

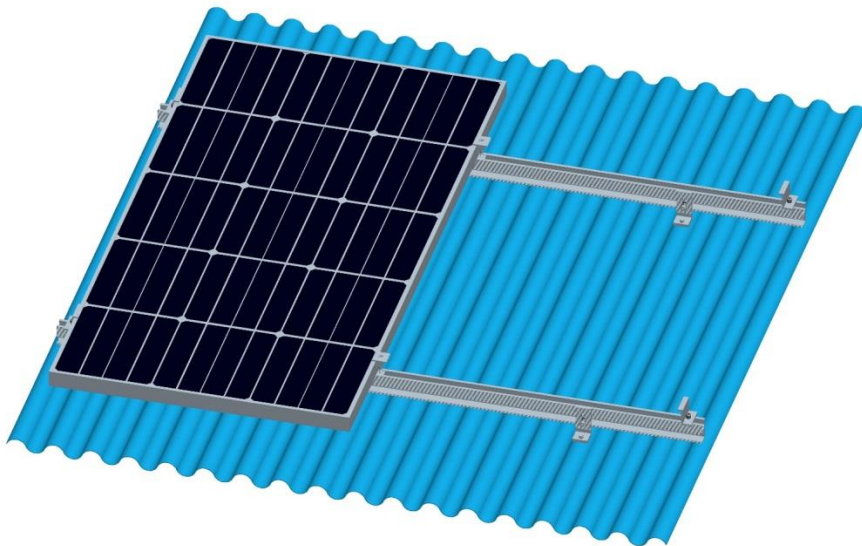


ANTAI

Aluminum & AI Tech for Solar

Always be your solar support

www.antisolar.com



ANTAI Installation Manual

Pitched Roof Solution
(Solar mounting system)



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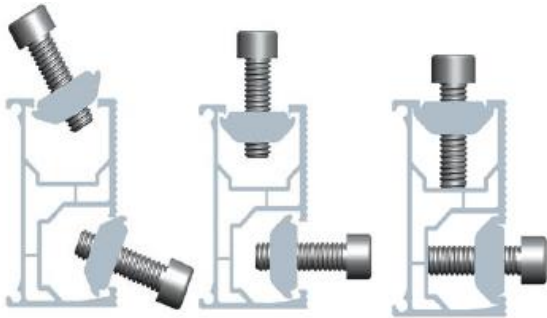
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GENERAL INTRODUCTION

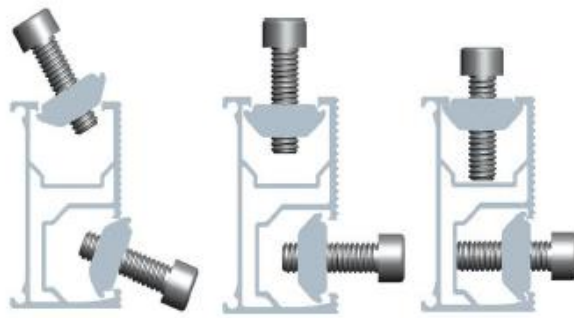


ANTAISOLAR Roof Mounted solutions, accommodating a wide range of modules, are suitable for most types of roofs. With innovative ANTAISOLAR Rail and T module, ANTAISOLAR Roof Mount enables significantly faster, easier installations, which have been developed into one of the most versatile mounting solutions in the world, delivering time and cost-effective experience to solar system installers.

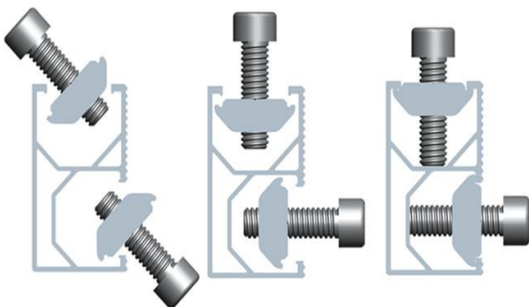
Rail II



Rail III



Rail IV



Easy to be installed

ANTAISOLAR features series of highly engineered new innovative product, designed with experienced engineers to the speed of installation. ANTAISOLAR pitched roof solar mounting system is backed by a 10-year warranty and is compliant with AS/NZS1170.2.2011(R2016)

Benefits of ANTAISOLAR/ANTAI Pitched Roof Mounting System



- Easy Installation
- Diversified Application
- High Accuracy
- Choice Quality
- Engineered to highest standards
- Maximum Lifespan
- Guaranteed durability

TECHNICAL SPECIFICATIONS



Applications

- Commercial and residential buildings
- Marine applications and remote areas

Features

- Anodized 6005-T6 aluminum extrusion
- Innovated designed of the Tilt-in modules, which can be pre-assembly with the clamp, make the installation easy and quick.
- Suitable for difference conditions and the most solar panels at present market.
- Significantly higher strength-to-weight ratio than other framing products, providing improved efficiency due to greater frame spans, inherent corrosion resistance resulting in low ongoing maintenance and an extended product life.
- Complies with Australian/New Zealand Standard on Wind Actions, AS/NZS1170.2.2011(R2016)
- 10 years limited warranty backed up by parent company Antai Aluminum

Material

Material	Tensile strength	
	Tensile	Yield
6005 T6 aluminum extruded	$\geq 260\text{Mpa}$	$\geq 225\text{Mpa}$
Stainless steel 304	625.55Mpa	263.8Mpa
Stainless steel A2-70	700MPa	450Mpa

Installation condition

Roof slope	Up to 60°
Building height	Up to 20m
Mounting structure	Timber/ steel
Roof types	Tile/Tin/Klip-Lok® roof
System angle	Flush with roof

Note: If the condition is beyond the table list, please contact us to confirm



SAFETY AND INSTALLER RESPONSIBILITIES

Handling and Installing ANTAISOLAR

It is critically important that safety practices are observed when installing

- Do not throw or roughly handle any ANTAISOLAR components.
- Do not bring ANTAISOLAR system into contact with sharp or heavy objects.
- Do not modify ANTAISOLAR components in any way. The exchange of bolts, drilling of holes, bending or any other physical changes not described in standard installation procedure will void the warranty.
- It is the installer's responsibility to verify the integrity of the structure to which ANTAISOLAR components is fixed. Roofs or structures with rotten/rusted bearers, undersized bearers, excessively spaced bearers, or any other unsuitable substructure cannot be used with ANTAISOLAR components, and installation on such structures will void the warranty, and could result in death or serious injury.

CAUTION: INSTALLATION OF THIS PRODUCT IS TO BE PERFORMED ONLY BY PROFESSIONALLY TRAINED INSTALLERS. ANY ATTEMPT BY AN UNQUALIFIED PERSON TO INSTALL THIS PRODUCT COULD RESULT IN DEATH OR SERIOUS INJURY.



COMPONENTS LIST

Overview of system components

Part name	Picture	Part name	Picture
Rail VI TYN-355		Rail splice	
Rail clamp (L connector)		L Bracket (L Foot)	
Inter Clamp (with T-module)		End Clamp (with T-module)	
Tile Roof hook		Hexagon socket bolt M8*30/45/50/55/6 0	
Klip-Lok 700		Klip-Lok 406	
Standing Seam Clamp		Longline 305 clamp	

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



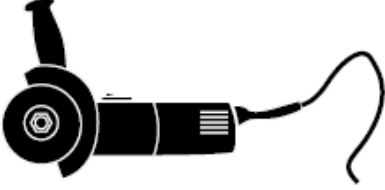

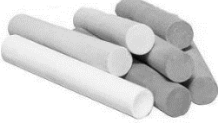




BEFORE INSTALLING

Receipt of goods

Check that the ANTAISOLAR/ANTAI equipment is undamaged and that the order is complete. Check for correct quantities of the items.

Tools required for installation

<p>6 mm Allen key or hexagonal driver bit. If using a 6mm driver bit, make sure the cordless power tool used for the driving has a hand-tight clutch setting a fine (soft) impact drive to prevent damage to the fragile glass panels and threads on the structure.</p>	
<p>Cordless drill. Drill or impact driver for driving roof material fixings</p>	
<p>Angle grinder. For terracotta tile roof installation, and angle grinder fitted with a continuous edge diamond tipped tile cutting blade; gloves, hearing protection, a face protection mask, and a suitably rated breathing protection mask for all people in proximity of grinding</p>	
<p>Gloves. Protect the hazard of the sharp corners.</p>	
<p>Cord or color pen. Mark the installation position.</p>	
<p>Spirit level</p>	
<p>Measuring tape</p>	

* If necessary, timber to shim the roof hook

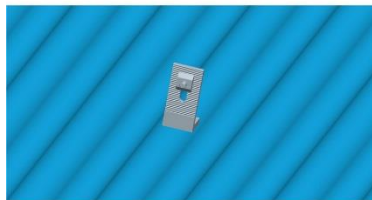


INSTALLATION INSTRUCTION

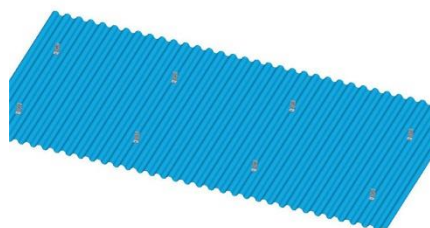
1. INSTALL FOUNDATION TO ROOFTOP

A. Installation of L-bracket on Metal Roof

Determine the positions of the L-bracket according to your plans.

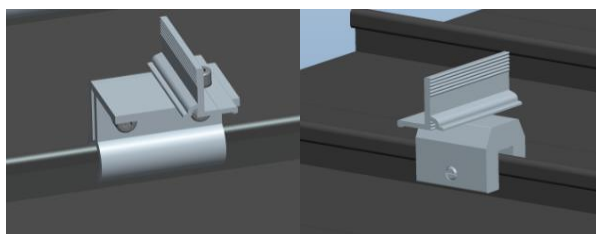
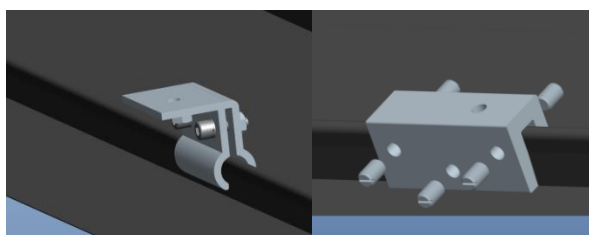
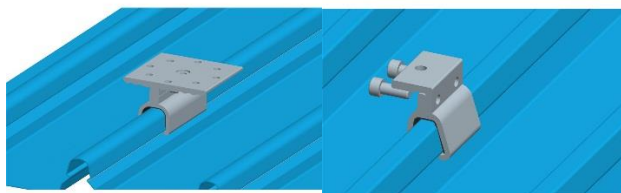


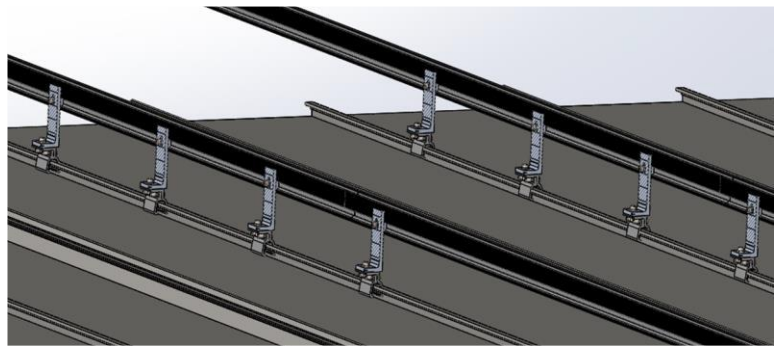
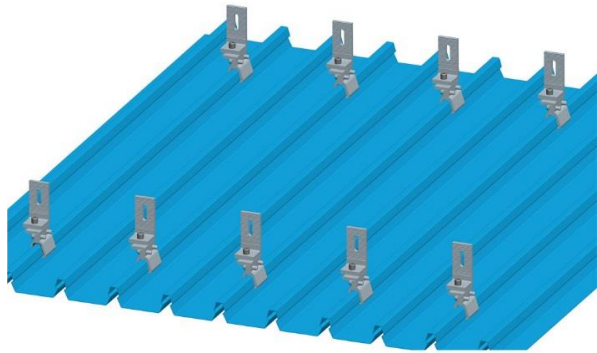
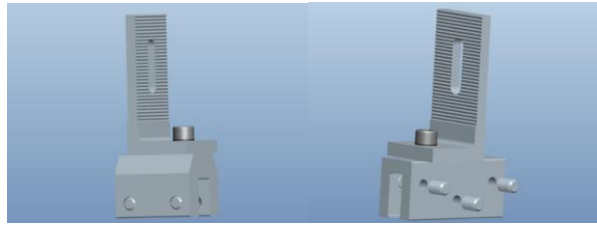
then, Fix the L bracket (together with Rubber Pad) to the rafter using SUS 410 Screw, fix other L brackets to the rafter according to your plans.
Note: The rubber pad plays the role of waterproof.



B. Installation of Klip-Lok on Metal Roof

Use roof clamp to clip the metal roof tightly, then place L-Bracket on the roof clamp and connect them by tightening M8 Bolt.





C. Installation of Tile Hook on Tile Roof

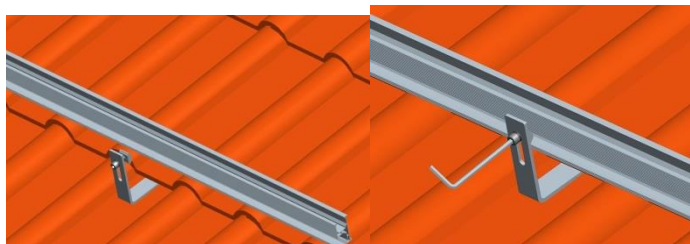
Remove the roof tiles at the marked positions or simply lift them up slightly then input the roof hook to the wooden beam. Fix the roof hooks with 3x self-tapping screws. Minimum 2 pcs



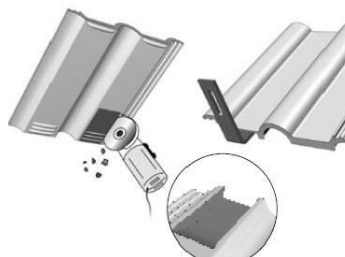
Cover the hooks by the removed tile



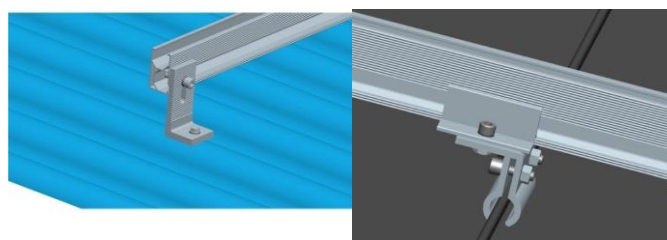
Connect the roof hook with the rail.
 a. Insert the tilt-in module into the side channel of the rail as the step 9 shown.
 b. Adjust the rail to be level.
 c. Fasten the bolt.



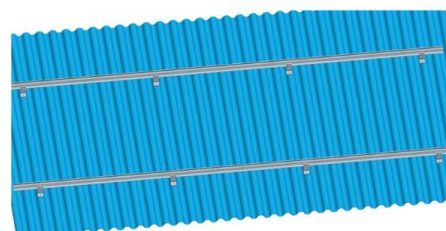
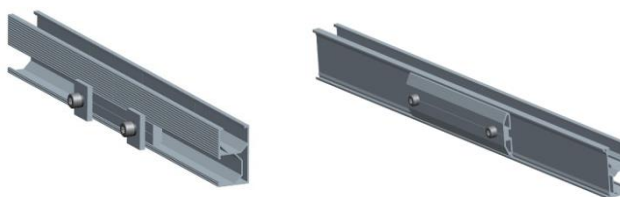
Note: If necessary, use an angle grinder or hammer to cut a concavity in the tile that covers the roof hook at the point where the roof hook comes through. (Caution! Must not use fixed roof hook as a ladder, as this extreme point load could damage the tile below.)

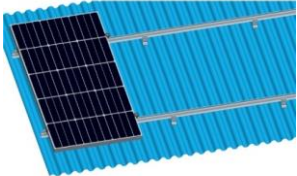
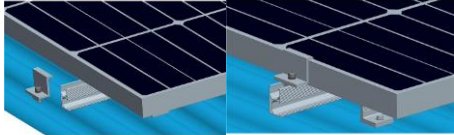
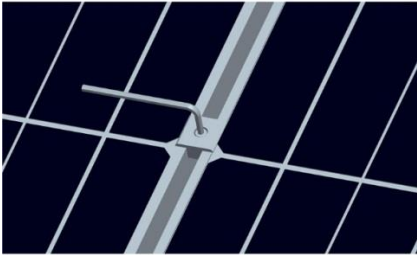
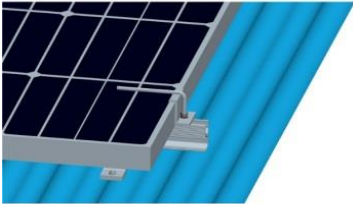


2. Connect the L bracket with rail by T-module and tighten the bolt.



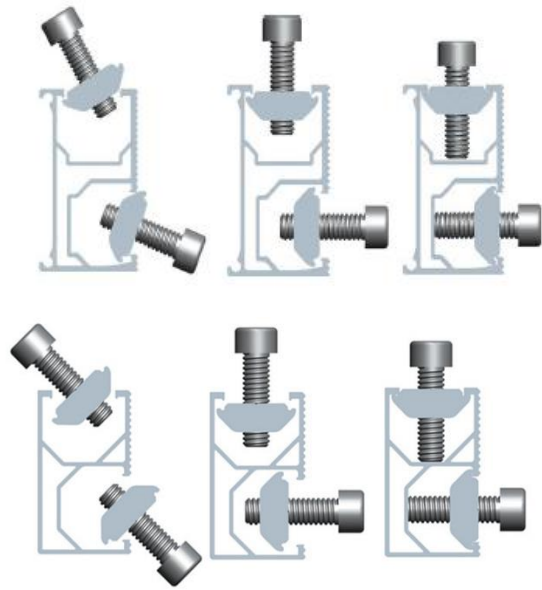
3. If you need, to connect multiple rails together, slide the splices on the rear side of the pre-assembled rails halfway to the side. Fasten the first M8 bolt firmly using the Allen key. Now slide the next rail segment into the splice. Tighten the second M8 bolt. The connection is finished.



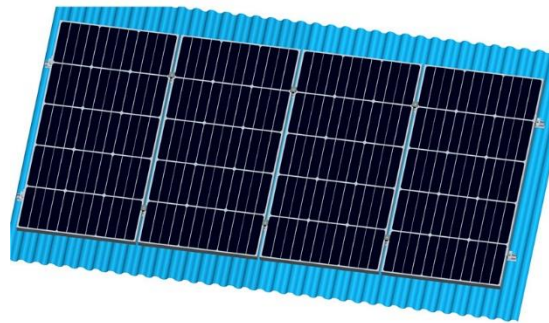
<p>4. Place the solar module on the rails, slide the end clamp tightly against the solar module and fasten tightly using the Allen bolt (recommended torque is 8 Nm)</p>	
<p>5. Slide the pre-assembled inter-module clamp into the rails from above, place it firmly against the module and fasten loosely (approx. 2-3 turns).</p>	
<p>6. Now slide the next module against the previously installed module and tighten the inter-module clamp using the Allen key, Take care that the anti-slips protection sits in the rail channel of the lowest row of rails.</p>	
<p>7. Place the last module in the row on the rails (with the first row of modules, take care that the anti-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).</p>	



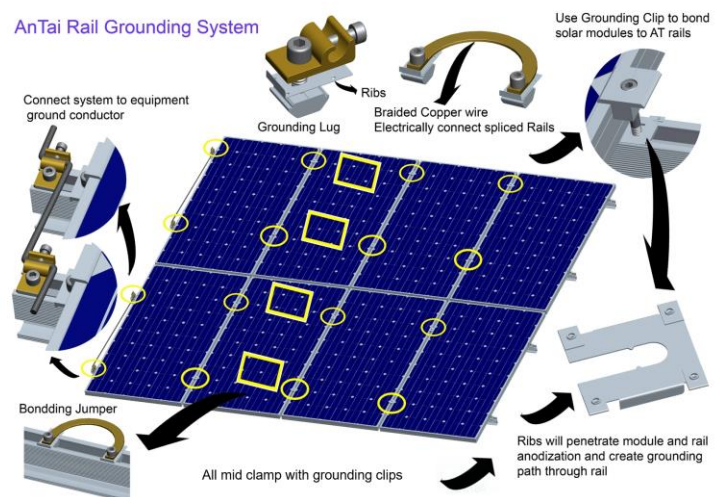
8. For each use of the T module. You must make sure that: the thread of the screws does not project through the lower side of the T module (max flush). Position the T module in the rail channel and fasten it loosely with 2 to 3 turns of the screw. The screws can still be freely moved in the rail channel. Slide the screw to their final position in connection with the inter-module clamp, module end clamp or roof hooks/hanger bolts and fastens firmly.



9. Now first row of modules are installed, continue to mounting next row of modules according to steps 7 to 10.



10. Antai rail grounding system



* The pictures shown above are for illustration purpose only, all installation should comply with local standards

