SL-SUR

SYSTEM DESCRIPTION

South ballasted system with aluminum profiles for installation of photovoltaic modules.

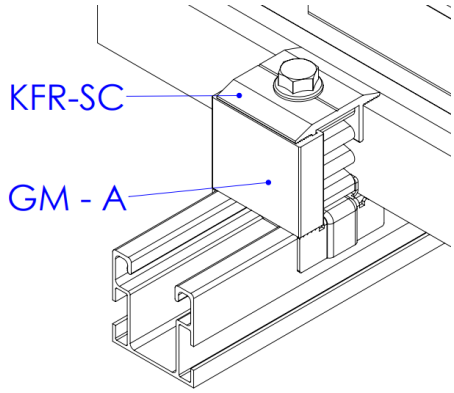
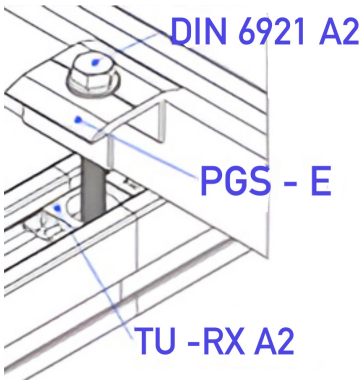
CE 25

1. CHARACTERISTICS

Description:	Closed triangular mounting system with fixed inclination on tile roof.
System inclination:	Triangular mounting on ballast-fixed triangles with an inclination of 10° or 15°.
System orientation:	SOUTH orientation.
System materials:	Aluminium, Stainless Steel and EPDM.
Guarantee:	Up to 10 years according to environmental conditions (excluding environments exposed to hydrogen sulphide). The guarantee is only valid if the full SL-SUR system is used.
Homologation	CE according to EN 1090-1:2009+A1:2011
Compatible solar panels:	
Panel type:	Solar panels with frame height between 30mm, 35mm and 40mm.
Orientation of panels:	Landscape Plate Mounting Orientation (Horizontal)
Size of panels:	Plate length less than 1150 mm
Application Area:	
Application area:	Flat 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 fixing should be calculated according to local conditions and the roof itself.

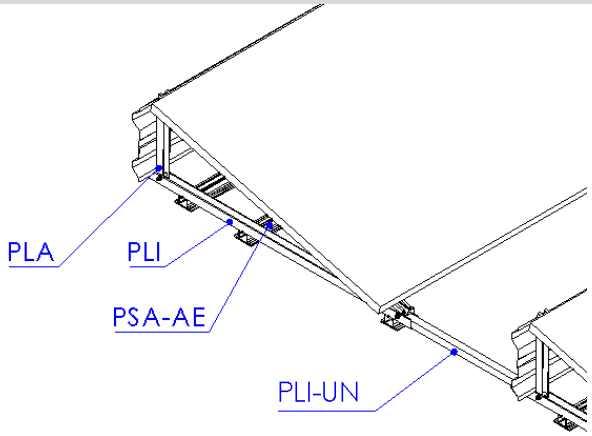
2. COMPONENTS

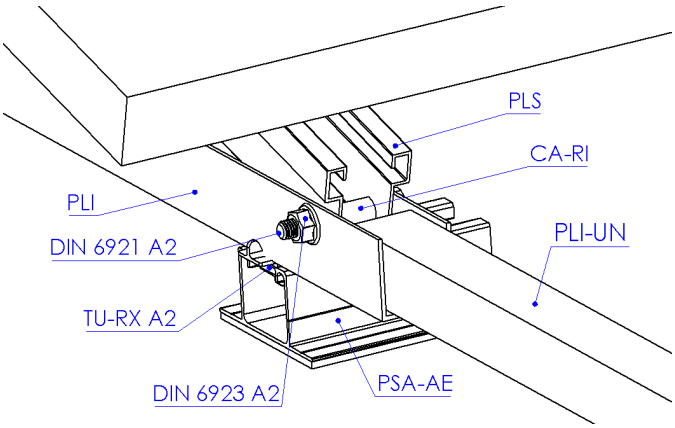
2.1 Components: Clamps for panel mounting

Side Staple	Middle clamp
	
Quick Staple	**Middle narrow clamp**

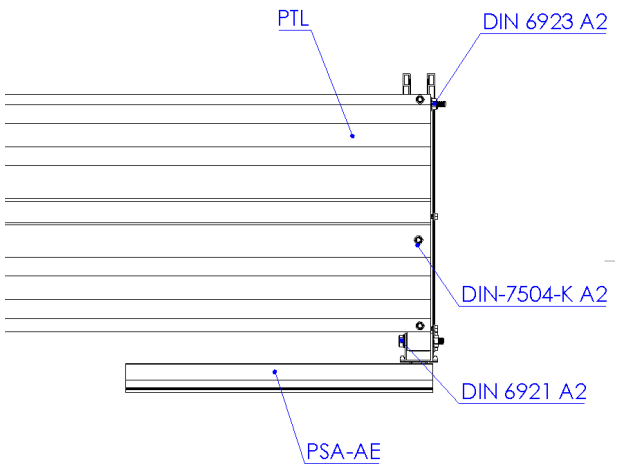
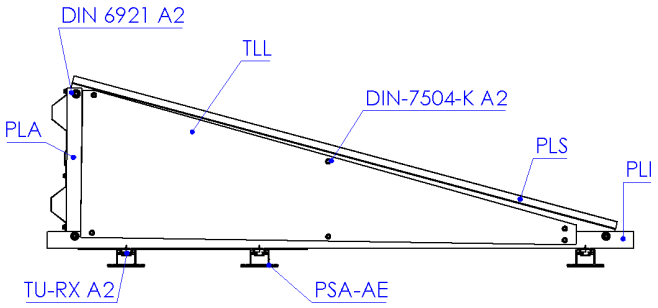
2.2 Components: Profiles, joints, guides and connection pieces for support structure

Longitudinal connection of profiles





2.3 Components: Fixings for side and rear windbreaks.

Back attachment	Side attachment
	

3. APPLICATION EXAMPLES

Example 1: Concrete Deck

4. INSTALLATION MANUAL

SL-SUR	South ballasted system with aluminum profiles for installation of photovoltaic modules.

Read these installation instructions before starting the assembly and familiarise yourself with the system components.

Assembly should only be carried out by expert and qualified personnel.

Pautas de instalación:

- Ensure that the roof construction is suitable for inserting force at the fixing points and their subsequent transmission. The building must be able to safely withstand additional loads.
- A structural calculation should be carried out according to the local conditions of the installation site.
- The distribution of the fixing points should be planned and adapted to the needs of both the system and the roof.
- Solar modules must be installed according to the manufacturer's instructions.
- Follow your local building regulations.
- Be sure to work in accordance with the safety and hygiene standards in place in your region, during installation and particularly during roof work.
- Do not use the system or fixings as a ladder.

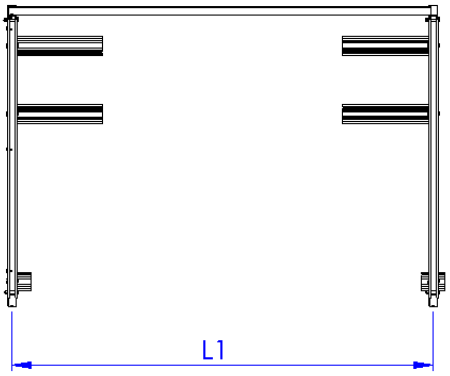
INSTALLATION PROCESS:

STEP 1.- Consult the installation drawing

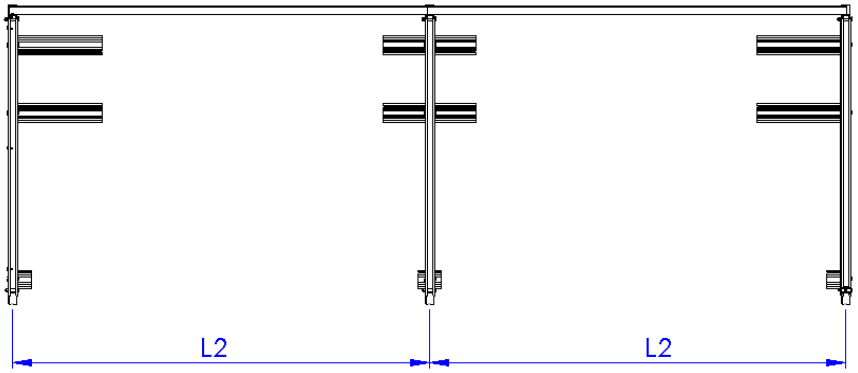
Consult the drawing for installation on a roof, where the distribution of the modules is defined along with the structures that support them and their fixing points.

A. Top view of the SL-SUR system with horizontal module orientation (landscape type).

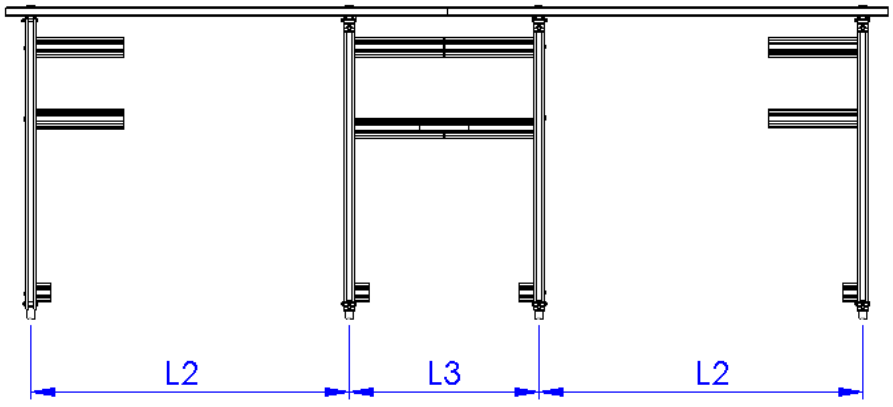
1 MODULE:



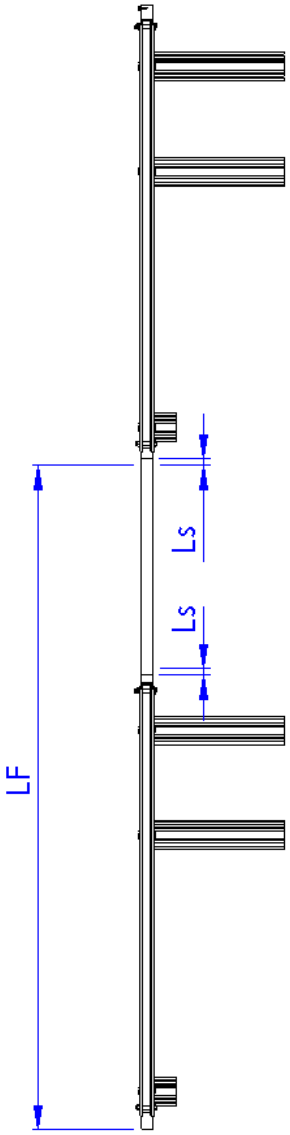
2 MODULES:



3 MODULES:

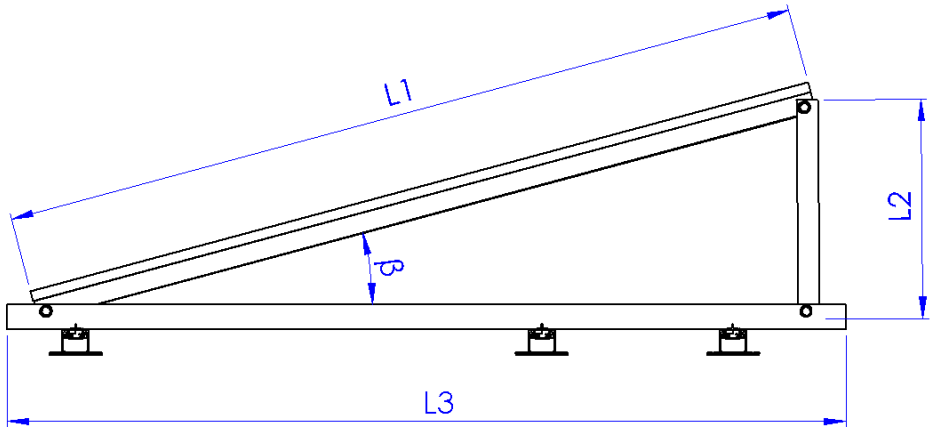


PROFILE UNION:



DIMENSIONS	1800 (mm)	2279 (mm)	2400 (mm)(COMPONENT B1)
L1	1400	1880	2000
L2	1600	2080	680
L3	1800	2279	680
LF	1860	1860	1860
LS	20	20	20

B. SL-SUR System Profile View

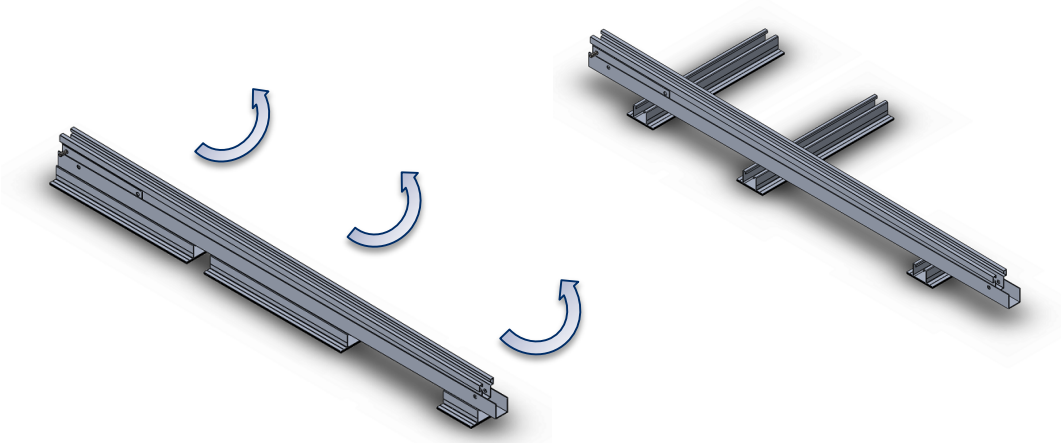


β (°C)	L1 (mm)	L2 (mm)	L3 (mm)
10	1225	232	1300
β (°C)	**L1 (mm)**	**L2 (mm)**	**L3 (mm)**
15	1225	334	1277

The type of system must be adjusted to the needs of the roofs where they are to be mounted.

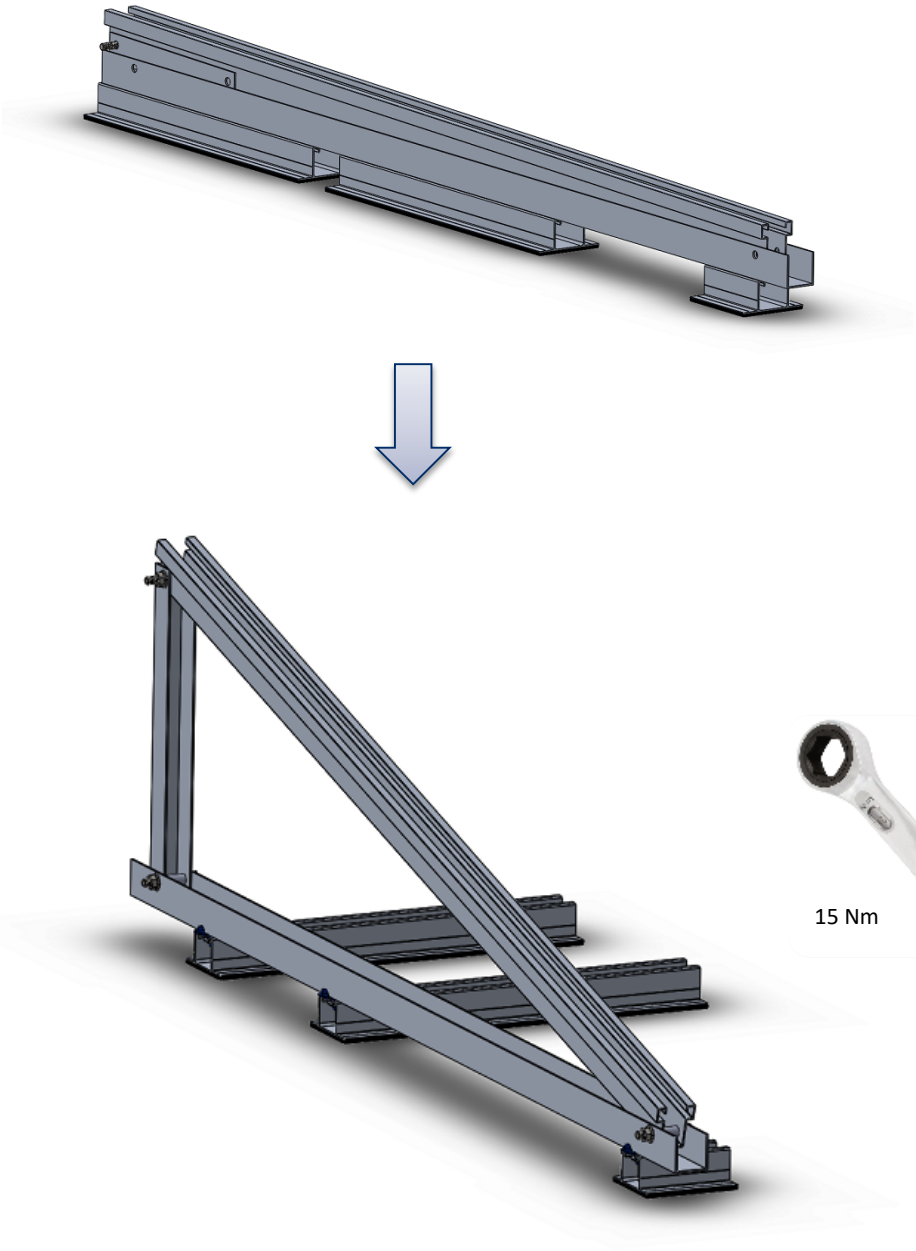
STEP 2.- Assembly of the pre-assembled triangles

Turn the pre-assembled aluminium profiles with wings with the quick-release guide nut and the stainless steel screw until they are in a position perpendicular to the lower ballasted profile. At the ends, these profiles are directed inwards and in the middle they are positioned centered. Apply a tightening torque of 15 to fix the profiles.



Position the support profile at 90º with respect to the lower profile, insert the stainless steel screw through both profiles placing a bushing so that when applying the tightening torque the profiles do not deform and finally place the stainless steel nut at the other end and apply a tightening torque of 15N/m.

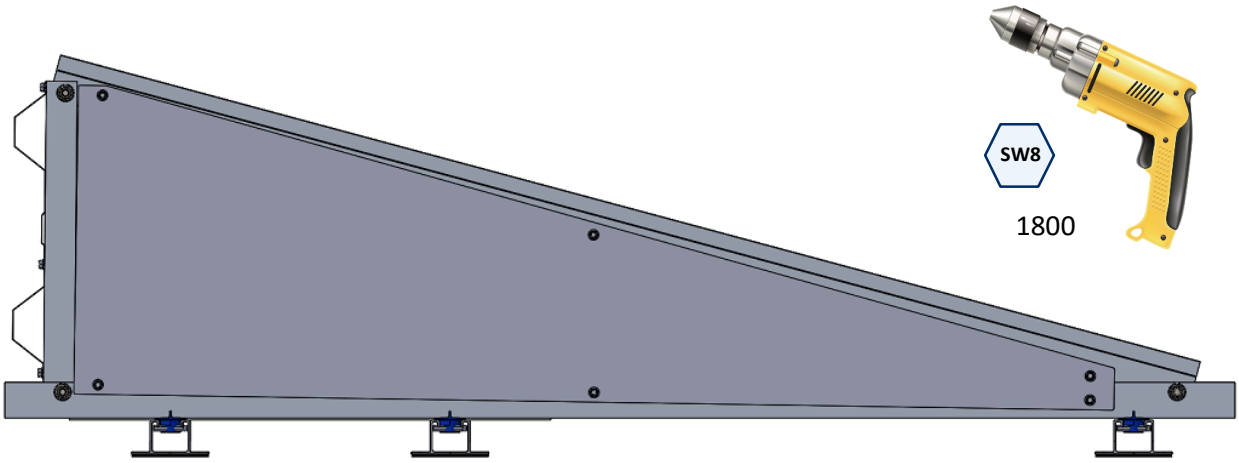
Adjust the pre-assembled fasteners of the upper and support profiles by applying a tightening torque of 15 N/m and then do the same with the upper and lower profiles.



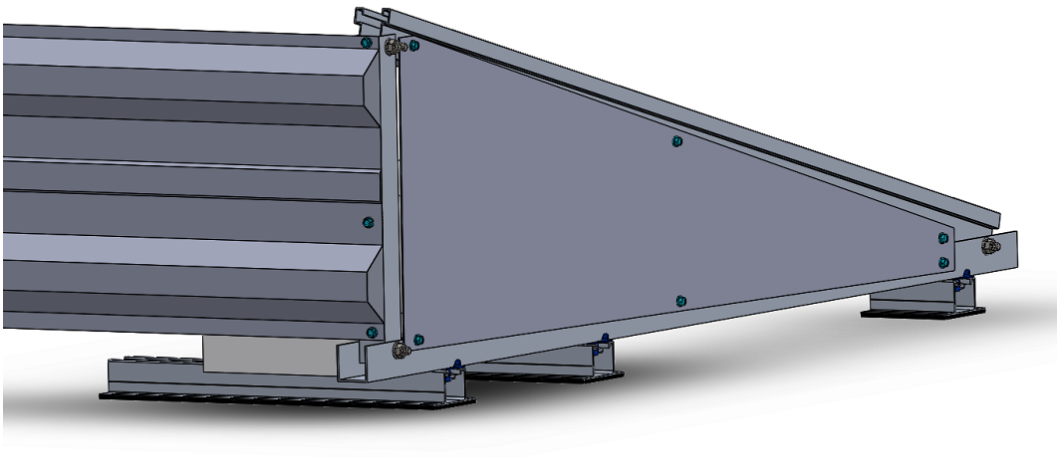
STEP 3.- Mounting the side and rear windbreakers

Install the side and rear steel windbreaks with the help of self-drilling stainless steel screws. For the installation of the screws, an electric screwdriver equipped with a SW-8 hexagonal socket is needed, an installation speed of 1800 rpm is recommended.

The side windbreaks are already pre-drilled with six holes to make installation easier.

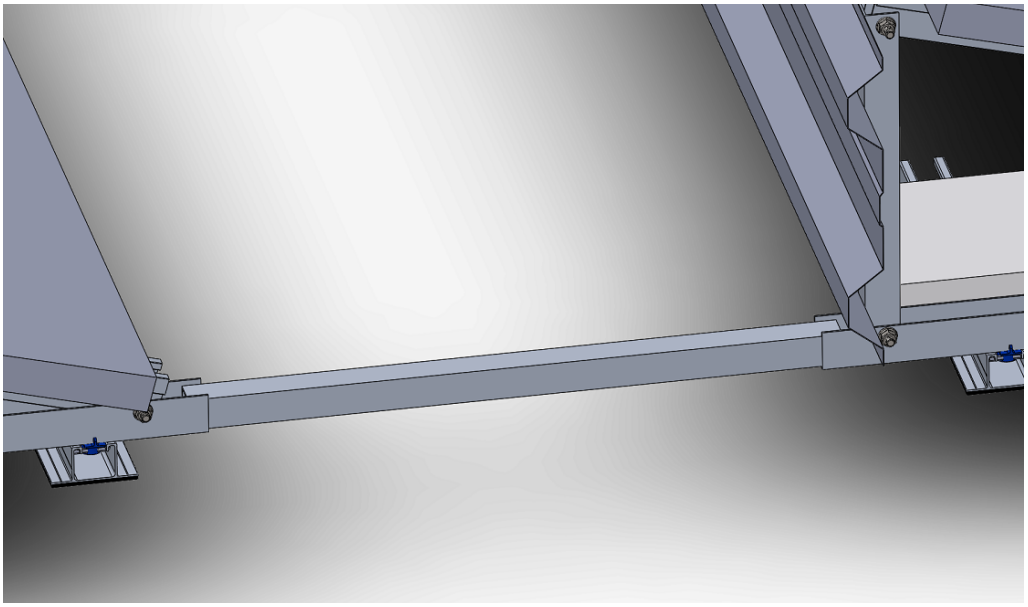


The back windbreaks are fixed with three self-drilling screws as shown in the picture.

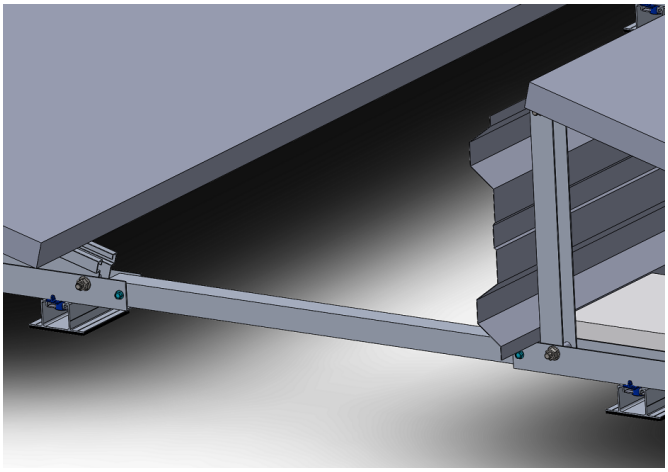


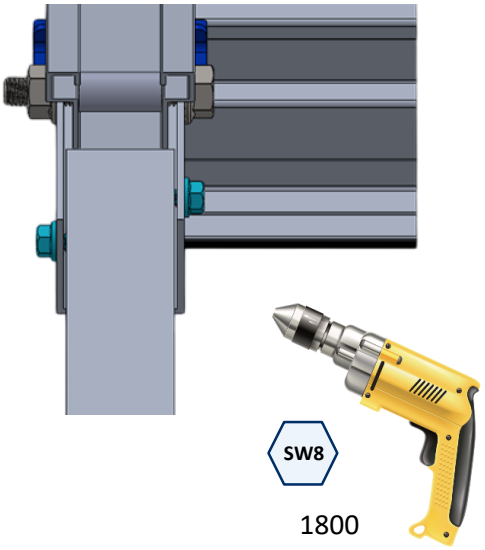
STEP 5.- Longitudinal connection between profiles

Insert the joining profile by placing each of its ends resting on the two lower profiles to be joined.



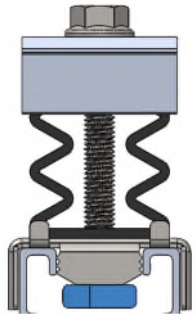
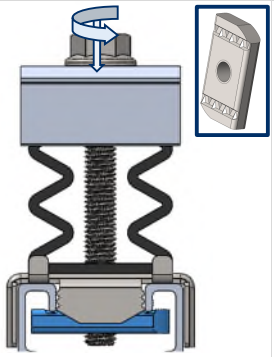
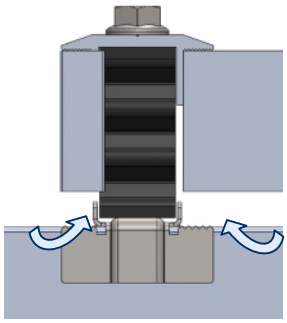
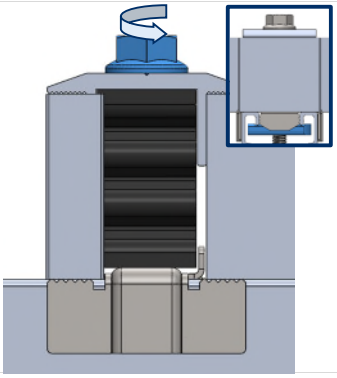
Fix the joining profile to the lower profiles by installing 2 stainless steel self-drilling screws on each side. The screws must be installed on the sides of the profile, in the shape of a cross so that they do not collide with each other. For the installation of the screws, an electric screwdriver equipped with a SW-8 hexagonal socket is needed, an installation speed of 1800 rpm is recommended.





STEP 6.- Pre-installation of staples on the profiles

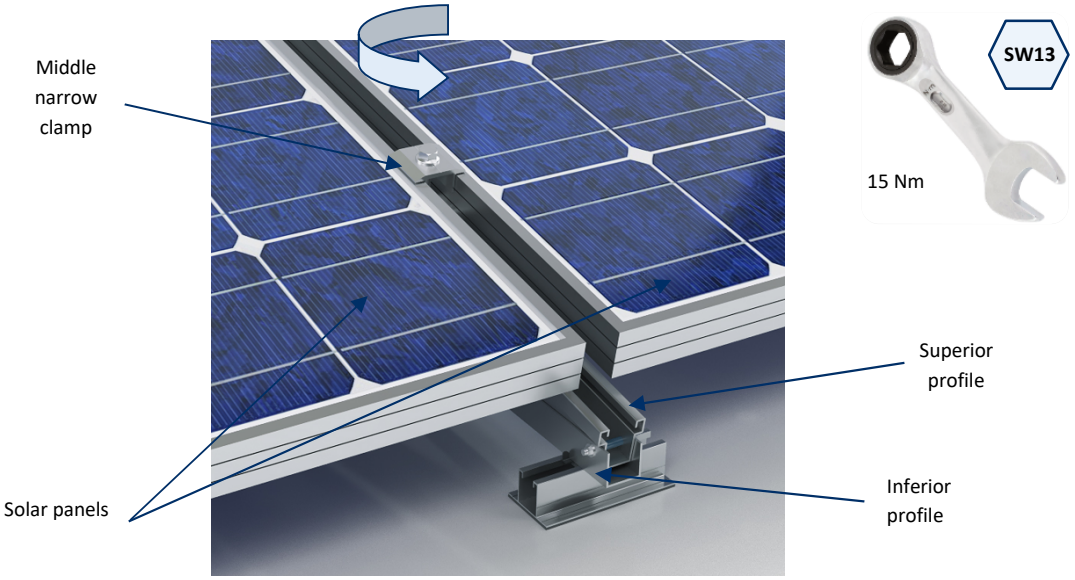
To install the clamp on the profiles, you must follow these steps:

			
1. Place the clamp on the profiles with the lower head parallel to the guide.	**2.** To fix the clamp to the profile, you must rotate the lower head into a position that is perpendicular to the profile using the screw, pressing the screw head and turning. The nut has a serrated profile to ensure fixation.	**3.** Insert the corresponding elements, two panels if using a middle clamp or panel and clamp if it's an end clamp.	**4.** To fix the inserted elements, you need to rotate the screw until they come into contact with the profile. Check that the lower head is still perpendicular to the profile.

Clamp type depending on its position:

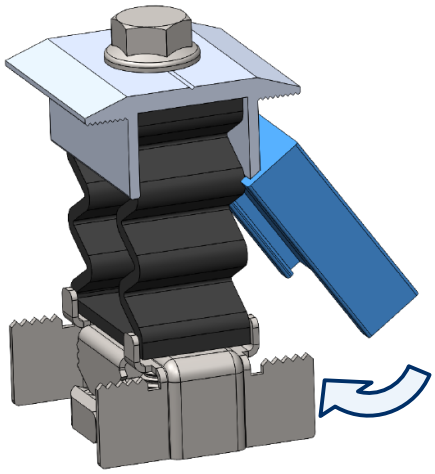
A. Middle clamp

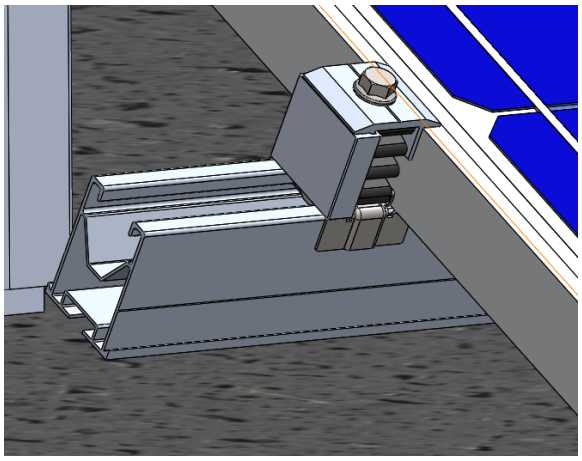
- The middle clamp is used when passing one module to another within the same row, attaching both panels to the structure. This assembly is carried out using the screw that comes with the clamp. A torque of 15 Nm should be applied



B. End clamp

- Prepare 4 KFRSC3050 quick clamps to be assembled at the ends of each row of panels. Each of these clamps is fitted with a GM-A clamp, assembled as shown in the diagram:





The measurement of clamps chosen should be equal to the frame height of the solar panels being installed.