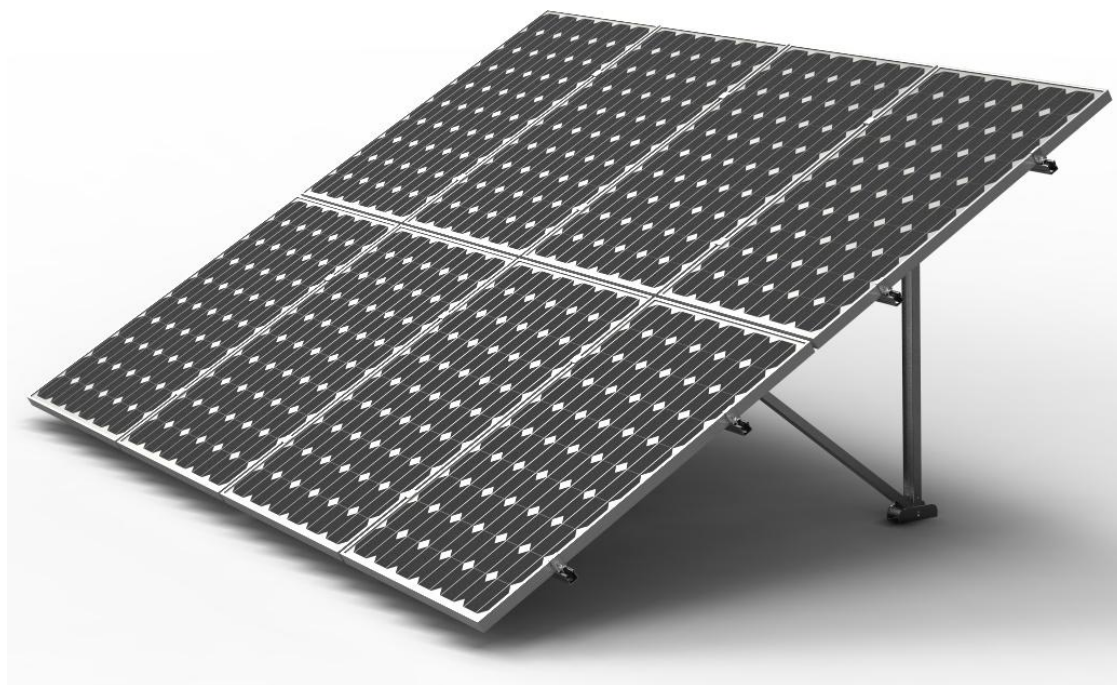


Mounting Systems

Ground mount V Structure Installation Guide



Contents

Part I.	Preparing and layout.....	2-6
Part II.	Feature of the rail and the module.....	7-8
Part III.	Installation instruction.....	9-17

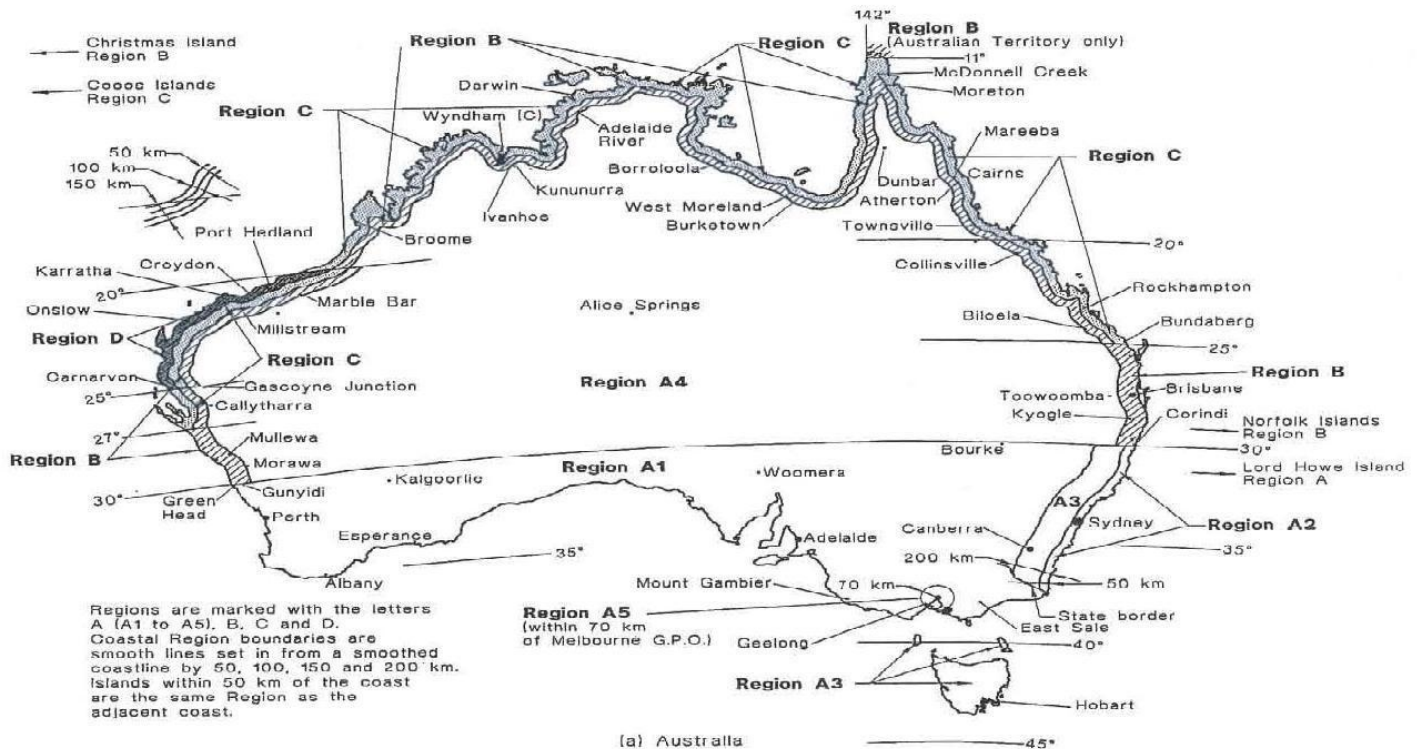


Compliant Planning and Installation with Australia AS/NZS1170

I. Preparing

1. Determine the wind region of your installation site

Wind Regions Extract from AS1170.2 (Australia only)



Region Definition:

Wind regions are pre defined for all of Australia by Australian Standard 1170. The Wind Region has nothing to do with surrounding topography or buildings.

Most of Australia is designated Region A which indicates a Regional Ultimate Basic Wind Velocity of 45msec.

Some areas are designated Region B (57msec). Local authorities will advise if this applies in your area.

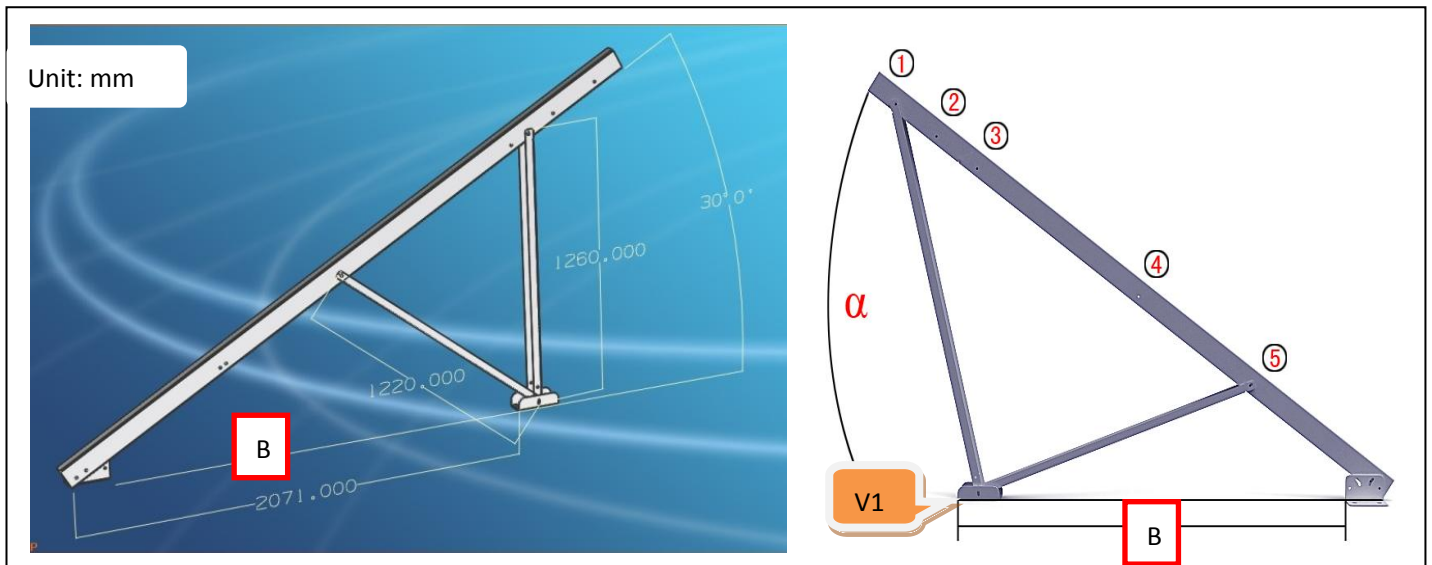
Region C areas (66msec) are generally referred to as Cyclonic and are generally limited to northern coastal areas. Most Region C zones end 100km inland.

Region D (80msec) Australia's worst Cyclonic Region between Carnarvon and Pardoo in Western Australia.

2. Determine the installation distance between legs

- * solar panel size
- * angle between solar panel and ground
- * calculation the distance between legs. According to angle and ground condition..

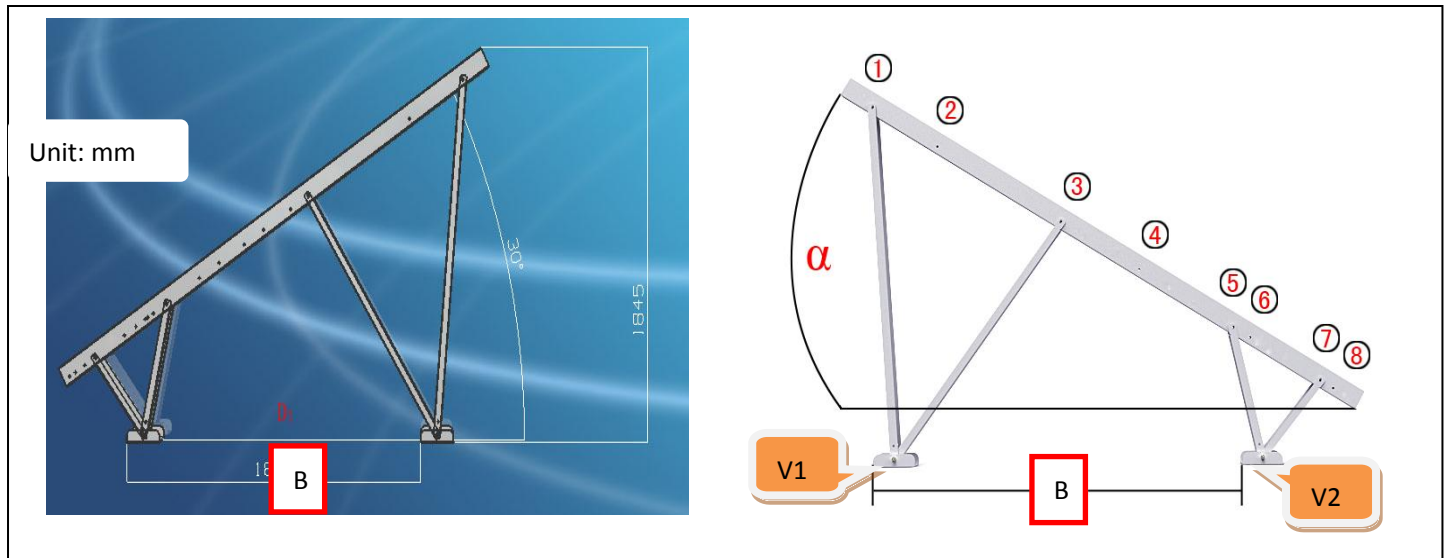
2.1 1V structure



Planning distance calculation

$\alpha=20^0$	B=1800mm	V1-- ① ④
$\alpha=25^0$	B=2200mm	V1-- ① ③
$\alpha=30^0$	B=2071mm	V1-- ② ③
$\alpha=35^0$	B=1820mm	V1-- ① ⑤
$\alpha=40^0$	B=2000mm	V1-- ② ④
$\alpha=45^0$	B=1702mm	V1-- ③ ⑤

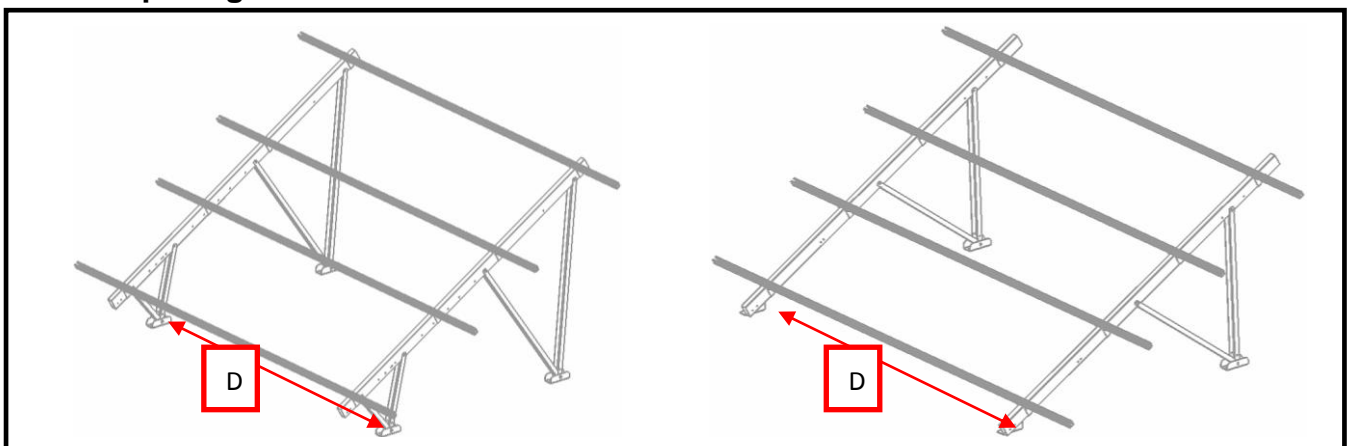
2.2 2V structure



Planning distance calculation

$\alpha=20^{\circ}$	B=1520mm	V1-- ① ④	V2-- ⑤ ⑦
$\alpha=25^{\circ}$	B=1594mm	V1-- ② ③	V2-- ⑥ ⑧
$\alpha=30^{\circ}$	B=1802mm	V1-- ① ③	V2-- ⑤ ⑦
$\alpha=35^{\circ}$	B=1550mm	V1-- ② ④	V2-- ⑥ ⑧
$\alpha=40^{\circ}$	B=2382mm	V1-- ① ④	V2-- ⑤ ⑦
$\alpha=45^{\circ}$	B=2178mm	V1-- ② ③	V2-- ⑥ ⑧

3. Maximum spacing between frames shall be as follows.

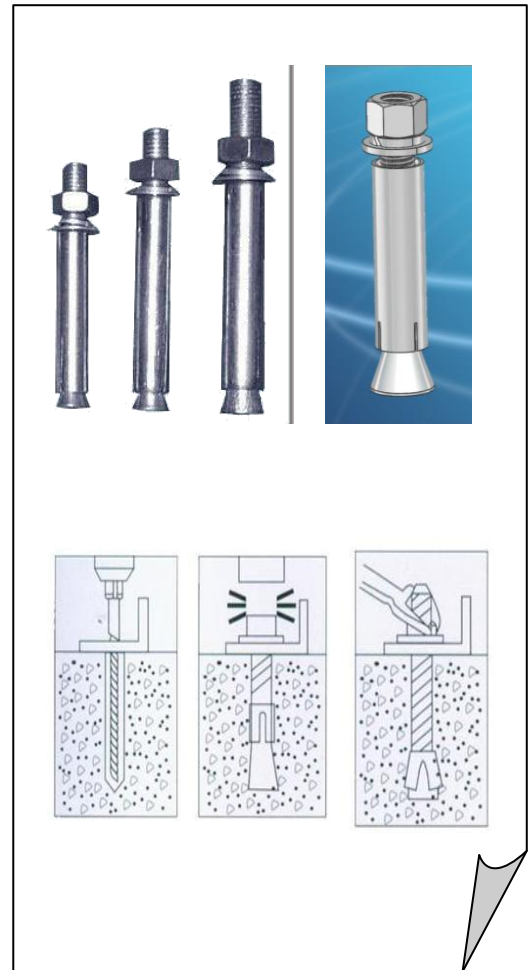
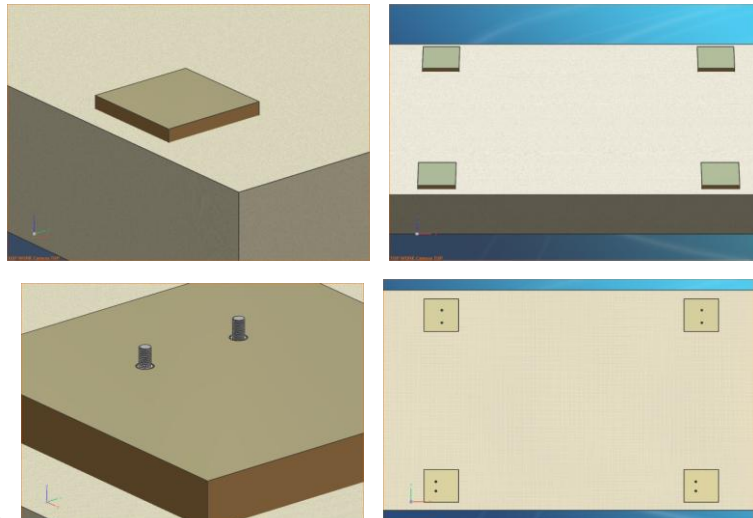
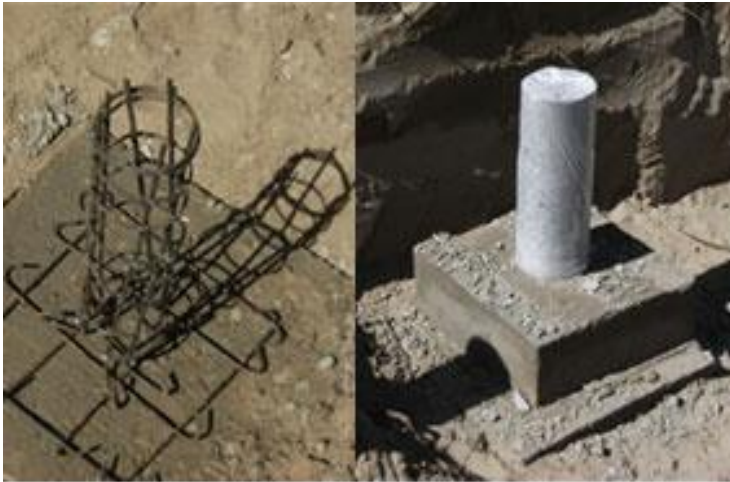


Wine Zone	CHKO rail	A	B	C	D
Wind Speed Vr (m/s)	/	43.4	53	65.2	81.7
Max spacing D between frames (mm)	CK-FZ rail	3200	2800	2300	1800
	CK-FC82 rail	4400	3800	3200	2800
	CK-FC62 rail	4200	3600	2800	2200
	CK-FC41 rail	3400	3000	2500	2100

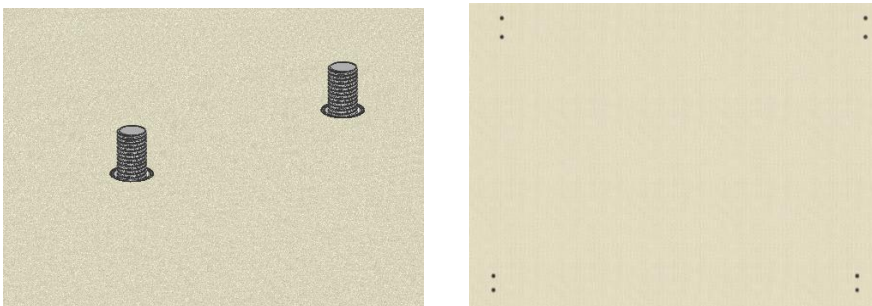
4. Determine the ground situation of the of your installation site

- 4.1 Earth ground
- 4.2 Concrete ground

4.1 Earth ground, should make the concrete base and fix the expand-bolt first



4.2 Concrete ground only need to fix 2*M12*100 expand-bolt firstly



Causion:

- * The concrete size and requirements are based on several factors including the array surface area, maximum design wind speed, exposure category, soil type, steepest expected tilt angle, and above ground clearance.
- * Please contact a local construct engineer to calculation.

5. Installation tools

6 mm Allen key;
Open-ended spanner set 9, 10, 17, 19 mm
Torque Wrench
Rubber hammer
Tape measure or other type measurer
Spirit level or plumb or other relevant tool

Some time also need:

Manual or auto Spiral hammers
Percussion drill
Hammer
Finishing file

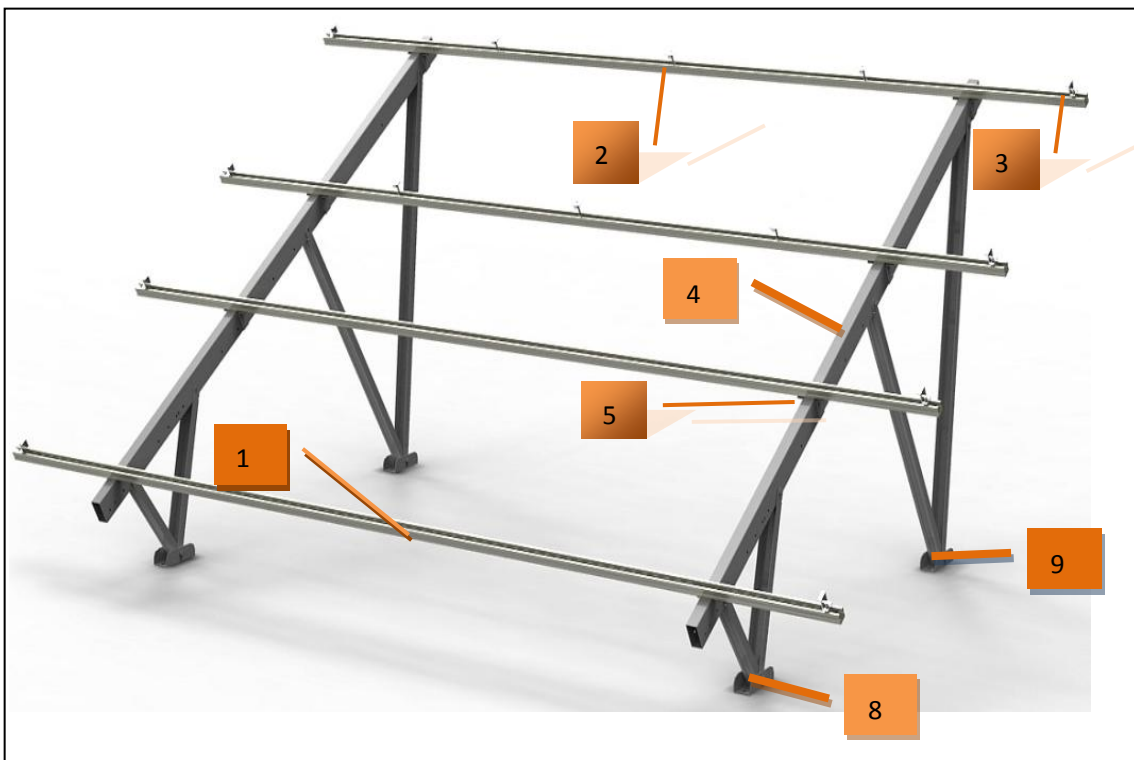
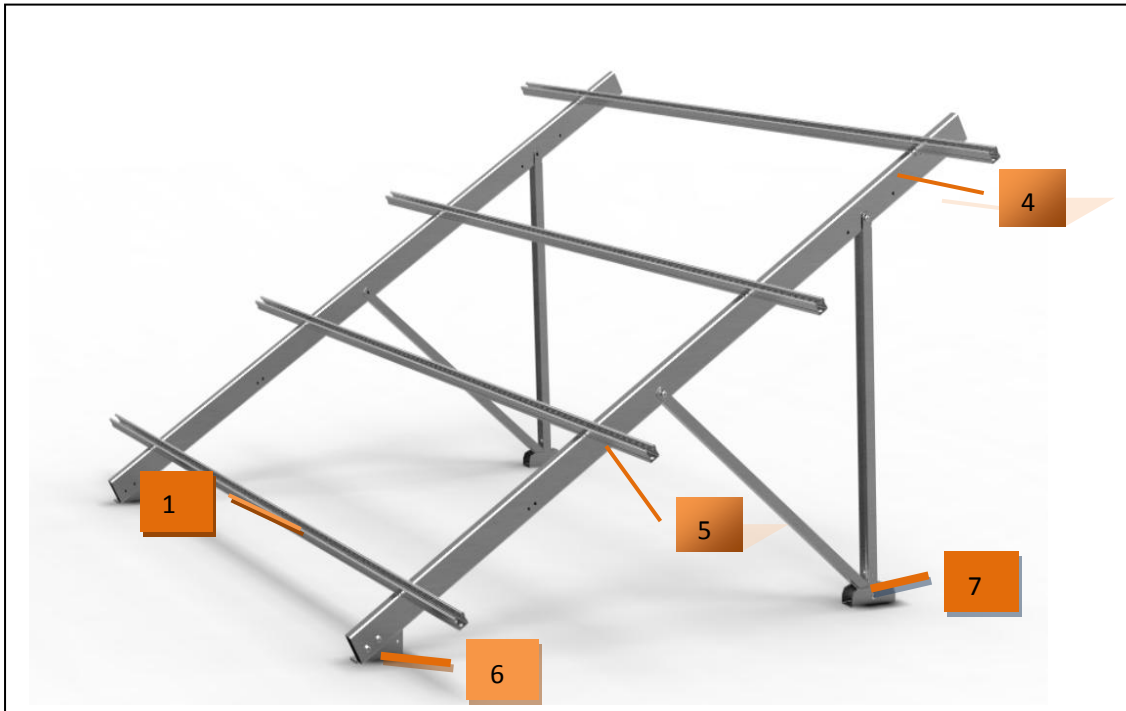
6. Installation Rule

The installation of the framing shall conform to relevant local government standards, Manufacturer's specifications and good building practice. The ground base foundation to which the panels are to be installed shall conform to the relevant local government standards.

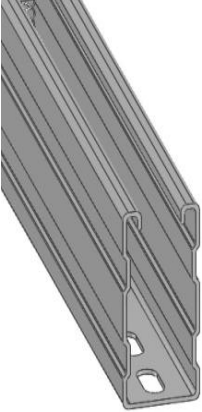
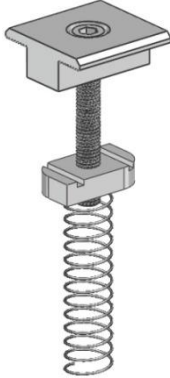
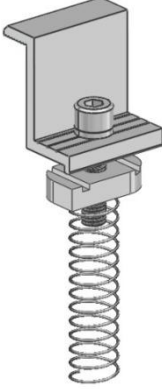
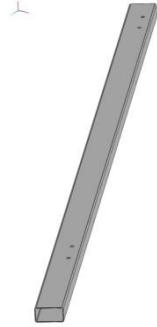

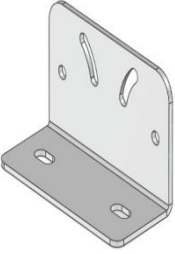

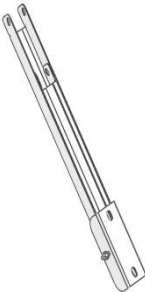

- Follow the risk management process prior to commencing work – that is, identify all the hazards, assess their risks and eliminate or control them.
- Consult with those involved in the work.
- Develop safe work procedures for installing solar panels, using information from the risk management process, which would include reviewing the following information:
 - manufacturer's instructions
 - Australian Standard AS4509.1: 2009 Stand-alone Power Systems – Safety and Installation
 - Australian Standard AS4509.2: 2002 Stand-alone Power Systems – System Design Guidelines.
- Provide appropriate information and training to anyone involved in performing the work.
- Provide appropriate tools and personal protective equipment (PPE).
- Ensure that a system is in place to prevent or arrest falls.
- Ensure there are adequate first aid facilities.
- Ensure all employees are aware of the emergency procedures.

II. Feature of mounting system

1. System over view

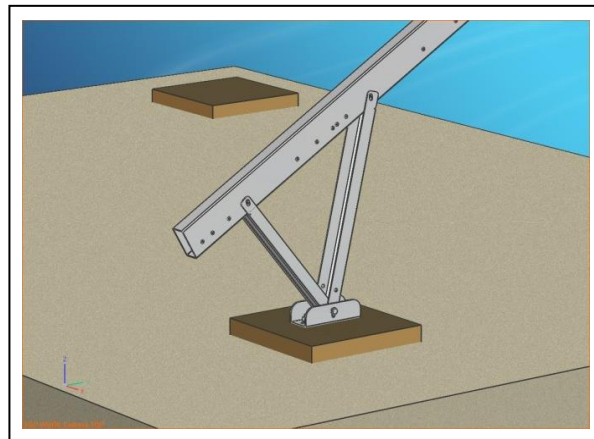
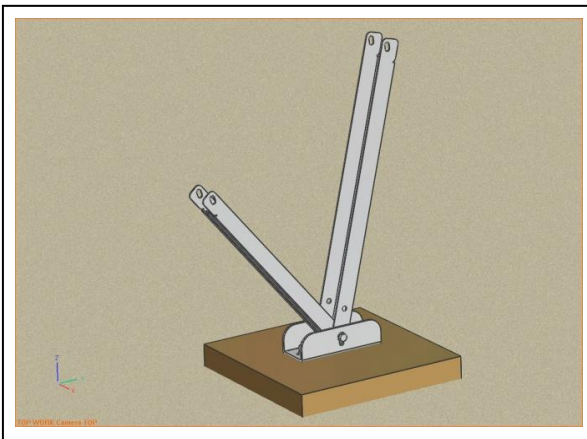
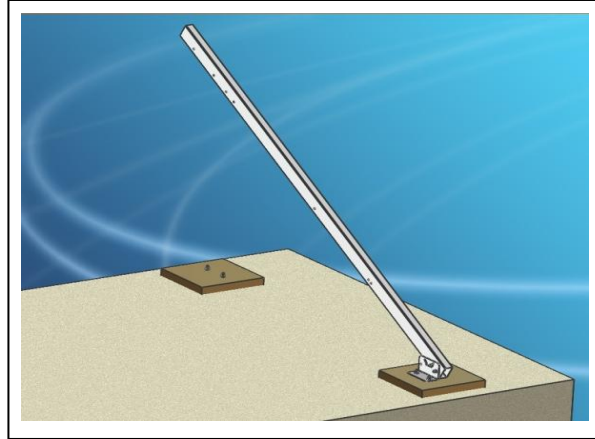
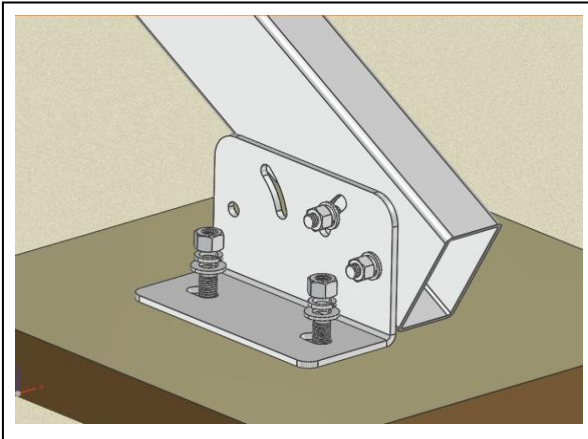


2. Components over view

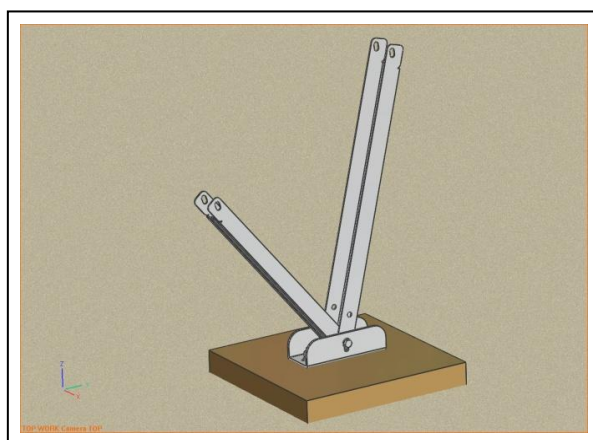
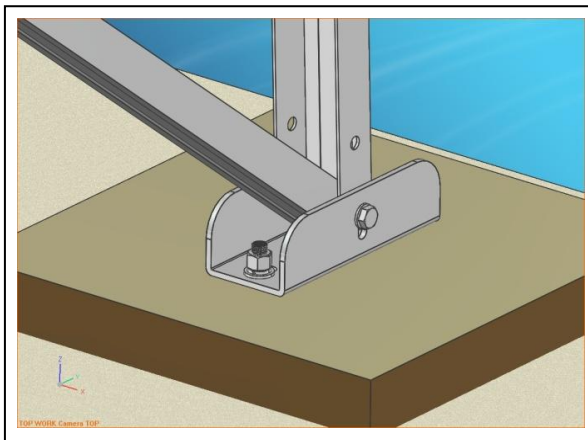
1.	2.	3.	4.	5.
				
6.	7.	8.	9.	
				

III. Installation instruction

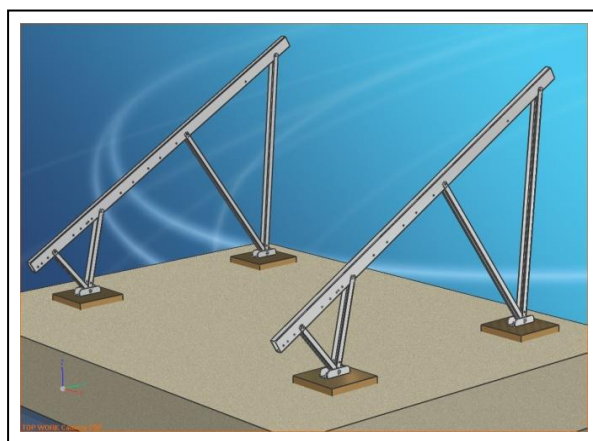
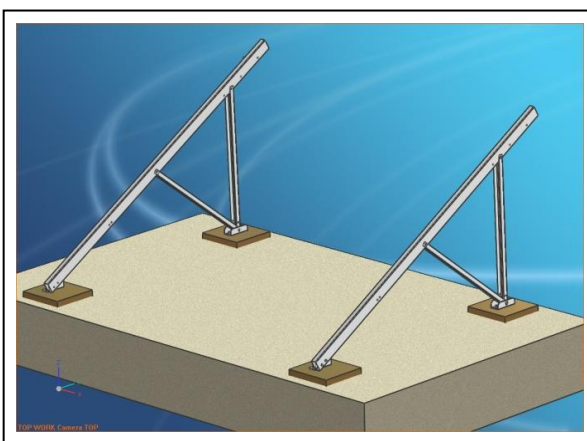
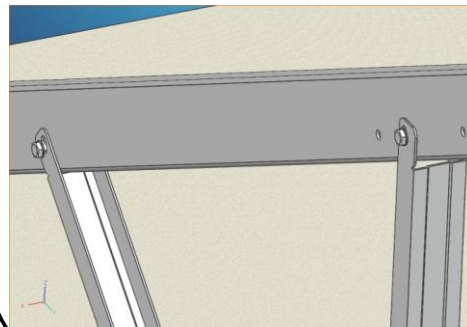
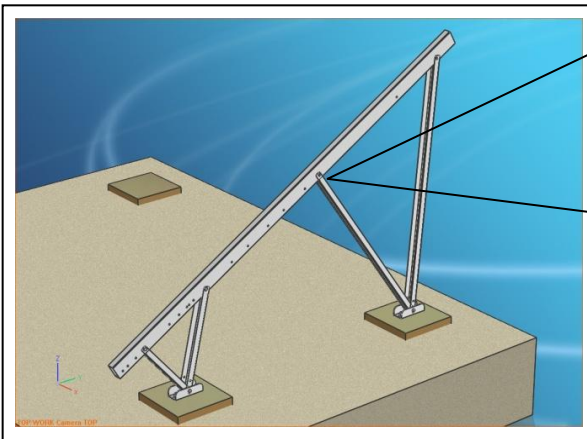
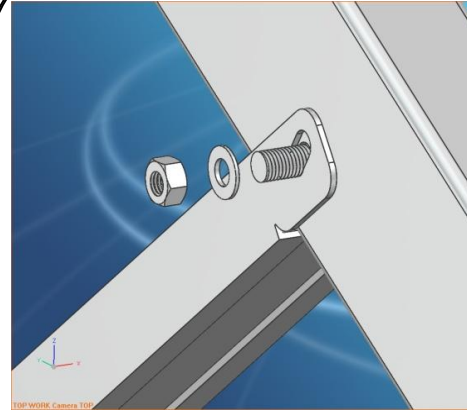
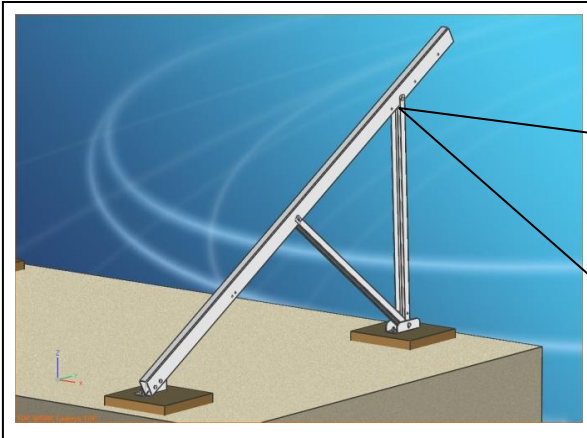
1. Fix Legs to ground
 - 1.1 Fix front feet base to expand-bolt by 2*M12 nuts.



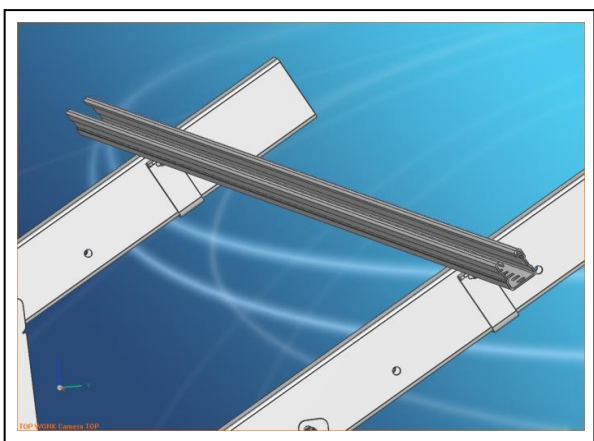
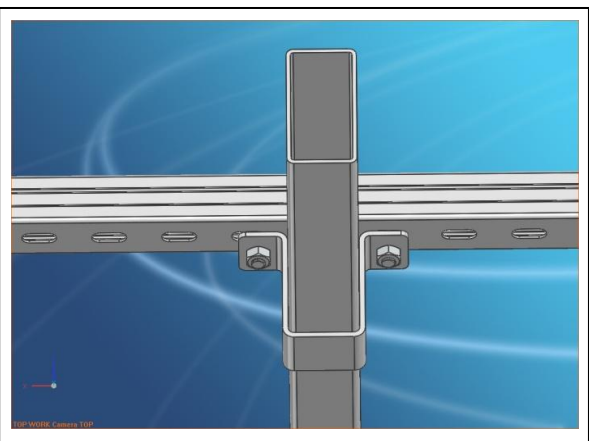
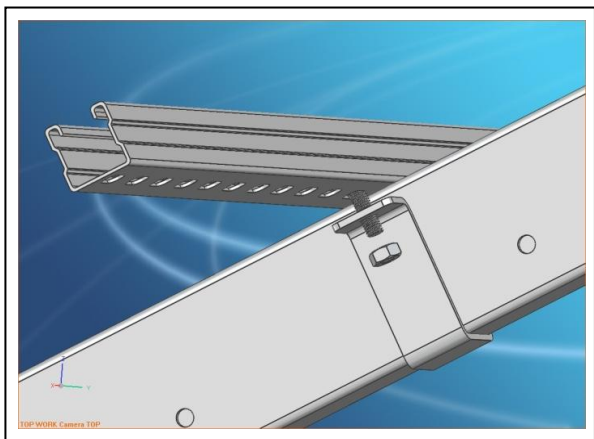
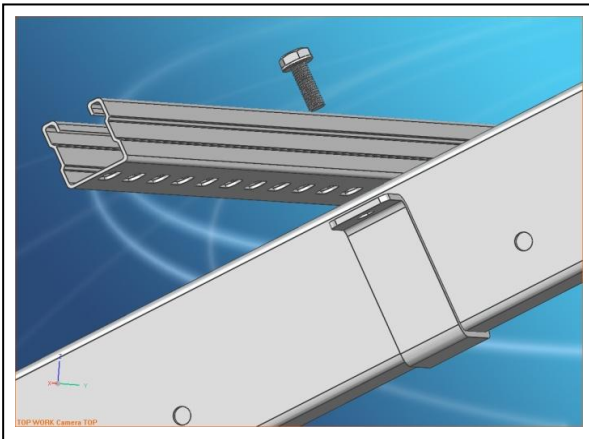
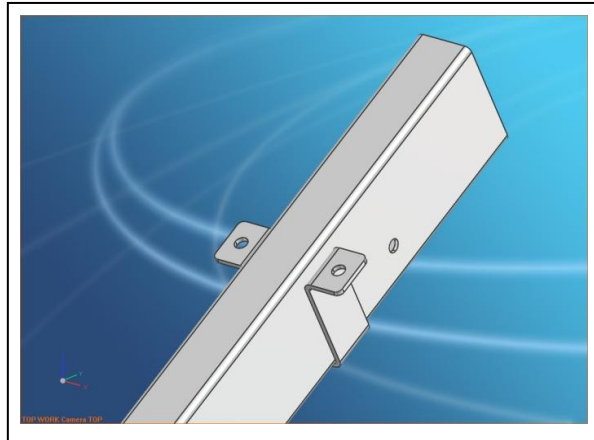
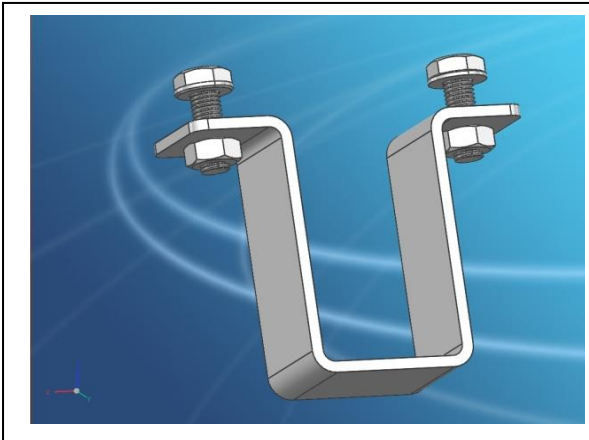
- 1.2 Fix back feet base to expand-bolt by M12 nuts.



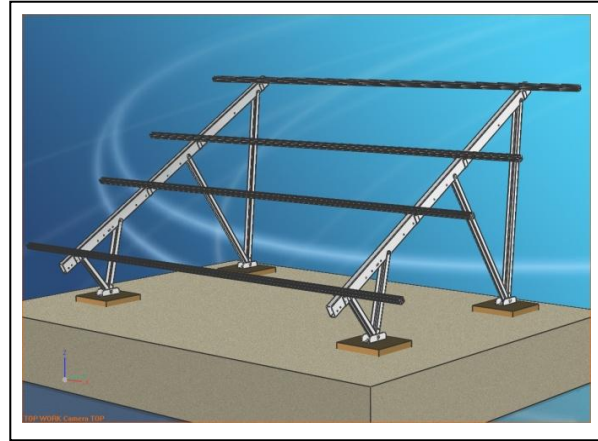
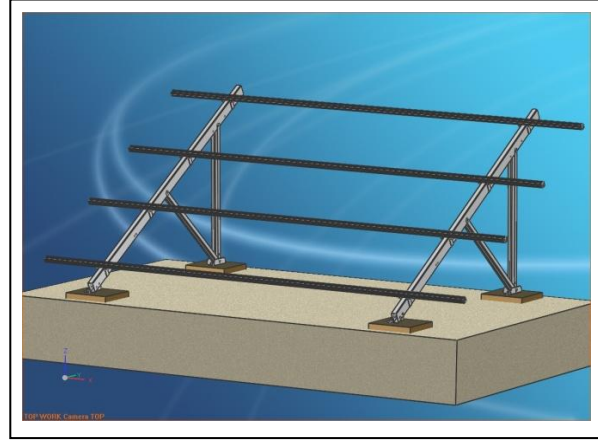
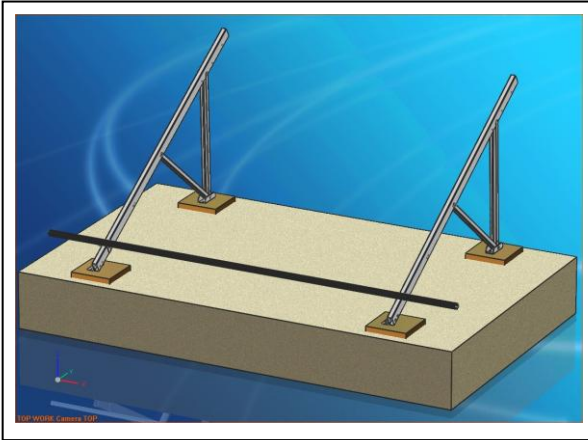
2. Fix beam between two legs and tighten, each end by 1* M10*80 bolt



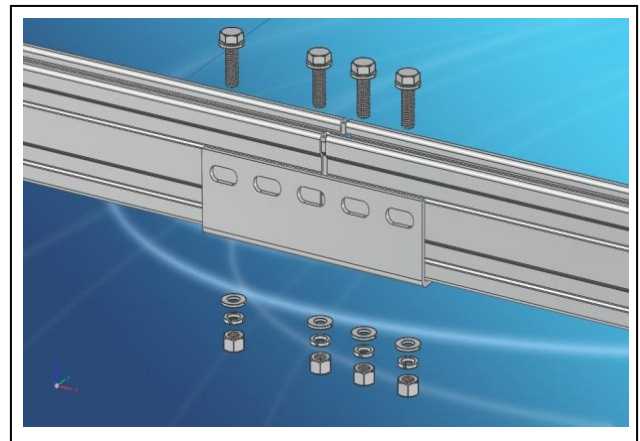
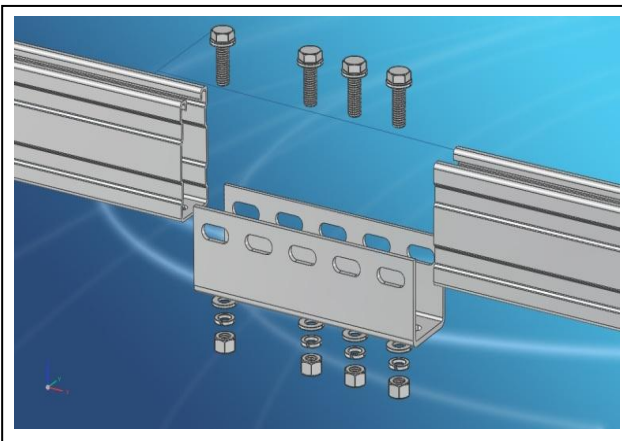
3. Fix rail to beam by connector by 2* M10*35 bolts

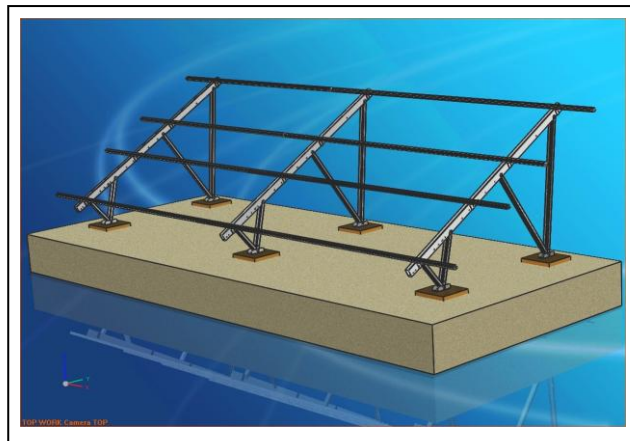
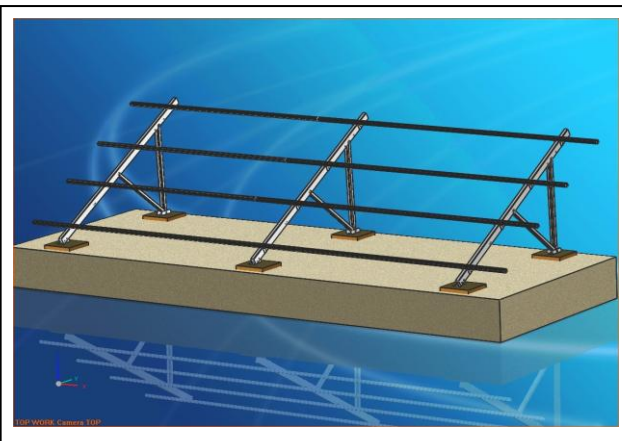
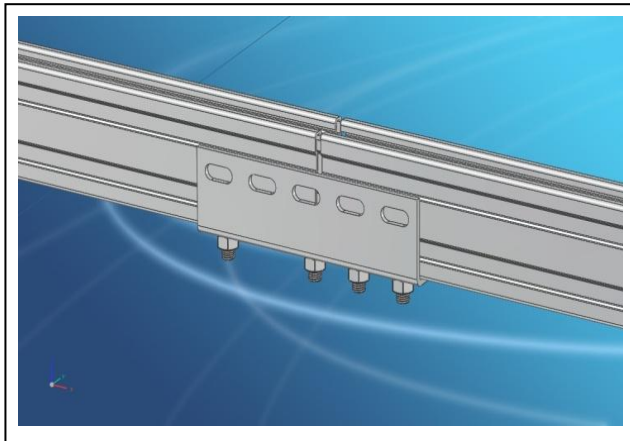
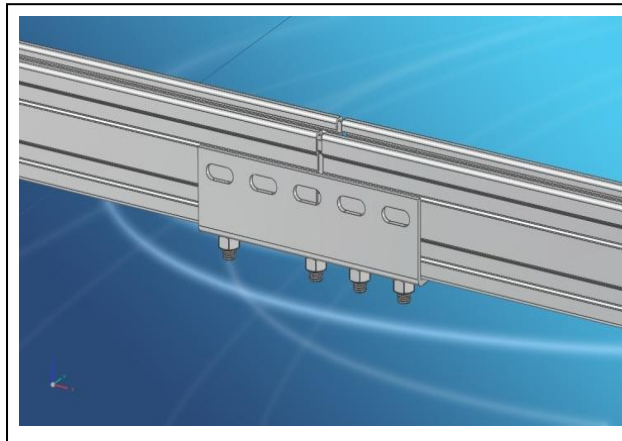
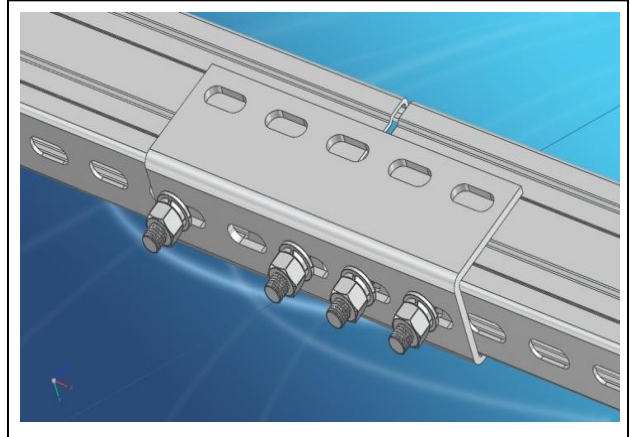
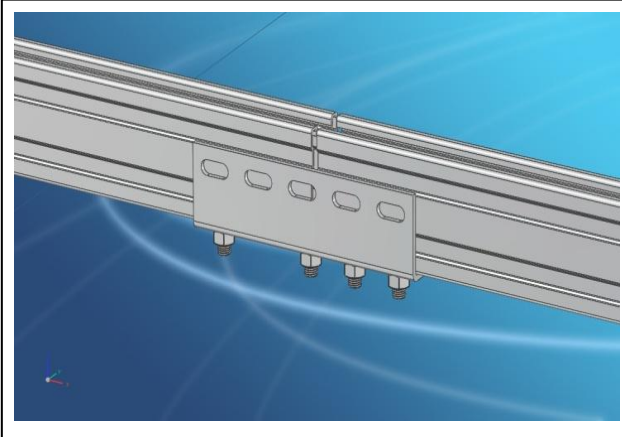


4. Fix all rails by this way, till all jobs done.

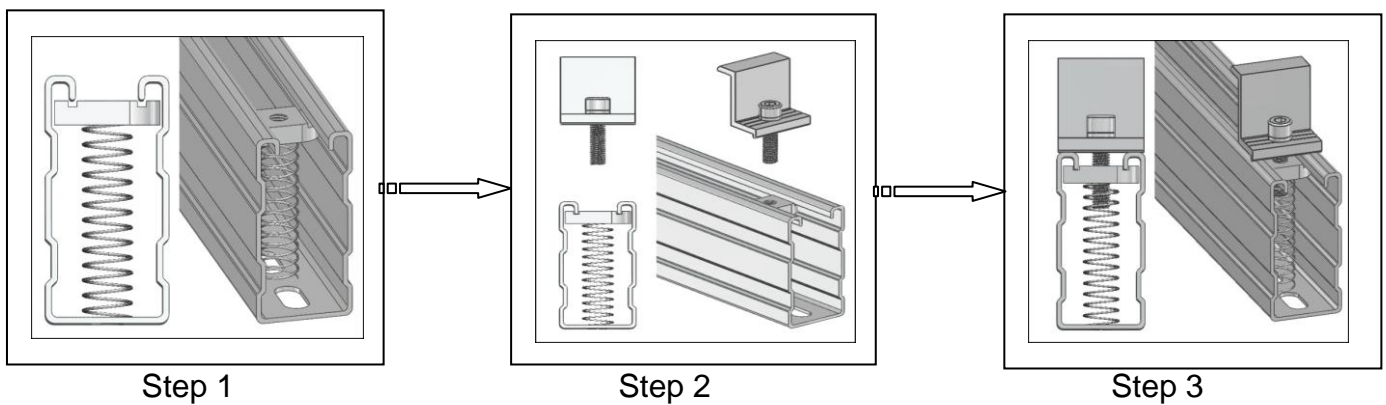
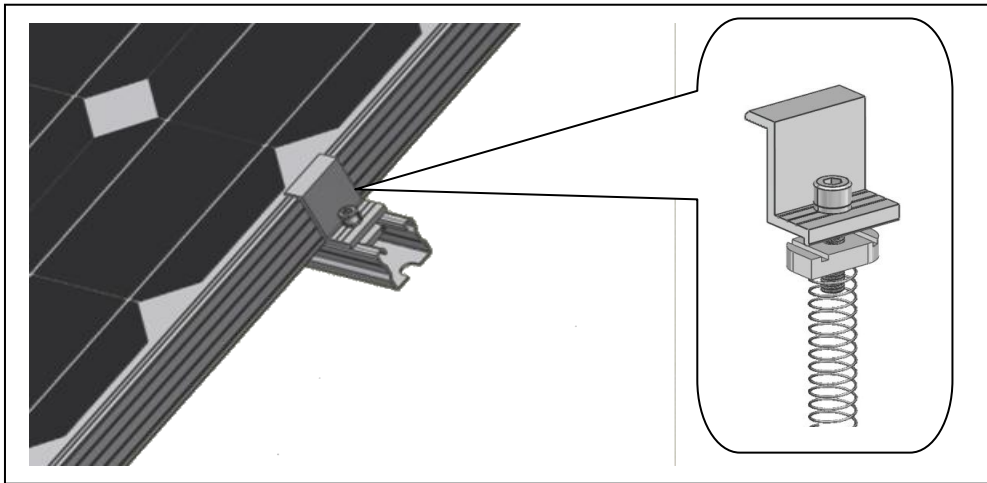
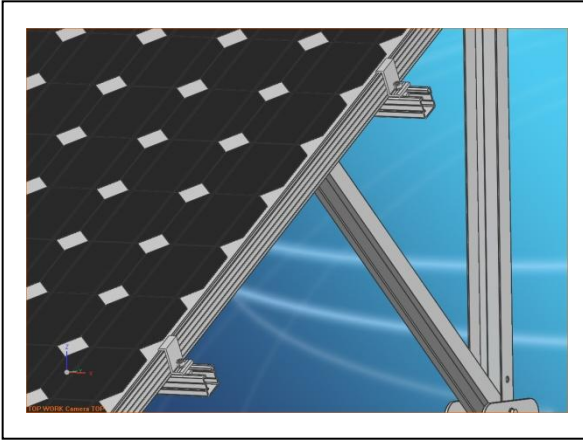


5. Prolong rail or connect rail of two arrays, fix by four M10*35 bolt

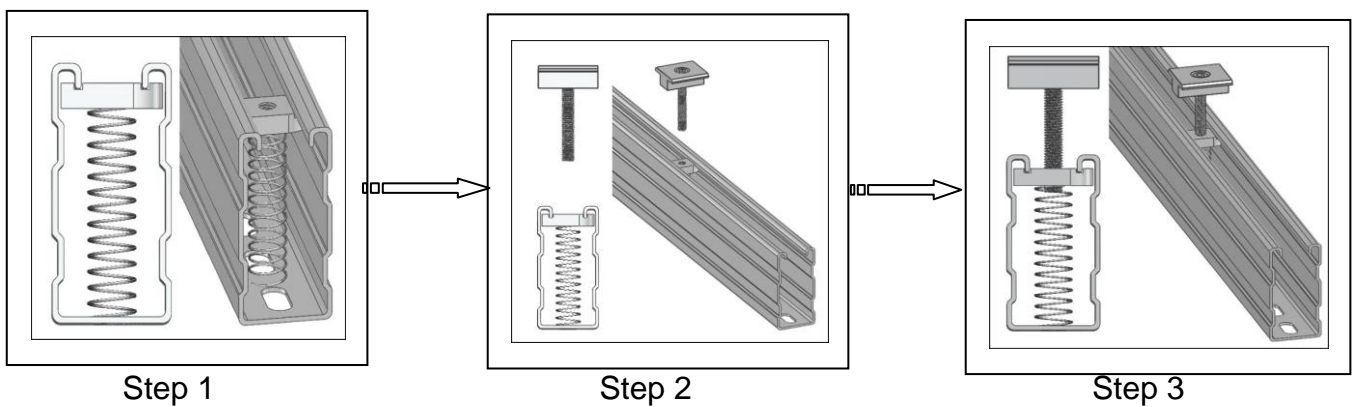
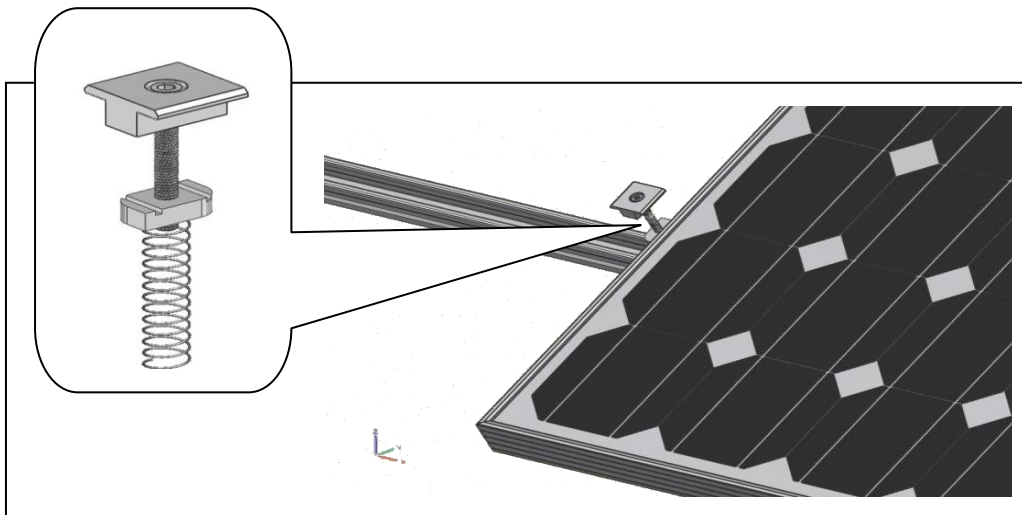
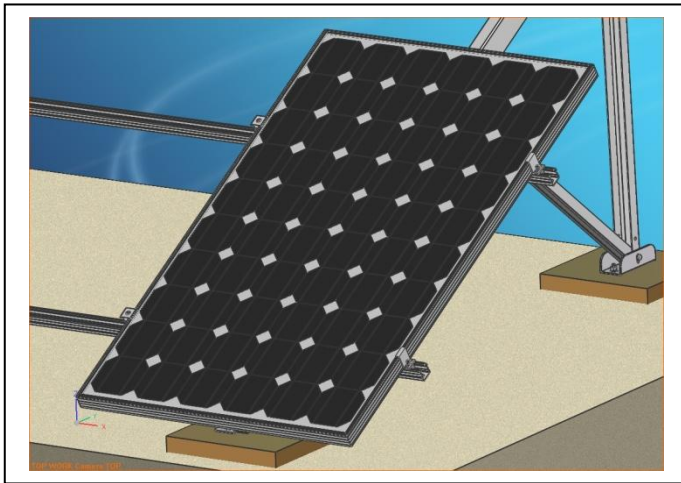




6. Install solar panel, Put the first panel on it, and fix the end clamps tight first



7. Fix the mid clamps to first solar panel loose, after put the second panel then tighten up



8. Fix other solar panel in the same way, till fix all array.

