



EJOT® Aluminum Roof Hook

Installation Manual



EJOT Aluminum Roof Hook

The kit comes complete with two 6 x 100 (13ga. x 4 inch) low profile split avoidance fasteners. Longer lengths and an 8mm (5/16") version are available upon request.

EJOT® Aluminum Roof Hook

The mounting solution for PV installations on tile roofs. Special design for direct installation of any 2-rail system without L-Feet, which works with all major mounting systems. Height adjustable support/fixation area. Very light cast aluminum product.

Charakteristics:

- Complete Kit including Fasteners and additional sealing features
- Secure installation on the rafters
- No predrilling needed
- Fast and cost-effective solar panel installation
- Base plate allows offset fastener positioning to avoid splitting of the wood grain
- Specifically adapted for superior sealing in combination with tile roofs using a batten system
- Additional sealing feature avoids water penetration between underlayment and baseplate
- Aluminum diecast product
- Amazingly light weight
- Superior load bearing capacity
- Extremely stiff to minimize bending under load and the risk of tile cracking

Installation tools

Angular grinder
Cordless screwdriver





Allowable load capacities

(Safety factor 1.9 included):

Downforce	303 lbs
Uplift	303 lbs
Shear	348 lbs

Installation

1. Mounting position

Define the installation positions of the roof hooks.



2. Remove the roof tiles

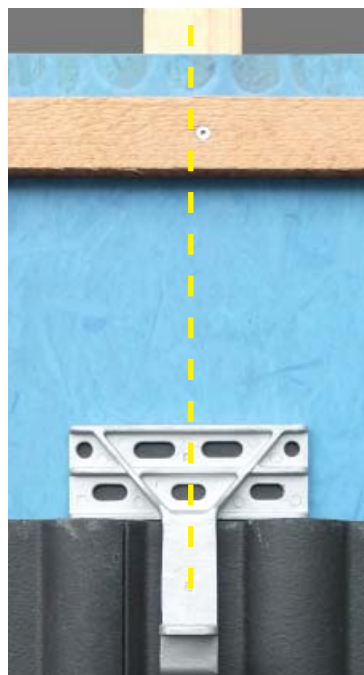
Slide up or remove the roof tiles as needed.



3. Roof hook to be positioned above the rafters

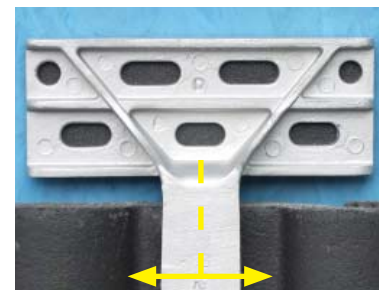
Always position the Roof Hook above the roof rafter.

- With a wood batten /counter batten system the rafters are located underneath the counter battens
- Having a wood batten roof system, you might use an electronic stud finder to locate the rafter underneath the boards



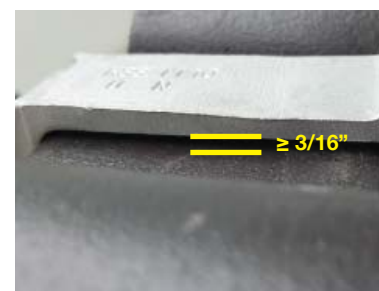
4. Roof hook position on the tile

The Roof Hooks should be positioned in the middle of the valley of the underlying tile.



5. Clearance

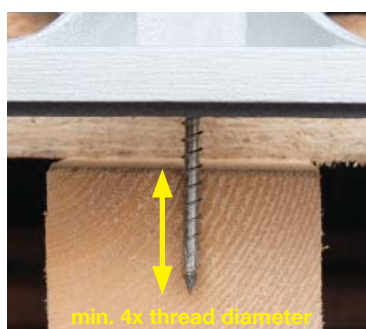
Make sure, that the lever of the hook is not contacting the underlying tile at all. A clearance of at least 3/16" between all parts of the hook to the tile should be maintained. In case the actual clearance is not sufficient, underlay baseplate with matching spacer boards.



6. Correct fastener length

Prior to securing the roof hook make sure that the fasteners penetrate the rafter by at least 1" (if using the 8mm (5/16") fastener penetration should be at least 1-1/4").

In case spacer boards have been used for shimming or additional construction elements like battens and/or sheathing boards are used, the total thickness of all included elements has to be added to the minimum intrusion depth to define the correct fastener.



7. No predrilling necessary

While using flat head fasteners provided from EJOT, predrilling is not necessary as long as the fastener diameter is smaller than 5/16" or the installation will take place in spruce, pine tree or fir tree.

8. Two fasteners/Roof Hook

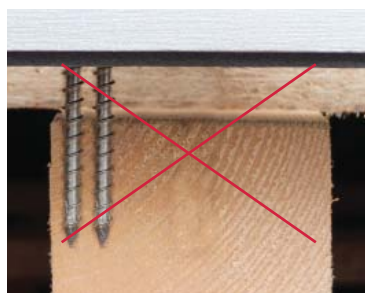
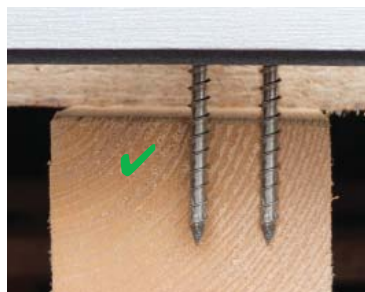
It is mandatory to use two fasteners/Roof Hook



9. Avoid splitting wood

Make sure to install the fasteners as much in the center of the rafter/counter batten as possible. To avoid splitting of the wood, the fasteners need to be positioned offset to each other in different wood grains. The holes in the bottom plate of the roof hooks are positioned accordingly.

For information about the required distances of the fasteners to the edges, please refer to the technical information at the end of this installation manual.



Rafter might split – fasteners are mounted extremely close to the edge.

10. Cut out tiles

In case the installed roof hook collides with the tiles, remove the interference as needed.



11. Done!

Re-install the removed tiles and check for possible cracks or damages prior proceeding the installation process. The Roof Hook is now prepared for installation of the profile.

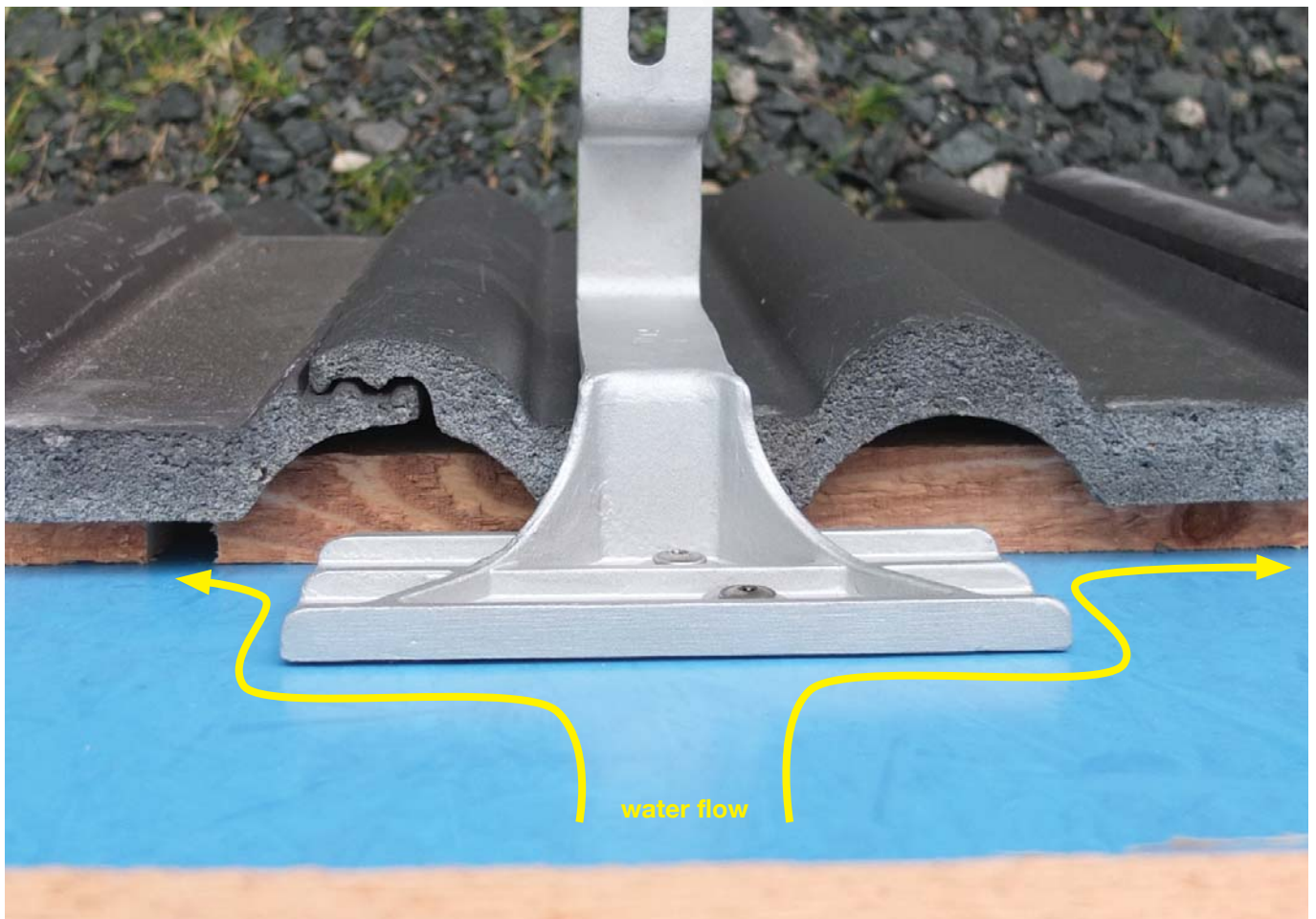


Further information:

It is the installer's responsibility to ensure, that the amount and positioning of roof hooks, as well as the selected fasteners are appropriate for the given construction, loads and installations.

Improved sealing:

When using roof hooks in combination with a roof batten system, water might be able to penetrate between the contact surface of the roof hook and the underlayment. For improvement, the EJOT aluminum Roof Hook is set up with a special sealing device for protection against water intrusion in this critical area.



HECO-TOPIX® Flat head screws

Specifically suited for installations in solid wood (i.e. spruce, pine tree and fir tree)

Characteristics

- Mainly suited for static loads
- Stainless steel A2
- Minimal intrusion depth in the rafter:
4 x thread diameter d_1

Approval

Z-9.1-453

Drive

T25/T40

Lowest characteristic Fastener Tensile Strength [Lb]

Fastener	d_1 [mm]	Lb
Flat plate head screw T25 x L	6.0	1776
Flat plate head screw T40 x L	8.0	3147

Characteristic Fastener Breaking Torque [ft lbs]

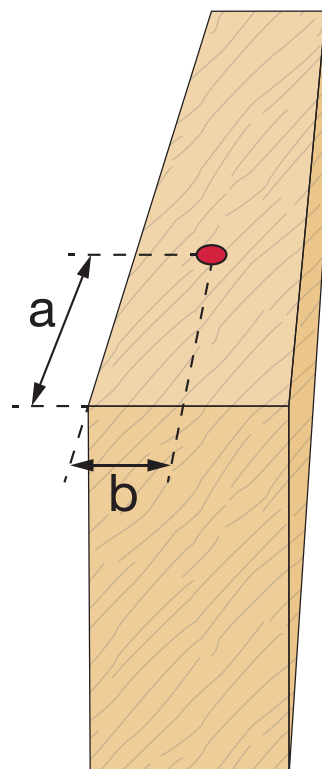
Fastener	d_1 [mm]	ft lbs
Flat plate head screw T25 x L	6.0	6.19
Flat plate head screw T40 x L	8.0	13.27

Allowable Pullout Load [Lb] (Spruce, vertical to surface)

Fastener	d_1 [mm]	Lb
Flat plate head screw T25 x L	6.0	741
Flat plate head screw T40 x L	8.0	1124

Characteristic Yield Moment [ft lbs]

Fastener	d_1 [mm]	ft lbs
Flat plate head screw T25 x L	6.0	5.8
Flat plate head screw T40 x L	8.0	12.5



Edge distances

Fastener $d_1 = 15/64"$

a	b
min. $15 \times d_1$	$5 \times d_1$
$\geq 25 \times d_1$	$3 \times d_1$

Sample calculation

Flat plate head screw T25 x L

d_1 [mm]	a [mm]	b [mm]
15/64"	min. 3.543"	1.181"
15/64"	$\geq 5.906"$	0.709"

Edge distances

Fastener $d_1 = 5/16"$

a	b
min. $15 \times d_1$	$5 \times d_1$
$\geq 25 \times d_1$	$3 \times d_1$

Sample calculation

Flat plate head screw T40 x L

d_1 [mm]	a [mm]	b [mm]
5/16"	min. 4.724"	1.575"
5/16"	$\geq 7.874"$	0.945"

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