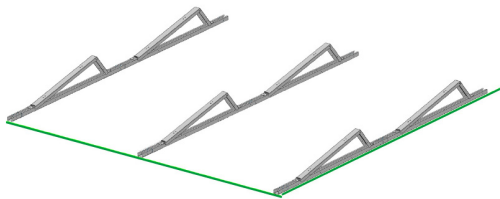


Chalk line

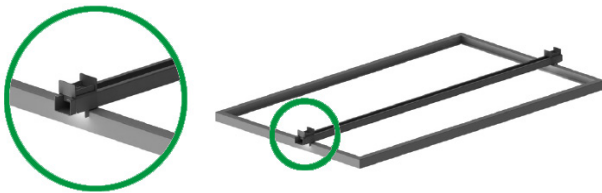


Tip! Use a chalk line to set a horizontal and vertical marking on the roof. When setting the markings, respect the minimal edge zones (see general remarks).

Align the rows according to the plan, considering the length of the panels.



Tip! To easily determine and keep the distance between the base units, use an alignment tool.



Secure the length on the alignment tool of the panel used.



Turn the alignment tool 180° and align the rows.

Dilatation (thermal interruptions)

In order to compensate for the thermal expansion of the SolarSpeed mounting frame, a new group of panels must be started every 26 metres in the E-W direction. The distance between these 2 groups of panels should be at least 300 mm, to ensure the use of ballast holders.

In the N-S direction, dilatation is ensured by sliding the rebate only 75% of the way into the rail of the previous base unit every 30 metres, but not securing it with screws. This means that the rows are still connected to each other (which benefits the required ballast) and there is also room for thermal expansion.

Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

4. PLACEMENT CONCRETE BASE (optioneel)



Concrete base + impact anchor



Protective rubber

Positioning concrete base

The Allimex concrete base is placed under the full length of the connected base units. This means that a base is placed at the end and at the beginning of each connector base unit, as well as between the pre-mounted brackets. Rubber protection is placed underneath each Allimex concrete foot to protect the roof surface.



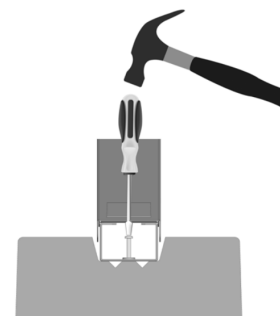
On a green roof or pebble roof you must remove the planting and/or pebbles where the concrete bases should be placed.

ATTENTION! Concrete bases must be placed on all places as described above. In the absence of one or multiple footings/bases, this could lead to serious stability problems.

Placement base-units

Once the Allimex concrete bases have been positioned correctly, the connected base units can be placed on the bases and attached. This attachment is done by SS rivets HPS-I 8/10x40.

This plug is punched into the provided holes with a hammer. Next, the nail is screwed or punched into the plug. When punching the nail, it's convenient to use a screwdriver so the Solar-Speed base units won't be damaged.



Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

5. PLACEMENT SOLAR PP BASE (optional)



PP base



Plate screws



PP supports are placed under the entire length of the connected base units. This means that there is a support at the beginning and end of each of the connected basic units, as well as in the middle of all mounting triangles.

The PP support can be attached to the base unit by fastening it with sheet metal screws in the holes provided in the rail of the base unit.

In principle, protective rubber is not necessary, as the PP support is also compatible with PVC roofs. If the customer still wishes to have an additional rubber protection under the PP support, this can be attached to the underside of the support with plastic plugs.



Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

6. PLACEMENT BALLAST: BALLAST HOLDER

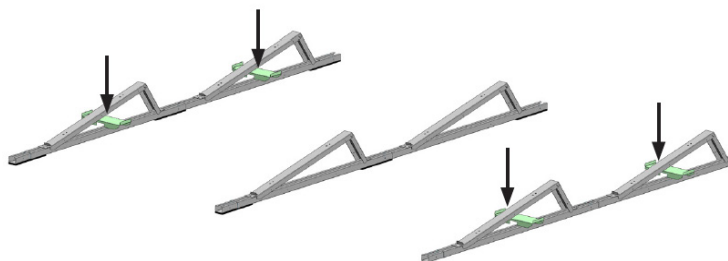


SolarSpeed ballast holder

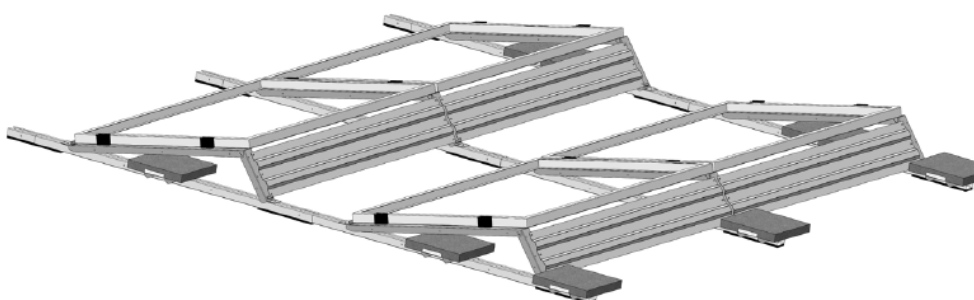


Ballast tile
(provided by customer)

Ballast is placed on the ballast supports that can be easily installed by sliding them over the ground rail with the recess.



After mounting the SolarSpeed backplate, it is also possible to place additional ballast on the end of the assembly/columns.



Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

7. PLACEMENT BALLAST: L-PROFILES



If not enough ballast can be placed by means of the ballast holders or if an extra East-West connection must be provided to strengthen the frame, ballast can be placed on sets of L-profiles.

These consist of two L-profiles and a central support that prevents them from bending. These sets can easily be mounted by fixing them with stainless steel sheet screws (Ø6.5) or stainless steel rivets in the pre-drilled holes. Each L-profile must be fastened to the rails and to the central support with at least one sheet metal screw.

ATTENTION! If possible, try to position the ballast tiles as close to the base units as possible.

A higher central support is provided in case of an installation on concrete bases. For setups where the installation is placed on PP bases, the central support must also be placed in a PP base.



Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

8. PLACEMENT BALLAST: PEBBLE STONE BINS



Pebble stone bin



Pebble stones

Place the pebble stone bin underneath the base unit and fill the container with pebble stones. The pebble stone bins have a standard size. If it is not possible to put these next to each other due to the length of the panel, these could be placed alternately on the ground profile of the base unit.

ATTENTION! It's forbidden to place gravel containers onto each other!

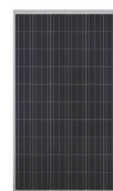


Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

9. INSTALLATION SOLAR PANELS



Clamps +
hexagonal socket screws



Solar panel
(provided by customer)

Place the panels onto the mounting bracket and clamp them by using the appropriate end and middle clamps. The clamp instructions for the PV-modules must always be respected. Drawings are for illustration purpose only.

ATTENTION! Tighten the Allen screws manually for the first three revolutions before tightening them with the electric screwdriver.



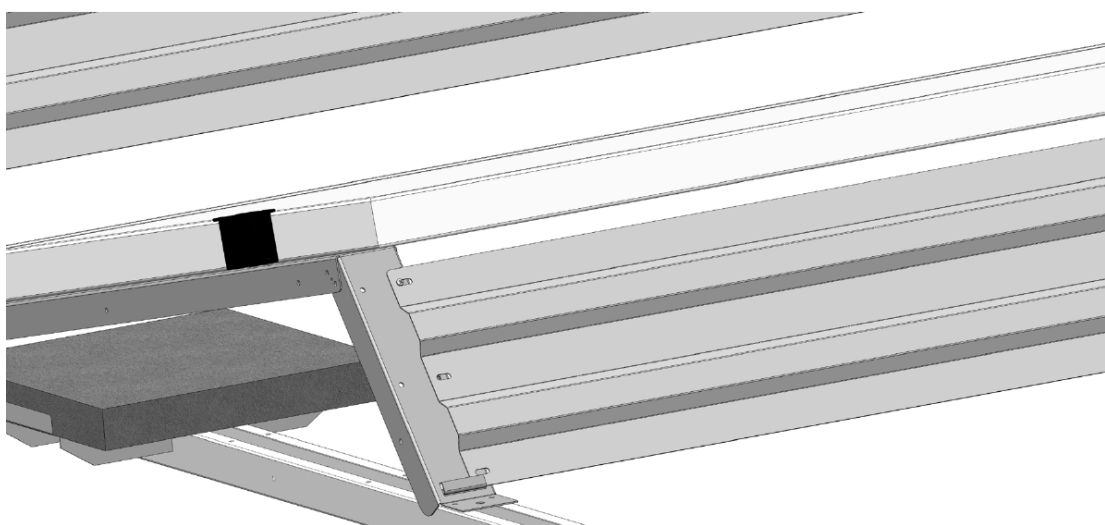
Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

10. INSTALLATION BACKPLATES



Place the SolarSpeed backplate onto the back of the SolarSpeed mounting bracket and attach by using the plate screws (Ø6,5) (minimum 4 pieces per backplate).

The backplate is essential to reduce the required ballast. It also serves as a mechanic east-west connection and must always be assembled on each panel.



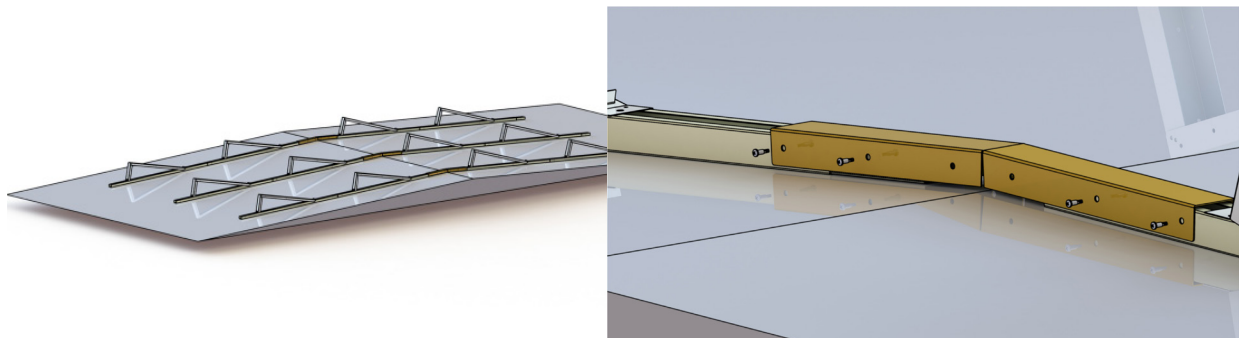
Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

11. RIDGE CONNECTORS

For roofs with a slight pitch, we strongly recommend the use of ridge connectors. These prevent the system from slipping.

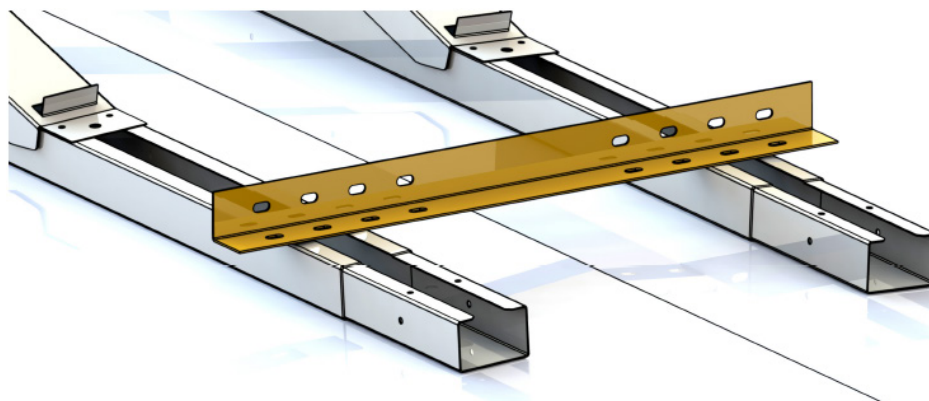
Transverse ridge connections

With the transverse ridge connection, the transverse ridge profile is placed over the ends of the profiles. In the middle, the ridge profile can be folded to the appropriate angle. It is then fastened to the base units with 8 self-tapping screws.



Longitudinal ridge connections

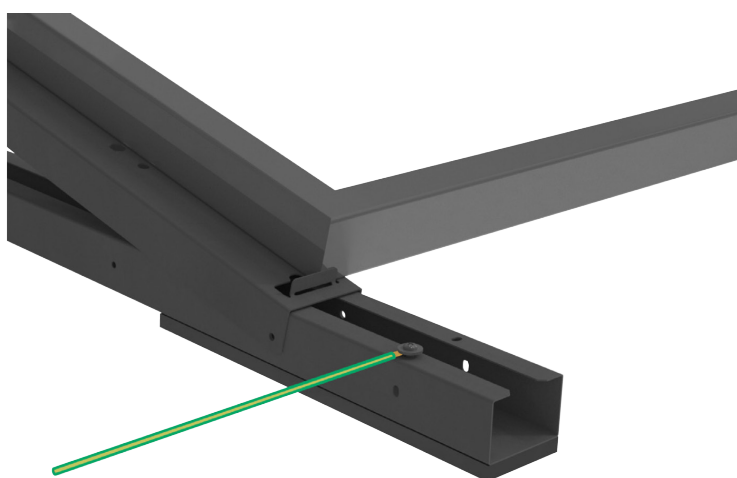
With the longitudinal ridge connection, the basic units are connected to each other by means of an L-profile. These are fixed with at least two self-tapping screws to the top of both rails. For a roof pitch of more than 2° it is also recommended to install L-profiles over the full width (in East-West direction) to prevent the structure from sinking unevenly.



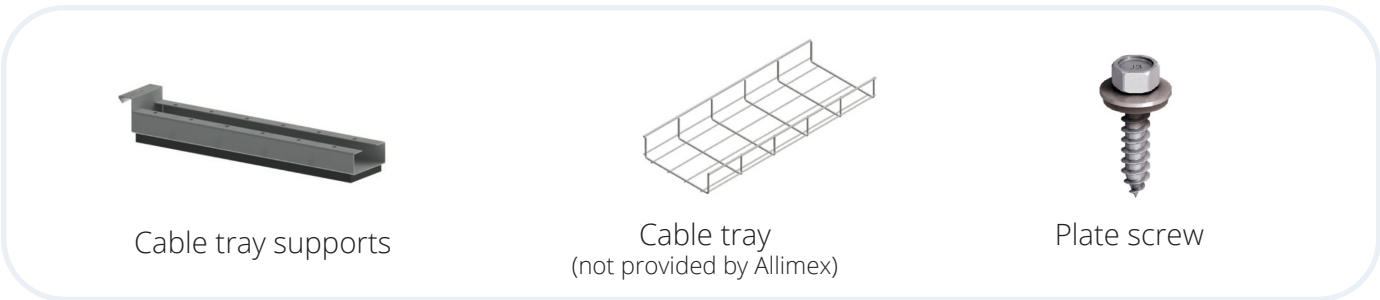
12. GROUNDING AND POTENTIAL EQUALIZATION

According to some standards e.g. NEN1010 (legislation is different in each country) metal frames where solar panels are installed should be grounded. Because the rows are connected electrical and mechanical by L-profiles and gravel containers, no further connections have to be made between the different base units.

The separate fields have to be electrically conducted with each other via a ground wire. This connection can be made by clamping the isolation-free ends of the wire with a self-tapping screw on the base units.



13. CABLE MANAGEMENT (optional)



Cable tray supports

Cable tray
(not provided by Allimex)

Plate screw

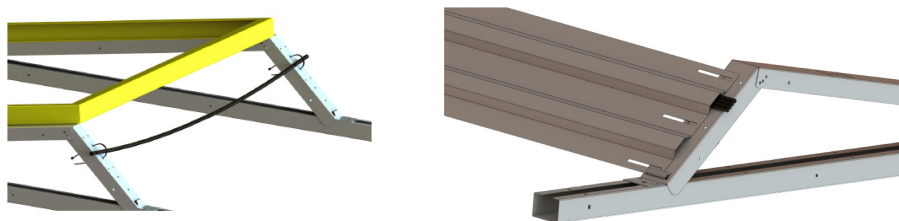
Cable tray supports

The cable tray support is attached to the rail by hooking the “Z” part of the support over the opening of the rail. It is then fixed to the rail with a plate screw.



Locating cables in the backplate

In the SolarSpeed triangle there is a possibility of concealing cables in the backplate. The cables can be fixed to the SolarSpeed basic unit with a quick-release tie thanks to the holes provided for this purpose. The distortion in the backplates provides space for 4 cables Ø6mm | 3 cables Ø7mm | 2 cables Ø9mm. After securing the cables with the quick release ties, the backplates can be mounted, taking care not to damage the cables.



Cable clips

The SolarSpeed cable clips make it possible to hang cables under the panel. The cable clips can be pressed into the provided holes in the SolarSpeed triangle and offer space for cables up to Ø15mm.



Due to the continuous development of our products, a deviation on the image is possible. No rights can be derived from any printing or setting errors.

GENERAL REMARKS

The installer always has to check whether the rubber protection (provided underneath the basic unit) suffices when installing onto a soft or half-soft underground. The installer also has to check the compatibility of the rubber protection with the roof surface.

For the following installations, special instructions have to be kept in mind (these specific versions can be delivered on demand):

- In an aggressive environment: all materials must be SS with the right specifications to determine the aggressive substances.
- In sea salt environments: use anodized aluminium or SS.

Special attention to roofs with a pitch in E-W direction and to roofs that easily move up and down (e.g. as a result of vibrations from wind load or other causes):

- Without extra connections in N-S direction, the installation can tend to move downwards irregularly.
- In cases where you are dealing with roofs which have a negative and/or positive pitch, we recommend to make a connection at the roof-ridge.
- For roofs with a pitch in N-S direction and which have a negative and a positive pitch, we recommend to make a connection at the roof-ridge.
- If in doubt, contact a specialized structural design agency.

Clamps:

- Only use clamps that the module manufacturers allow and/ or advise.
- Always clamp with the correct torque (max 9-11 Nm).

Special attention for installations on roofs in extreme circumstances:

- In the following situations/circumstances, the mounting frames of Allimex are not suitable unless there is a written acknowledgement of Allimex (concerning a specific project):
 - * Roof height >20m
 - * Roof pitch PVC roofs >3°
 - * Roof pitch non-PVC roofs >4°
 - * Places where nearby buildings of other objects cause a wind-tunnel effect or increased wind speed

Contamination of the roof skin can lead to a lower friction coefficient, which means that more ballast has to be provided or (extra) mechanical connections have to be provided, to prevent sliding.

Edge zone:

The installer always needs to keep the minimal edge zone, which is described in the applying standards, free. An example of such a standard is the NEN7250 but this standard is however not limitative.

All panels have to be installed with backplates which must be attached with a sufficient amount of SS self-tapping screws with a diameter of 6,5 mm.

Installers should always provide sufficient ballast specific to individual installations. In case of doubt a specialized bureau should always be consulted.

Always provide sufficient East-West connections.

It is the responsibility of the installer to check whether the panels can be clamped in the way (on the short or long side, position of the clamps, etc.) that is shown in this manual. If this is not the case, Allimex can in no way be held responsible for any damage, in whatever form. Allimex can never be held liable if during installation materials are used that are not supplied by Allimex.

The warranty conditions regarding the mounting frames of Allimex are available on demand. The installation manual should be observed strictly, otherwise all guarantee agreements will lapse.

The installer is responsible for using the necessary personal protective equipment.

Allimex maintains the right to edit the installation manual at any time. It's the responsibility of the installer to follow the latest version, which is the only valid one. The latest installation manual is always available on demand.