SOLAR ALUMINIUM END CLAMP

The adjustable end clamp is designed for residential and commercial applications. it allows installation on tile and tin roofs, as well as pitched and flat roofs. Corrosion resistance is achieved through anodized structural grade aluminium and stainless steel components.

For regular solar panel end clamps, each thickness panels have a corresponding end clamp, it would be a small impact for projects or know the panels thickness advanced, but if you are a local solar mounting system distributor, you don't know the client's panels thickness, so you need prepare at least 2 size of end clamp stock, otherwise it may cause you to miss more opportunities for collaboration.

Solar end clamp is made of high quality anodized aluminum, for a long life even in harsh environments such as cold and hot contrasts, saline environments, etc. Screws are made of stainless steel high strength for greater durability.

Solar Clamps are suitable for the solar panel with the thickness 25-50mm. It can be equipped with different nuts and applicate with different length of bolt to meet different requirement.

Features & Benefits
1. Easy installation
2. High quality
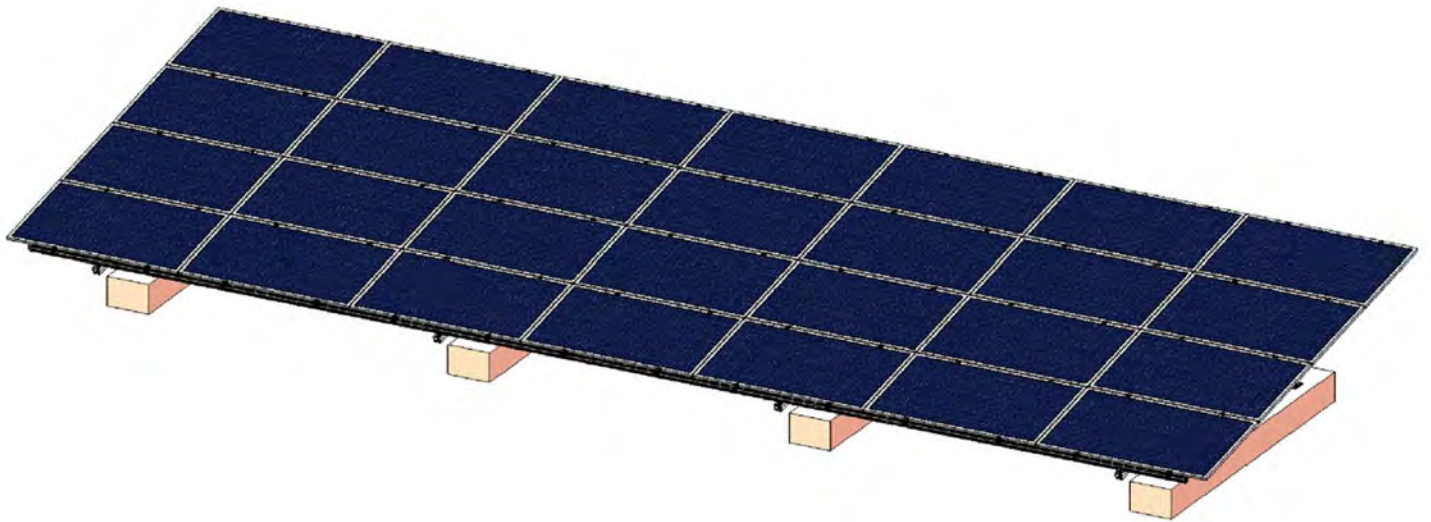3. Great Compatibility
4. Versatile Application

Material Specifications	
Material	Aluminium 6005 T5
Density (p)	2.7g/cm³
Coefficient of Thermal expansion (α_r)	2.35E-05/°C
Diffusivity (λ)	200.00 W/m-°K
Modulus of Elasticity (E)	7,000 kN/cm²
Shear Modulus (G)	2,700 kN/cm²

Mechanical Properties	
Tensile Strength	26.0 kN/cm²
Tensile Yield Strength	24.0 kN/cm²
Profile Wall Thickness	t≤0.39 in/100mm

SAMBROOK

Solar Ground Mounting Structure Installation Guide

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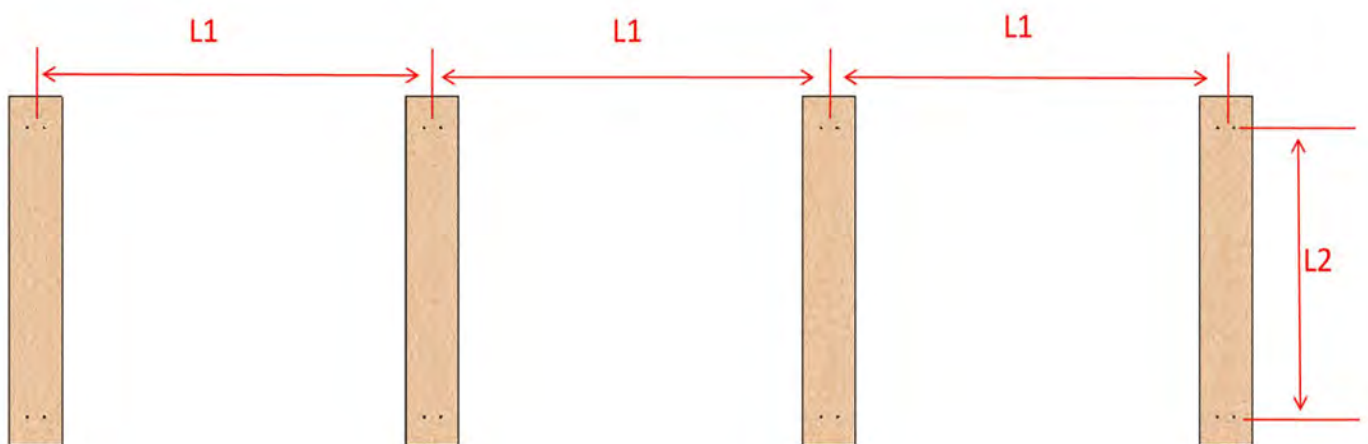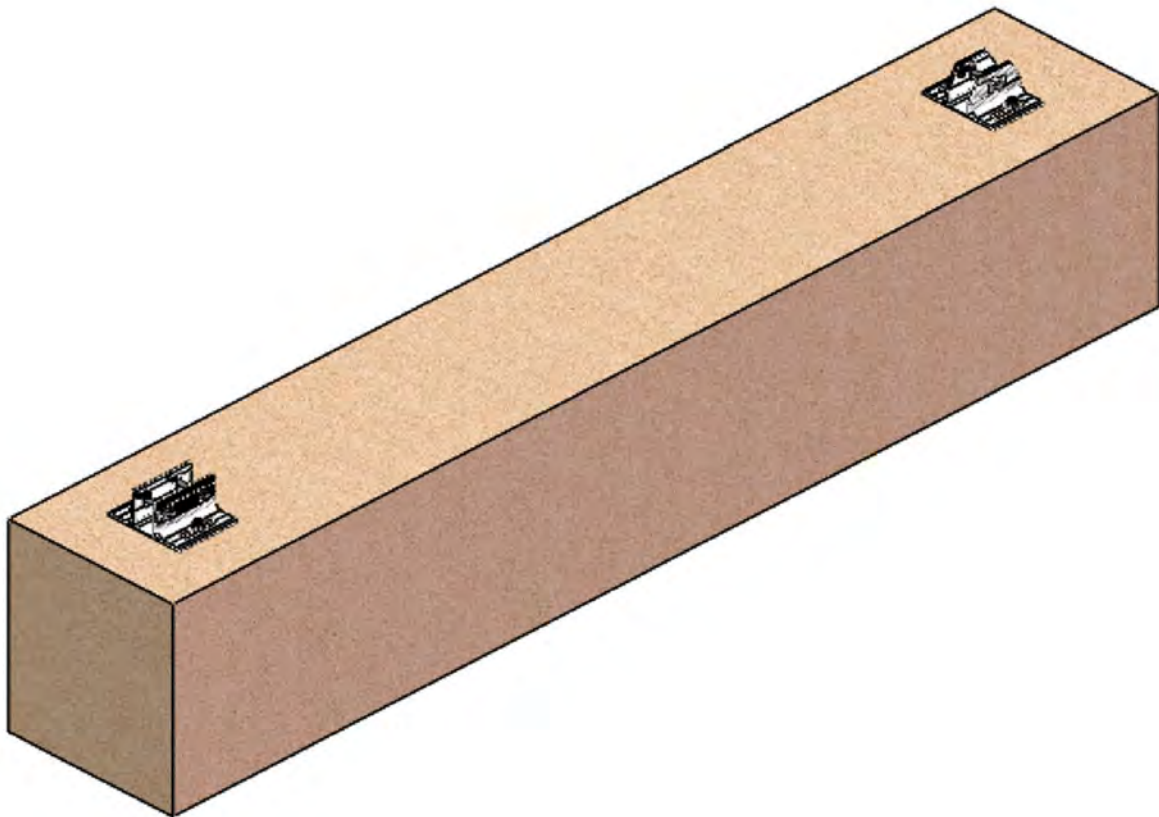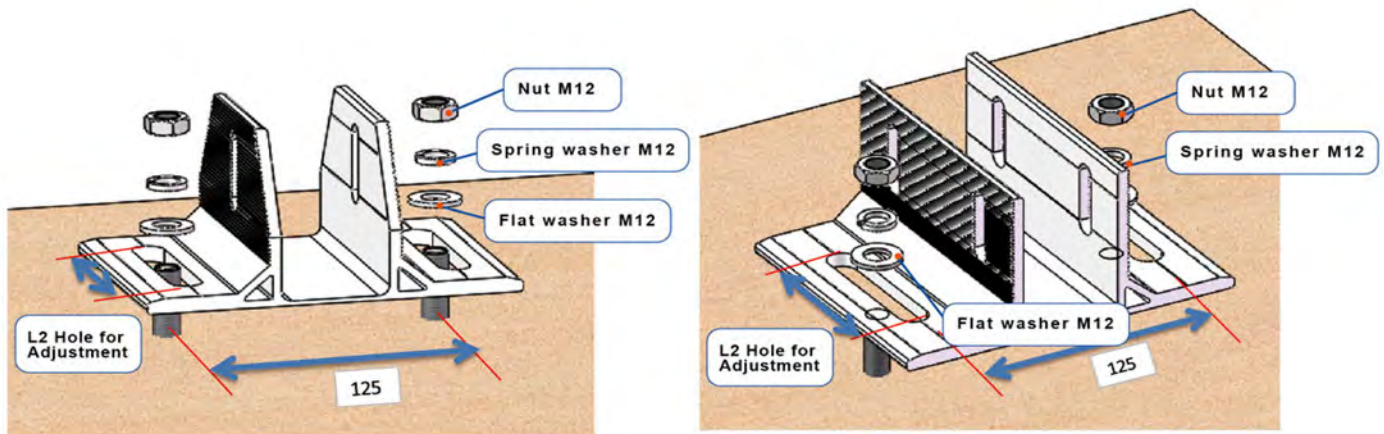# ST3F Overview
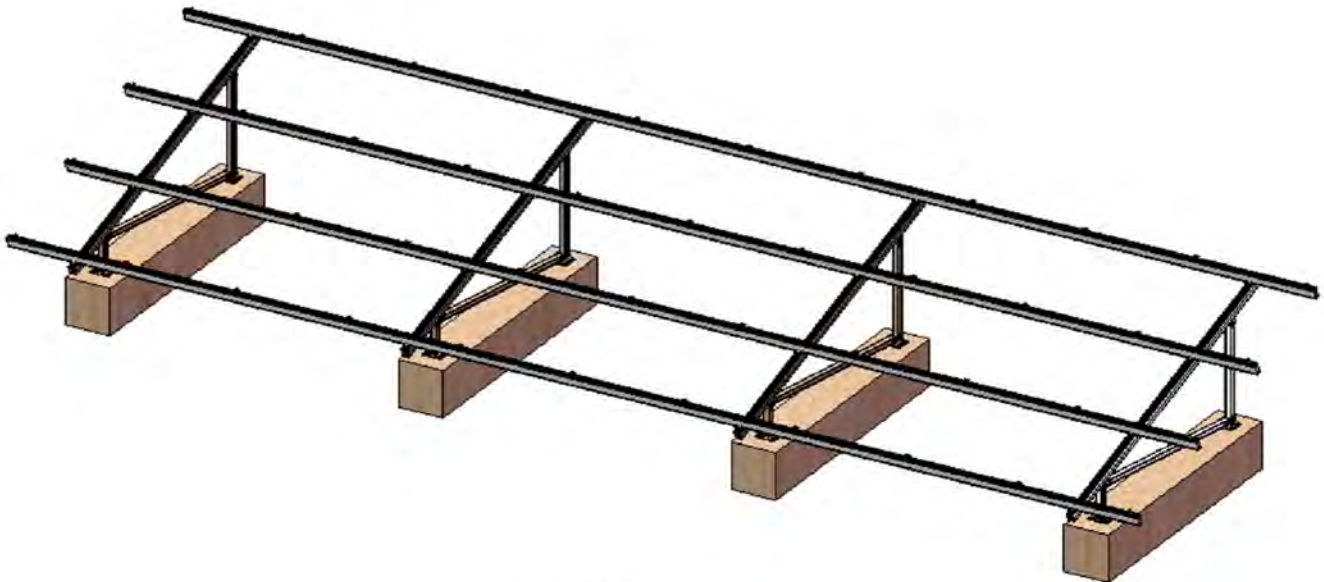
Front View
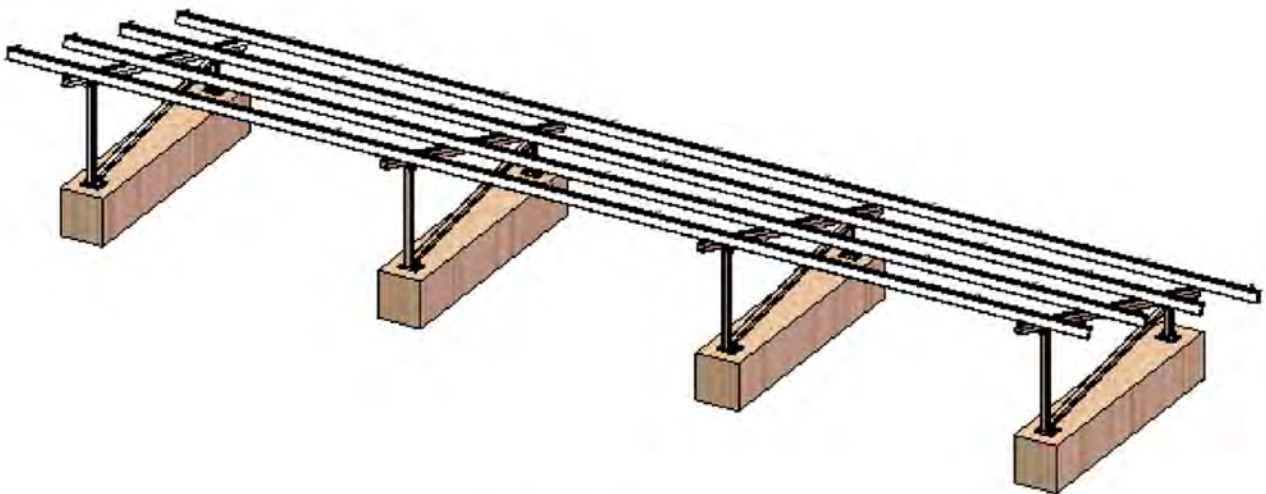
Back View

All of the above information, including drawings, illustrations and graphic designs, reflects our present understanding and is to the best of our knowledge and belief correct reliable. Users, however, should independently evaluate the suitability of each product for the desired application. Under no circumstances does this constitute an assurance any particular quality or performance. Such an assurance is only provided in the context of our product specifications or explicit contractual arrangements. Our liability for products set forth our standard terms and conditions of sale

Components Table

| Model Name	UI-R5	UI-R5-SP	UI-ST3F-FL/RL
Picture	❶	❷	❸
Model Name	UI-CLAMP-F	UI-EC	UI-IC
Picture	❹	❺	❻
Model Name	UI-ST3F-LA	UI-ST3F-FA	UI-ST3F-RACK
Picture	❼	❽	❾

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1. Installation steps
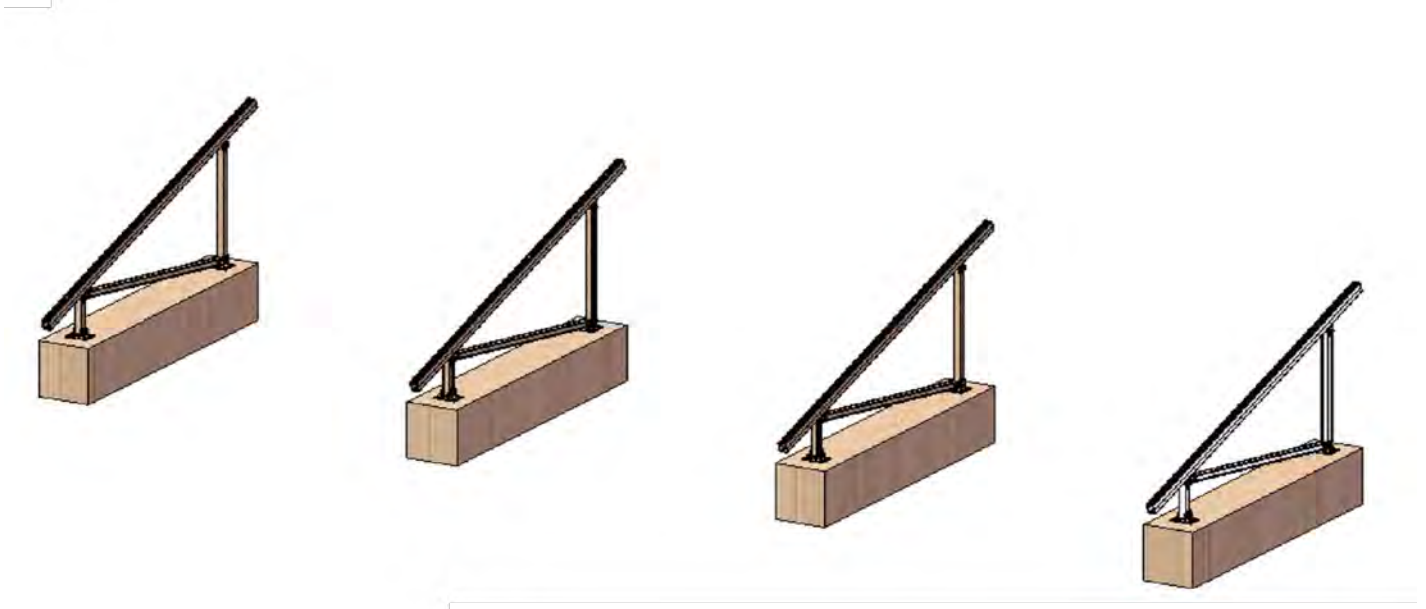
1.1.   Layout concrete base according to technical drawing

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1.2. Install Front and Rear Leg

NOTE:- *The position can be adjusted according to hole L2.*

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1.3.   Front Leg Installation

1.3.1: Front Leg Installation

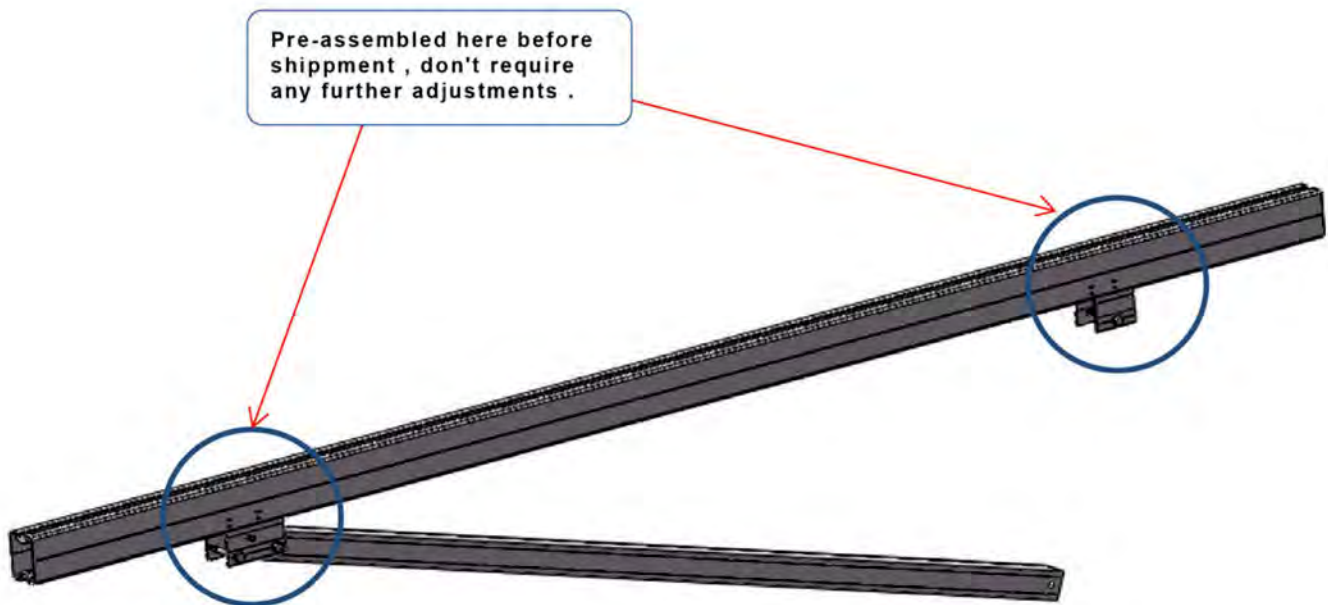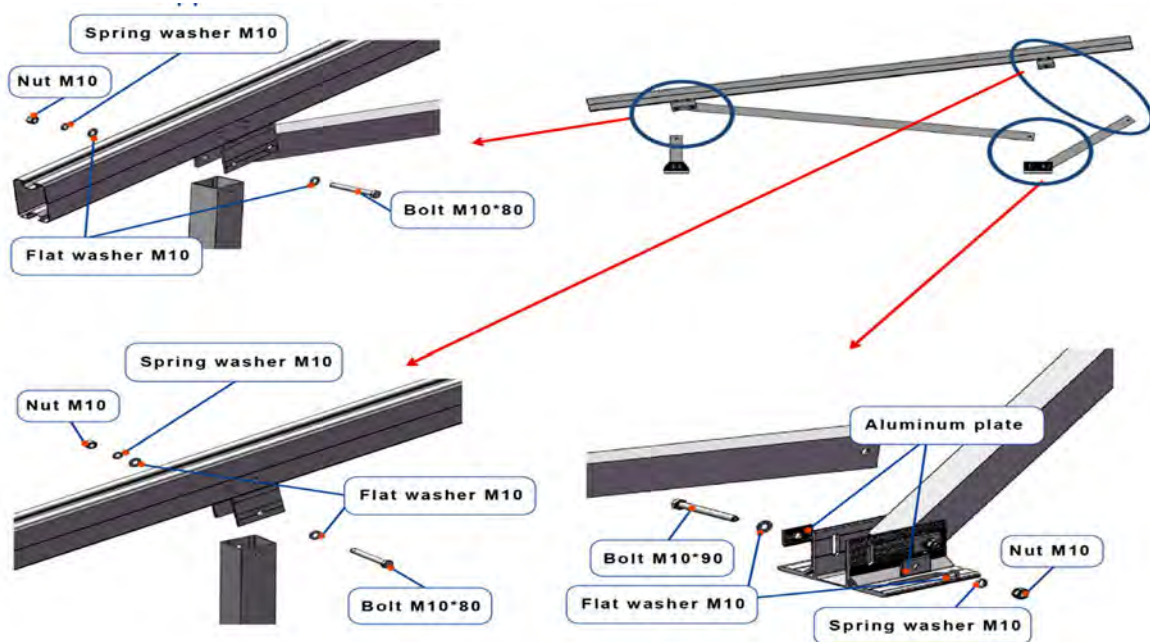***NOTE:-** Install the front leg on front base and fix it with bolts, but do not tighten it until the height adjustment finished in 1.3.4.*
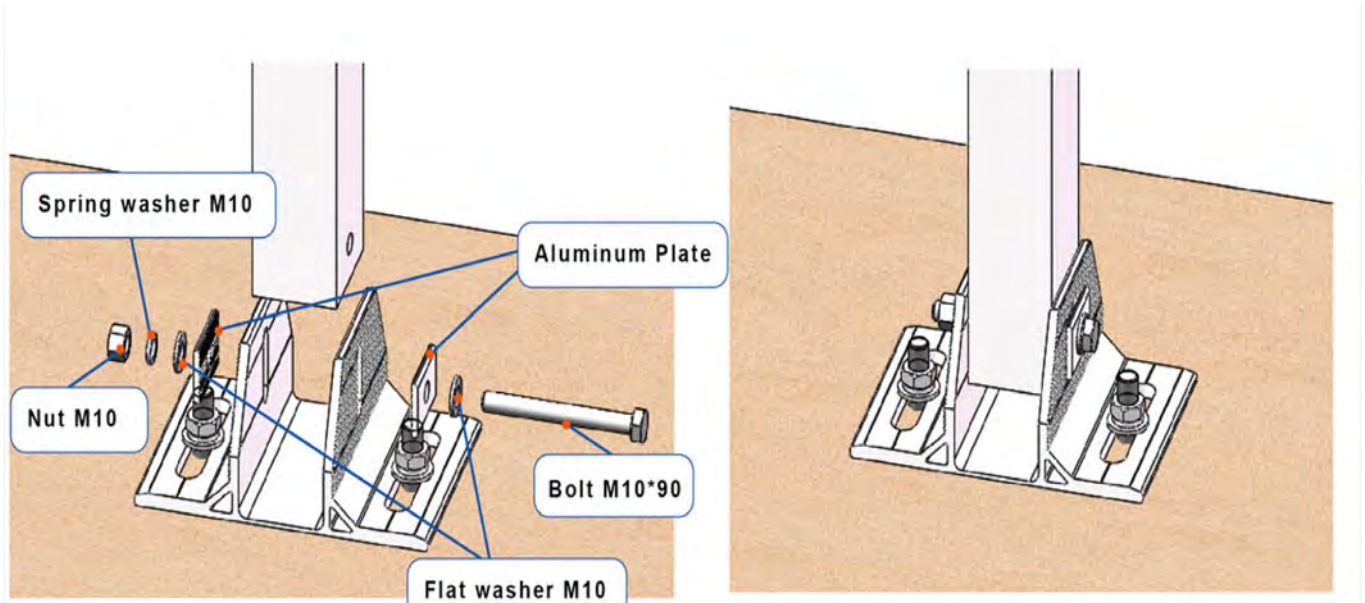
1.3.2: Rear Leg Installation

***NOTE:-** Install the rear leg on back base and fix it with bolts, but do not tighten it until the height adjustment finished in 1.3.4.*
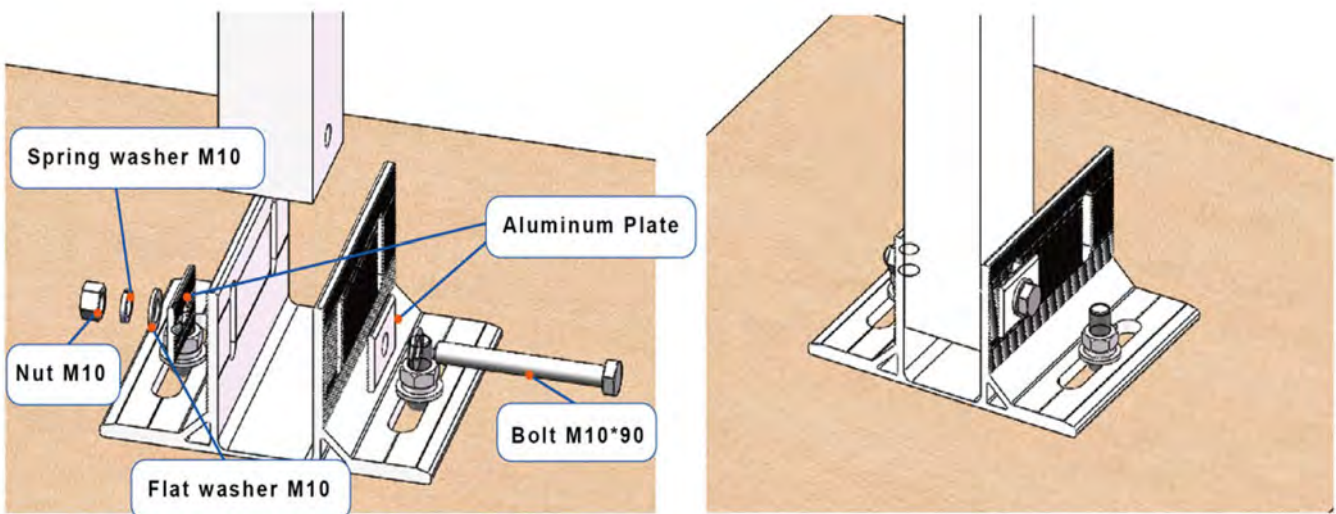
1.3.3: Support Rack Installation

NOTE:- *Fix the support Rack to foot base and legs, but do not tighten the support rack and rear foot base until the height adjustment of 1.3.4 finished.*

Pre-assembled here before shippment , don't require any further adjustments .

1.3.3.1: Support Rack Installation

Spring washer M10

Nut M10

Bolt M10*80

Flat washer M10

Spring washer M10

Nut M10

Flat washer M10

Bolt M10*80

Aluminum plate

Bolt M10*90

Flat washer M10
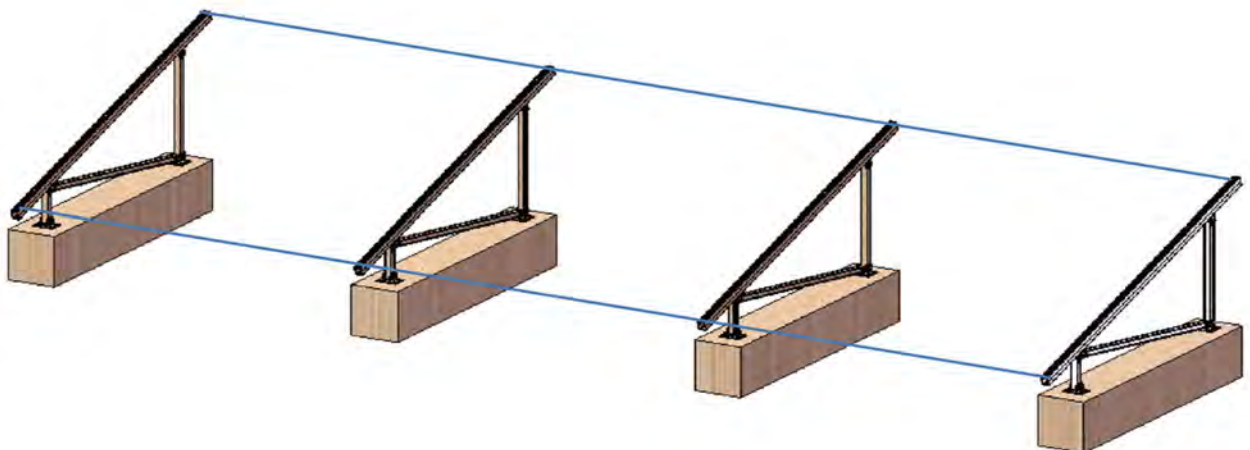
Nut M10

Spring washer M10

1.3.3.2: Support Rack installation finished

1.3.4: Do the adjustment to the support rack to meet the correct tilt angle

NOTE:- *Do adjust to the support rack to make it meet the correct tilt angle and keep all the rack on the same level with the slot hole on foot base and then fix all the bolts tightly*
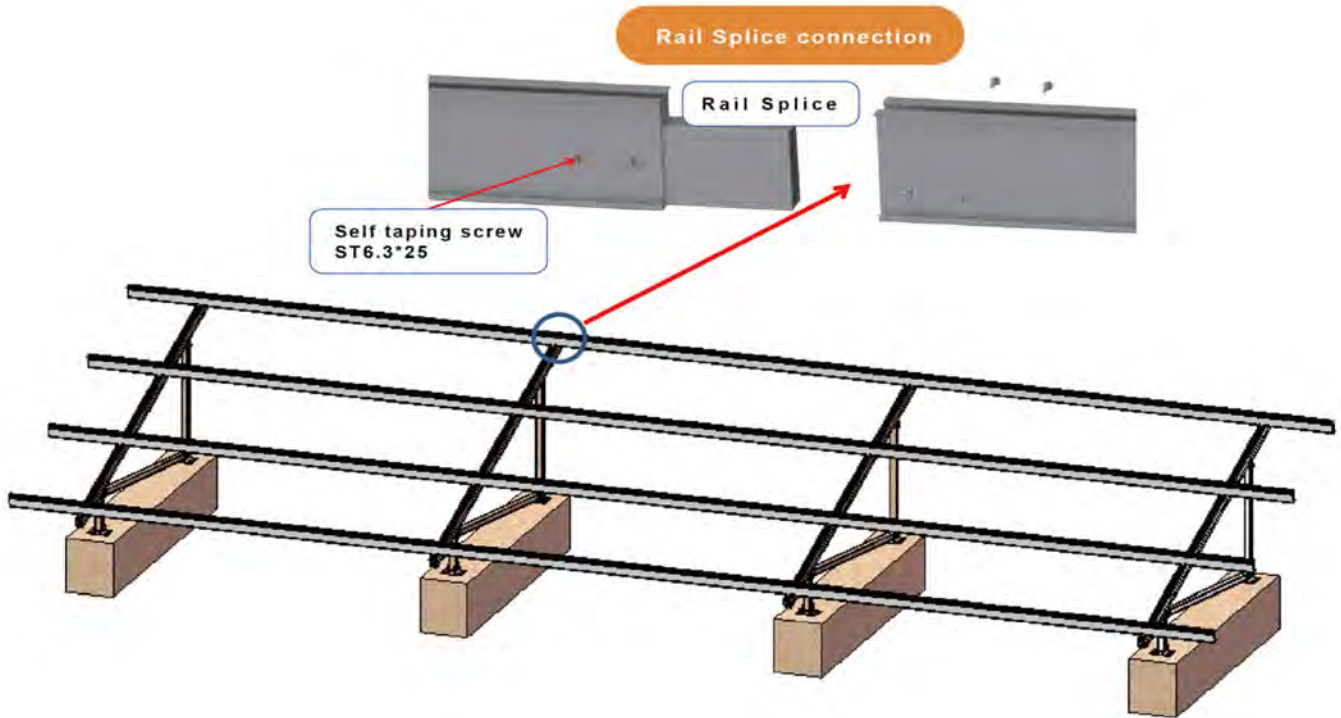

NOTE:- *Step 1.3.3 and 1.3.4 should be done at the same time .*

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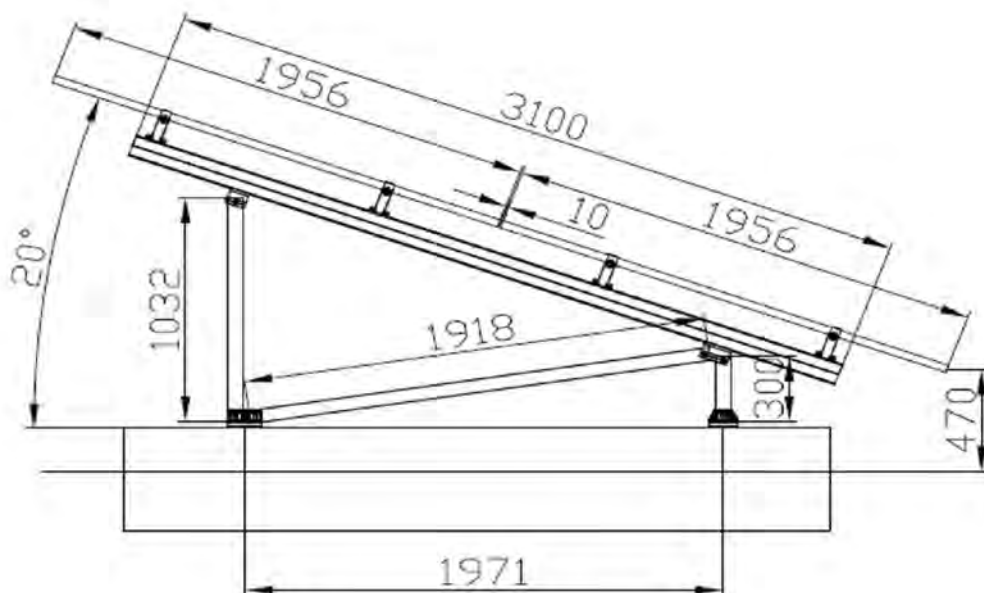
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2. Rail Installation

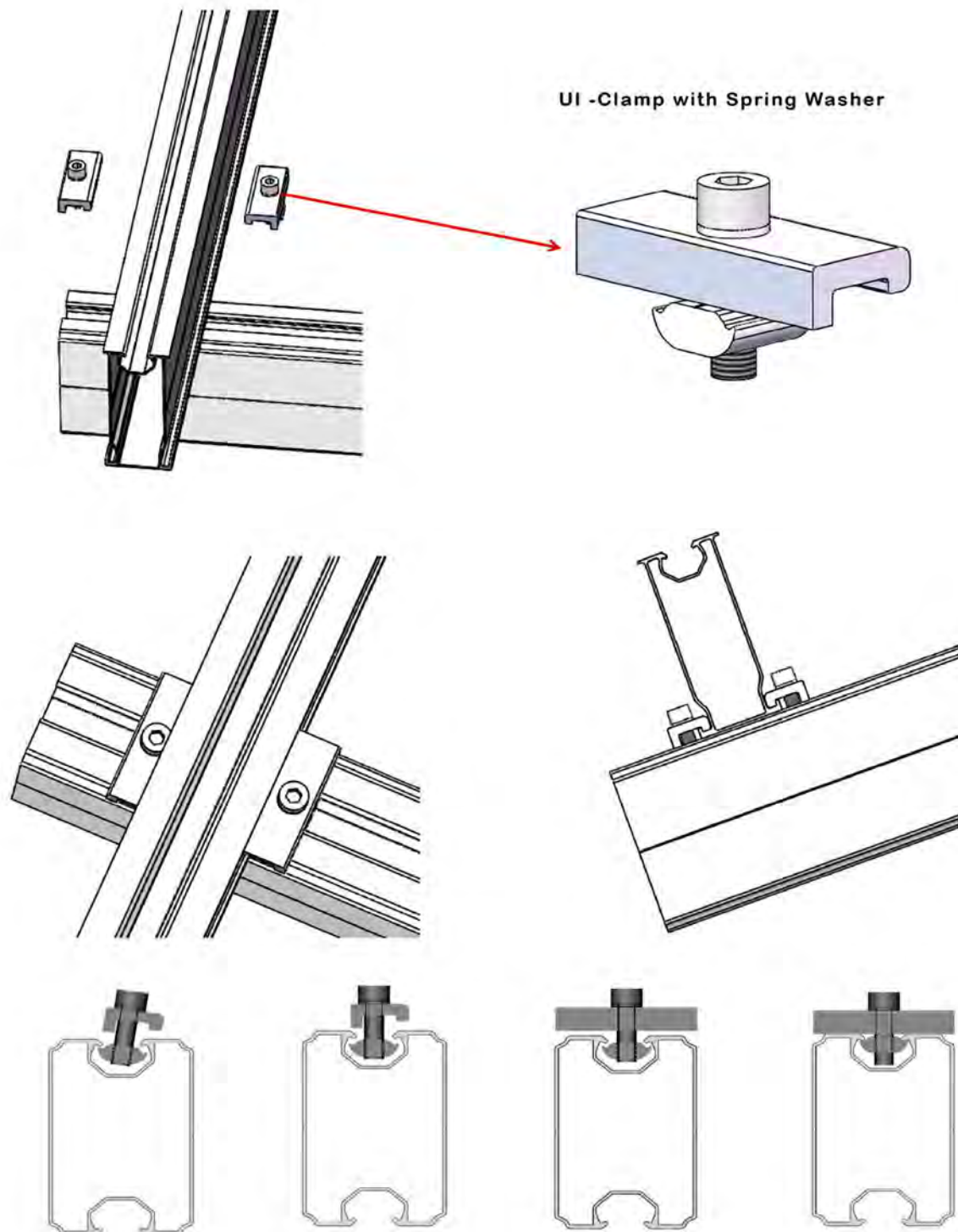*Fix rails to the support rack bY UI-Clamp*

NOTE:- **2.1. Install rails from lower side to higher according to technical drawing. (Take 1956 x 990 solar panel forexample).**

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2.2: UI - Clamp with Spring Washer.

UI -Clamp with Spring Washer

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3. Solar Panel Installation

3.1: Solar Panel Layout

NOTE:- 3.11 Install solar panel from lower side to higher.
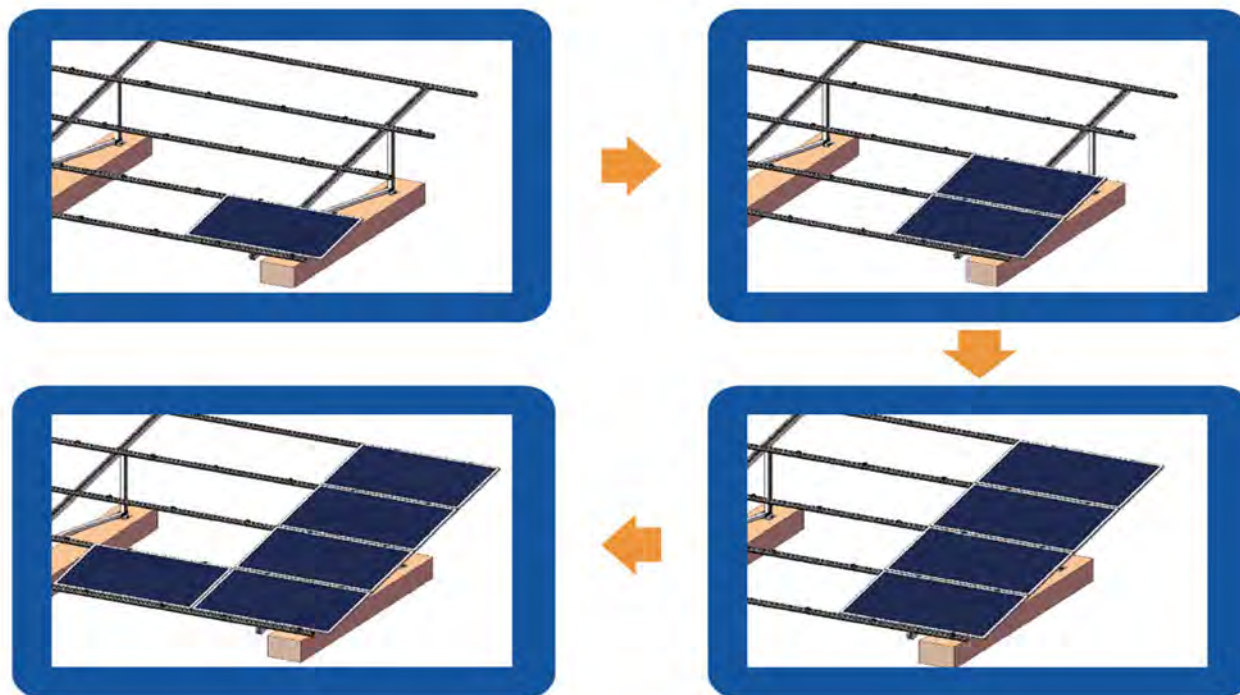
NOTE:- 3.12 Solar panel layout according to following drawing. (Take 1640 x 992 solar panel for example)
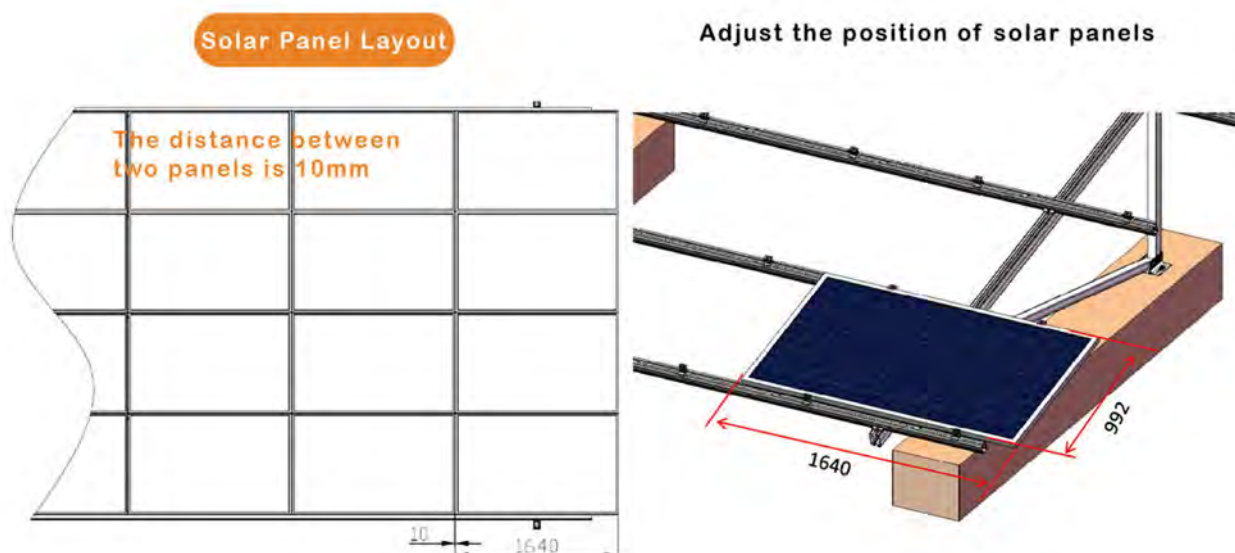
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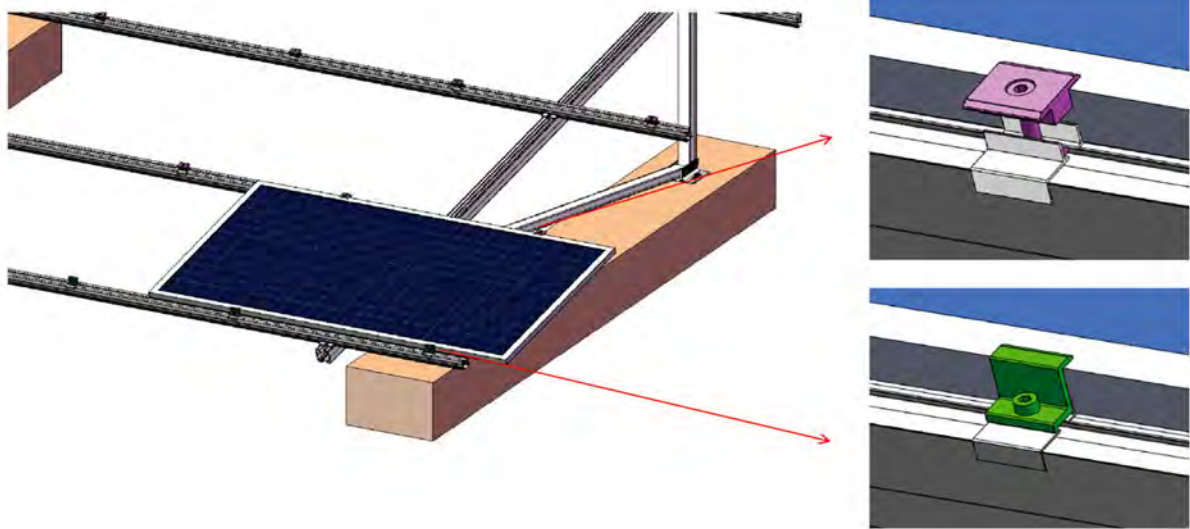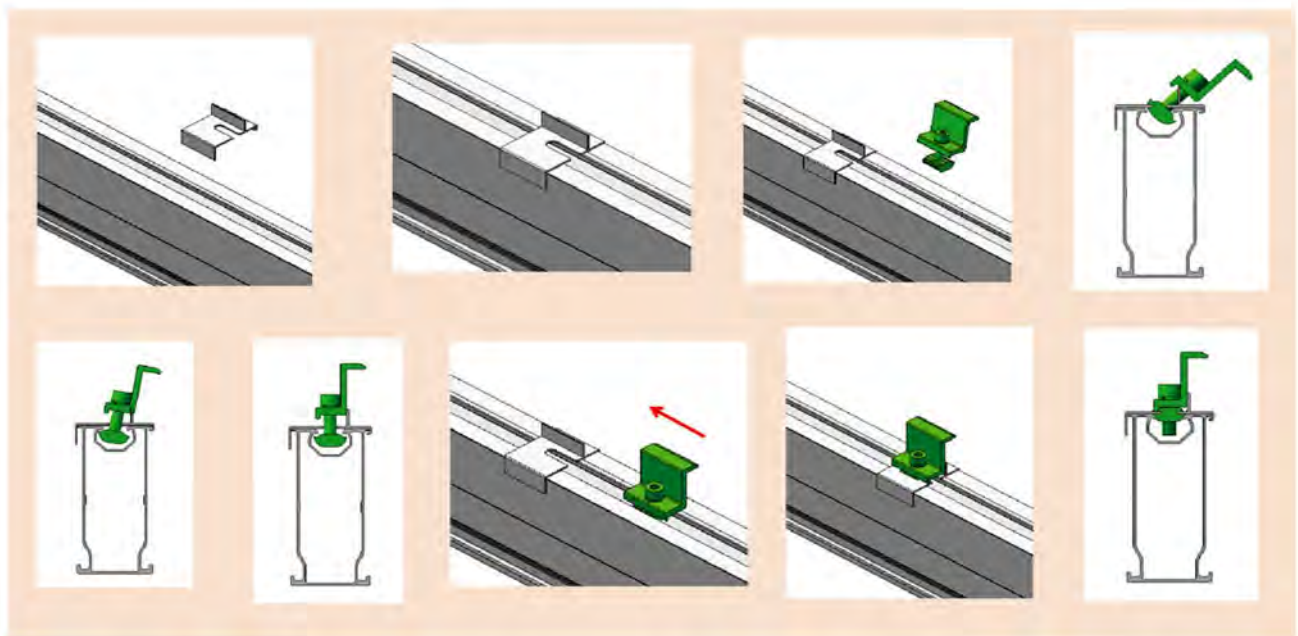
3.2: Clamp Installation

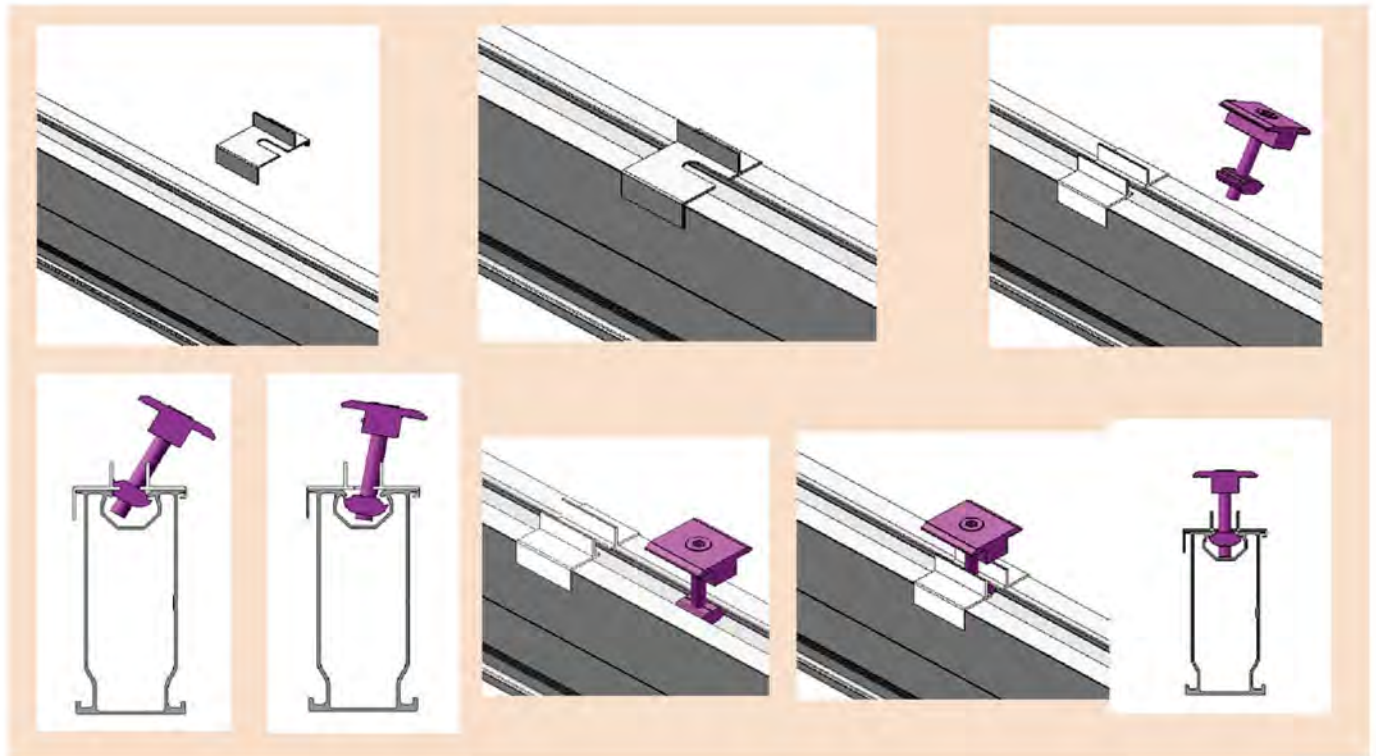**NOTE:- Install clamps according to above solar panel layout .**
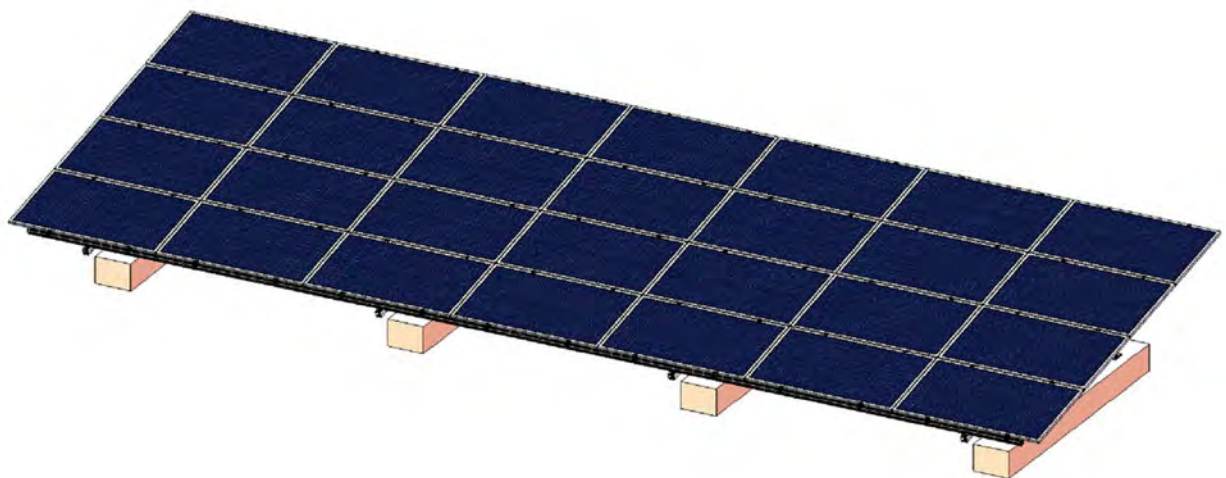

3.21: End Clamp Details .

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NOTE:- 3.22: *Mid Clamp Details .*

4. Installation Finished

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Solar Metal Roof Mounting Structure Installation Guide
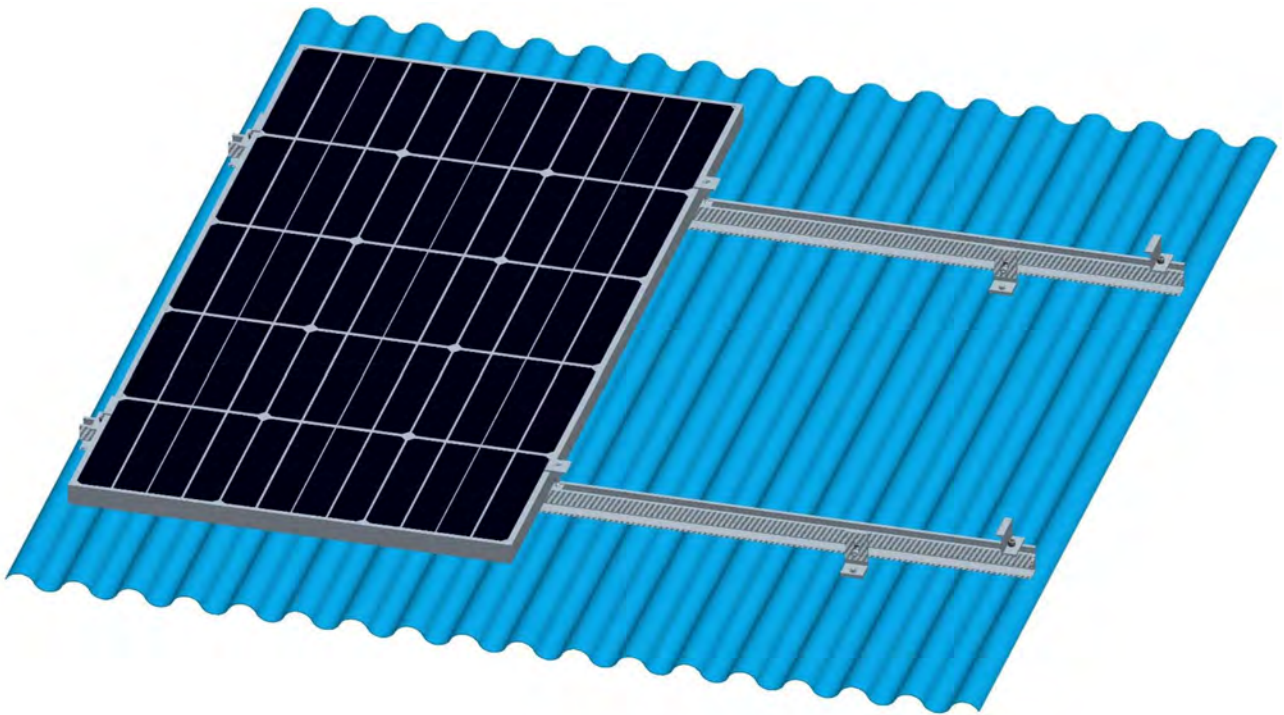
Overview

Components List

Model Name	Rail #R2	Rail splice for rail #R2	T-module
Picture			

Model Name	L Bracket (L Foot)	Inter Clamp (with T-module)	End Clamp (with T-module)
Picture			

Model Name	Tile Roof hook	Hexagon socket bolt M8*30/45/50/55/60
Picture		

Note: The quantity of requested components depends on the system you ordered.

Installation Instructions

Installation of L-bracket on Metal Roof	
1. Determine the positions of the Lbracket according to your plans.	
2. Fix the L bracket (together with Rubber Pad) to the rafter using SUS 410 Screw, fix other L brackets to the rafter according to your plans. **Note:** *The rubber pad plays the roleof waterproof.*	
3. Connect the L bracket with rail IV by T-module and tighten the bolt.	
4. If you need, to connect multiple rails together, slide the splices on the rear side of the pre-assembled rails halfway to the side. Fasten the first M8 bolt firmly using the Allen key. Now slide the next rail segment into the splice. Tighten the second M8 bolt .The connection is finished. **Note:** *If necessary, use an angle grinder or hammer to cut a concavity in the tile that covers the roof hook at the point where the roof hook comes through. (Caution! Must not use fixed roof hook as a ladder, as this extreme point load could damage the tilebelow.*	

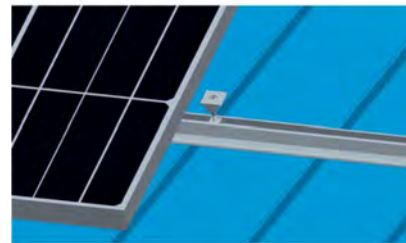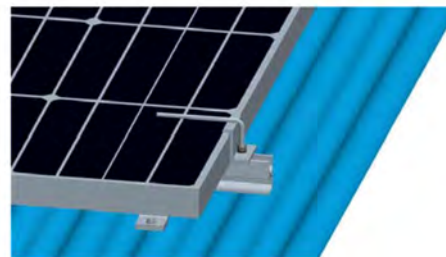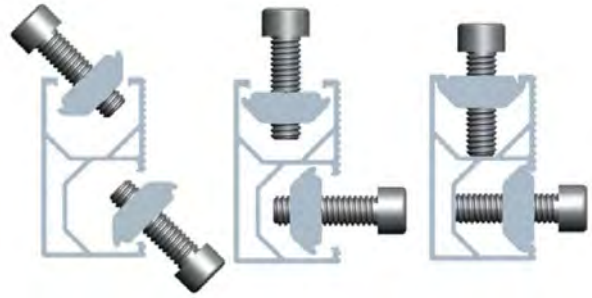| **Installation of L-bracket on Metal Roof**	
5. Place the solar module on the rails, slide the end clamp tightly against the solar module and fasten tightly using the Allen bolt (recommended torque is 8 Nm)	
6. Slide the pre-assembled intermodule clamp into the rails from above, place it firmly against the module and fasten loosely . (approx. 2-3 turns)	
7. Now slide the next module against the previously installed module and tighten the inter-module clamp using the Allen key, Take care that the antislips protection sits in the rail channel of the lowest row of rails.	
8. Place the last module in the row on the rails (with the first row of modules, take care that the nti-slip protection sits properly in the rail channel) and fasten the last inter module clamp and the module end clamp using the Allen Key (recommended torque is 8 Nm).	
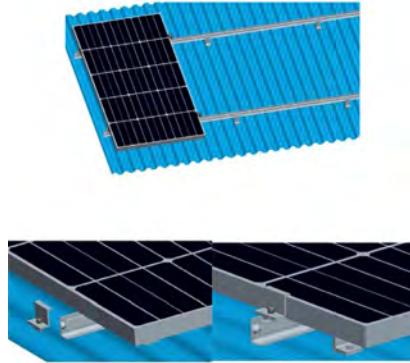
Installation of L-bracket on Metal Roof

9. For each use of the T module. You must make sure that: the thread of the screws does not project through the lower side of the T module (max flush). Position the T module in the rail channel and fasten it loosely with 2 to 3 turns of the screw. The screws can still be freely moved in the rail channel. Slide the screw to their final position in connection with the intermodule clamp, module end clamp or roof hooks/hanger bolts and fastens firmly.	
10. Now first row of modules are installed, continue to mounting next row of modules according to steps 7 to 10.	

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