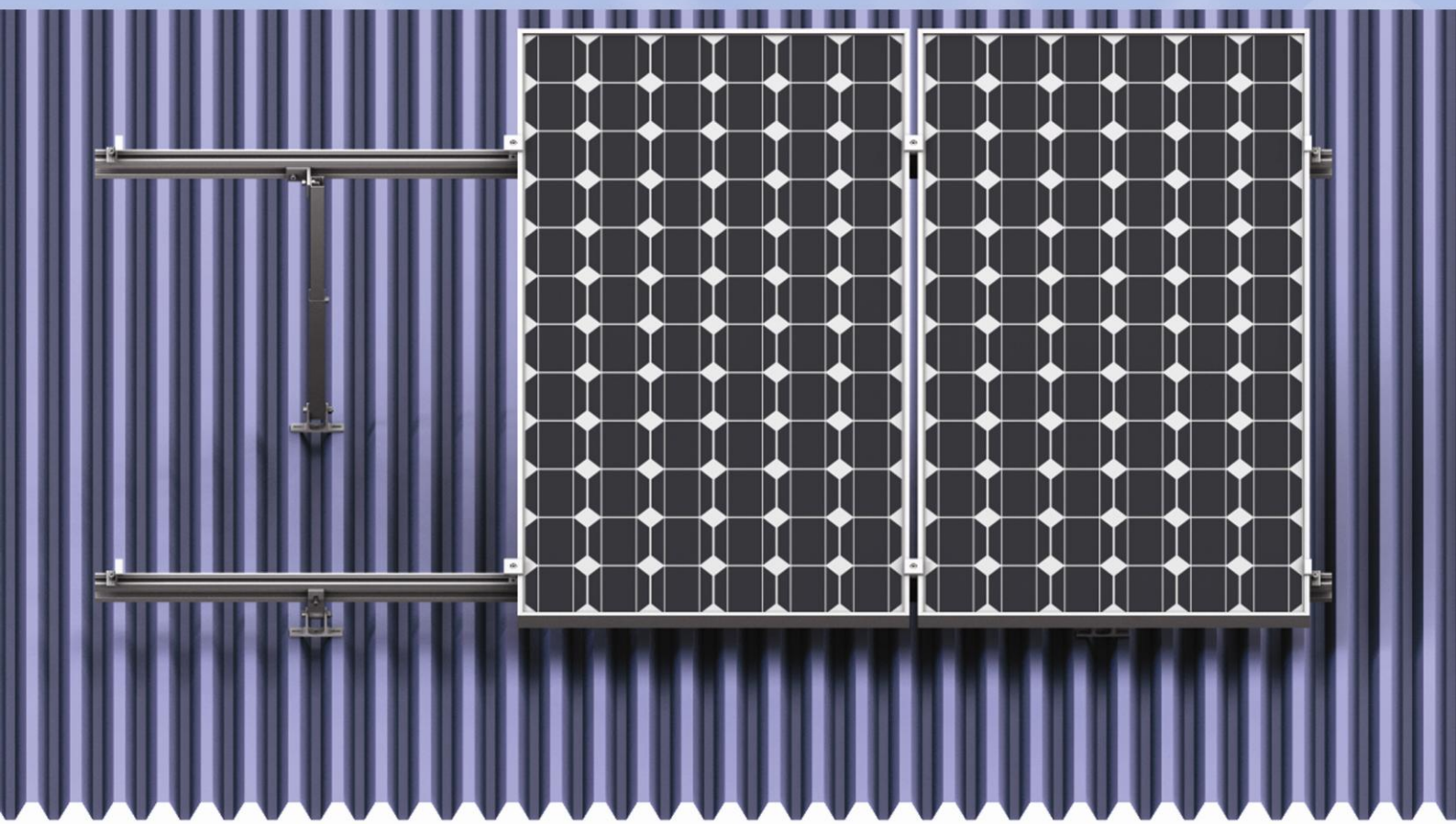
CHIKO

CHIKO SOLAR

INTEGRATION SOLAR SOLUTION

Tilt Kit Installation Manual



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1. **Determine the height of the of your installation site**

   This document provides sufficient information for Roof system installation height less than 20 meters. If your installation site is more than 20 meters in height, please contact Chiko Solar to obtain engineering data to support your installation.

2. **Determine the Maximum Rail Support Spacing**

Please use the following table to determine the base rail support spacing for Tilt kit installations.

Installation Height	45m/s	57m/s	66m/s	80m/s
5Meters	1730	1290	980	680
10Meters	1540	1140	860	590
15Meters	1440	1060	790	540
20Meters	1340	980	730	490

The Tilt kit hooks should be fixed to the rafter using 6.3x90mm wood screws minimum.
Or use sellf tapping bolts to fix on steel purlin

3. **Verify acceptable Rail End Overhang**

   Rail End Overhang must equal 50 percent or less of foot spacing. Thus if foot spacing is 1200mm, the Rail End Overhang can be up to 600mm.

   In this case, two feet can support a rail of as much as 2400mm (120mm between the feet and 60mm of overhang at each end).

5. Determine Roof slope

Solar Roof system can be used for roof slope up to 60 degrees. Please verify the Installation site roof slope should be between 0 degrees and
60degrees.

6. Determine Installation Roof Areas

Solar Roof racks should not to be installed within the minimum of 0.2b and 0.2d of a roof edge or ridge where b and d are the plan dimensions of the building.

7. Installation tools

6 mm Allen key;

Cordless drill;

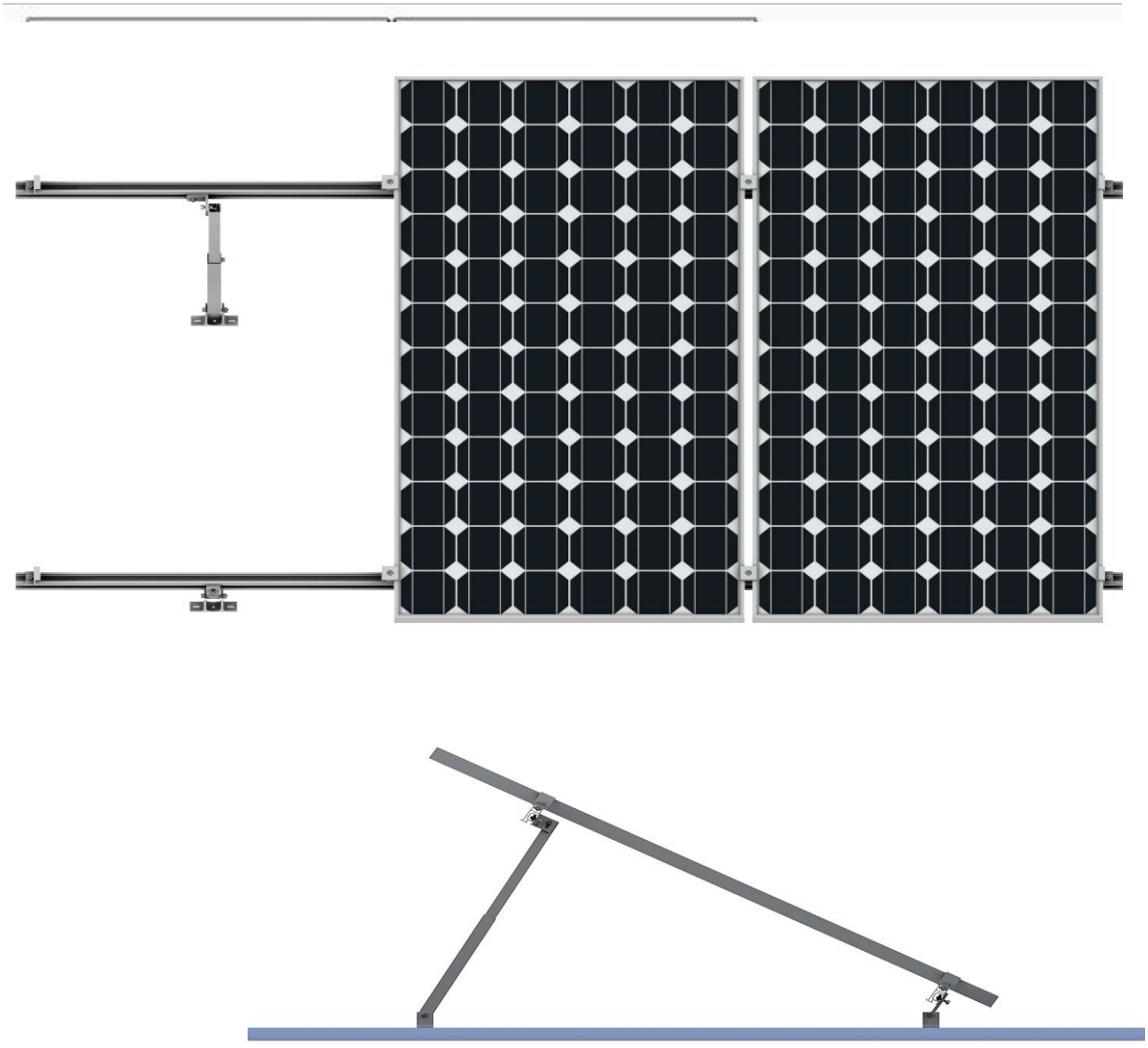
Open-end spanner set 9, 10, 17, 19 mm (required only for mounting with hanger bolts);

Torx-30 (AW 30) bit;

Angle grinder with stone disk; Power
Cord;

If necessary, timber to shim the roof hooks.

8. Planning the array layout



Planning the array layout

8.1Array width = number of modules in horizontal direction
x (solar module width + 11/16 in (18 mm)) +1-1/4 in (32 mm)

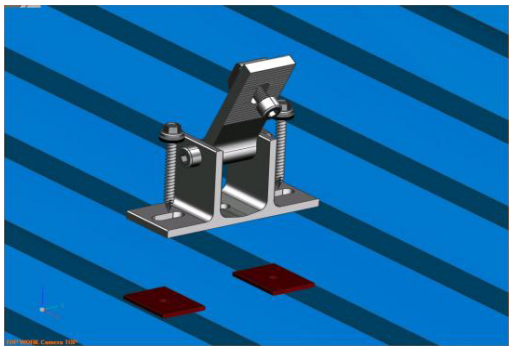
8.2The distance of the neighbor two leg =solar module width+11/16 in (18 mm)

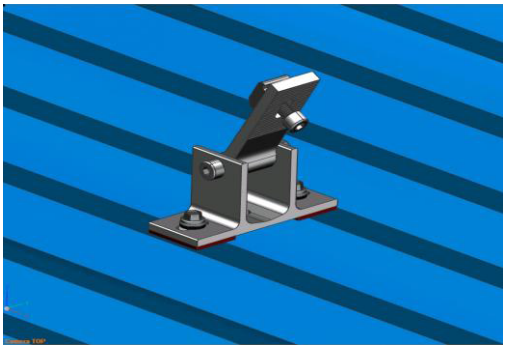
8.3. Distance between front leg and back leg=1250mm~1400mm, same array kits, distance between front leg and back leg is same

8.4Distance between the solar modules: 11/16 in (18 mm)

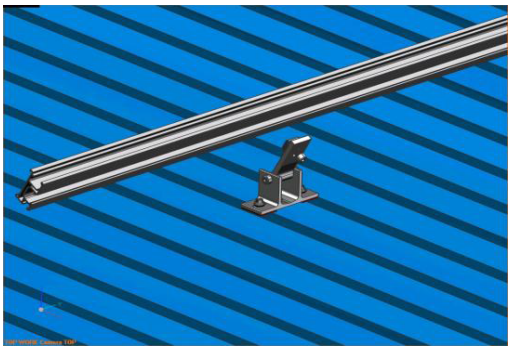
9.Installation instruction

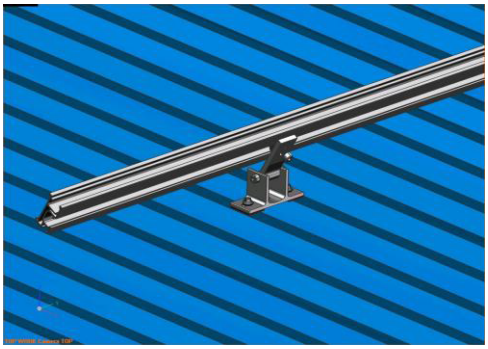
9.1 Attach the front leg onto roof through 2 X 6.3*90mm wood screws; high quality rubber pad is used to provide waterproof function.



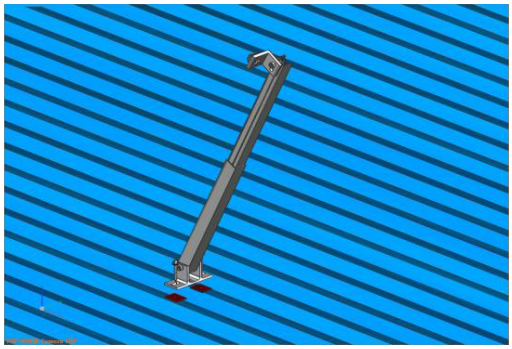


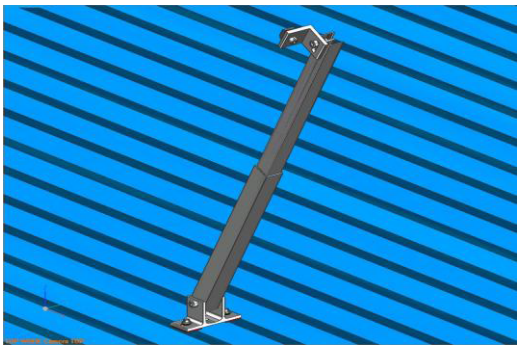
9.2Attach the rail to the front leg



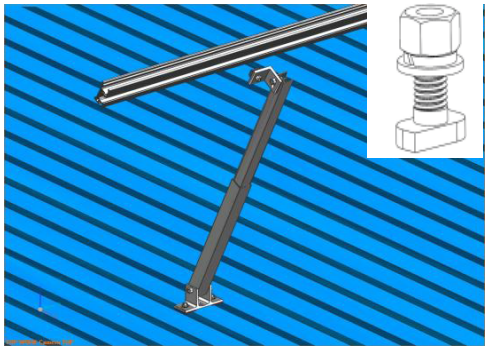


9.3 .Attach the rear onto roof by through 2 X 6.3*90 wood screws, high quality rubber pad is used to provide waterproof function.

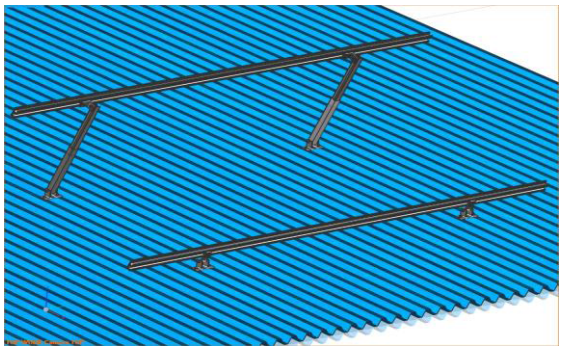


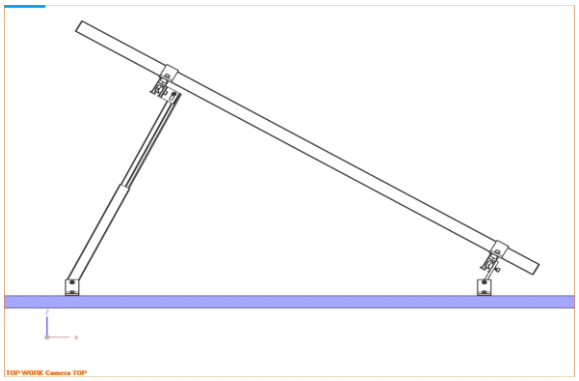


9.4 Attach the rail to the rear leg by T bolts M8x30

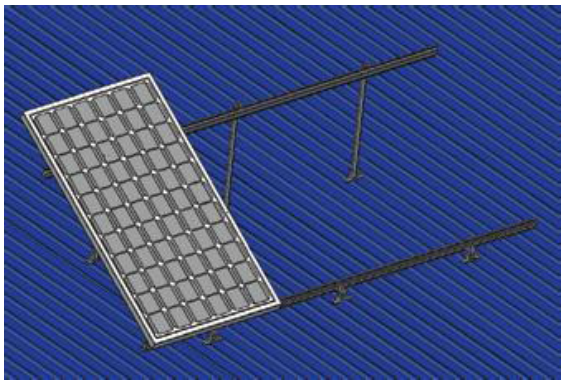


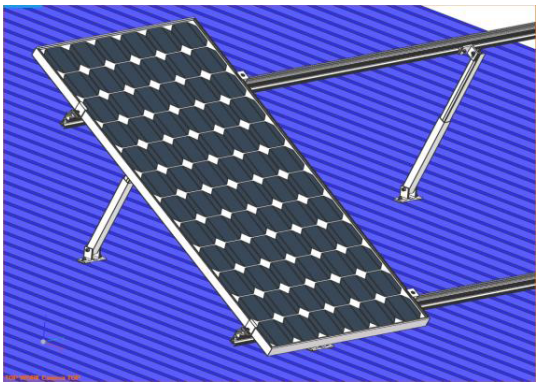
9.5 As the requirement of planning the array layout attach front leg & rear leg and rail on the roof.



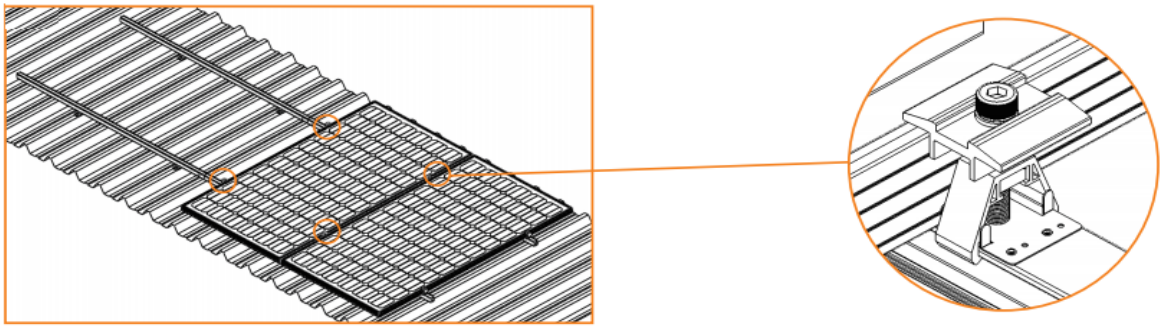


9.6 Attach the solar panel on the rail



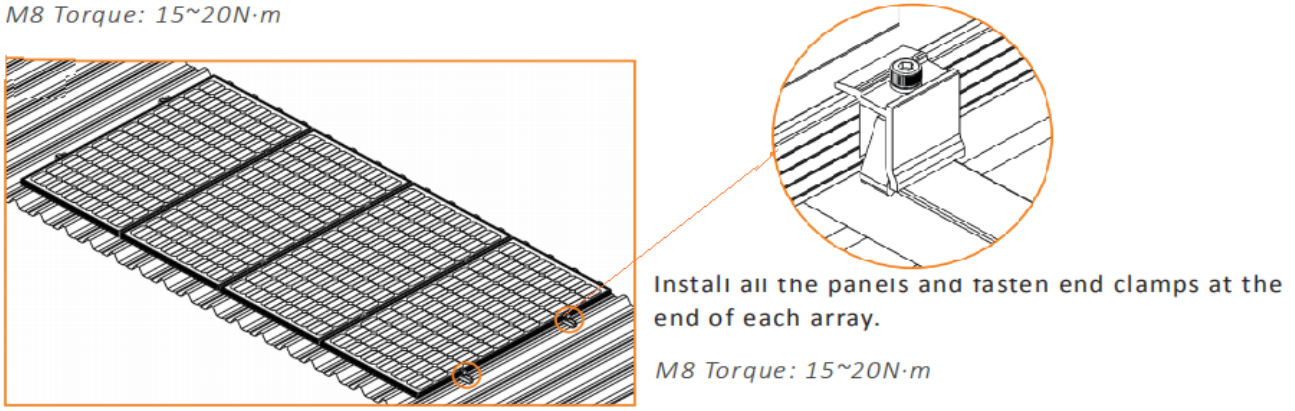


10. Install mid and end clamps



Put the second panel on the rail,fasten the mid clamps with inner hex bolts M8 at all locations where two panel meet .

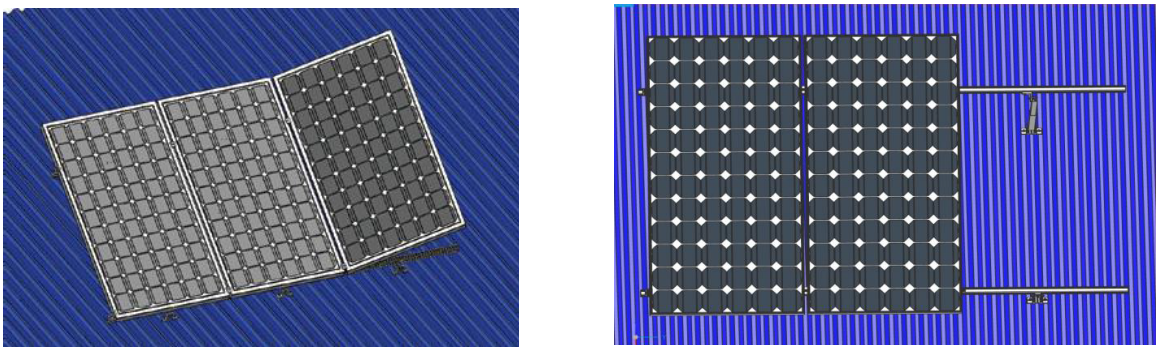
M8 Torque: 15~20N·m



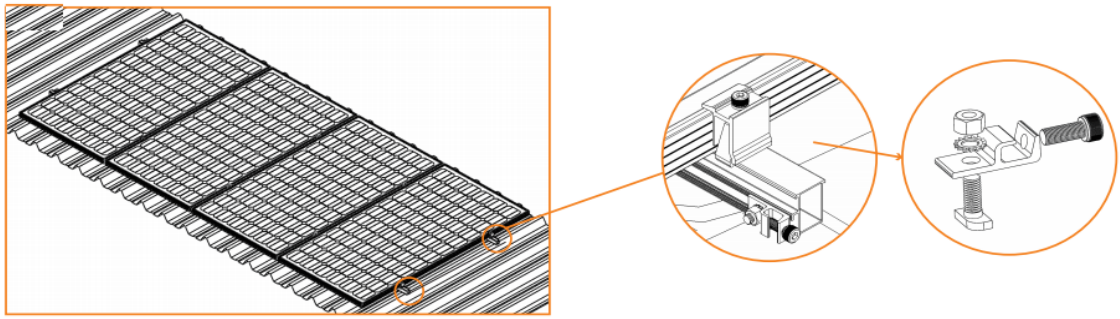
Install all the panels and fasten end clamps at the end of each array.

M8 Torque: 15~20N·m

11. The rest can be done in the same manner. Attach all the solar panels onto the rails.



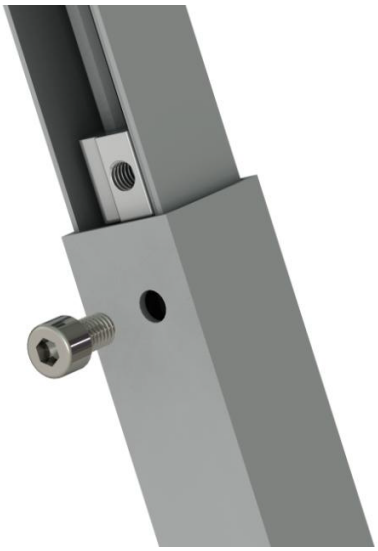
12 Installation of Grounding lug



Install a grounding lug onto each rail line edge with an inner hex bolt M8*25 and a stainless steel nut, then connect 8.4mm2
(greater than or equal to 8AWG) copper wire through all the grounding lugs
(fixed by M8*20 inner he x bolt), finally connect a copper wire to the ground. The grounding lug has grounding function when fastened tight to the rail and copper grounding wire

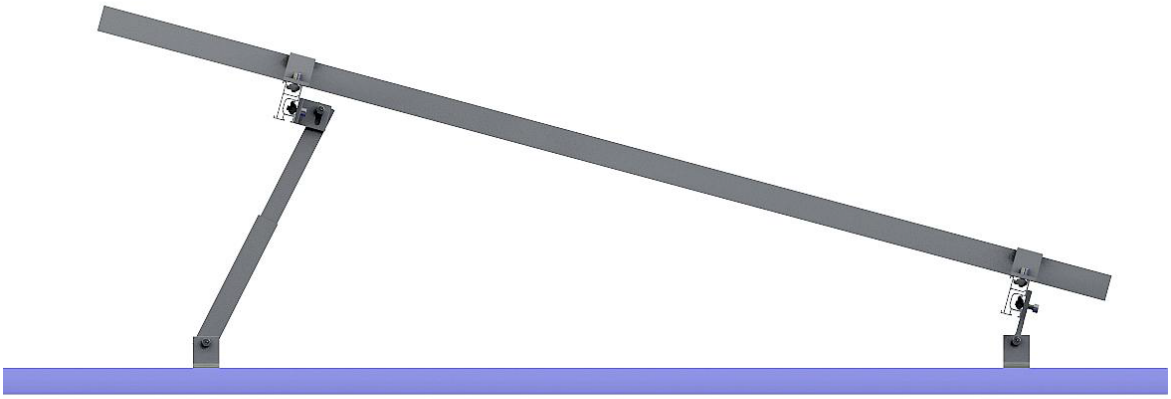
13. Angle Adjustment Description

- Loose the M8 screw and adjust the angle to the designed degree, then tight the M8 screw.



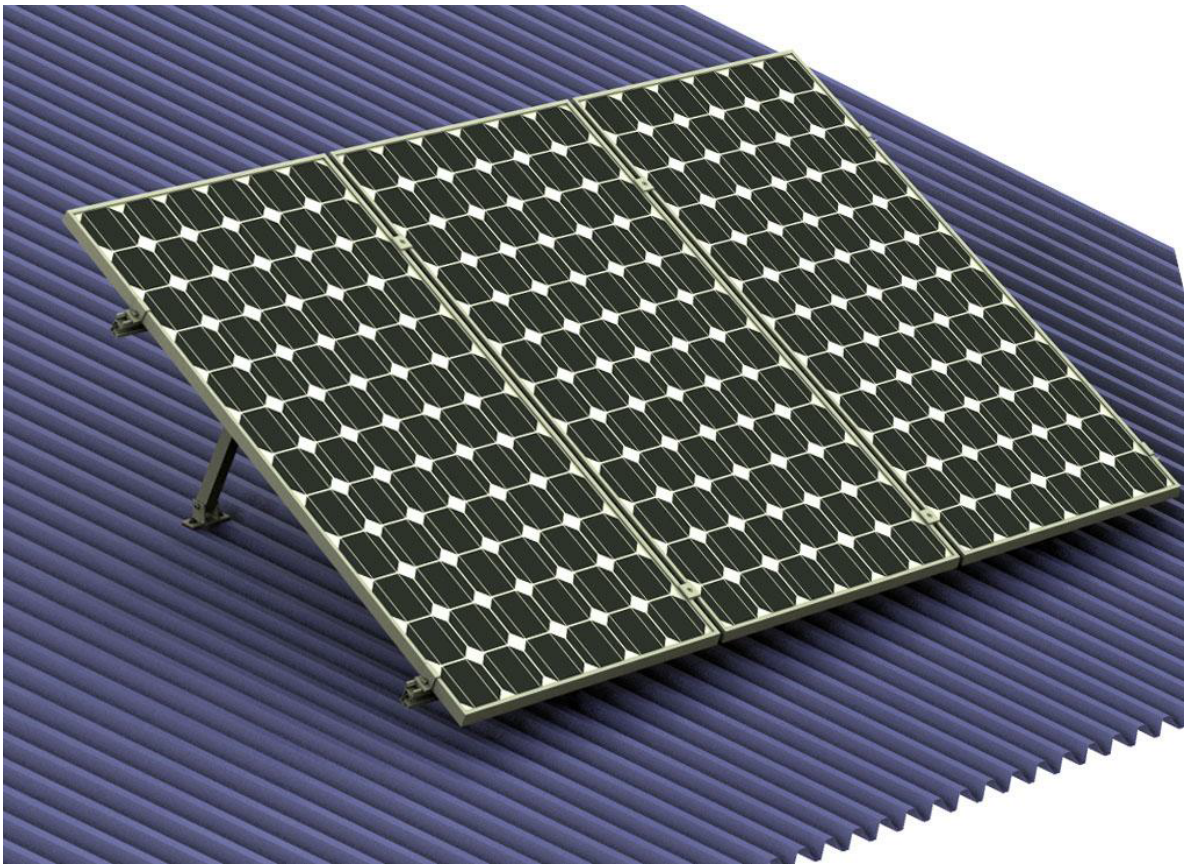
- Adjustable Angle mounting systems: there are three types according to the angle scope.

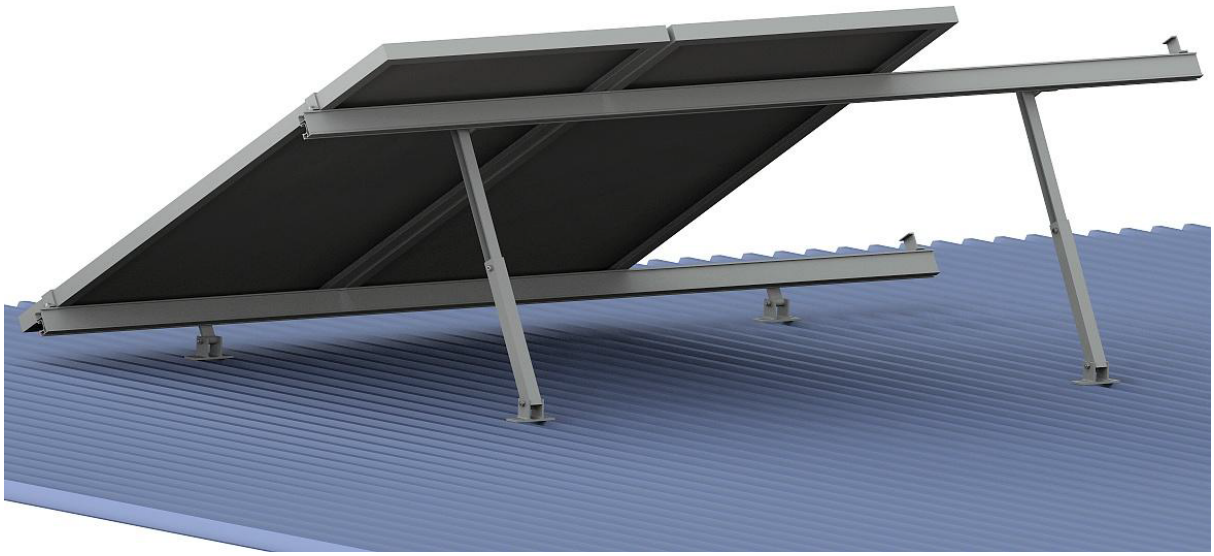
1. 10-15°Adjustable angle Mounting Systems



2. 15-30°Adjustable angle Mounting Systems

3. 30-60°Adjustable angle Mounting Systems





WORLDLEADING

MANUFACTURE

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