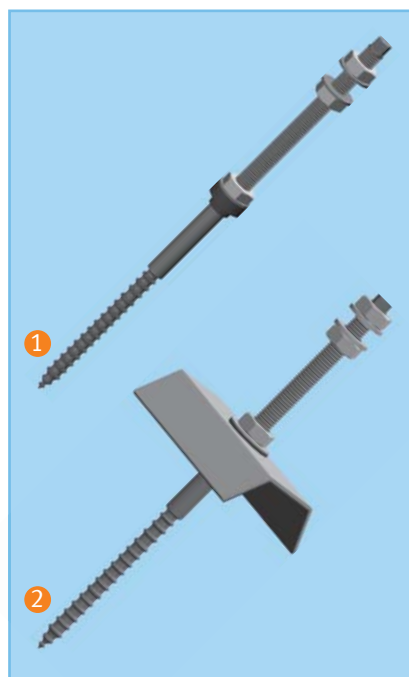


Pitched roof fastening with hanger bolts

Assembly instructions

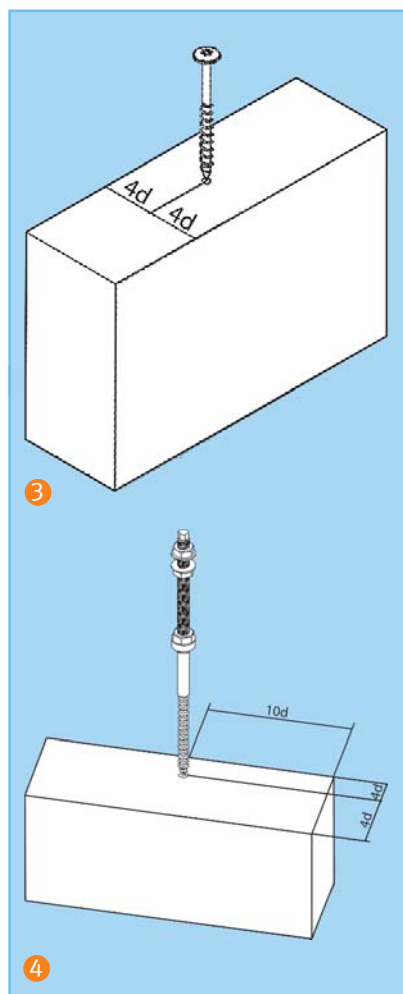


Commonly used hanger bolts:

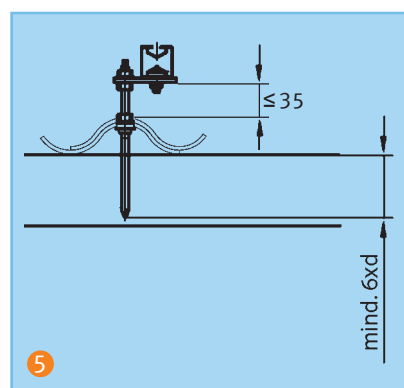


- ① Hanger bolt with locking nuts and EPDM-tape
- ② Hanger bolt with reinforcement plate for corrugate sheet and EPDM-tape

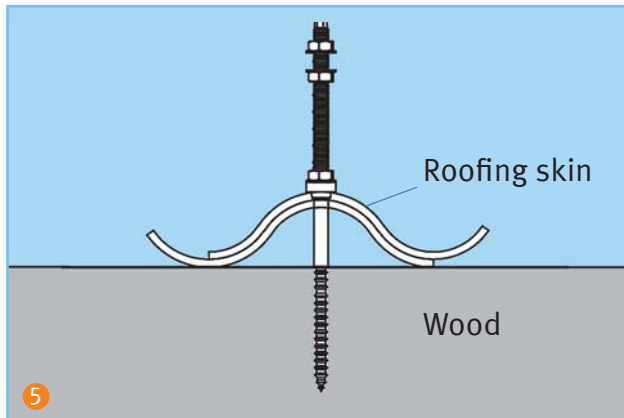
Drill the wood according to DIN EN 1995-1-1 with the given distances from the edge:



- ③ Rafter: 4 times bolt diameter from the left and right edges
- ④ Roof beam: 4 times bolt diameter
- ⑤ Depth: should be 8 times bolt diameter, if required only up to 6 times with reduced load bearing capacity.

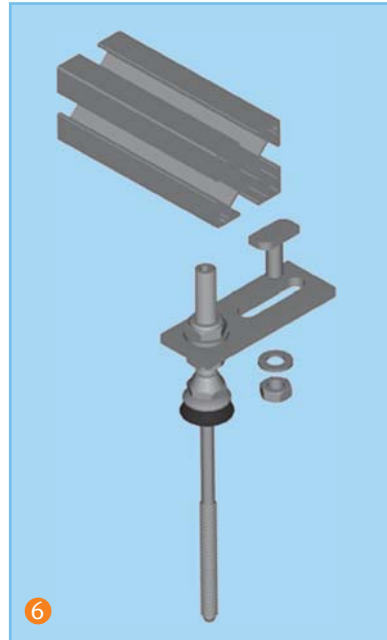


Pitched roof fastening with hanger bolts Assembly instructions



5 Installation situation, e.g. in fibre cement corrugated sheets

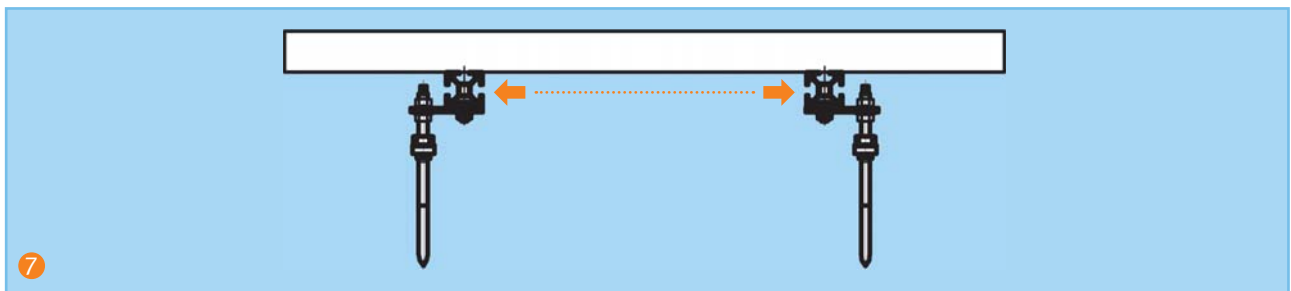
Ø Hanger bolt	Pre-drilling roof skin	Pre-drilling wood
M10	Ø 13 mm	Ø 7.0 mm
M12	Ø 15 mm	Ø 8.5 mm



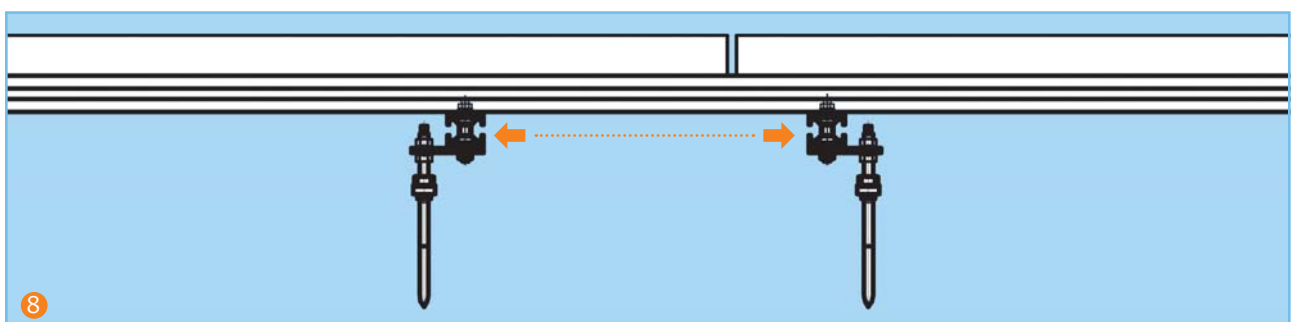
6 Fixing of the profile to the adapter sheet

Vertical profiles

- 7** The adapter sheet is mounted between the upper locking nuts. To ensure even load distribution under the module it must be fixed with the profile connectors turned inwards towards each other (adapter to be fitted with 90° angle to the profile).
- 8** This also applies to two layered systems. Where the bottom profile is vertical, the profile connectors are turned inwards towards each other. The adapter plates should be fixed as close as possible to the roof skin. The slot in the adapter plate is used for the fastening of the profile with hammerhead screw and locking nuts.



Single layer, module vertical

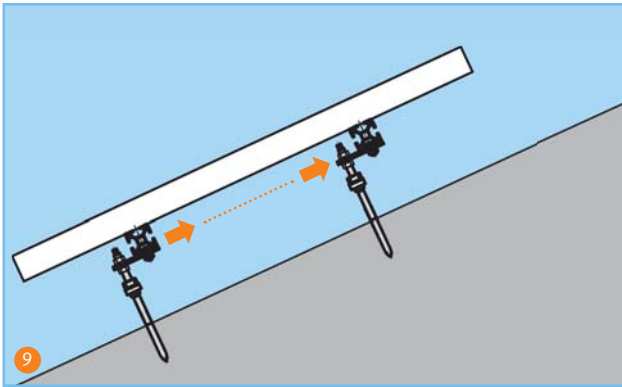


Two layers, module horizontal

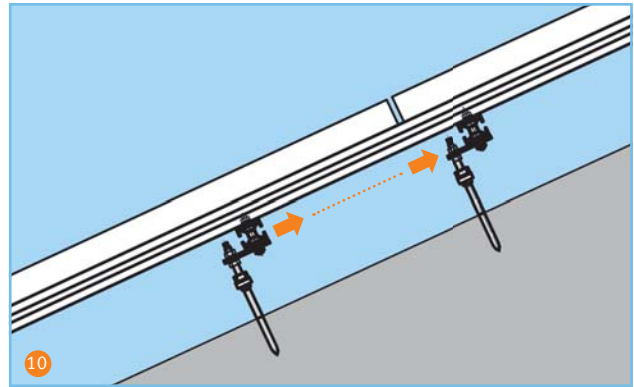
Pitched roof fastening with hanger bolts Assembly instructions

Horizontal profiles

- 9 The adapter plate is mounted between the upper locking nuts. To ensure even load distribution under the module, the profile connection must be aligned with the ridge of the roof.
- 10 This also applies to two layered systems when the lower profile is fixed horizontal, that is parallel to the ridge. The adapter plates should be fixed as close as possible to the roof skin. The slot in the adapter plate is used for the fastening of the profile with hammerhead screw and locking nuts.



Single layer, module horizontal



Two layers, module vertical

Double adapter

- 11 The double adapter is mounted on two parallel hanger bolts between the two upper locking nuts. It must be fastened with the open edge towards the ridge. The slot in the middle of the double adapter serves to fix profile with hammerhead screws and nuts. The double adapter should be fixed as close to the roof skin as possible.

