HANGER BOLT WITH L-FOOT FOR WOODEN PURLIN

It is important for the solar energy system to be securely fixed to the roof of all installations – and every roof has its own specific requirements, Stainless steel solar fasteners. Engineered for easy and rapid anchoring into wood substructures, the fastener forms its own female thread providing a tolerance-free connection in substructures. Hex drive used to drive the fastener through the roof panel into the substructure. Adapter plates or L-foot for fastening the rail or racking system are mounted and secured by M10 lock nuts and washers.

Item number	Description	d [mm]	D	L [mm]	Lh [mm]	Lm [mm]
	Carbon Steel with nickel alloy coating hanger bolt M10x200mm	8	M10	200	67	85

Technical specifications

Carbon steel coated with Nickel alloy hanger bolt for fixation into wooden purlins on corrugated and trapezoidal roofs. With EPDM washer for watertight seal.

Use

The building authority approval should always be noted. Pre-drilling is required for the wooden substructures. The required diameter for the drill is shown in the table below:

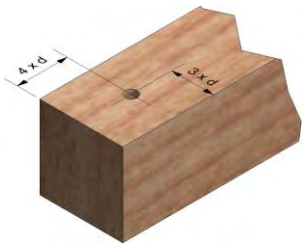
Screw diameter d	Pre-drilling Ø	Minimal screw depth
10 mm	7,0 mm	40 mm

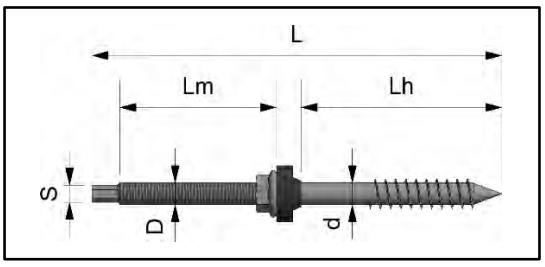
Wood quality

The hanger bolt can be used for wooden purlins, that are in strength class C24 or higher,in line with DIN 1052:2008-12.

Edge distance

Eurocode EN 1995-1-1, section 8.5.1 describes the distance from the centre of the hanger bolt tothe edge of the wooden purlin should be at least according to the dimensions on the right:



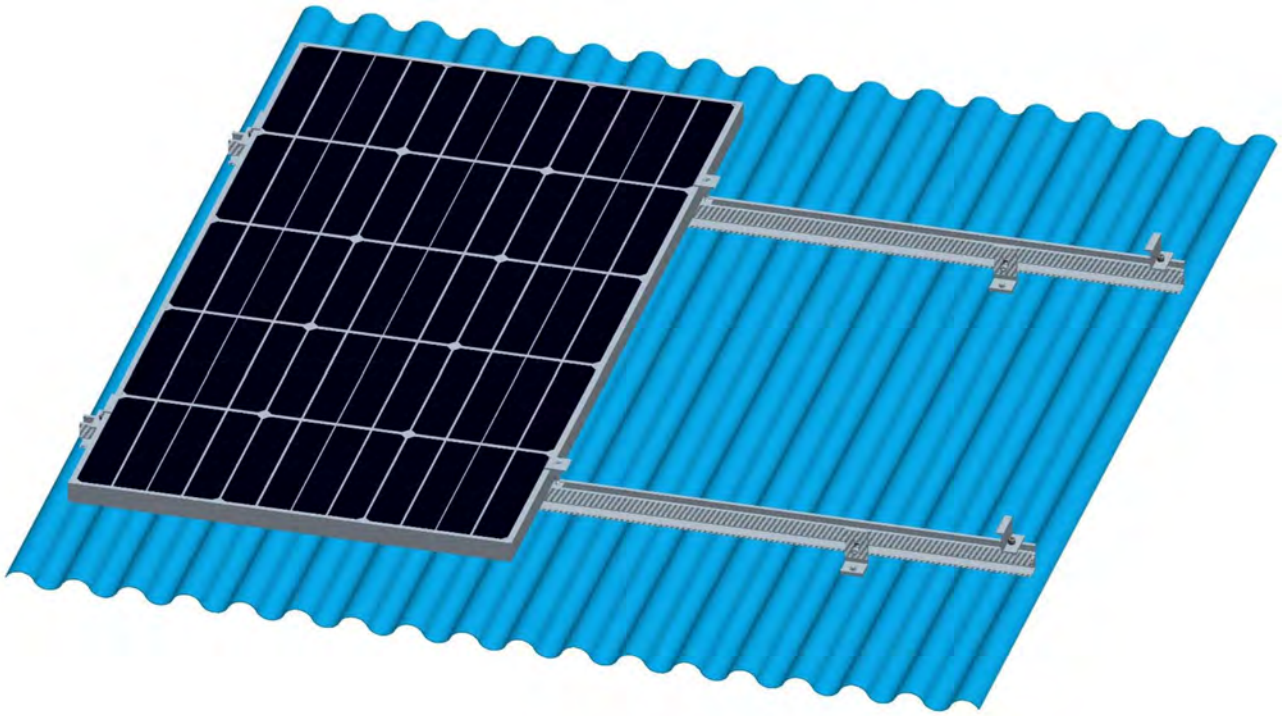


Screw depth

The depth of the screw into the wood, determines the maximum load bearing capacity per hanger bolt. The table below shows the maxumim load bearing capacity over a longperiod (exceeding 10 years):

Screw depth into the wood [mm]	Max. load bearing capacity d=8 mm in [N]	Max. load bearing capacity d=10mm in [N]
32	1320	-
40	1650	2060
45	1850	2320
48	1980	2470
50	2060	2570
56	2310	2880
60	2470	3090
64	2630	3290
70	2880	3600
72	2960	3700
80	3290	4120
85	3500	4370
88	3620	4530
90	3700	4630
96	3950	4940
100	4120	5150

Solar Metal Roof Mounting Structure Installation Guide



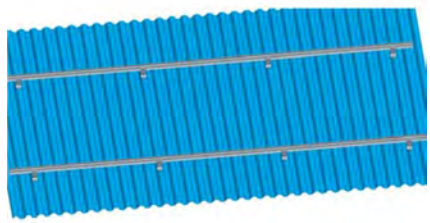
Overview

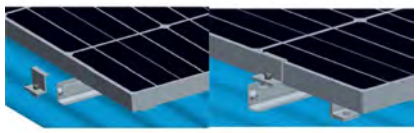
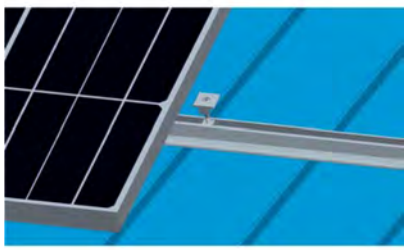
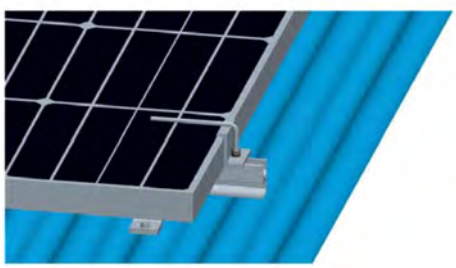
Components List

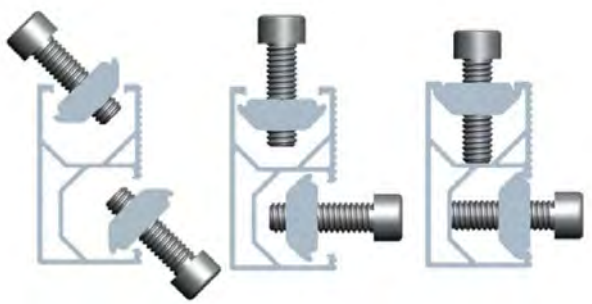
Model Name	Rail #R2	Rail splice for rail #R2	T-module
Picture			
Model Name	**L Bracket (L Foot)**	**Inter Clamp (with T-module)**	**End Clamp (with T-module)**
Picture			
Model Name	**Tile Roof hook**	**Hexagon socket bolt M8*30/45/50/55/60**	
Picture			

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.