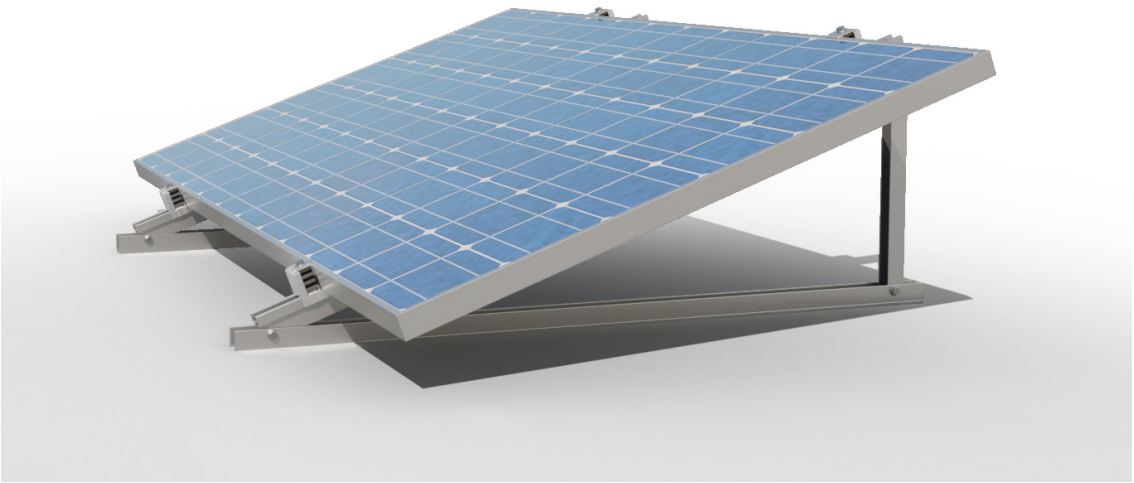
ST-PHC

SYSTEM DESCRIPTION

Closed aluminum horizontal triangular system

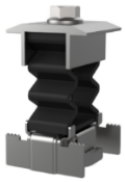
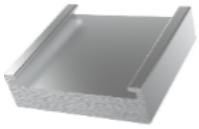


CE 25

1. CHARACTERISTICS

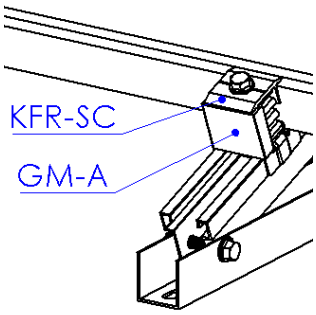
Description:	Open horizontal triangular mounting system with fixed tilt with direct attachment to beam
System Tilt:	Triangular mounting on pre-assembled open aluminum triangles, consult available angles.
System orientation:	Orientation SOUTH, EAST or WEST depending on the orientation of the roof.
System Materials:	Aluminum, Stainless steel and EPDM.
Guarantee:	Up to 10 years depending on environmental conditions (excluding environments exposed to hydrogen sulfide). The warranty is only valid if the complete ST-PHA system is used.
Homologation	CE according to EN 1090-1:2009+A1:2011
Compatible solar panels:	
Type of Plates:	Solar panels with frame height between 30mm and 40mm.
Plate orientation:	Landscape Plate Mounting Orientation (Horizontal)
Plate Size:	Module width less than 1150 mm
Application Area:	
Application Area:	Flat and low-slope roofs.
Wind load:	Up to 240 km/h. The structure and fastening should be calculated according to the local conditions and the roof.
Snow load:	Up to 2 kN/m². The structure and fastening should be calculated according to the local conditions and the roof.

2. COMPONENTS

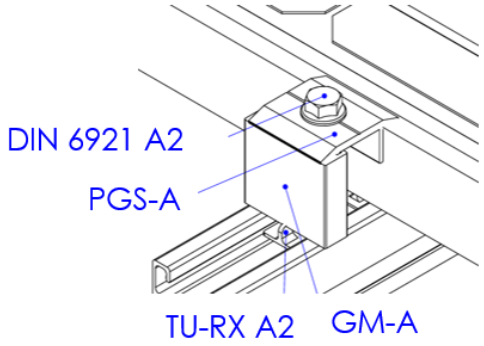
Quick fastening staple	Gauge frame	Aluminium open triangle
		
KFR-SC	GM-A	TPH-C

2.1 Components: Clamps and gauges for mounting plates

Side Staple



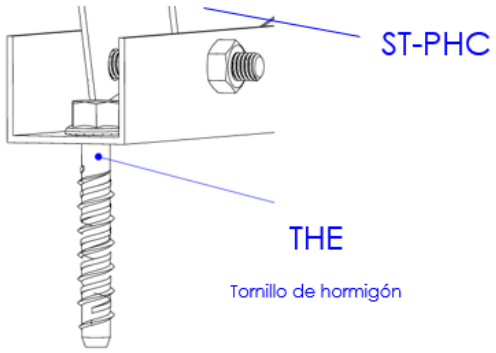
Option 1: Quick Staple



Option 2: Single Staple

2.2 Components: Mounting connectors for fixing accessories.

Bottom connection



Screw fastening for concrete

3. TYPES OF FIXATION

TYPE 1	 CONCRETE	 **THE** Anchoring direct fixing in concrete

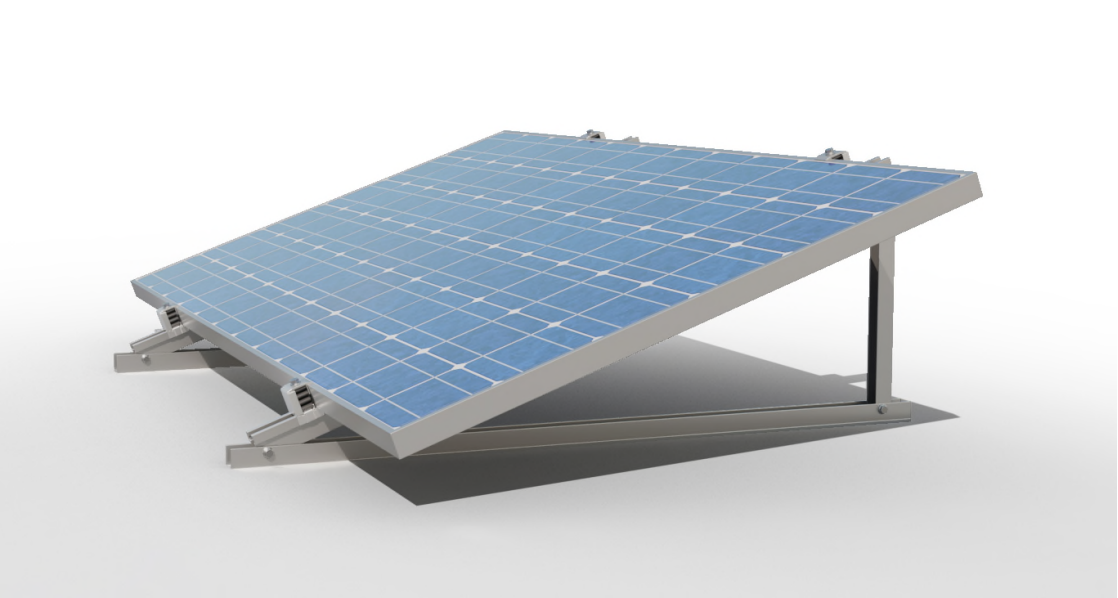
4. APPLICATION EXAMPLES

Example 1: Concrete Roofing / Direct Fixing in Concrete with THE Screws

5. INSTALLATION MANUAL

ST-PHC

Closed aluminum horizontal triangular system



Read these installation instructions before beginning assembly and familiarize yourself with the system components. The assembly should only be carried out by expert and qualified personnel.

Installation Guidelines:

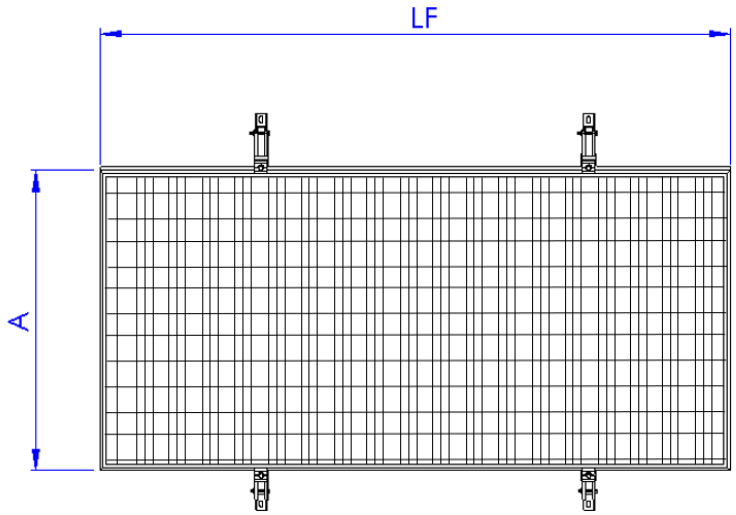
- Make sure that the roof construction is suitable for the introduction of forces at the attachment points and their subsequent transmission. The building must be able to safely accommodate the additional loads.
- A structural calculation must be made based on the local conditions of the installation site.
- The planning of the distribution of the attachment points must be adapted to the needs of the system and the roof.
- To compensate for thermal expansion, include a separation every 12m when planning the photovoltaic system.
- Solar modules must be installed according to the manufacturer's instructions.
- Follow your local building regulations.
- Make sure you work in accordance with the health and safety regulations in force in your region, during installation and in particular during work on deck.
- Do not use the system or the fixings as a ladder.

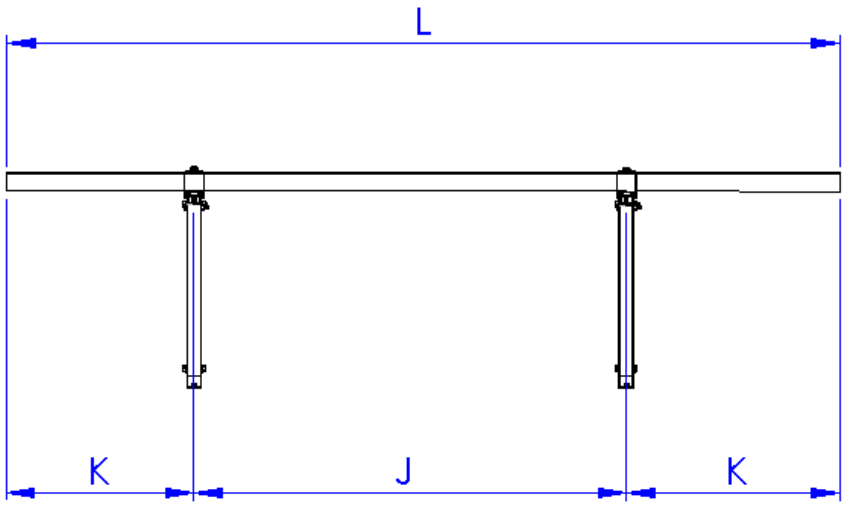
INSTALLATION PROCESS:

STEP 1.- Consult installation plan

Consult the installation plan on the roof, where the distribution of the modules is defined together with the structures that support them and their fixing points.

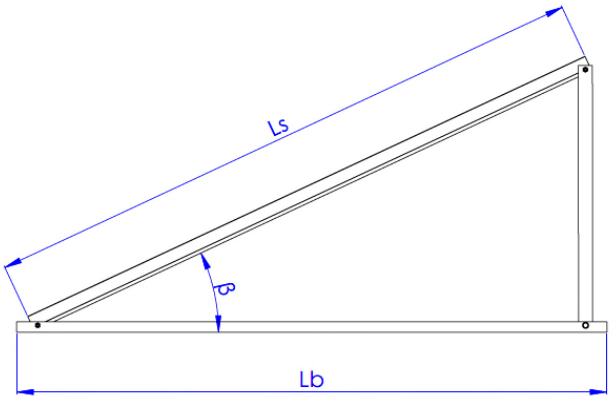
1. Plan view of ST-PHC system with horizontal module orientation (landscape type).





A (mm)	**J** (mm)	**K** (mm)
≤ 1150	1400 ÷ 1600	(LF-J) / 2

A. ST-PHC System Profile View

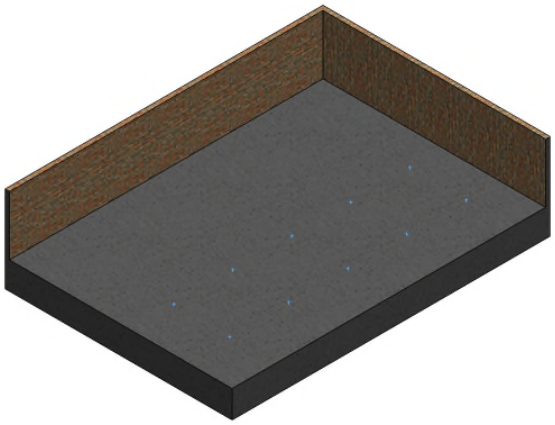


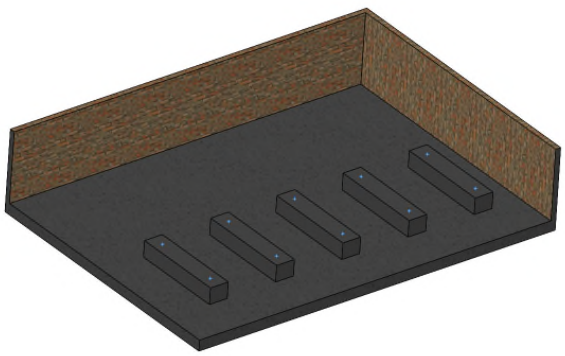
β (°C)	**Ls** (mm)	**Lb** (mm)
5	1225	1310
10	1225	1300
15	1225	1277
20	1225	1245
25	1225	1205
30	1225	1155

The type of fastening system and the location of its installation points must be adjusted to the needs of the support structures and in turn to the needs of the roofs where they are to be installed.

STEP 2.- Carry out stakeout on the roof

Carry out a stakeout of the fixing points of each structure on the roof, checking the feasibility of installing each one depending on the chosen fixing system and the characteristics of the roof.

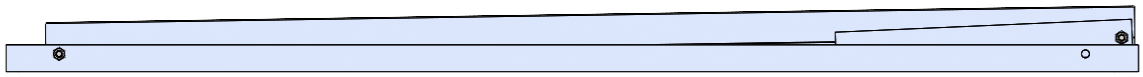




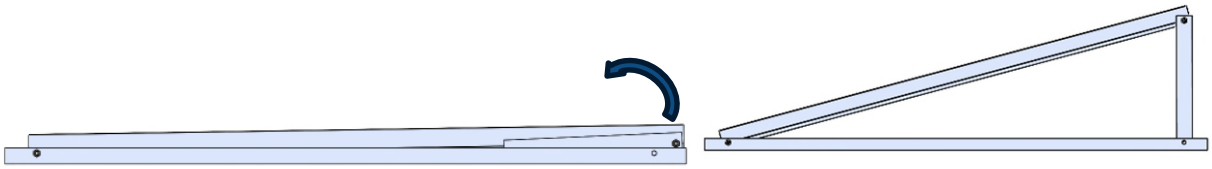
STEP 3.- Assembly of the triangles

The triangles come pre-assembled, to finish their assembly it is necessary to assemble the lower profiles with the components they incorporate.

1. The triangle comes pre-assembled, with the rear lower profile separated and its components in a bag.

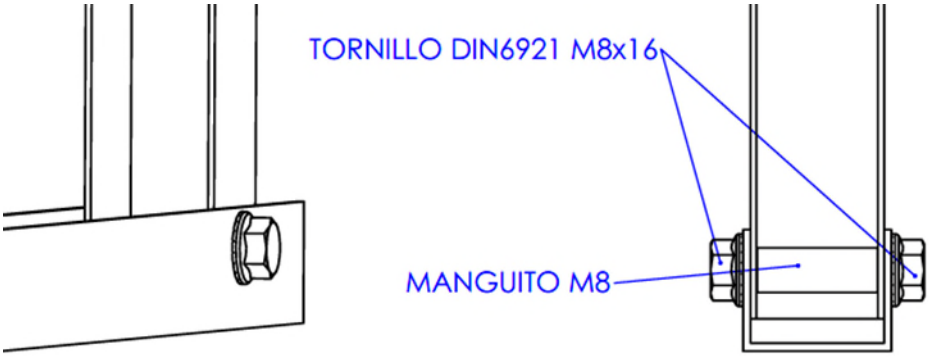


2. Unfolds before attaching the rear underprofile

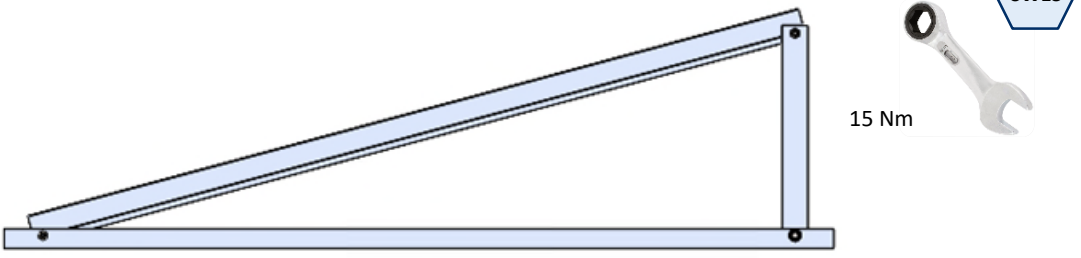


3. Attach the rear bottom profile with the components found in the bag.

LOWER PROFILE OF THE SIDE AND THE SUPPORT

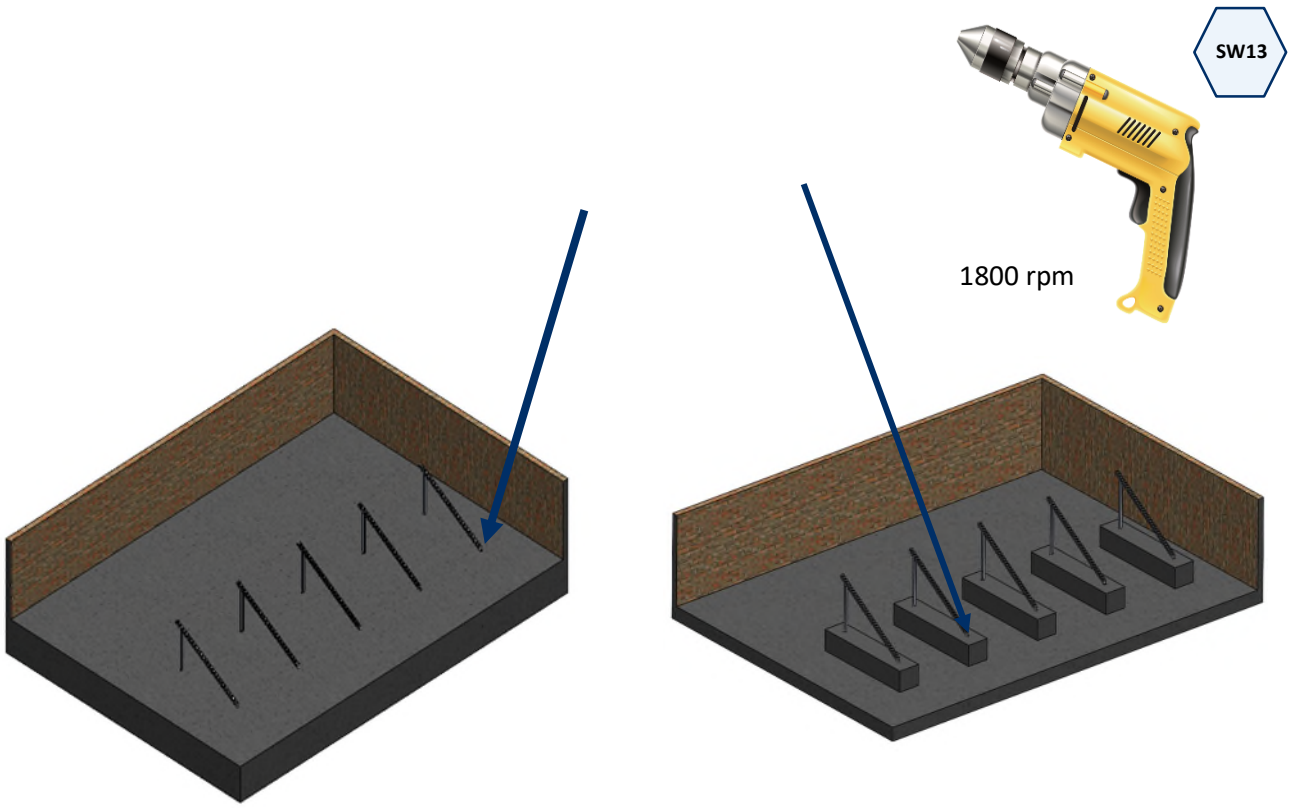


4. To correctly fix its position, a tightening torque of 15 Nm must be applied.



STEP 4.- Installing the triangles

Install the adjustable aluminium triangles and fix them on the roof at the agreed points with the help of the THE concrete screw. For the installation of THE screws you need an electric screwdriver equipped with a SW-10 hexagonal socket, an installation speed of 1800 rpm is recommended.



THE
Anchoring direct fixing in concrete

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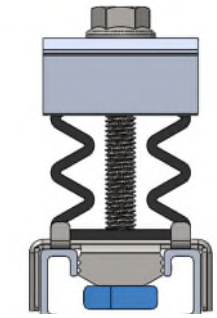
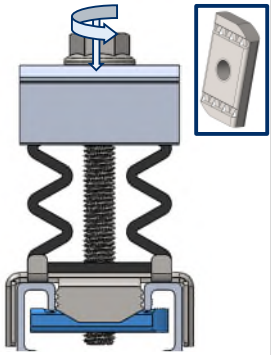
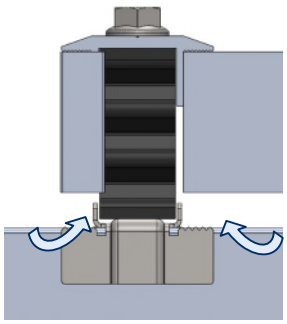
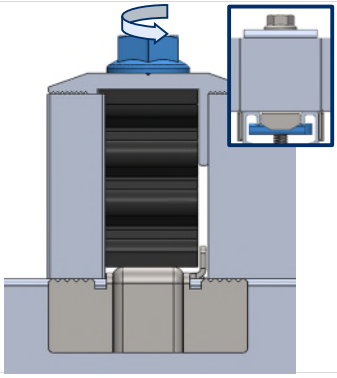
STEP 5.- Pre-installation of staples on the profiles

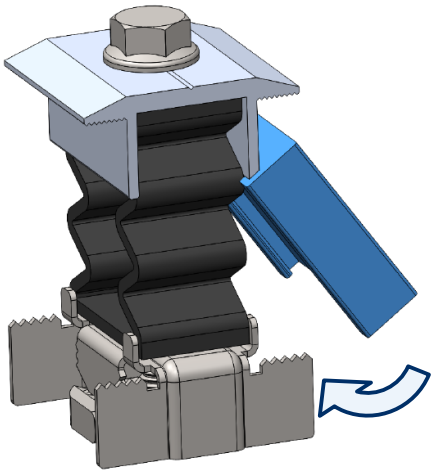
To mount the clip on the profiles, the following steps need to be performed:

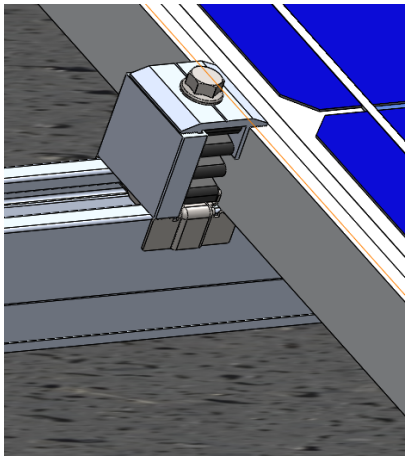
			
1. Place the clip on the profiles with the lower head parallel to the guide.	**2.** To fix the clamp to the profile it is necessary to turn the lower head to the position perpendicular to the profile using the screw, press the screw head and turn it. The nut has a serrated profile to secure the fixation.	**3.** Insert the corresponding elements, two plates in the case of an intermediate staple or plate and gauge if it is a final staple.	**4.** To fix the inserted elements, it is necessary to turn the screw until they come into contact with the profile. Check that the lower head is still perpendicular to the profile.

Staple type depending on its position:

A. Final Staple

- Prepare 4 quick-fix staples KFRSC3050 to be mounted at the ends of each row of panels. Each of these staples is fitted with a GM-A gauge, mounted as shown in the figure:





The size of gauges chosen must be equal to the frame height of the solar panels to be installed.