

SC-GPX

SYSTEM DESCRIPTION

Coplanar mounting system with **GP-XS** "INDEXTRUT solar perforated guide. Atlantis C4-M steel", for the installation of solar panels



1. CHARACTERISTICS

Description	Coplanar mounting system on GP-XS Atlantis C4-M perforated guide in continuous format on a tiled roof.
System inclination:	Coplanar mounting with parallel installation to the roof surface.
System orientation:	Facing SOUTH, EAST OR WEST depending on the roof orientation.
System materials:	Atlantis C4-M steel, stainless steel and EPDM.
Warranty:	Until 10 years depending on environmental conditions (excluding environments exposed to hydrogen sulphide). The warranty is only valid if the complete SC-GPX system is used.
Compatible solar panels:	
Solar panels type:	Solar panels with frame height between 30mm and 40mm.
Solar panels orientation:	Mounting orientation of portrait (vertical) and landscape (horizontal) panels.
Solar panel size	Adaptable to standard market sizes.
Application area:	
Application area:	Sloping roofs.
Roof slope:	Installation on pitched roofs, slope between 10° and 60°.
Wind load:	Up to 240 km/h. The structure and fixing must be calculated according to local and roof conditions.
Snow load:	Up to 2 kN/m ² . The structure and fixing must be calculated according to local and roof conditions.

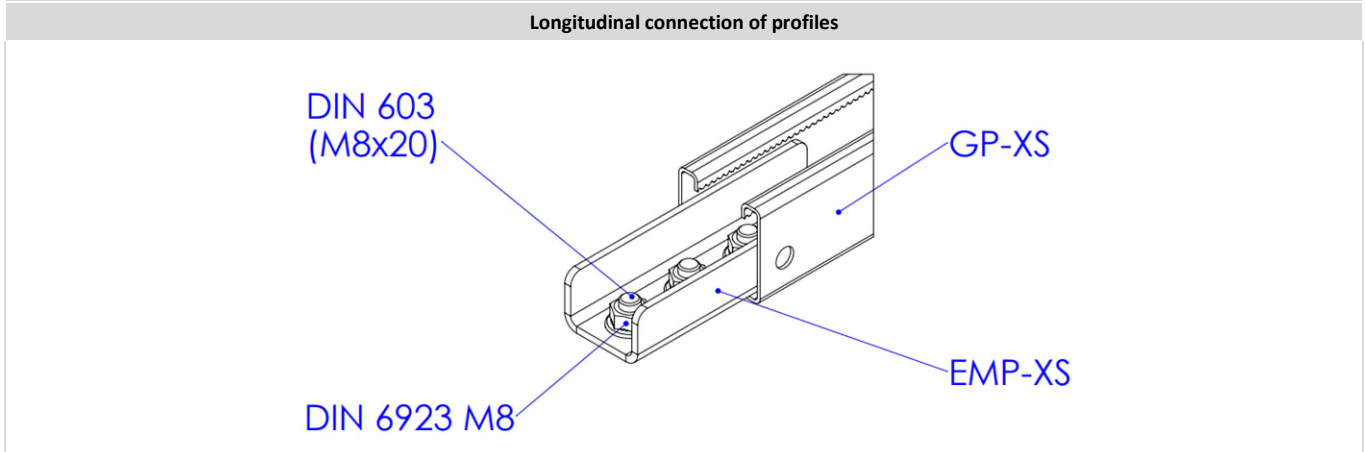
2. COMPONENTS

<p>Quick pre-assembled clamp</p> <p>KFR-SC</p>	<p>Simple clamp</p> <p>PGS-A</p>	<p>INDEXTUT quick nut</p> <p>TU-RXA2</p>	<p>Gauge for solar frame</p> <p>GM-A</p>	<p>INDEXTUT perforated guide</p> <p>GP-XS</p>	<p>Connector for GP-XS guide</p> <p>EMP-XS</p>
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2.1 Components: Clamps y gauges for mounting solar panels

Lateral position clam		Intermediate position clamp	
<p>KFR-SC</p> <p>GM-A</p> <p>Option 1: Quick clamp</p>	<p>DIN6921 A2</p> <p>PGS-A</p> <p>GM-A</p> <p>TU-RX A2</p> <p>Option 2: Simple clamp</p>	<p>KFR-SC</p> <p>Option 1: Quick clamp</p>	<p>DIN6921 A2</p> <p>PGS-A</p> <p>TU-RX A2</p> <p>Option 2: Simple clamp</p>














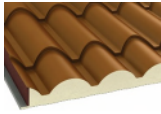













2.2 Components: Profiles, joints and guides for supporting structures



2.3 Components: mounting connectors for fixing accessories

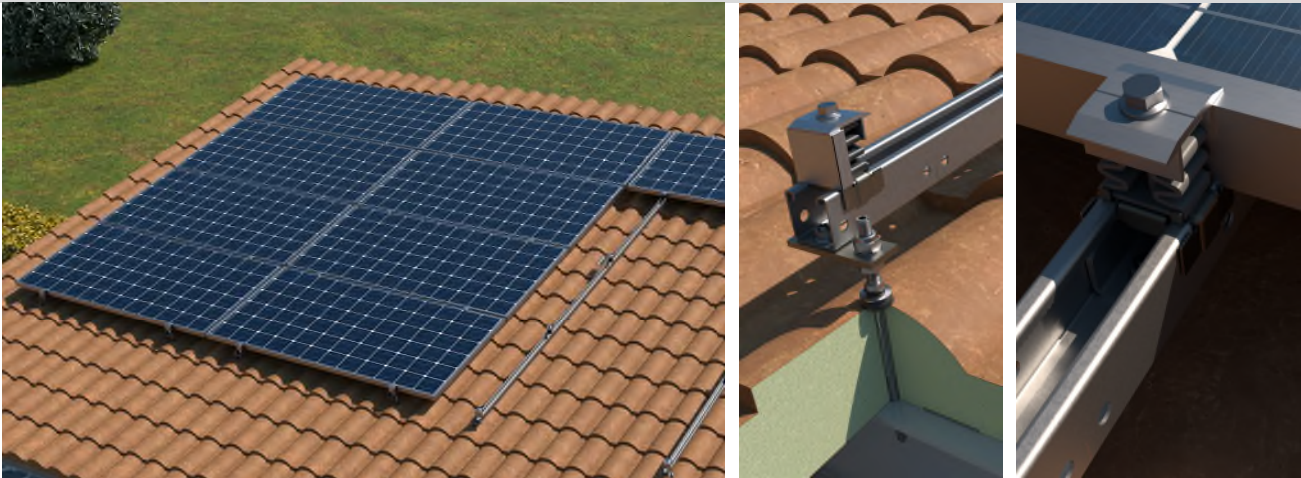
Lower connection	
<p>DIN 603 (M8x20)</p> <p>PMO</p> <p>DIN 6923 M8</p> <p>Fixing with double threaded stud</p>	<p>DIN 603 (M8x20)</p> <p>DIN 6923 M8</p> <p>Fixing with adjustable roof hook for curved roof tile</p>

3. TYPES OF FIXINGS

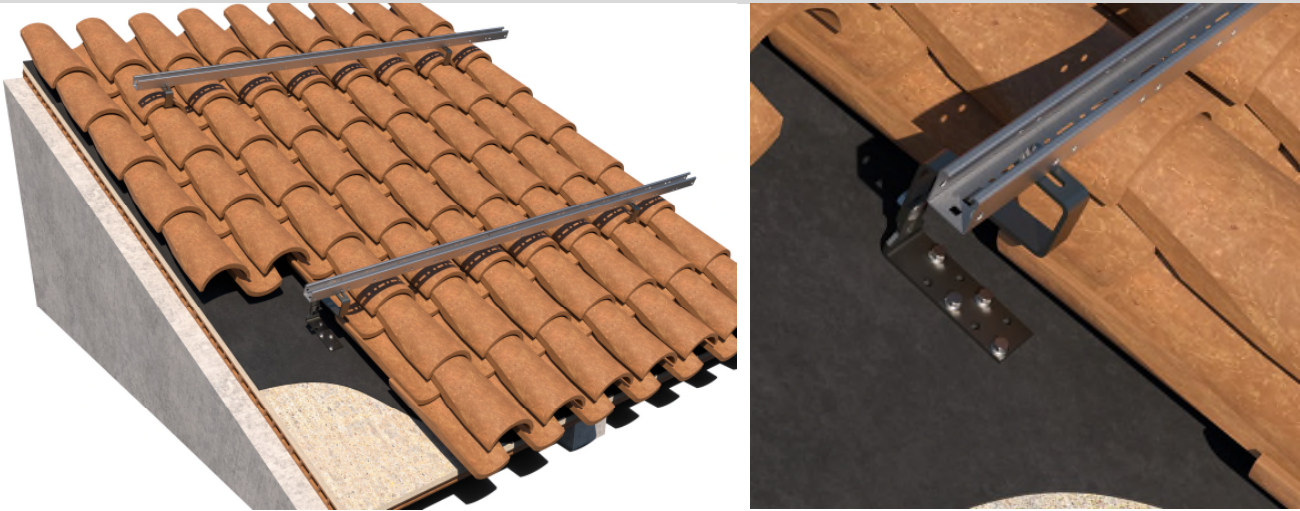
	ROOF	SUB-STRUCTURE	FIXING ACCESORIES							
TYPE 1	 TILE	 CONCRETE	 PMO Plate for double threaded screw	 KFS-RV Threaded rod for chemical anchor installation.	 Chemical anchor	 MO-TM Wire Mesh Sleeves				
		 HOLLOW CONCRETE				 MO-TL Long cut-out sieve for fixing on tile roof + scraper				
		 HOLLOW BRICK								
TYPE 2	 TILE	 WOOD	 PMO Plate for double threaded screw	 KFS-MA Threaded rod for chemical anchor installation.						
TYPE 3	 TILE	 WOOD	 GS-TC Adjustable roof hook for curved roof tile	 GS-TP Roof hook for flat roof tile.	 DIN-571 A2 Long cut-out sieve for fixing on tile roof + scraper					
		 CONCRETE					 TP A2 Countersunk head chipboard screw	 TN4S 4-way expansion plug		
		 HOLLOW CONCRETE						 EQ-A2 Stud bolt for chemical anchor.	 HE + ARVUL Screw with vulcanized EPDM-steel washer.	 CHEMICAL ANCHOR
		 HOLLOW BRICK								 GS-TU Adjustable roof hook for universal roof tile

4. EXAMPLES OF APPLICATION

Example 1: Composite tile roof with sandwich panel / fixing with double metal threaded rod KFS-AU



Example 2: Curved tile roof with masonry substructure / fixing with roof hook GS-TC



5. INSTALLATION MANUAL

SC-GPX

**Coplanar mounting system with GP-XS
“INDEXTRUT solar perforated guide.
Atlantis C4-M steel” fixed on roof tiles.**



Read these installation instructions before starting installation and familiarise yourself with the system components. Installation must only be carried out by qualified and experienced personnel.

Installation guidelines:

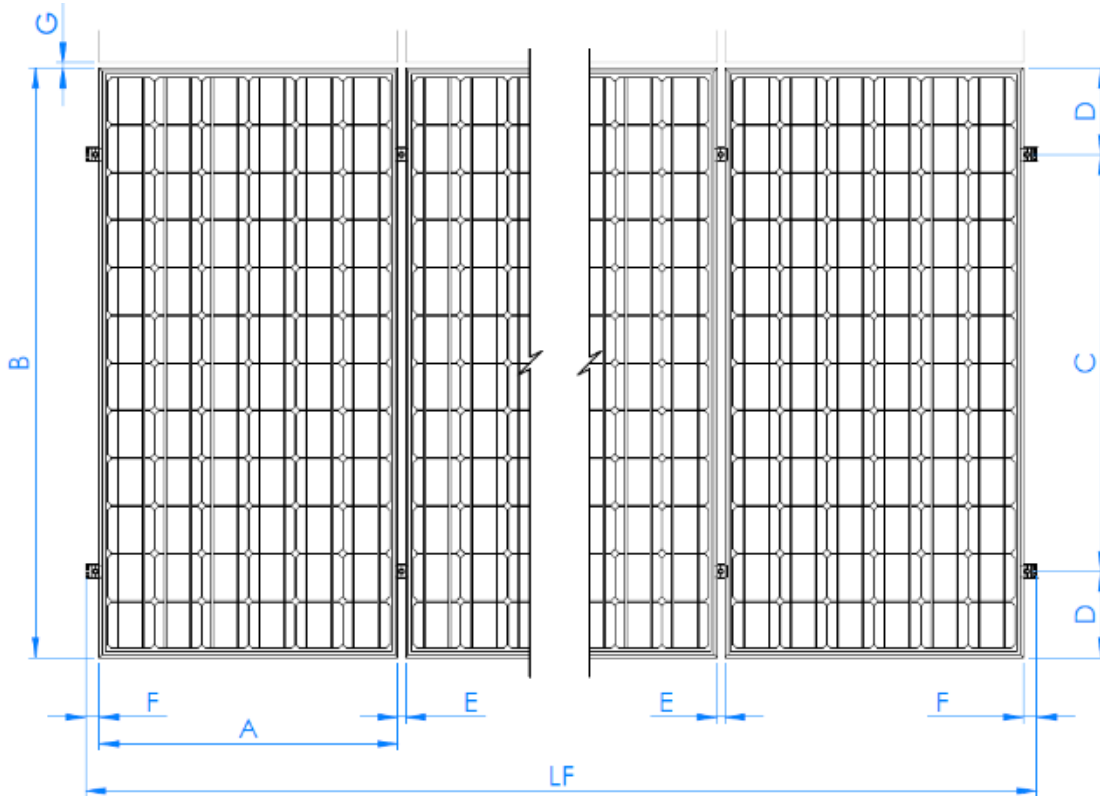
- Ensure that the roof construction is suitable for the introduction of forces at the fixing points and their subsequent transmission. The building must be able to safely receive the additional loads.
- A structural calculation must be carried out based on the local conditions at the installation site.
- The planning of the layout of the fixing points must be adapted to the requirements of the system and the roof.
- To compensate for thermal expansion, include a spacing every 12m when planning the PV system.
- The solar modules must be installed according to the manufacturer's instructions.
- Follow your local building regulations.
- Make sure to work in accordance with the health and safety regulations in force in your region, during installation and during roof work.
- Do not use the system or fixings as stairs.

INSTALLATION PROCESS:

STEP 1.- Consult installation drawing

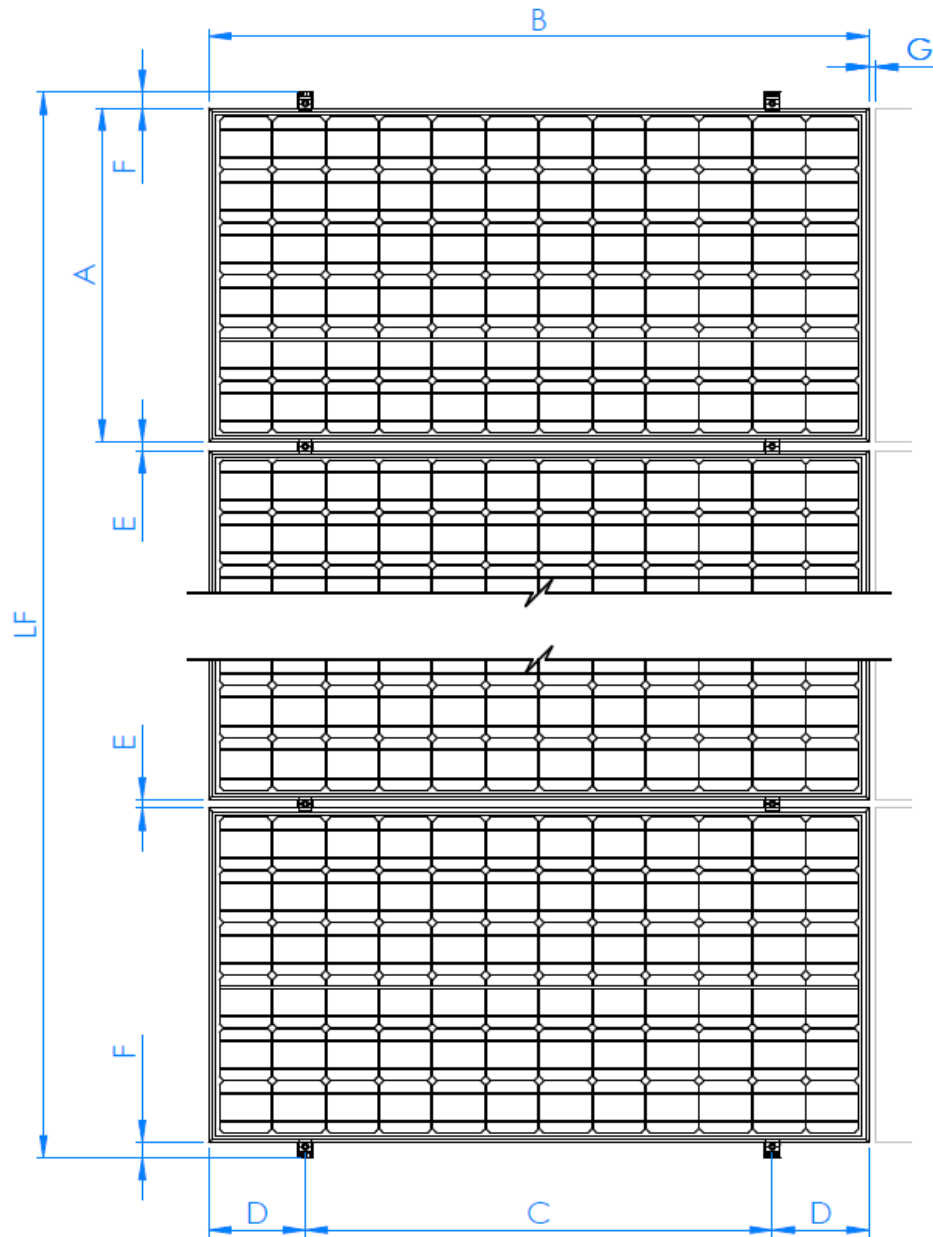
Consult the installation drawing on the roof, where the distribution of the modules is defined as well as the structures that support them and their fixing points.

A. Plan view of SC-GPX system with vertical module orientation (portrait type).



C	D	E (mm)	F (mm)	G (mm)	LF
$0,7B \geq C \geq 0,5B$	$(B-C) / 2$	26	min 36	min 20	$(n*B) + ((n-1) *E) + (2*F)$
C: consult the module manufacturer's recommendations.					
n: number of modules in the row.					

B. Plan view of SC-GPX system with horizontal module orientation (landscape type)

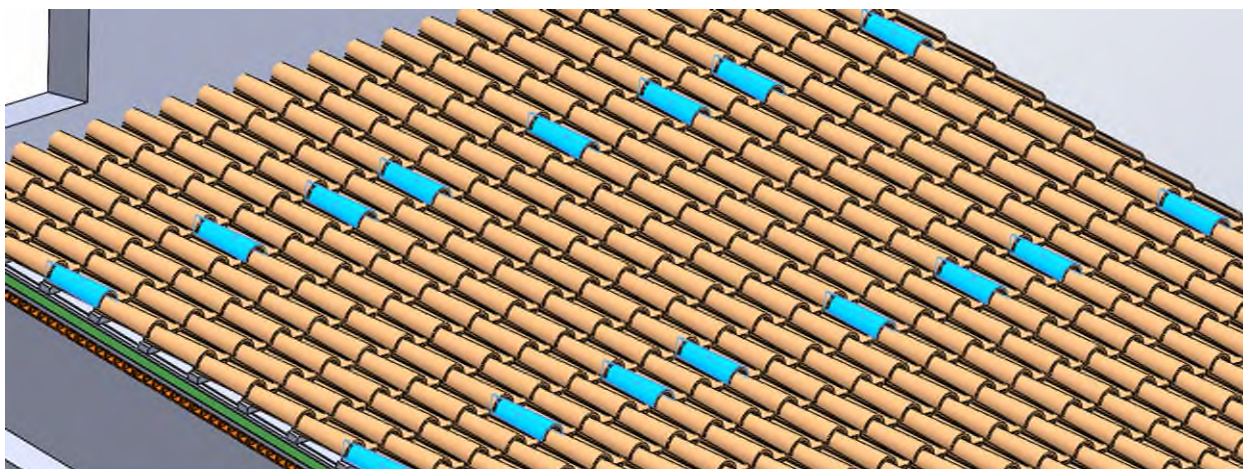


C	D	E (mm)	F (mm)	G (mm)	LF
$0,7B \geq C \geq 0,5B$	$(B-C) / 2$	26	min 35	min 20	$(n*B) + ((n-1) * E) + (2*F)$
C: consult the module manufacturer's recommendations.					
n: number of modules in the row.					

The type of fixing system and the location of its installation points shall be adapted to the needs of the supporting structures and at the same time to the needs of the roofs where they must be installed.

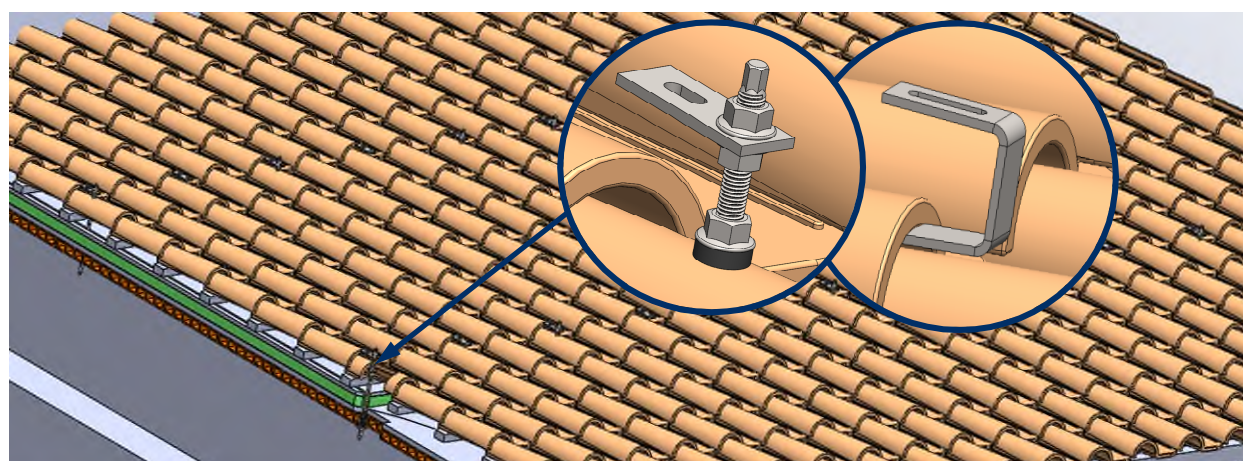
STEP 2.- Perform layout on the roof

Lay out on the roof the fixing points of each structure, checking the viability of the installation of each one depending on the chosen fixing system and the characteristics of the roof.



STEP 3.- Install the fixing

Install the fixings in accordance with the installation instructions contained in the respective data sheet.

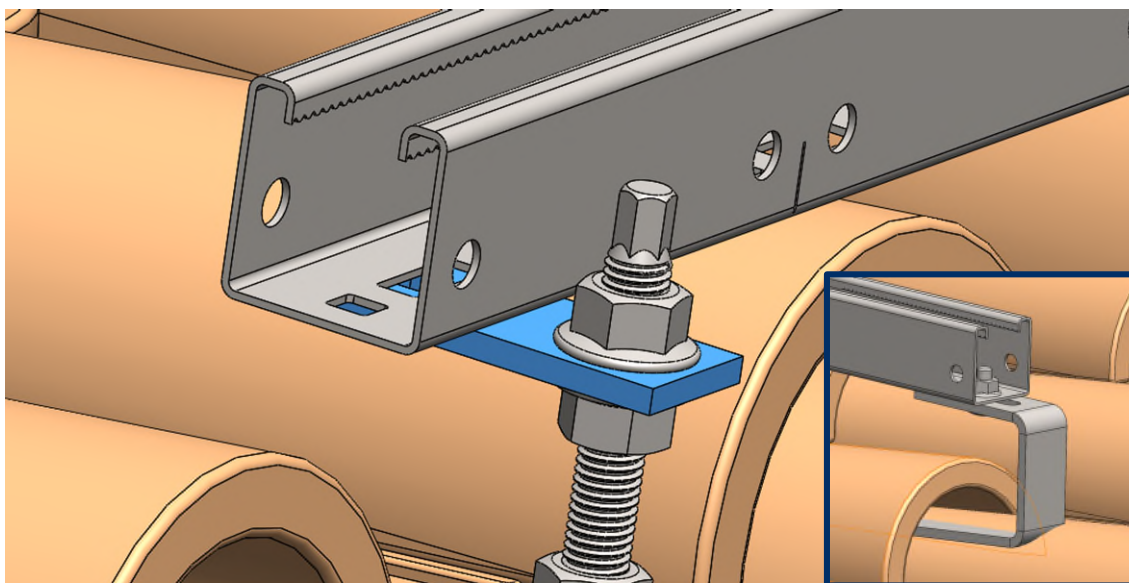


 <p>PMO Plate for double threaded screw</p> <p>Technical Data Sheet</p>	 <p>KFS-RV Threaded rod for chemical anchor installation.</p> <p>Technical Data Sheet</p>	 <p>KFS-MA Threaded rod for chemical anchor installation.</p> <p>Technical Data Sheet</p>	 <p>GS-TC Adjustable roof hook for curved roof tile</p> <p>Technical Data Sheet</p>	 <p>GS-TU Universal roof hook for roof tile</p> <p>Technical Data Sheet</p>	 <p>GS-TP Roof hook for flat roof tile.</p> <p>Technical Data Sheet</p>	 <p>GS-PI Roof hook for slate roofing tile</p> <p>Technical Data Sheet</p>
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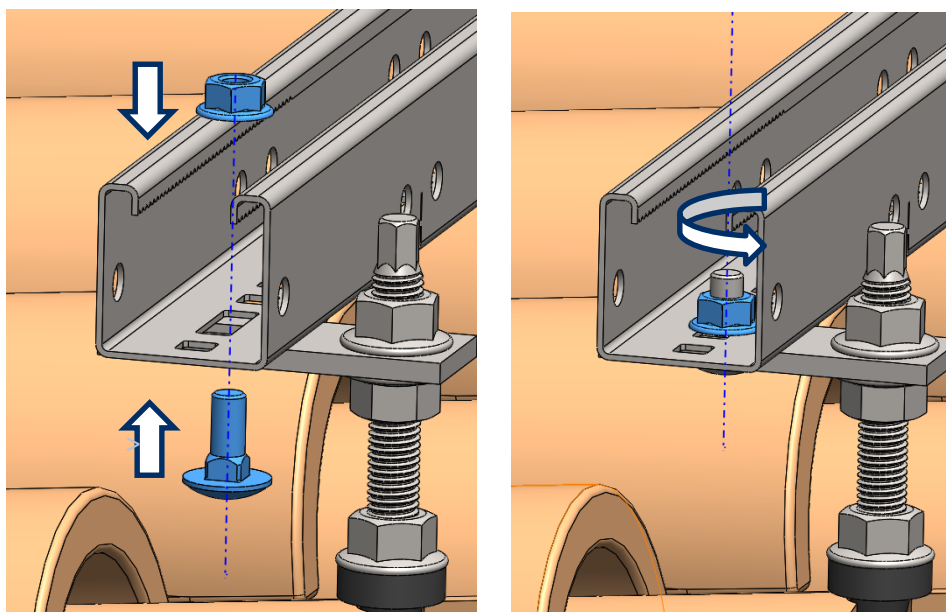
* In the following steps, the installation is explained independently of the selected fixing to the deck. will therefore only be shown with an example of fixing.

STEP 4.- Installation of the guides on the fixings

- A. Place the GP-XS guides on the plate PMO, which is already installed. The PMO plate does not need to be used if you have a roof hook for roof tile.



- B. Fasten the GP-XS guide to the PMO plate using DIN 603 screws (M8x20) and DIN 6923 M8 nuts.



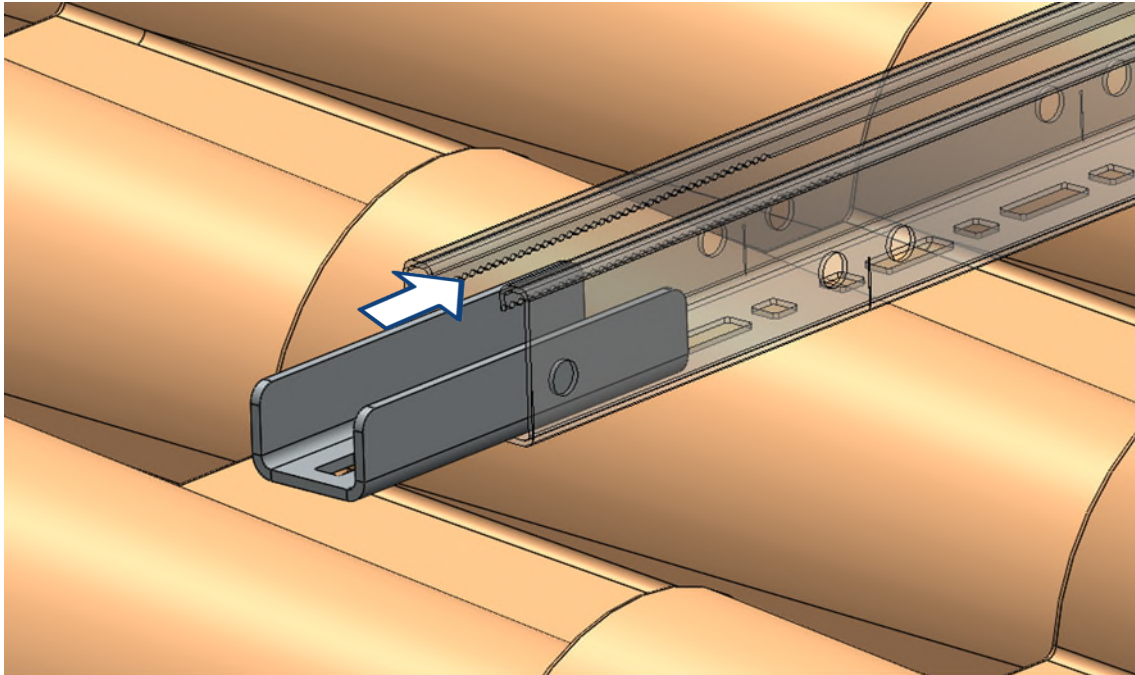
Tighten to a maximum torque of 15 Nm using a SW-13 hexagon spanner.



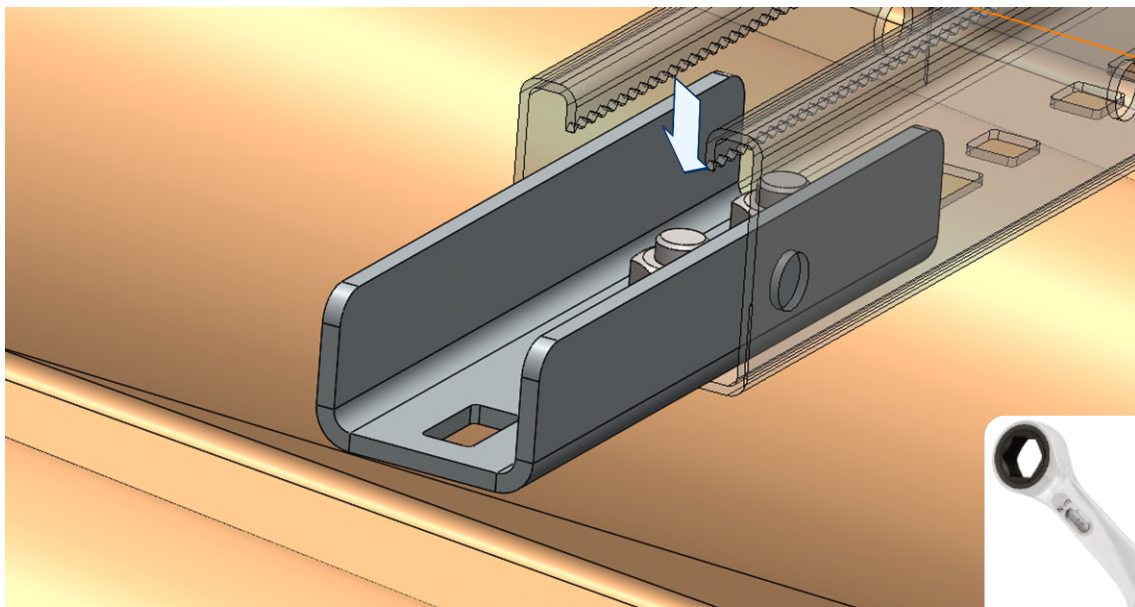
15 Nm

STEP 5.- Longitudinal connection between guides

- A. Assemble the EMP-XS joint by inserting half of the length into one of the two GP-XS guides.

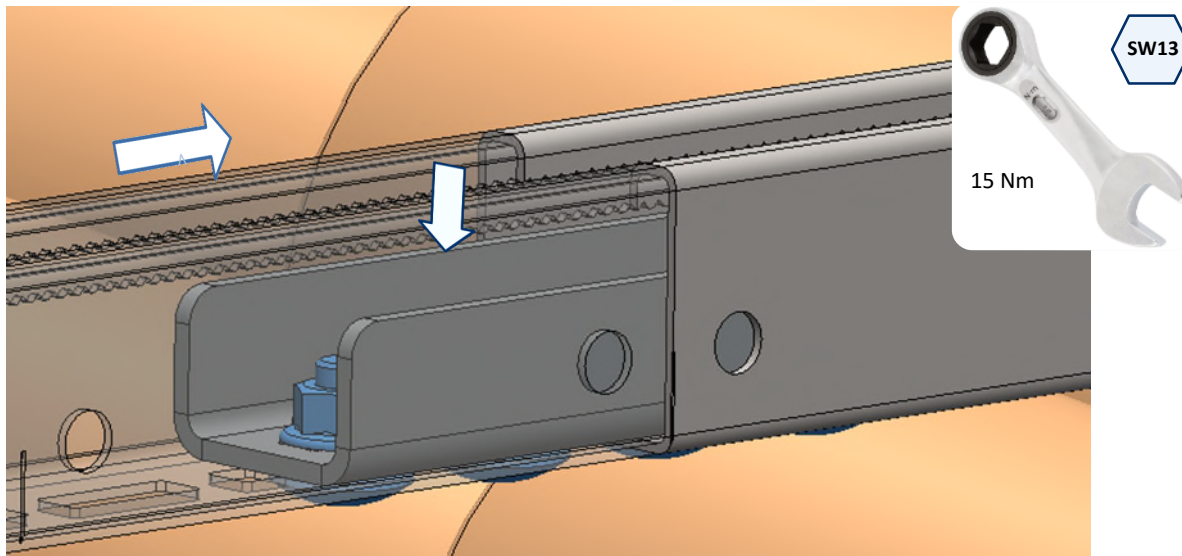


- B. Fix the EMP-XS joint to the first GP-XS guide by installing 2 screws DIN 603 (M8x20) and nuts DIN 6923 M8, at a distance between 50 and 70mm from the end of the guide. Use a SW-13 hexagon spanner to tighten to a maximum torque of 15 Nm.

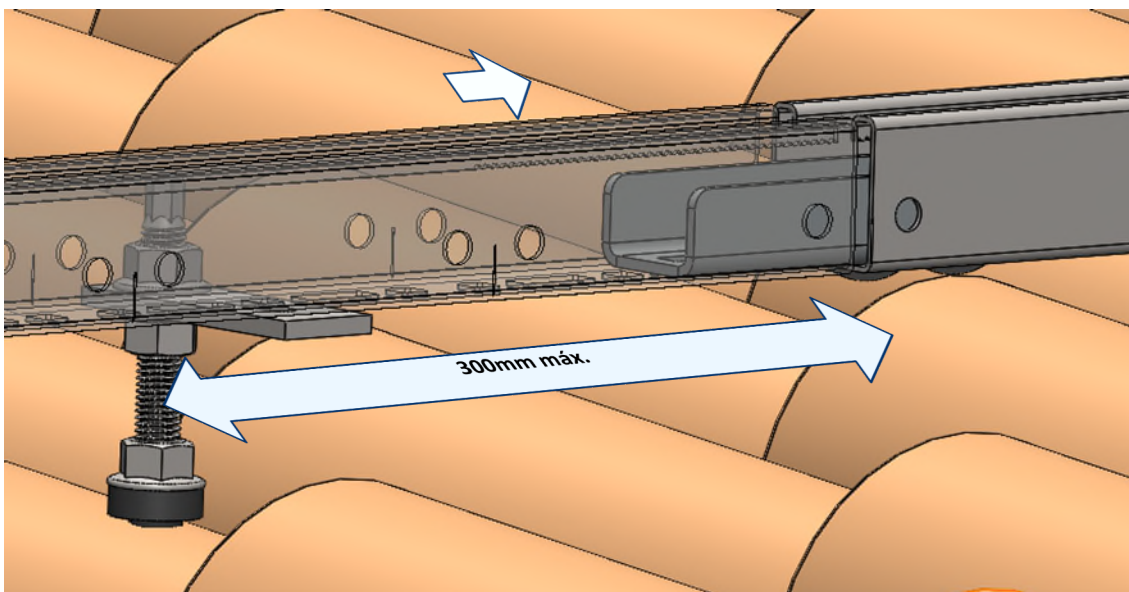


C. Insert the free end of the EMP-XS connector into the second GP-XS guide.

- **Option 1**, if a rigid connection is required: Insert the protruding part of the EMP-XS connection into the second guide GP-XS until it butts against the first guide, and then fix the connection to this second guide by installing 2 DIN 603 screws (M8x20) and DIN 6923 M8 nuts, as previously carried out on the first guide.



- **Option 2**, if a connection acting as an expansion joint is required: Insert the protruding part of the connection EMP-XS into the second guide GP-XS leaving a gap between the ends of both guides between 4 and 6 mm, in this case the screws are not installed to allow longitudinal displacements between the two guides.



Is recommended for this type of connection a maximum distance to the nearest fixing point of 300 mm.

STEP 6.- Pre-installation of clamps on the guides

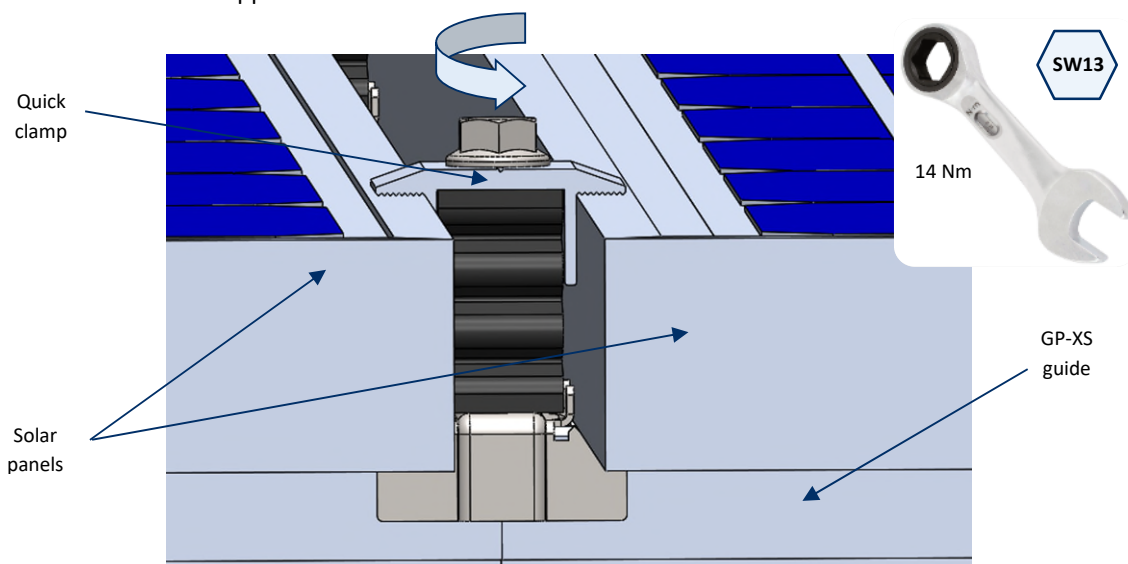
To mount the clamp on the guides, the following steps are necessary:

<p>1. Place the clamp in the profile with the lower nut parallel to the guide.</p>	<p>2. To fix the clamp to the profile, the lower nut must be turned perpendicular to the profile by means of the screw, the screw head is pressed down and turned. The nut has a serrated rail to secure the fixing.</p>	<p>3. Insert the corresponding elements, two panels in the case of an intermediate clamp, or a panel and a gauge in the case of a lateral clamp.</p>	<p>4. To fix the inserted elements it is necessary to turn the screw until they meet the profile. Check that the lower nut remains perpendicular to the guide.</p>

Type of clamp depending on its position:

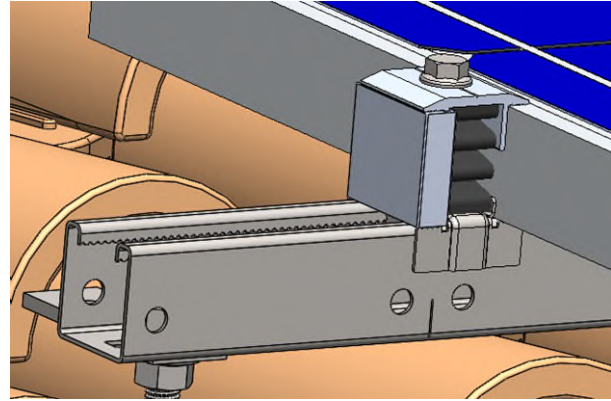
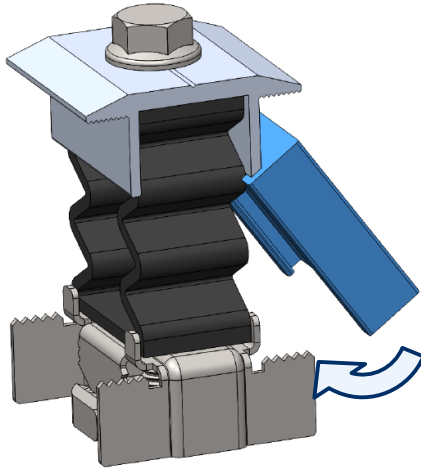
A. Intermediate clamp

- The intermediate clamp is used when passing from one module to another within the same row, fixing both panels to the structure. This assembly is carried out by means of the screw included in the clamp. A tightening torque of 14 Nm must be applied.



B. Lateral clamp

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



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