

Image credit:
bauprofessor.de

Insulation on the load-bearing structure is referred to as on-roof insulation (see illustration). To install a PV racking system correctly and safely, follow these installation instructions.

Proper planning and installation will ensure optimal results for PV racking on roofs with on-roof insulation:

- » There will be no damage to the insulation as the insulation does not have a load bearing function.
- » The PV racking system is directly attached to the rafters in a safe and stable manner.

We recommend the following steps for the installation of PV racking systems with on-roof insulation:

- » Use high quality double threaded screws to ensure a secure and sturdy attachment.
- » Take the following factors into account when calculating the ideal screw length:
 - » Thickness of counter batten
 - » Thickness of insulation
 - » Thickness of timber boarding (if any)
 - » A penetration depth of approximately 60mm into the rafter will ensure maximum stability.

Why are double threaded screws the ideal choice?

These special screws provide the safest and strongest means of securing the roof hook to the batten. They protect the insulation by not putting pressure on it. They therefore transfer the loads of the PV racking directly and efficiently to the supporting structure or rafter. This ensures a permanently safe and secure installation.

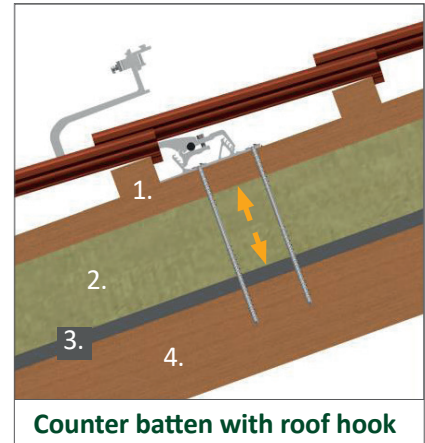
*Our warranty conditions apply.
They are available at www.sl-rack.de



VARIOUS INSTALLATION OPTIONS:

1. INSTALLATION WITH ROOF HOOKS

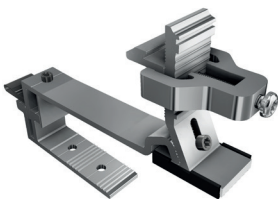
For a precise and secure installation of roof hooks with on-roof insulation, we recommend the use of double threaded screws of the appropriate length (as described on page 1). The roof hook is then installed as usual according to our installation instructions, through the counter batten and insulation into the rafters. This also applies when using [Alpha-Flex 2000](#). This will ensure a stable and durable installation.



1. Counter batten
2. Insulation
3. Timber boarding
4. Rafter

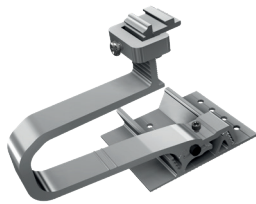
For specific instructions on how to install the roof hooks, please refer to the relevant document (linked below).

Compatible roof hooks:



SL Alu Multi Hook

Item no. 11100-05



SL Alu

Item no. 11100-01
Item no. 11100-02
Item no. 11145-01



SL A2

Item no. 13106-00
Item no. 13107-00
Item no. 13105-00



Alpha-Flex 2000

Item no. 11501-2000



IMPORTANT



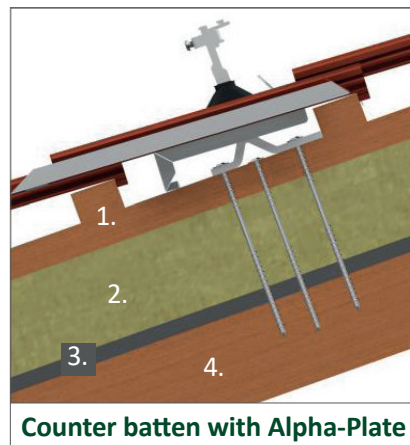
If the roof was originally designed without a PV system in mind, it can be easily adapted: For each rafter to which a roof hook is attached, an additional double threaded screw is screwed in at an angle of approximately 60° to the counter batten. This provides additional stability and a secure attachment of the PV system.



2. INSTALLATION WITH ALPHA-PLATE

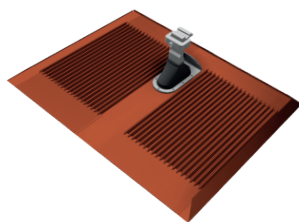
To ensure a perfect installation of the Alpha-Plate with on-roof insulation, we recommend using double threaded screws of the correct length (as described on page 1). Additionally, a double threaded screw of the same length is screwed into the centre before the Console is attached, which ensures a higher load-bearing capacity.

Now the Alpha-Plate is fixated, following our proven installation instructions. However, the attachment goes through the counter batten and insulation into the rafters. The same applies when attaching [Alpha-Flex 120](#) or [Alpha-Flex 2000](#). This results in a secure and stable installation.



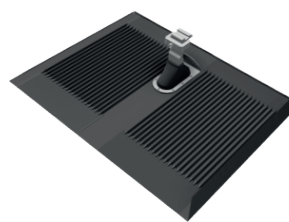
Counter batten with Alpha-Plate

1. Counter batten
2. Insulation
3. Timber boarding
4. Rafter



Alpha-Plate

Item no. 11500-00
Colour: Brick Red



Alpha-Plate

Item no. 11500-01
Colour: Anthracite



IMPORTANT

If the roof was originally designed without a PV system in mind, it can be easily adapted: For each rafter to which an Alpha-Plate is attached, an additional double threaded screw is screwed in at an angle of approximately 60° to the counter batten. This provides additional stability and a secure attachment of the PV system.

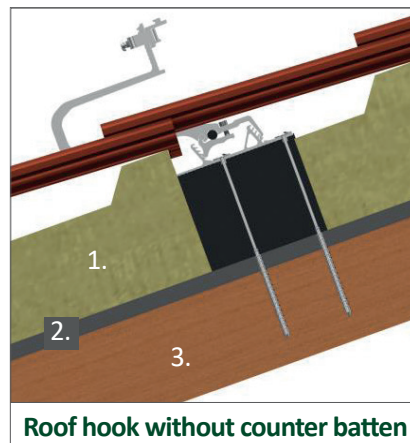


3. INSTALLATION WITH INSULATION BUT WITHOUT COUNTER BATTEN

In this special case, the insulation in the area of the rafter must be carefully cut open and removed. Shims are then stacked on the rafter up to the appropriate height and securely fastened to the rafter using the holes provided.

The resulting gap is filled with a suitable material such as mineral wool or PU foam and the entire opening is carefully sealed with a suitable tape or underlayment. Next the roof hook can be put into position and firmly be attached to the rafter with conventional wood screws, long enough to go through the overlapping shims.

This method ensures a stable and permanent attachment.



- Roof hook without counter batten**
1. Insulation
 2. Timber boarding
 3. Rafter



Shim

Item no. 94703-02



Shim

Item no. 94703-05



Your opinion is important to us!

It is our top priority to make the installation process for you as quick, easy and efficient as possible.
Please share your experiences, ideas or criticism with us, so we can continue to improve
our products and develop new ones.



SL Rack **Feedback**
[Provide feedback »](#)



SL Rack **Website**
[Find out more »](#)



SL Rack **Youtube**
[View videos »](#)

Find us on



Subject to technical
changes and misprints.
Version 10/2024 V3