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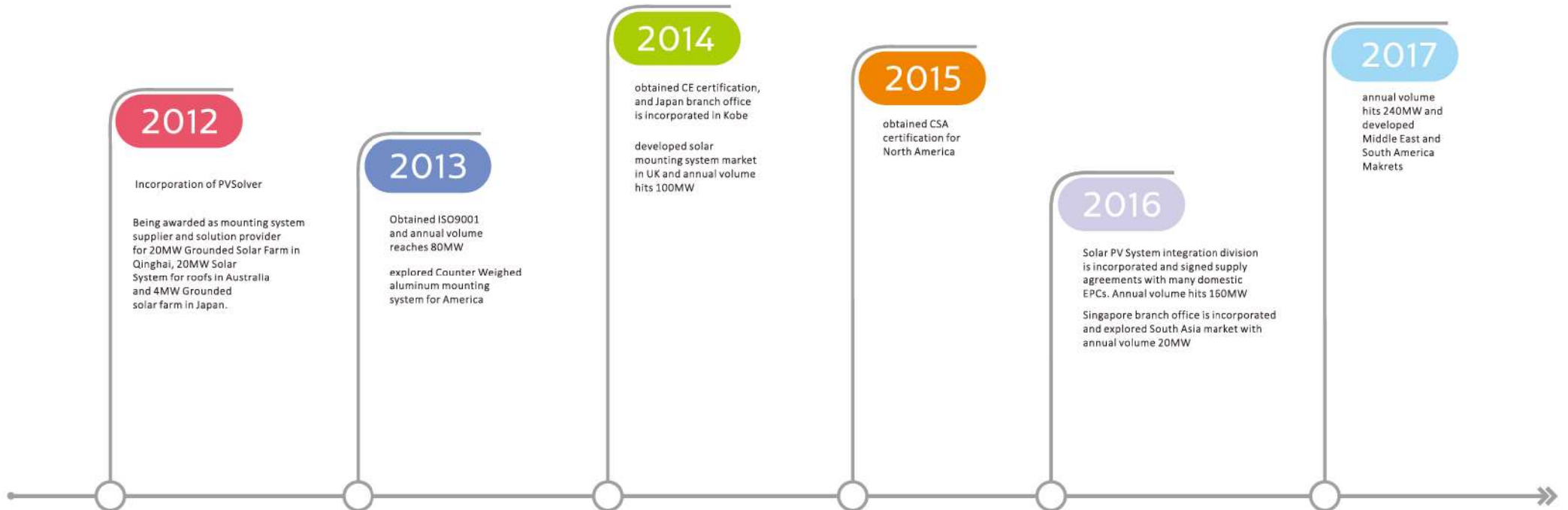
Web: <http://www.pvsolver.com>



Mounting System  
Solution Provider  
PVSolver

FROM 2012 PVSolver







“TOP WORKMANSHIP  
RELIABLE PERFORMANCE  
PROFESSIONAL ENGINEERING.”



Company Profile	(p07-08)
Metal Roof Solution	(p09-14)
Tile Roof Solution	(p15-18)
RC Roof Solution	(p19-24)
Ground Mounted Solar Racking	(p25-30)
Solar Carport Solution	(p31-32)
Other Applications	(p33-34)
Professionalism	(p35-36)
Project References	(p37-40)
Product Datasheet	(p41-42)





# Mounting System Solution Provider PVSolver

PVSolver Solar System Engineering Co., Ltd. was established in 2012, with a registered capital of RMB 5 Million, focusing on the development and fabrication of solar PV mounting systems with value added technical services.

High-quality, innovative, strong and extremely flexible in terms of application – these are the features of the Pvsolver's PV mounting systems. Whether you need steel or high-strength aluminum, an individual mounting profile or a small fastening screw – everything we offer has to meet requirements that are not merely high, but the very highest.

Designed for a service life of at least 25 years of perfect functionality, even in extreme conditions. For flat roofs, pitched roofs, solar parks and carports. For large scale solar farms, we can also take care of designing, calculating and supervising complete solar and photovoltaic plants. From the soil investigation and calculation of all structural analysis to site design, logistics and a version which is ready to release and transfer to the customer.

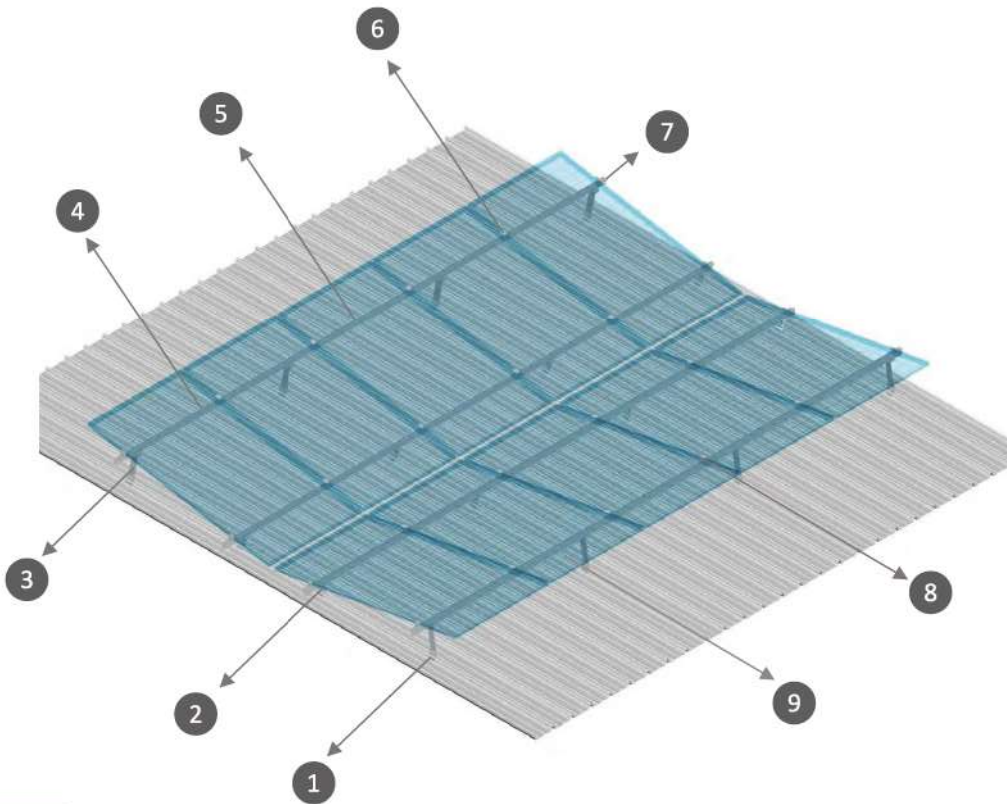
The company has built a strong manufacturing capacity and complete industrial chain system, after years of experiences, with research and innovation as a source of power, and constantly promotes product upgrading; we gather a wide range of customer resources in domestic and oversea markets.

In China, we work closely China State Power, Huaneng Energy, Zhonghang Power, CSIC, Trina Solar, Canadian Solar, etc. Overseas, our mounting systems are installed for IKEA, Pepsi, etc, we have customers worldwide, including Japan, Singapore, Philippine, Indonesia, India, Middle East, North and South America, etc

At present the company's annual production of 500MW solar racking capacity, and provide design and development, as well as some customized technical services for domestic and oversea customers.

# Metal Roof Solution M2

Module has angles to the Roof Profile 5° / 10° / 15°

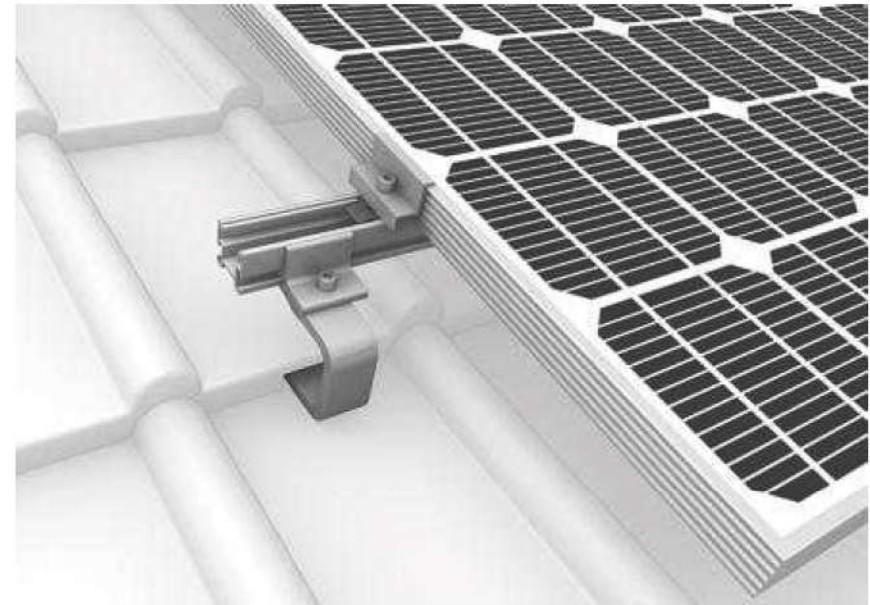
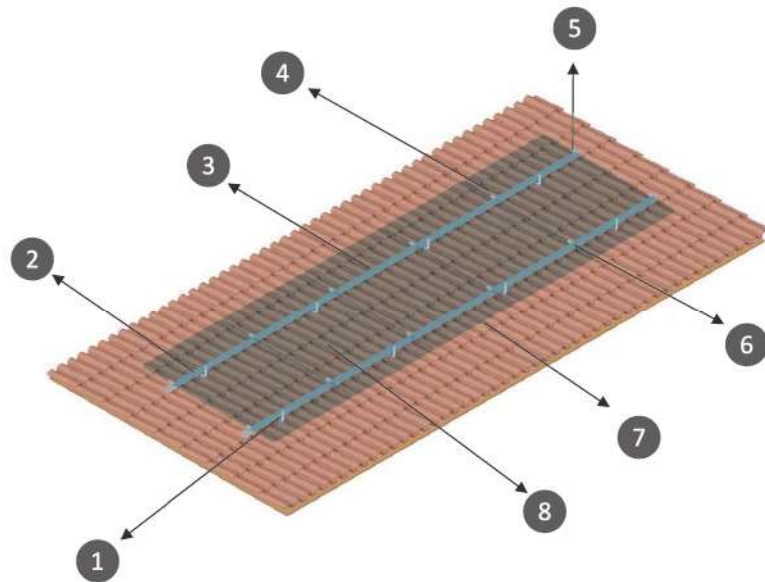


- |   |                                                                                       |               |   |                                                                                       |               |
|---|---------------------------------------------------------------------------------------|---------------|---|---------------------------------------------------------------------------------------|---------------|
| 1 |   | Fixation Part | 2 |   | L Feet        |
| 3 |  | Rail          | 4 |  | Rail Joiner   |
| 5 |  | Mid Clamp     | 6 |  | End Clamps    |
| 7 |  | Weed Washer   | 8 |  | Grounding Lug |
| 9 |  | Solar Module  |   |                                                                                       |               |



# Tile Roof Solution

Module follow Roof Profile 0°

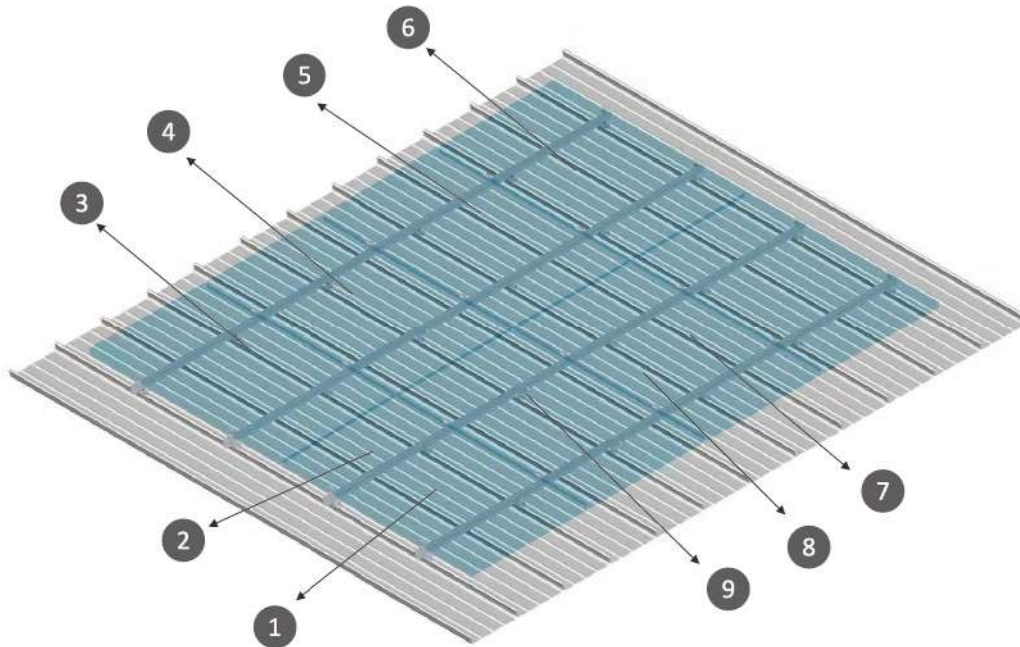


- |   |                                                                                       |               |   |                                                                                       |              |
|---|---------------------------------------------------------------------------------------|---------------|---|---------------------------------------------------------------------------------------|--------------|
| 1 |  | Hook          | 2 |  | Rail         |
| 3 |  | Rail Joiner   | 4 |  | Mid Clamp    |
| 5 |  | End Clamps    | 6 |  | Weed Washer  |
| 7 |  | Grounding Lug | 8 |  | Solar Module |

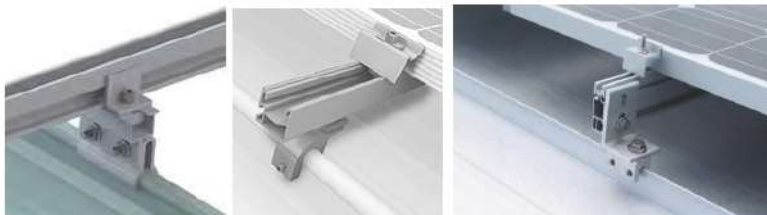


# Metal Roof Solution M1

Module follow Roof Profile 0°



- |   |  |               |   |  |               |
|---|--|---------------|---|--|---------------|
| 1 |  | Fixation Part | 2 |  | L Feet        |
| 3 |  | Rail          | 4 |  | Rail Joiner   |
| 5 |  | Mid Clamp     | 6 |  | End Clamps    |
| 7 |  | Weed Washer   | 8 |  | Grounding Lug |
| 9 |  | Solar Module  |   |  |               |



Seam Clamp

Rail with Cable Tray

Standing Seam Type

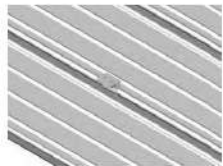




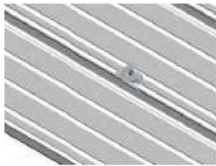
# Metal Roof Solution

## Simple Installation Process

<M1>



**Step 1:**  
Identify the location for the 1st clamps as specified in the drawing and fix the clamp on the metal roof



**Step 2:**  
Mount the rail clip on the seam clamp (not tighten)



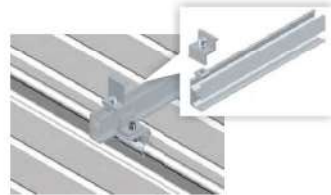
**Step 3:**  
Repeat the process and spread the fixation parts all over the roof with locations as specified in the drawing



**Step 4:**  
Secure the rails on the seam clamp and tighten the rail clip



**Step 5:**  
connect the rails and repeat the process, lay all the rails on the roof



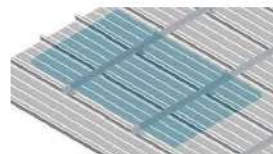
**Step 6:**  
Fix the 1st end clamp as location specified in the drawing and do not tighten it



**Step 7:**  
Fix the 1st Mid clamp with weed washer as location specified in the drawing and do not tighten it

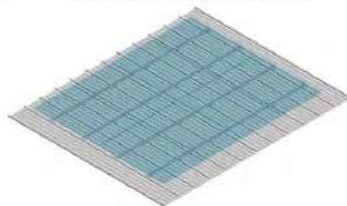


**Step 8:**  
Fix all the other mid and end lamps for the 1st module installation

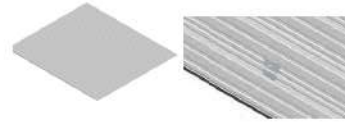


**Step 9:**  
Mount the 1st Module on the rail and tighten the mid and end clamps.

**Step 10:**  
repeat the process and complete all installations.



<M2>



**Step 1:**  
Identify the location for the front leg as specified in the drawing and fix the clamp on the metal roof  
Identify the location for the rear leg as specified in the drawing and fix the clamp on the metal roof



**Step 2:**  
Fix the front leg on the seam clamp



**Step 3:**  
Fix the rear leg on the seam clamp



**Step 5:**  
Fix the rail clip on the front leg but not tighten it



**Step 6:**  
Fix the rail clip on the rear leg but not tighten it



**Step 4:**  
Repeat the process and spread the fixation parts all over the roof with locations as specified in the drawing



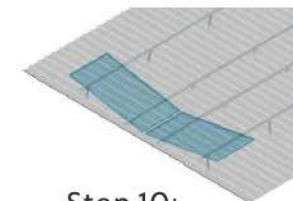
**Step 8:**  
Fix the 1st end clamp as location specified in the drawing and do not tighten it



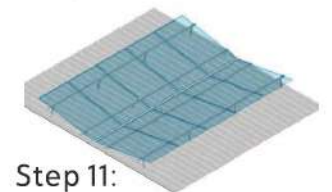
**Step 9:**  
Fix the 1st Mid clamp with weed washer as location specified in the drawing and do not tighten it



**Step 7:**  
Repeat the process and spread it over for all the legs on the roof



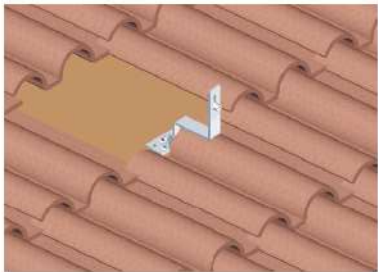
**Step 10:**  
Mount the 1st Module on the rail and tighten the mid and end clamps.



**Step 11:**  
repeat the process and complete all installations.

# Tile Roof Solution

Simple Installation Process



**Step 1:**  
Identify the 1st hook location as specified in the drawing, remove a few pieces of tiles and mount 1st hook



**Step 2:**  
Re-instate the Tiles



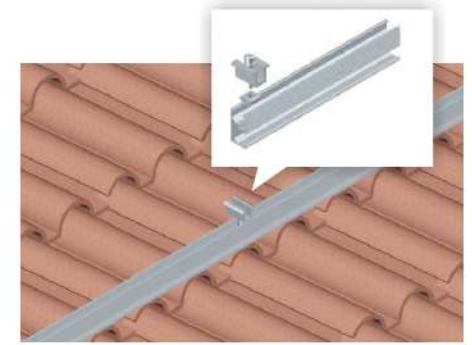
**Step 3:**  
Mount all the hooks with spacing as specified in the drawing with good alignment



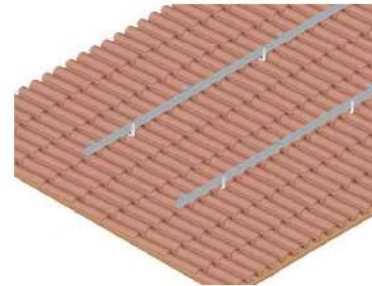
**Step 4:**  
Secure the rail on the hooks



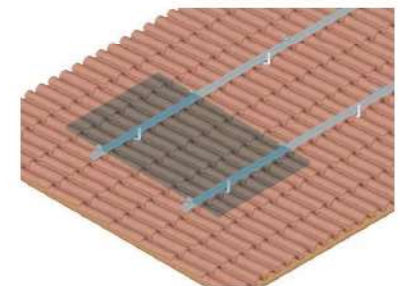
**Step 5:**  
Fix the 1st end clamp but not tighten at location as specified in the drawing



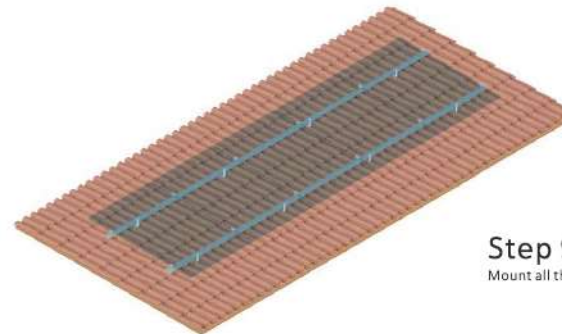
**Step 6:**  
Fix the 1st mid clamp but not tighten at the location as specified in the drawing



**Step 7:**  
Fix but not tighten all the end and mid clamps



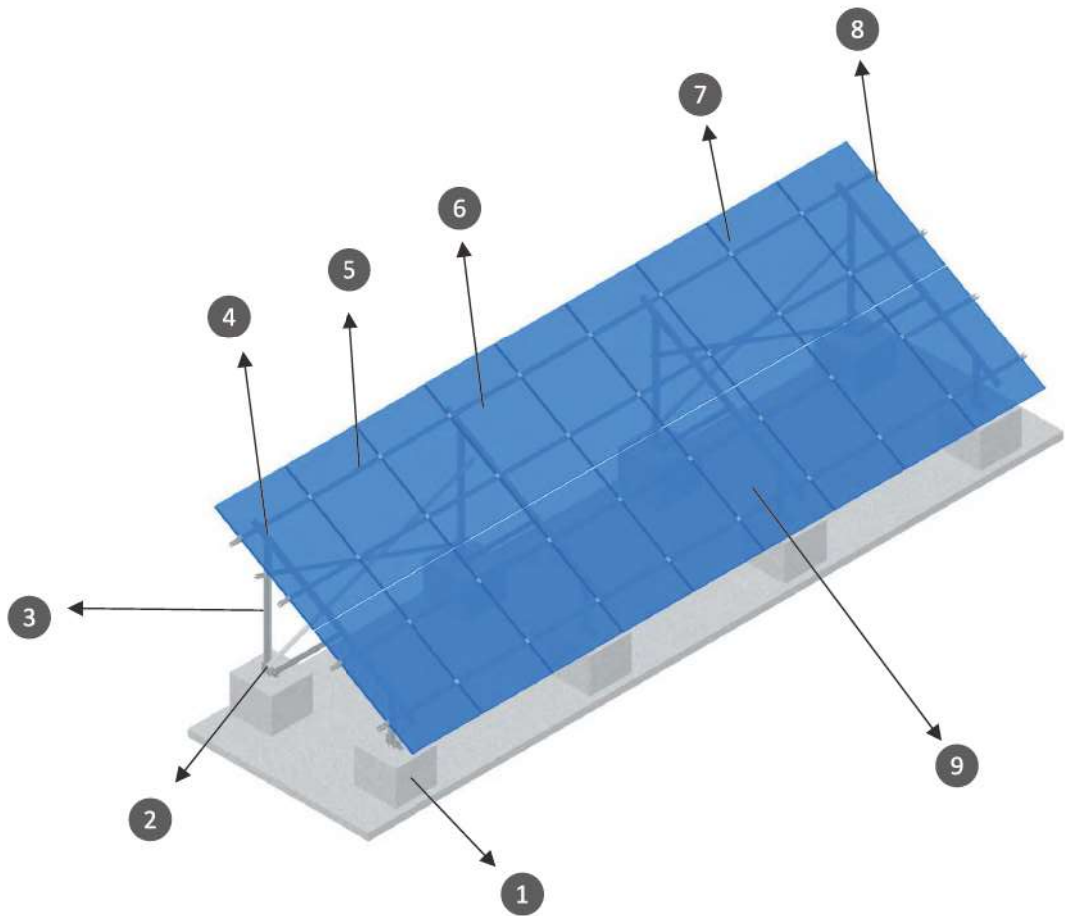
**Step 8:**  
Mount the 1st module and tighten the screws with specified torques












**Step 9:**  
Mount all the modules

# RC Roof Solution

Traditional 10° / 20° / 30°+



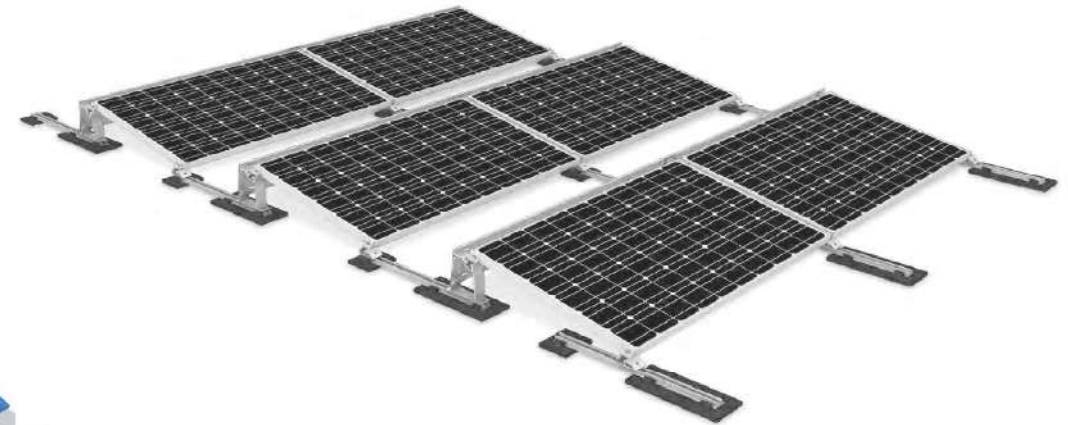
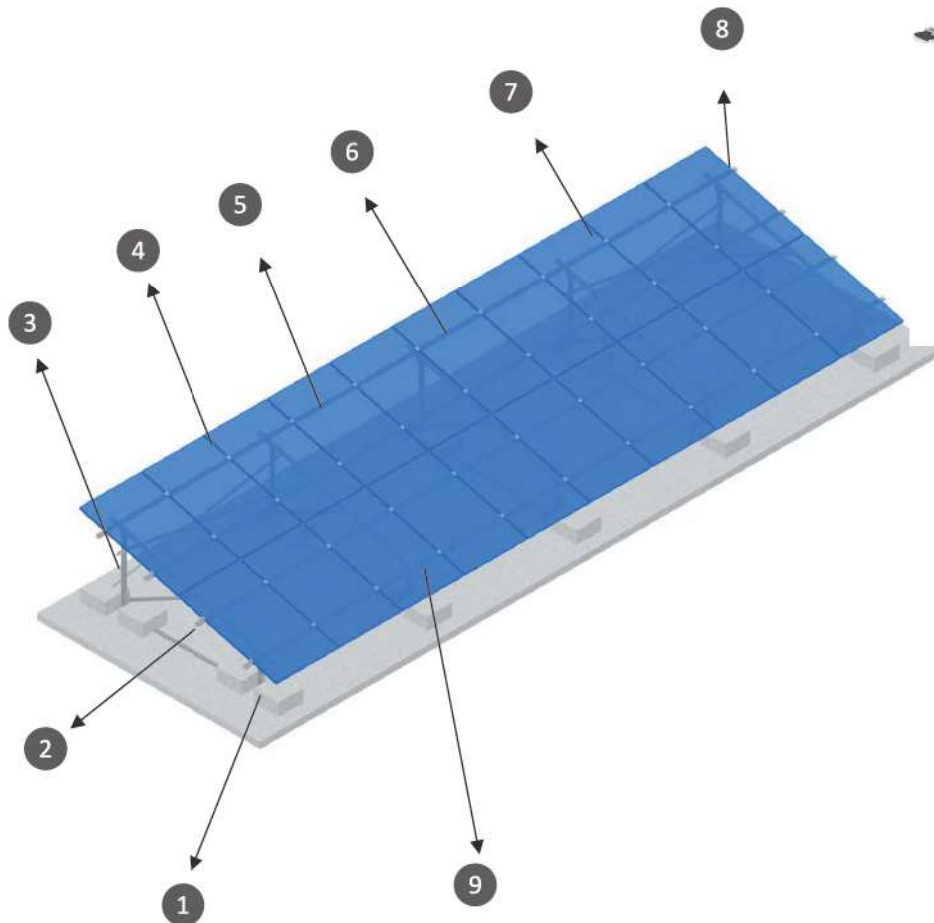
- |   |                                                                                       |                         |   |                                                                                       |                |
|---|---------------------------------------------------------------------------------------|-------------------------|---|---------------------------------------------------------------------------------------|----------------|
| 1 |   | Pre-cast Concrete Stump | 2 |   | Fixation Plate |
| 3 |  | Vertical Pole           | 4 |  | Main Beam      |
| 5 |  | Rail                    | 6 |  | Rail Joiners   |
| 7 |  | Mid Clamp               | 8 |  | End Clamp      |
| 9 |  | Solar Module            |   |                                                                                       |                |













# RC Roof Solution

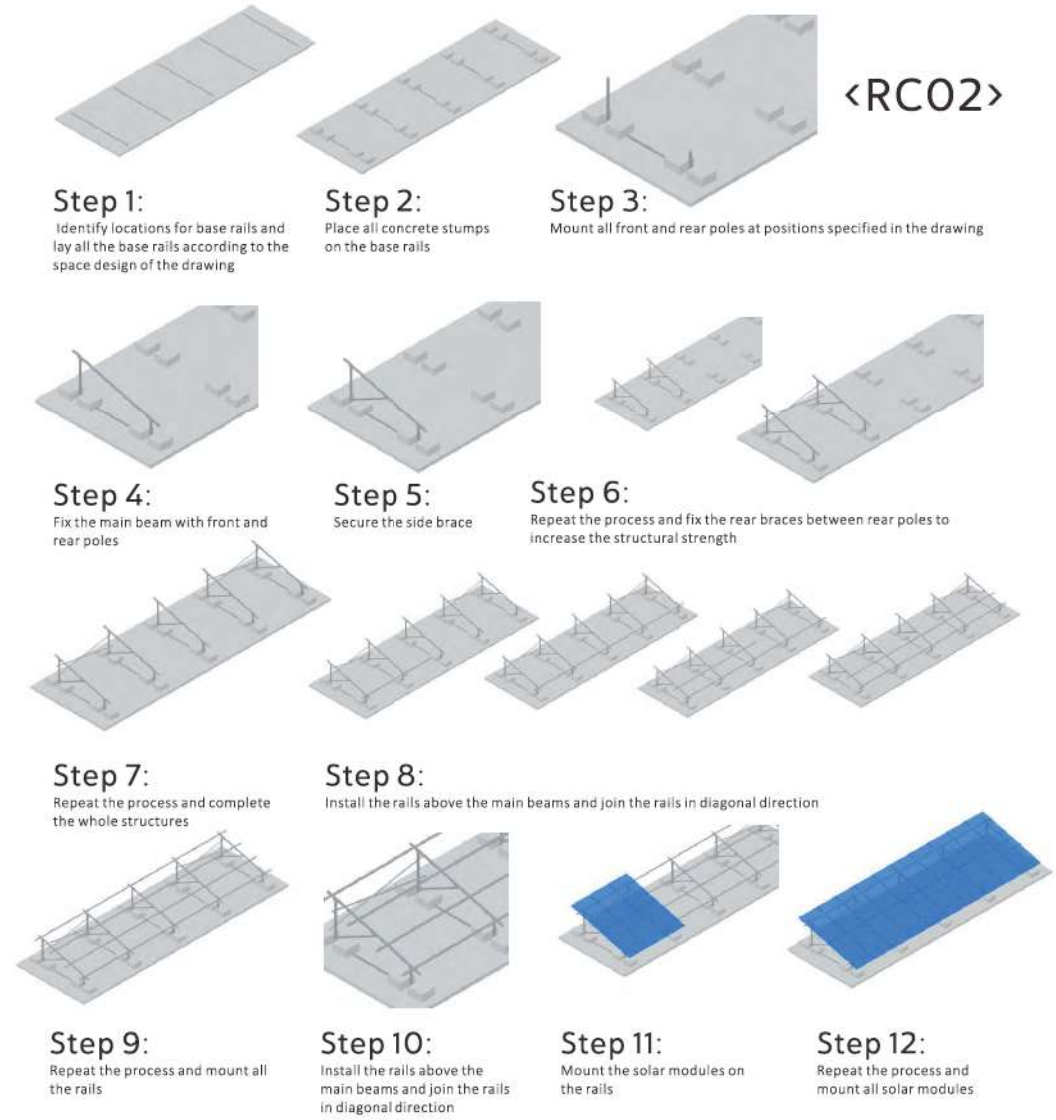
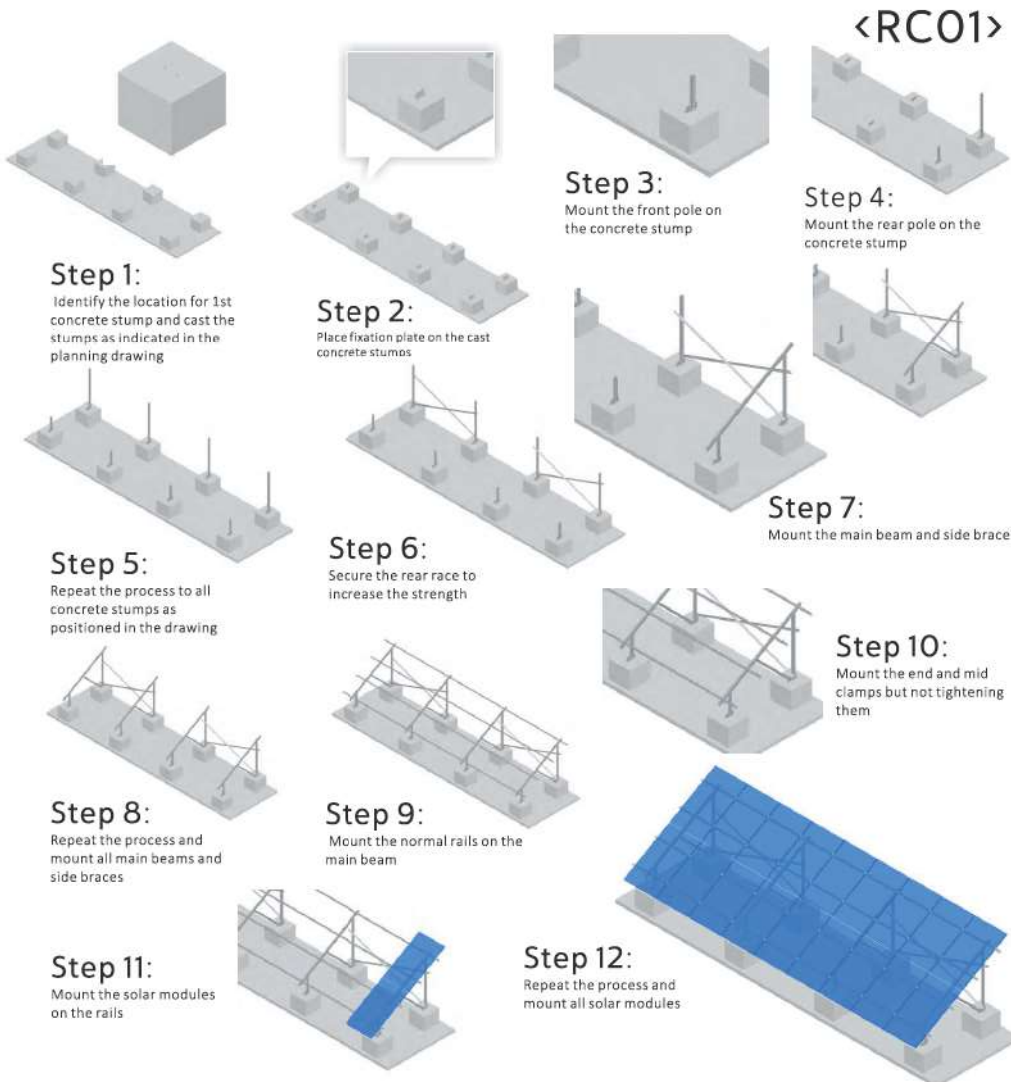
Counter Weighed 10° / 20° / 30°+



- |   |                                                                                       |                        |   |                                                                                       |              |
|---|---------------------------------------------------------------------------------------|------------------------|---|---------------------------------------------------------------------------------------|--------------|
| 1 |   | Sit-on Concrete Stumps | 2 |   | Base Rail    |
| 3 |  | Vertical Pole          | 4 |  | Main Beam    |
| 5 |  | Rail                   | 6 |  | Rail Joiners |
| 7 |  | Mid Clamp              | 8 |  | End Clamp    |
| 9 |  | Solar Module           |   |                                                                                       |              |

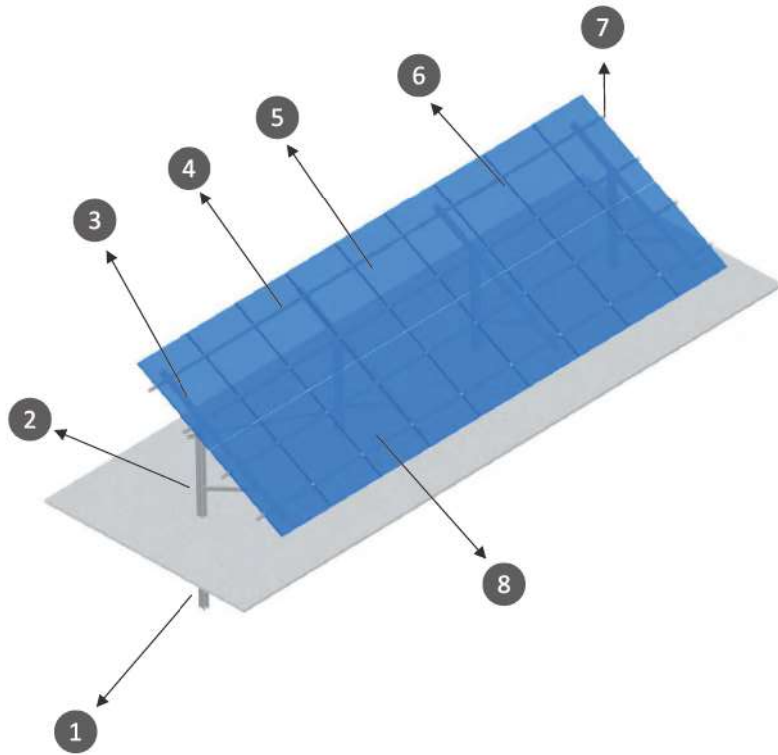
# RC Roof Solution

## Simple Installation Process



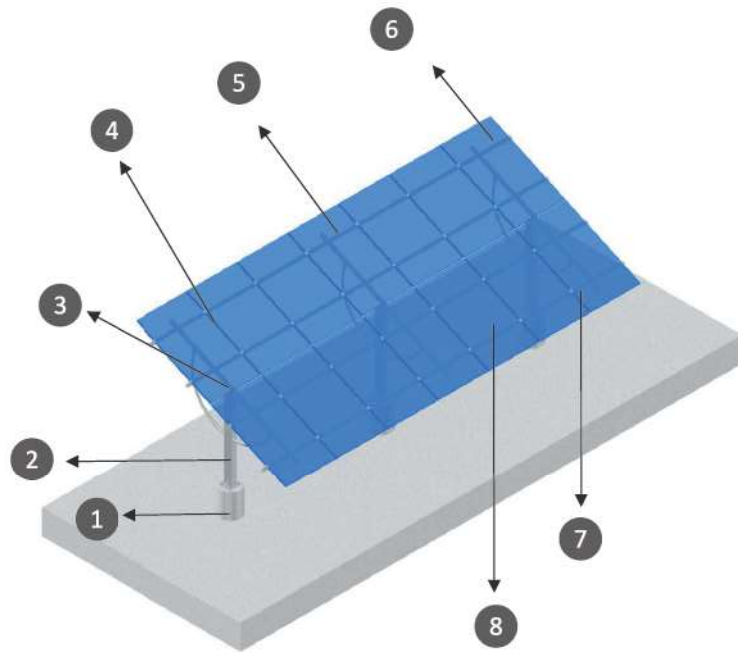
# Ground Mounted Solar Racking

Type A: 10° / 20° / 30°+



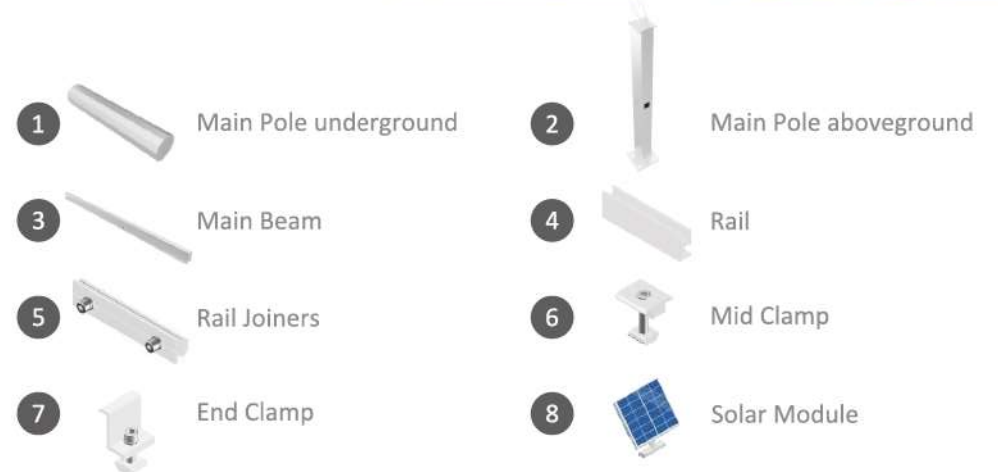
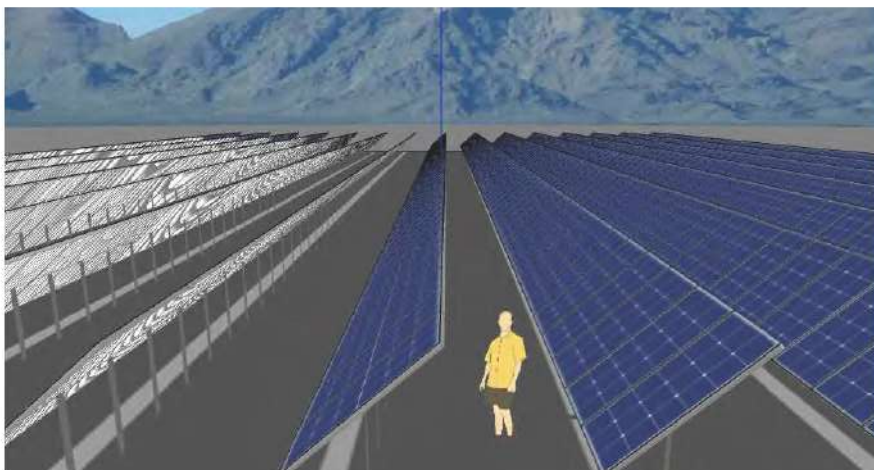
- |                                                                                       |                         |                                                                                       |                         |
|---------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------|-------------------------|
|   | 1 Main Pole underground |   | 2 Main Pole aboveground |
|  | 3 Main Beam             |  | 4 Rail                  |
|  | 5 Rail Joiners          |  | 6 Mid Clamp             |
|  | 7 End Clamp             |  | 8 Solar Module          |






## Ground Mounted Solar Racking

Type B: 10° / 20° / 30°+




# Ground Mounted Solar Racking


## Simple Installation Process




**Step 1:**  
Identify the location for 1st main pole and install the pole according to the drawing




**Step 2:**  
Install all the poles at locations as specified in the planning drawing




**Step 3:**  
Mount the main beam with side support on the main pole




**Step 4:**  
Repeat the process and complete the 2nd pole structure




**Step 5:**  
Secure the rear brace and increase the structural strength




**Step 6:**  
Repeat the process and mount all pole structures with layout designed in the drawing



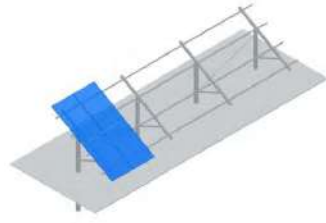
**Step 7:**  
Secure the normal rail on the main beams



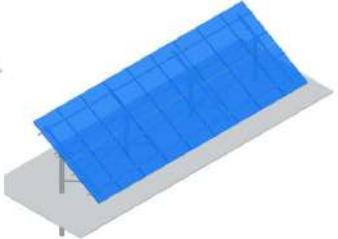
**Step 8:**  
Repeat the process and mount all the rails



**Step 9:**  
Mount the end and mid clamps but not tightening them




**Step 10:**  
Mount the solar modules on the rails




**Step 11:**  
Repeat the process and mount all solar modules


<G01>



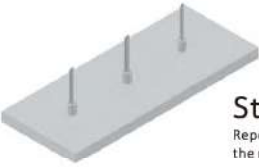
**Step 1:**  
Identify the location for 1st main pole and install the pole according to the drawing



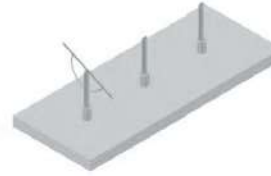
**Step 2:**  
Install all the poles at locations as specified in the planning drawing




**Step 3:**  
Mount the main beam with side support on the main pole




**Step 4:**  
Repeat the process and complete the main structure



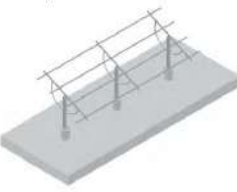
**Step 5:**  
Mount the adjustable structure with main beam on the main pole



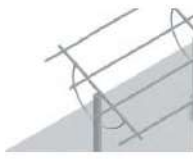
**Step 6:**  
Repeat the process and complete the full adjustable structure installation



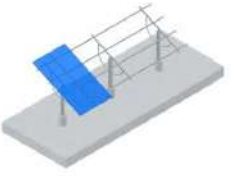
**Step 7:**  
Secure the normal rail on the main beams




**Step 8:**  
Repeat the process and mount all the rails



**Step 9:**  
Mount the end and mid clamps but not tightening them

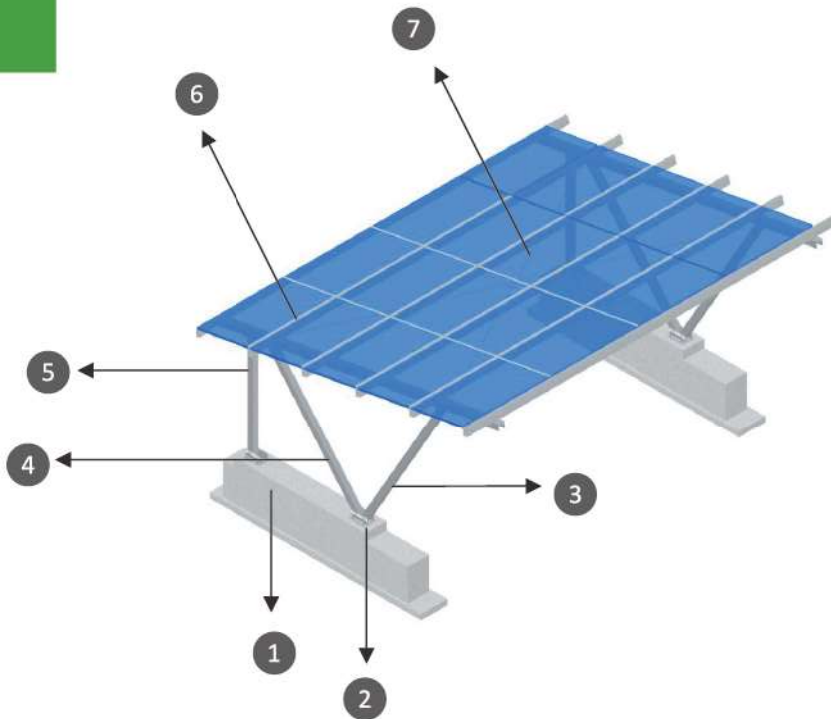


**Step 10:**  
Mount the solar modules on the rails



**Step 11:**  
Repeat the process and mount all solar modules

# Solar Carport Solution



- 1 Concrete Base
- 2 Base Plate
- 3 Front Pole
- 4 Secondary Front Pole
- 5 Rear Pole
- 6 Main Beam
- 7 Solar Module



**Step 1:**  
Identify the location for the first concrete base and cast the concrete base as designed in the shop drawings



**Step 2:**  
Repeat the process and set out the concrete base at distance and location specified in the drawing



**Step 3:**  
Mount the main support structure with tightening rod on top



**Step 4:**  
Install the main beam with rails on the main structure



**Step 5:**  
Mount the solar modules and complete the installation

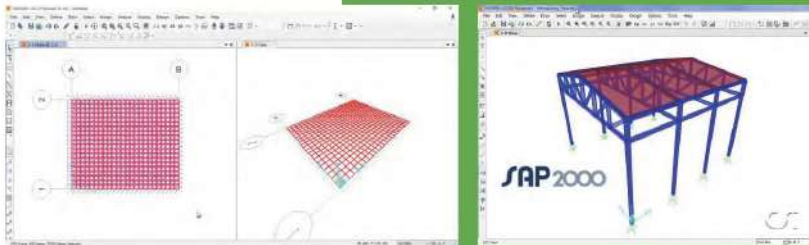






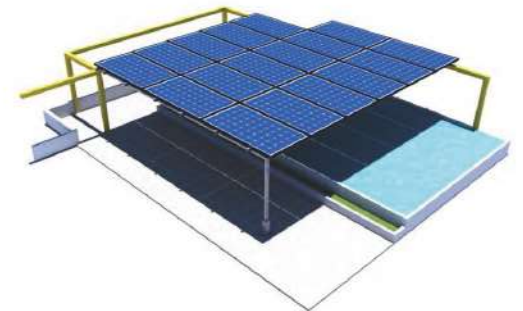
## Professionalism

We have in-house engineers who are able to do structural designs to meet different standards of different countries by using the software SAP2000.



The working procedures are as follows:

- PVSolver will issue a standard questionnaire to the customer
- Customer shall complete the questionnaire and furnish PVSolver required documents, include but not limited to module datasheet, maximum wind speed, applied standards, roof profile details, soil report, etc
- PVSolver will work out basic design with simple prelim calculations for customer review
- Detailed calculation book will be provided upon confirmation of the project



# Products

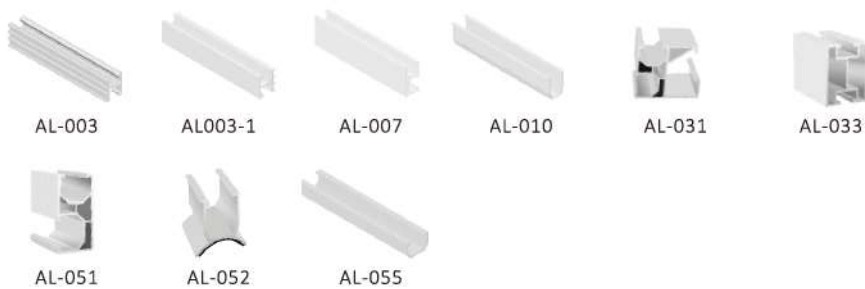
## < Seam Clamp for Metal Roofs >



## < Hooks for Tile Roofs >



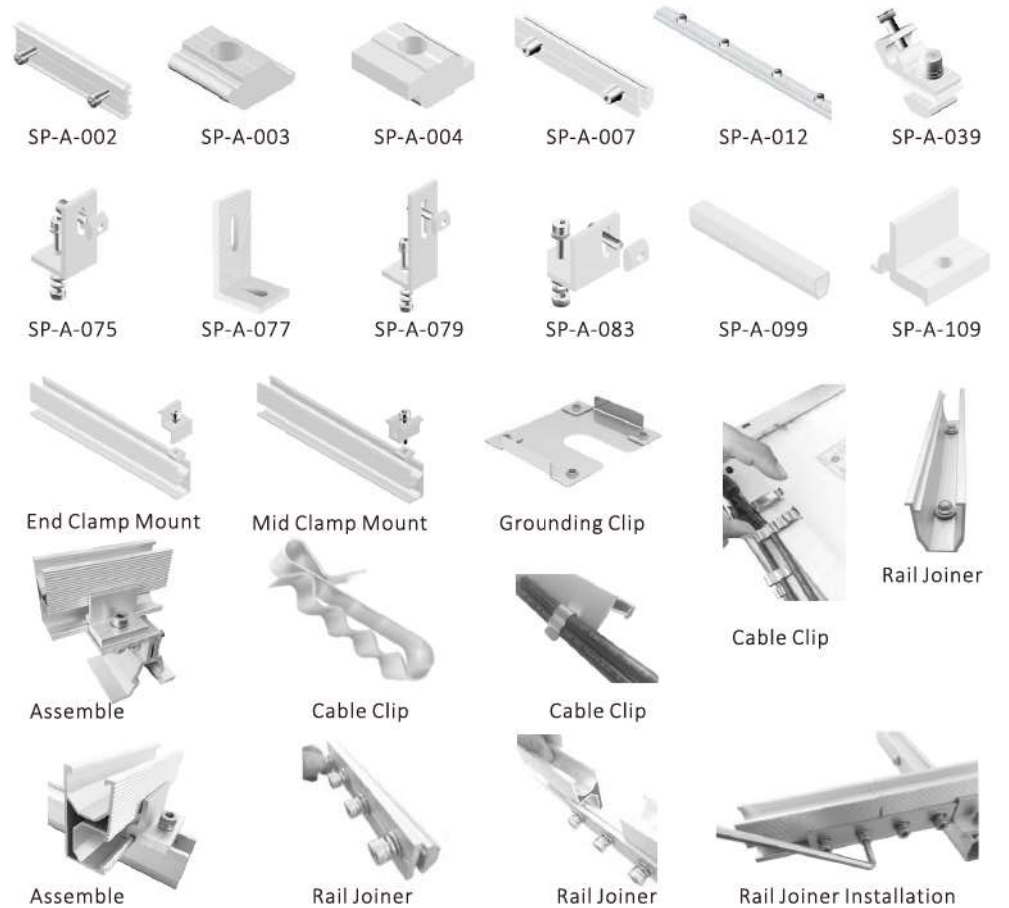
## < Rails >



## < Mid and End Clamps >



## < Parts and Accessories >



# Products



Rail



Rail Joiner



Anchor Bar



Rail



Pile



Rail



Base Plate



Vertical Pole



Base Plate



Rail



Rail



Adjustable Pole



Vertical Pole



Ballast Tray Type for RC Roof



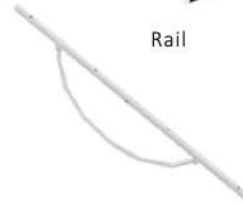
Connection



Base Plate



Rail



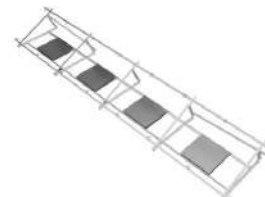
Rail



RC-026



Pole



RC Roof Mounting



Rail



Rail



RC-026



Adjustable Pole



Pole Connection



Base Plate



Base Plate



RC-026



Rail



Connection





**Project Location:** Shanghai, China  
**Capacity:** 60MWp  
**Completion Year:** 2018  
**Type:** Concrete Roof Mounted



**Project Location:** Shanghai, China  
**Capacity:** 4.3MWp  
**Completion Year:** 2016  
**Type:** Concrete Roof Mounted



**Project Location:** Singapore  
**Capacity:** 1.6MWp  
**Completion Year:** 2017  
**Type:** Metal roof Mounted



**Project Location:** Shiga-ken, Japan  
**Capacity:** 2MWp  
**Completion Year:** 2015  
**Type:** Metal Roof Mounted



**Project Location:** Tuas, Singapore  
**Capacity:** 1MWp  
**Completion Year:** 2017  
**Type:** RC Roof Mounted



**Project Location:** Singapore  
**Capacity:** 221Wp  
**Completion Year:** 2017  
**Type:** Metal roof Mounted



**Project Location:** Iloilo, Philippines  
**Capacity:** 1.9MWp  
**Completion Year:** 2016  
**Type:** Metal roof Mounted



**Project Location:** Cebu, Philippines  
**Capacity:** 2.5MWp  
**Completion Year:** 2017  
**Type:** RC Roof Mounted



**Project Location:** Africa  
**Capacity:** 1.6MWp  
**Completion Year:** 2015  
**Type:** Metal Roof Mounted



**Project Location:** USA  
**Capacity:** 2.5MWp  
**Completion Year:** 2015  
**Type:** Ground Mounted



**Project Location:** Cebu, Philippines  
**Capacity:** 2.5MWp  
**Completion Year:** 2017  
**Type:** Metal roof Mounted



**Project Location:** Iloilo, Philippines  
**Capacity:** 1.9MWp  
**Completion Year:** 2016  
**Type:** Metal roof Mounted



**Project Location:** Shanghai, China  
**Capacity:** 60MWp  
**Completion Year:** 2018  
**Type:** Ground Mounted



**Project Location:** Klang, Malaysia  
**Capacity:** 426kWp  
**Completion Year:** 2016  
**Type:** Metal roof Mounted



**Project Location:** Tuas, Singapore  
**Capacity:** 1MWp  
**Completion Year:** 2017  
**Type:** Metal roof Mounted



**Project Location:** Singapore  
**Capacity:** 221Wp  
**Completion Year:** 2017  
**Type:** Metal roof Mounted



**Project Location:** Singapore  
**Capacity:** 1.6MWp  
**Completion Year:** 2017  
**Type:** Metal roof Mounted



**Project Location:** Shiga-ken, Japan  
**Capacity:** 2MWp  
**Completion Year:** 2015  
**Type:** Ground Mounted



**Project Location:** Africa  
**Capacity:** 1.6MWp  
**Completion Year:** 2015  
**Type:** Ground Mounted



**Project Location:** USA  
**Capacity:** 2.5MWp  
**Completion Year:** 2015  
**Type:** RC roof Mounted





CE Certificate



ISO 9001 Certificate



Patent for Fast Installation Mounting System



Patent for Wind Load Reducing Mounting System



Patent for Leakage Free Mounting System



CSA Certificate



CSA Certificate



Patent for Easy Connection Mounting System



Patent for Quick Installation Mounting System



Honor of 7th in Top 20 Certificate