ALUMINIUM SHORT RAIL FOR TRAPEZOIDAL METAL ROOF

- Used for Mounting Solar Modules on Trapezoidal Metal Roof
- Screws used must conform to ISO 3506.1
- Available in lengths of 240mm
- Engineered and load tested to 1.4kN/m^2 equivalent of 60m/s wind speed per 21013 CBC / 2013 IBC / ASCE 7-10 to ensure safety and quality
- Compression Test: 13.55kN
- Material: Aluminium 6005 T5
- Slope: 0 – 45°

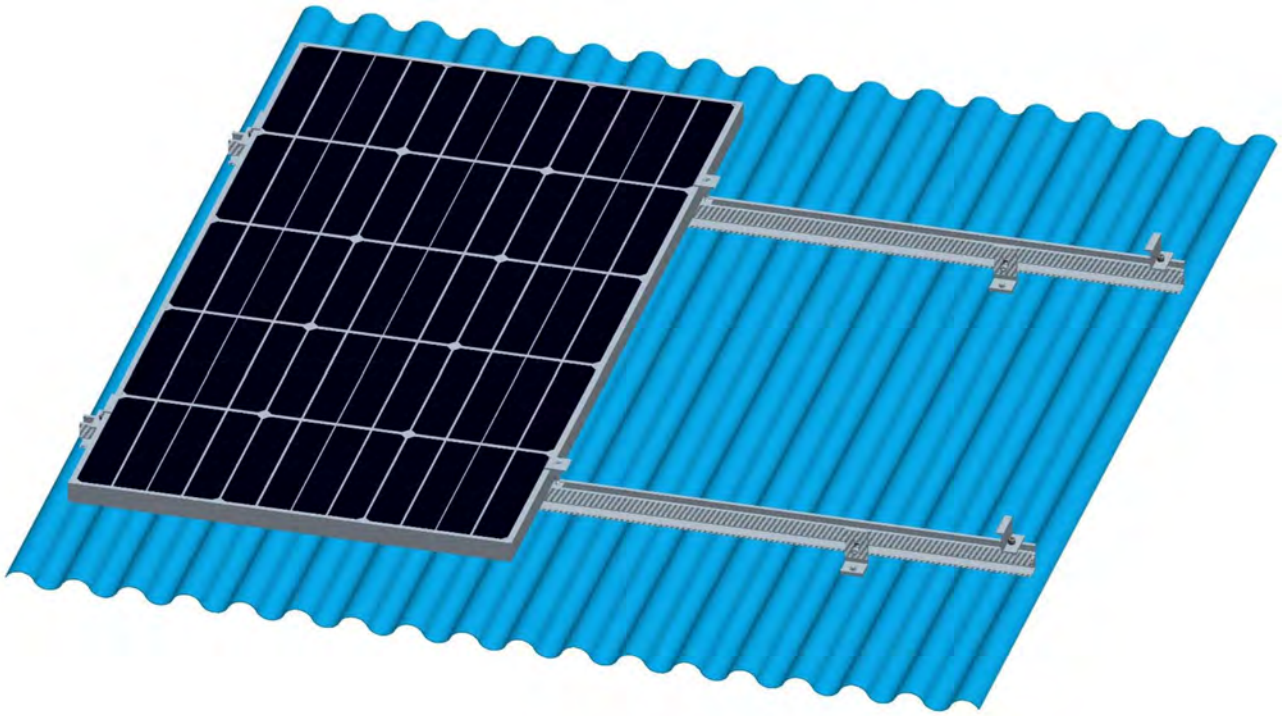
Mechanical Properties

Test Items	Unit	Technical Requirements	Test Result 1	Test Result 2
Tensile Strength R_m	MPa	≥260	264	264
Yield Strength $R_{p0.2}$	MPa	≥215	232	233
Percentage Elongation after fracture A_{50mm}	%	≥7	7	7
Hardness	HW	13	14	14

Chemical Composition

Test Items	Content %							
	Mg	Si	Cu	Fe	Mn	Zn	Cr	Ti
Technical Requirements	0.4~0.6	0.6~0.9	≤0.1	≤0.35	≤0.1	≤0.1	≤0.1	≤0.1
Test Result	0.547	0.735	0.012	0.192	0.01	0.012	0.01	0.01

Solar Metal Roof Mounting Structure Installation Guide



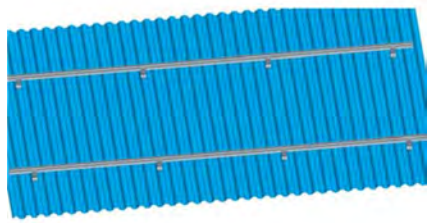
Overview

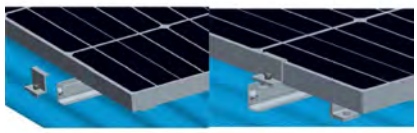
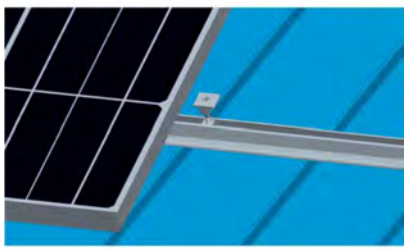
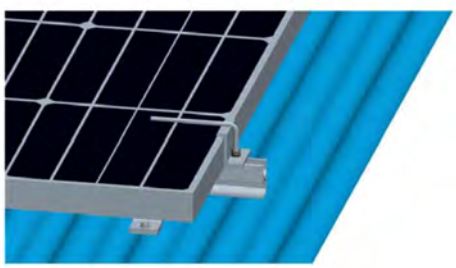
Components List

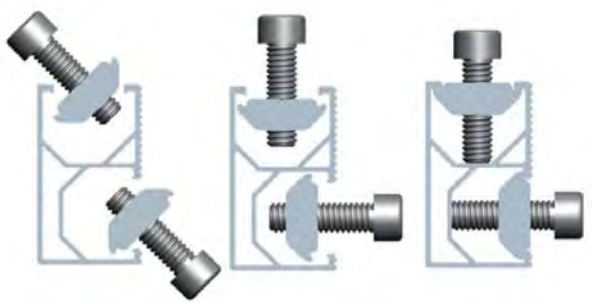
Model Name	Rail #R2	Rail splice for rail #R2	T-module
Picture			
Model Name	**L Bracket (L Foot)**	**Inter Clamp (with T-module)**	**End Clamp (with T-module)**
Picture			
Model Name	**Tile Roof hook**	**Hexagon socket bolt M8*30/45/50/55/60**	
Picture			

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.