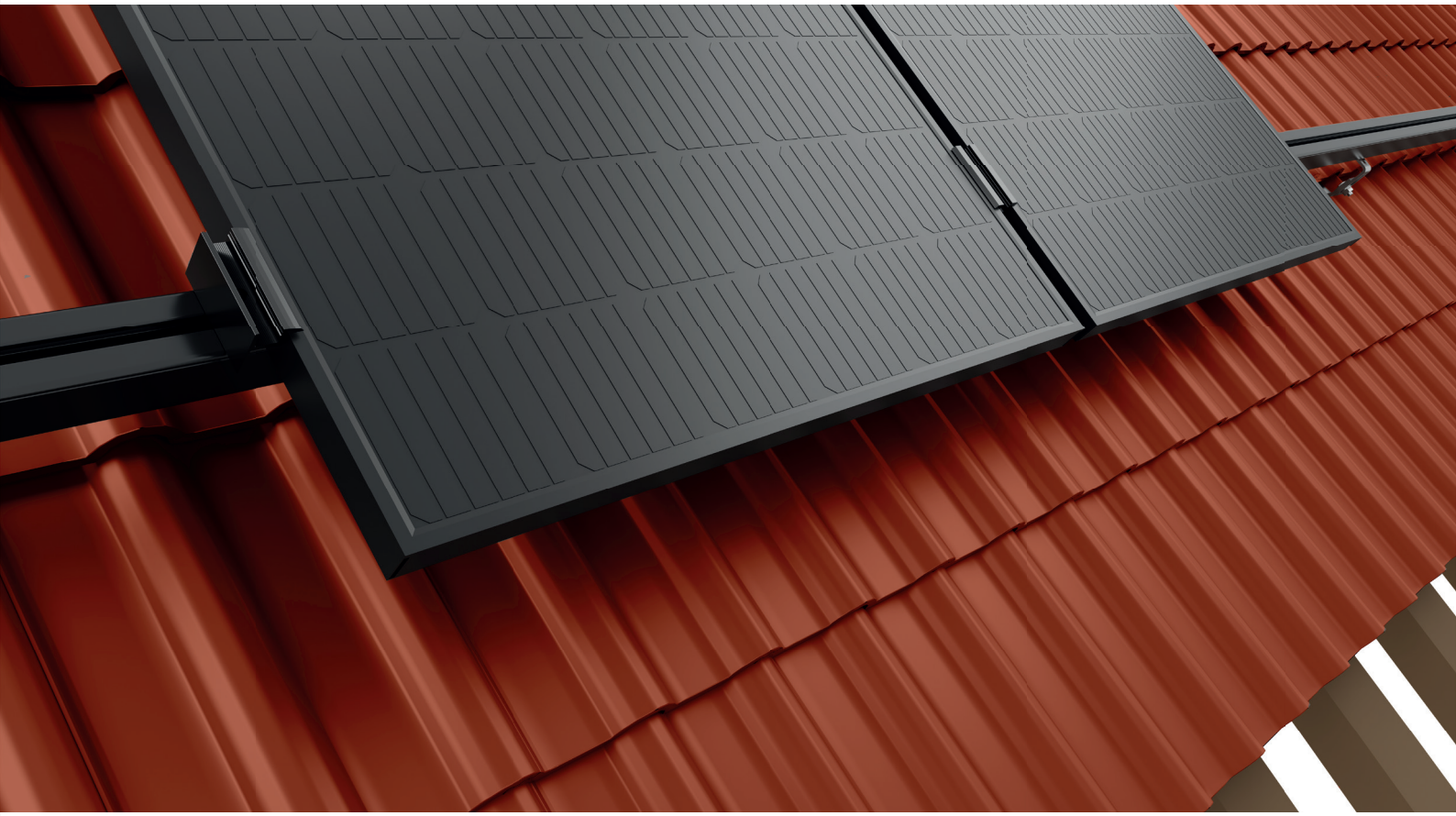
ASSEMBLY INSTRUCTIONS

Inclined roof

VERBINDUNGEN, DIE HALTEN.
CONNECTIONS MADE OF STEEL.

ASSEMBLY INSTRUCTIONS

General information



Simple installation and durability

Two things are decisive for us in the design and development of WASI SOLAR mounting systems: simple installation and durability that guarantees safety.

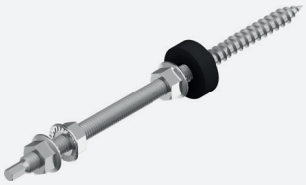
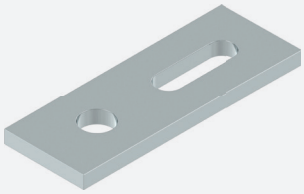
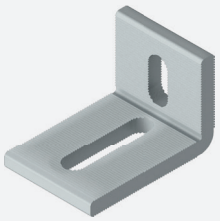
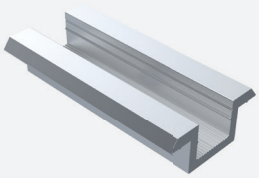
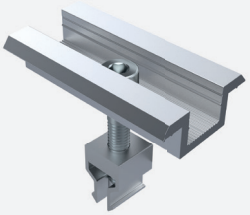
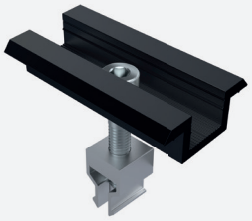
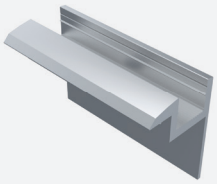
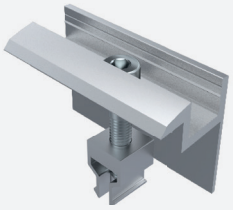
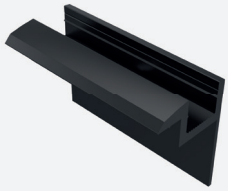
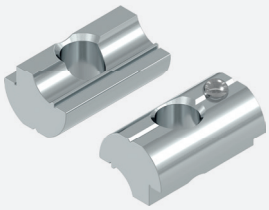
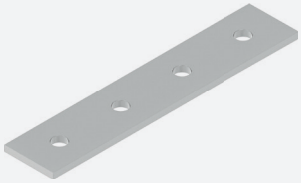
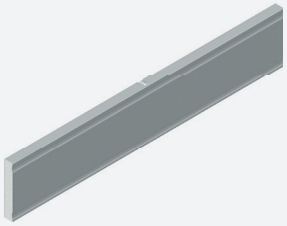
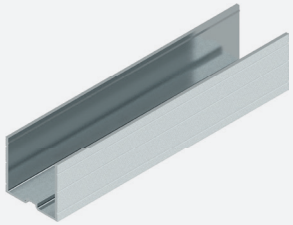
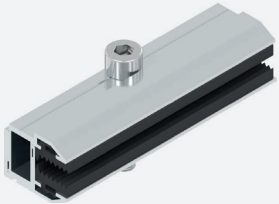
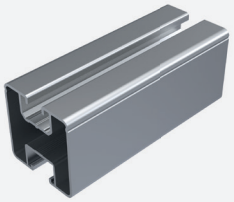
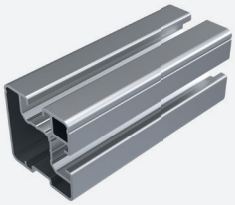
This is the basis of the WASI solar programme. As each roof has its own special features that need to be taken into account, we always ask you to obtain an expert opinion before installation.

In particular, the static requirements must be taken into account and the relevant standards and accident prevention regulations must be observed when installing the system. we would like to point out that this installation recommendation illustrates the state of the art and many years of experience in how our systems can be installed on site.

Translated with DeepL.com (free version)

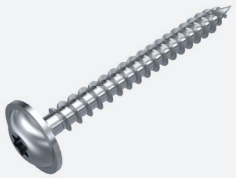
ASSEMBLY INSTRUCTIONS

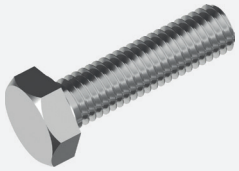
Article list

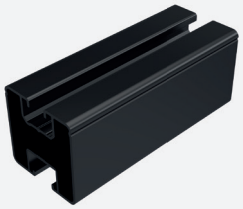
Vario: 9525-2-140x56K	9216-2-10x200	9543-2-82x30x5	9701-WASI14
			
9745-WASI13	9745-WASICLIPM-(1>>5)	9745-WASI13SE	9745-WASICLIPM(1-5)SE
			
9742-WASI4-(30>>50)	9742-WASICLIPE-(30>>50)	9742-WASI4-(30>>50)SE	9742-WASICLIPE-(30>>50)SE
			
9431-120901-100	9557-2-200x40	9751-WASI18	9751-WASI12
			
9742-GM L80/6-9	9745-GM L80/6-9	WASI1: 9664-AL-40x40x6400UL	WASI15: 9664-WASI15UL
			

ASSEMBLY INSTRUCTIONS

Article list

Holzschraube DIN 571	WS 9809	WS 9810	WS 9811
			

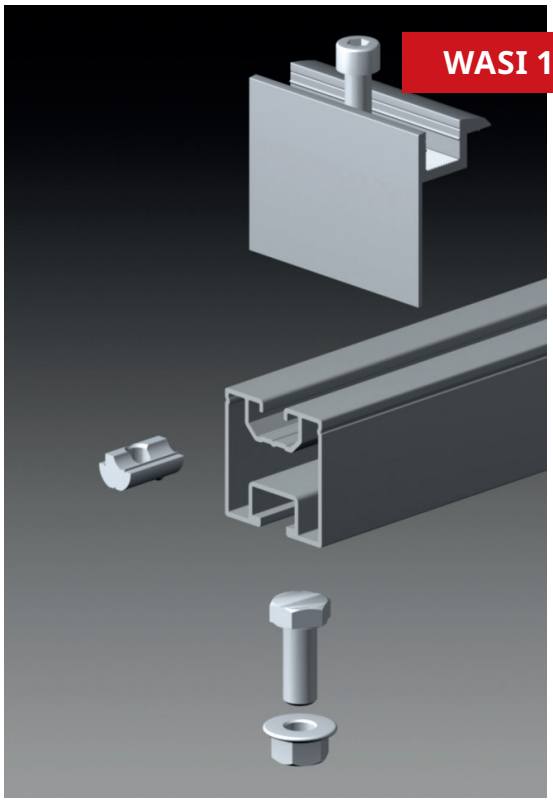
9664-2-10x25	933-2-10x25	9345-2-10	7504-2-4,8x25K
			

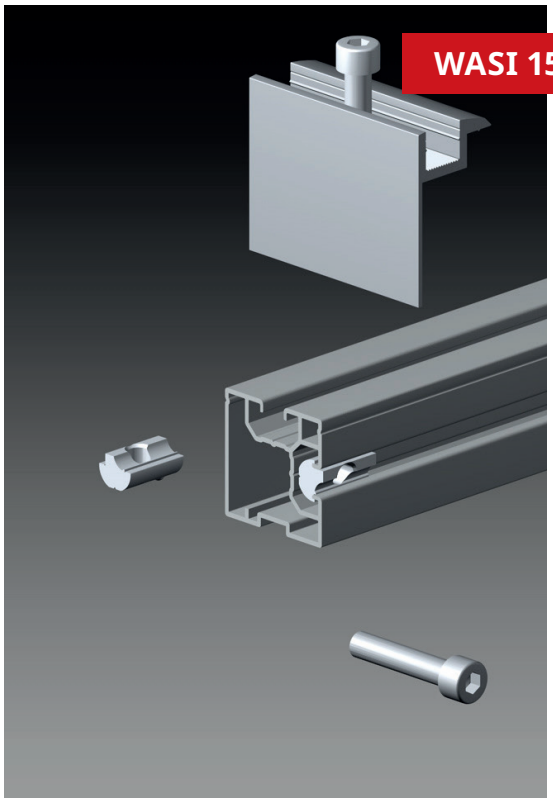
912 A2/A4 8x(Länge)	9664-Kappe40	9664-Kappe40SW	WASI1SE: 9664-AL-40x40x6,4LSE
			

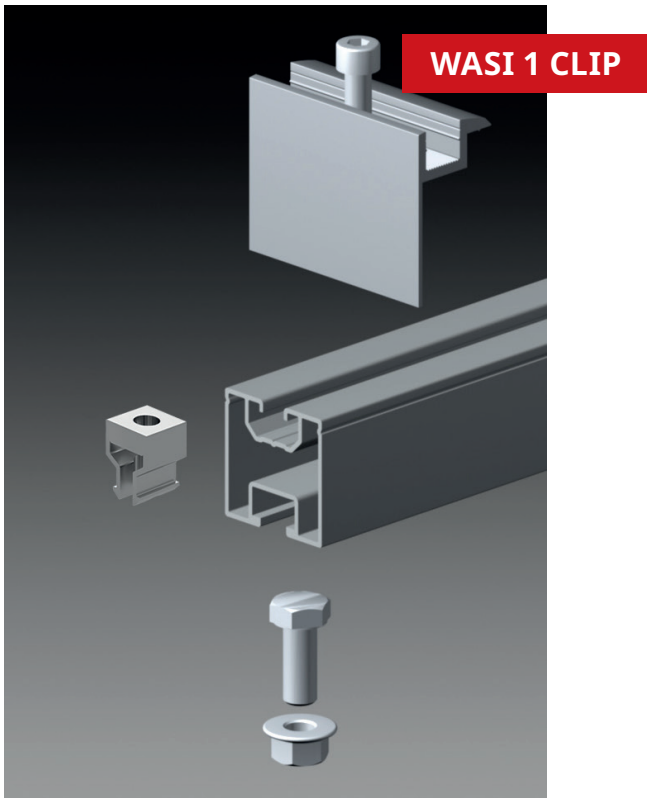
Schwerlast: 9525-2-140x56x8K	Standard: 9521-2-150x60W	WASI2: 9664-AL-80x40x6200	9664-Kappe80SW
			

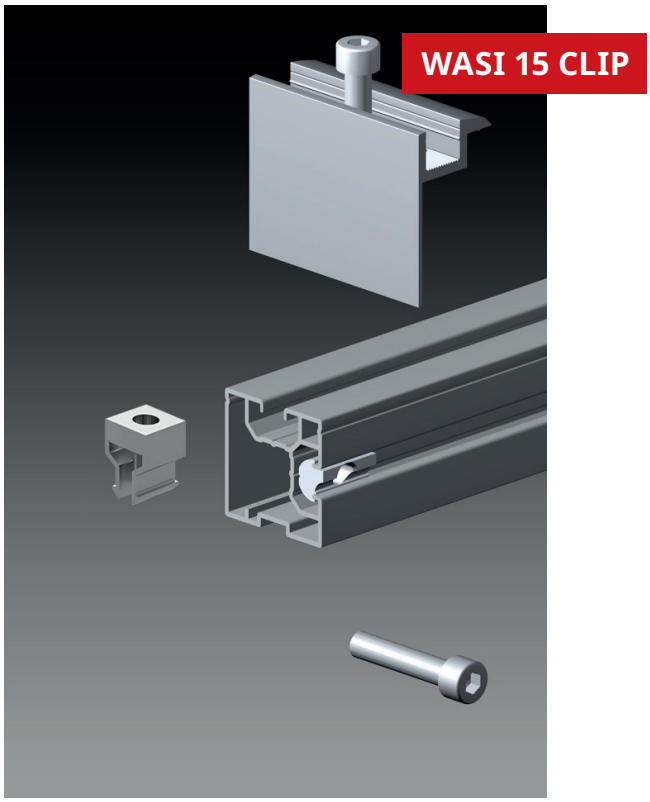
ASSEMBLY INSTRUCTIONS

Systems overview









ASSEMBLY INSTRUCTIONS

Preparatory work

1

1. Planning and authorisations

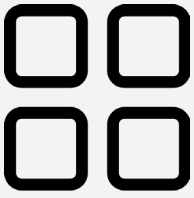
Make sure that you have obtained all the necessary permits and building law requirements for the installation of a solar system on your roof.

2

2. Roof inspection

Carry out a thorough inspection of the roof to ensure that it is in good condition and does not require any repairs or maintenance.

3

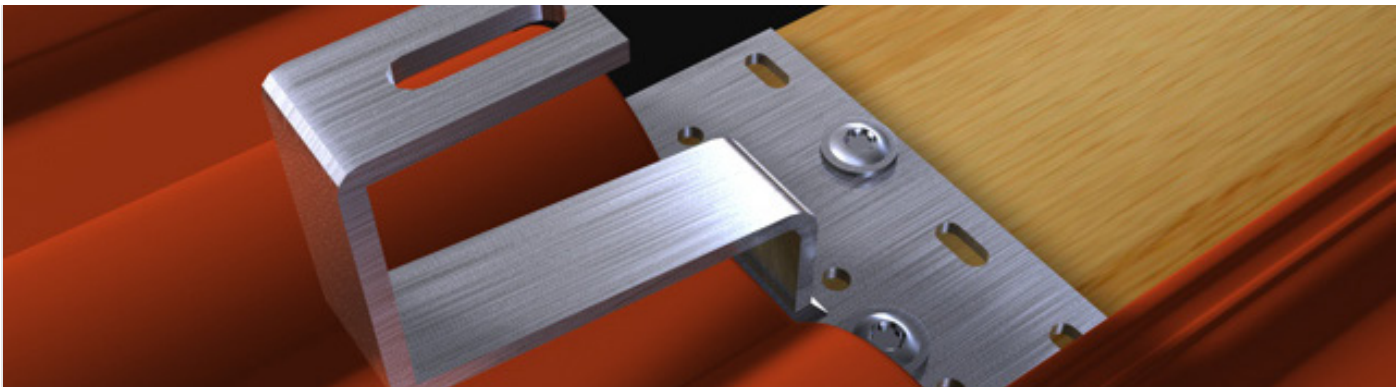


3. Layout and positioning

Plan the positioning of the solar modules on the roof in advance to ensure maximum solar radiation. Mark the positions of the mounting rail on the roof.

ASSEMBLY INSTRUCTIONS

Roof mounting option



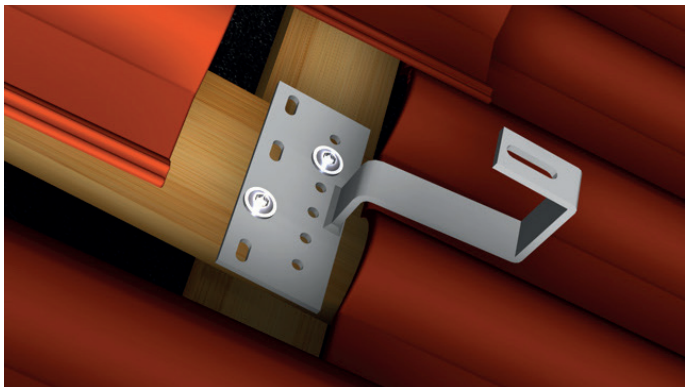
The majority of roof coverings are made with roof tiles or roof tiles.
The Vario roof hook, the heavy-duty roof hook or the Standard roof hook can be used here, for example, and these roof hooks are generally mounted on wooden beams in accordance with the current timber standard.

The following screws can be used for this purpose:

- **Wood screw DIN 571**
  A2 8x80/100/120 mm
- **Plate head screws WS 9810 + 9809 + 9811**
  A2 8x80/100/120 mm
  (WS = WASI house standard)

ASSEMBLY INSTRUCTIONS

Assembly sequence of the inclined roof frame



Remove the roof tile at the respective positions or, if necessary, just push it up.

Position the respective roof hook; it must not be pressed against the roof tile.

Depending on the roof hook model, you can adjust the height and sides of the roof hook so that it lies in the corrugated valley of the roof tile. Mount the roof hook to the rafter with two wood screws (e.g. wood screws DIN 571 or disc head screws 9811-2-8x80mm or M8x100mm).

If necessary, cut out the roof tile above the roof hook at the point where the roof hook passes through using a grinder. The roof hook should not raise the roof tile above it. With interlocking tiles, it is recommended that the lower tile is also cut out.

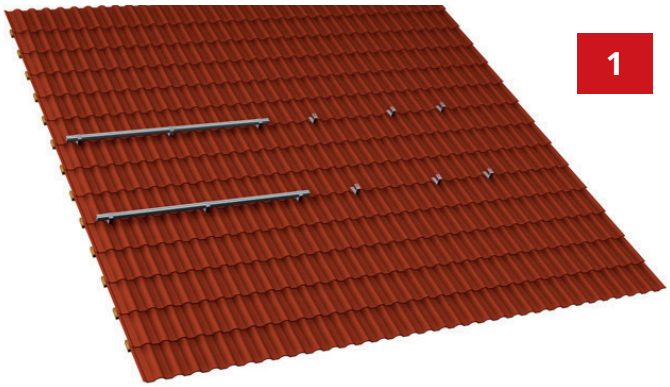
Note:

It is of course also possible to use the VARIO roof hook.

Vario: 9525-2-140x56K

ASSEMBLY INSTRUCTIONS

Assembly sequence of the inclined roof frame



Mount the mounting rails for each row of modules using different screws and nuts.

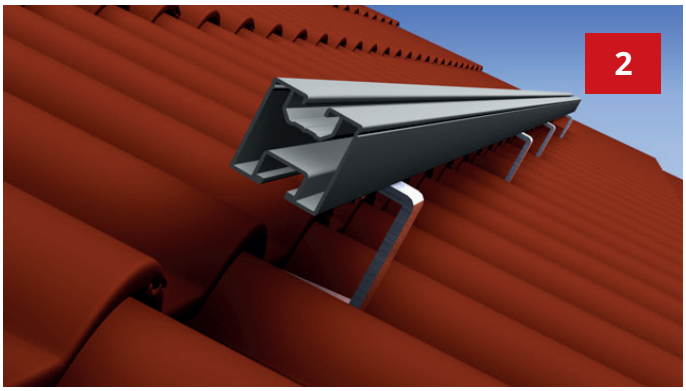


Image 2:

DIN 933 A2 M10x25 (hexagon head screw) plus 9345 A2 M10 (lock nut)

or

9664 A2 M10x25 (hammer-head bolt) plus 9345 A2 M10 (lock nut)

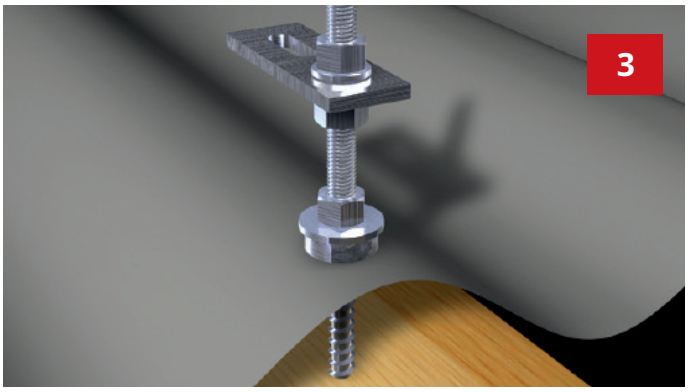


Image 3: Hanger bolts can be used for an alternative roof covering with corrugated sheet metal or trapezoidal sheet metal. The choice of the appropriate hanger bolts depends on the respective substructure (e.g. timber). We offer the following options here: 9216, various designs, see delivery programme.

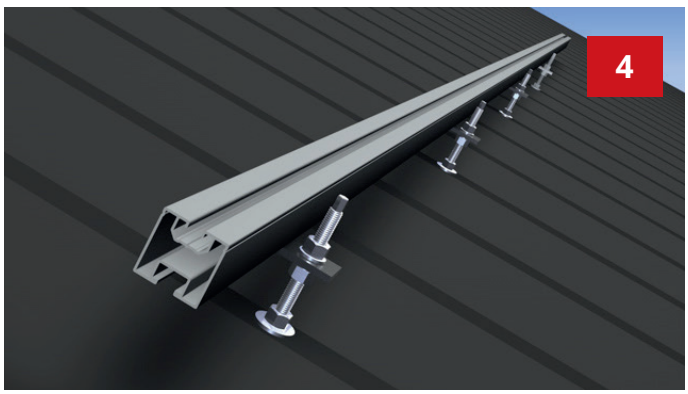


Image 4:

DIN 933 A2 M10x25 (hexagon head screw) plus 9345 A2 M10 (lock nut)

or

9664 A2 M10x25 (hammer-head bolt) plus 9345 A2 M10 (lock nut)

ASSEMBLY INSTRUCTIONS

Mountin the rail connectors

Various connectors can be used to line up several mounting rails:

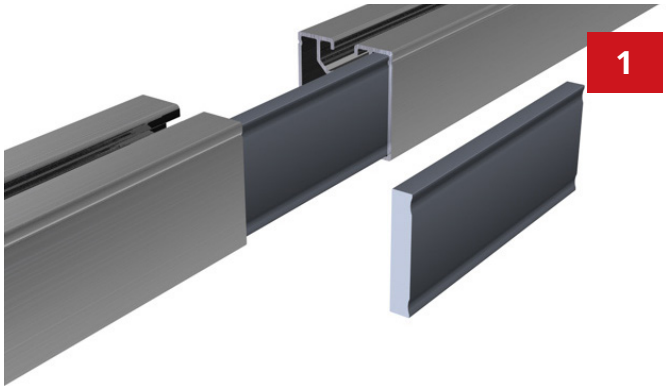


Image 1:

The connector (9751-WASI18) is pushed halfway into the mounting rail. Then slide the other mounting rail onto the connector. Then push the mounting rails flush together using pressure.

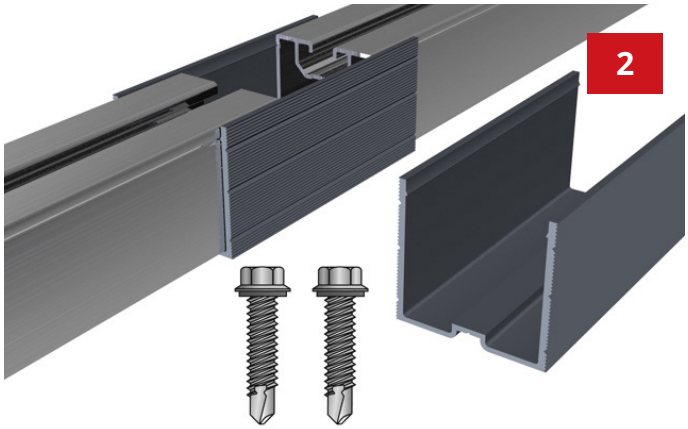


Image 2:

Place the connector (9751-WASI12) over the first mounting rail, click into the existing groove and press the two together. Then screw this connection together crosswise using two self-tapping screws (7504-2-4.8x25K). (Tightening torque 8-12 Nm)

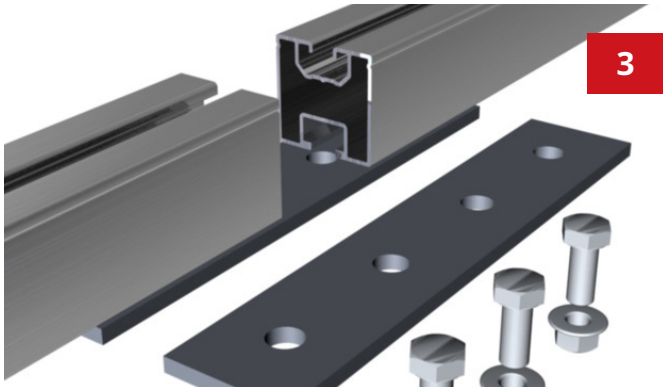


Image 3:

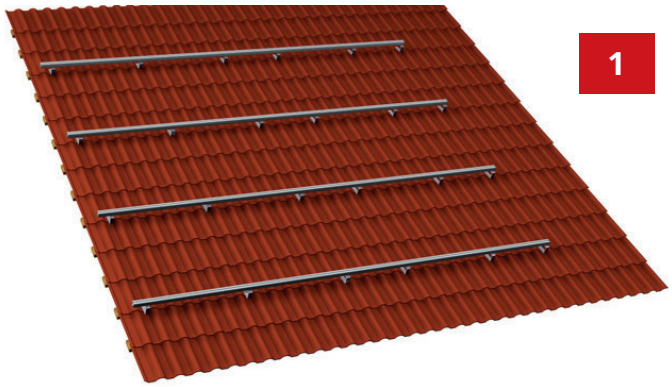
Fit the connector (9557-2-200x40) with four hexagon head screws* and slide the first two screw heads into the lower channel of the first mounting rail. Then slide the last two screws into the other rail. Then fasten all four screws with 4 nuts** each. (tightening torque 8-12 Nm)

* 4x (933-2-10x25)

** 4x (9345-2-10)

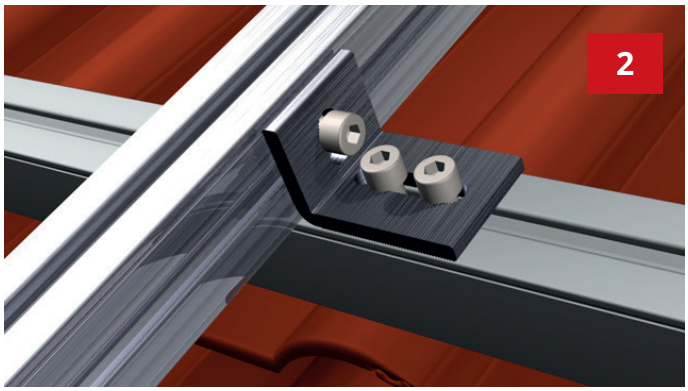
ASSEMBLY INSTRUCTIONS

Assembly sequence in the crossbar system



1

When installing unframed PV modules, cross-bracing may be required. This is a particularly stable construction. Please observe the module manufacturer‘s installation specifications.

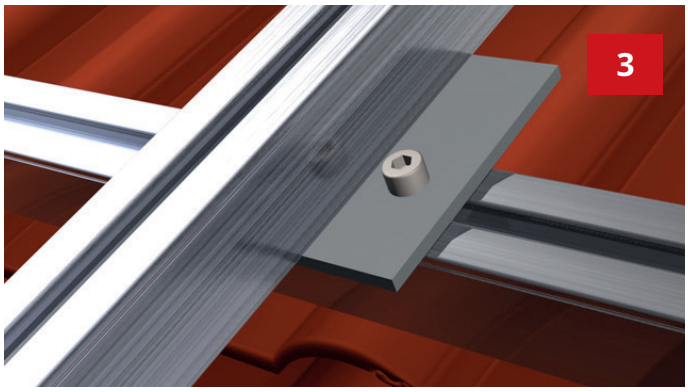


2

Connection of the two rails by means of cross-bracing angle.

- 912 A2 8x16 (3x) Cheese head screw
- 9431-120901-100 (3x) T-slot nut
- 9701-WASI14

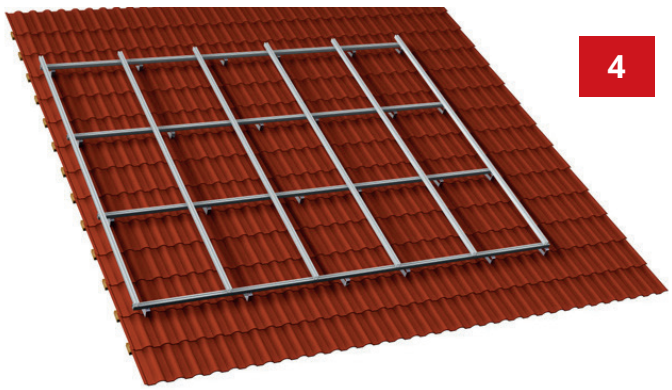
Angled cross braceWASI1 and WASI15 are used here.



3

Connection of the two rails using a connector plate:

- 912 A2 8x16 (2x) cheese head screw
- 9431-120901-100 (2x) slot nut
- 9701-WASI23W cross connector plate
- 933-2-10x25 hexagon head screw
- 9345-2-10 lock nut



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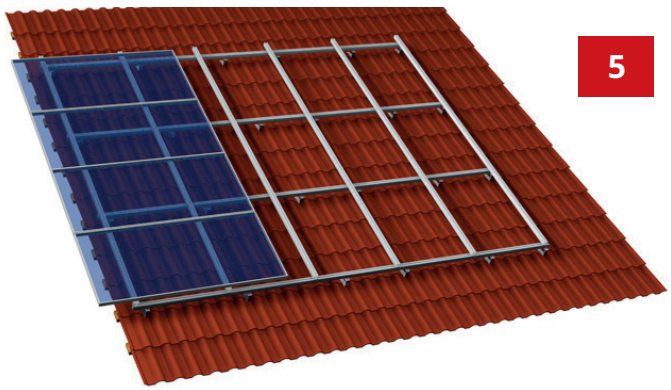
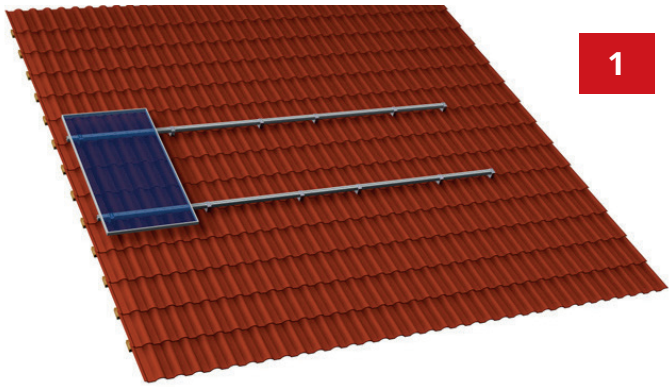


5

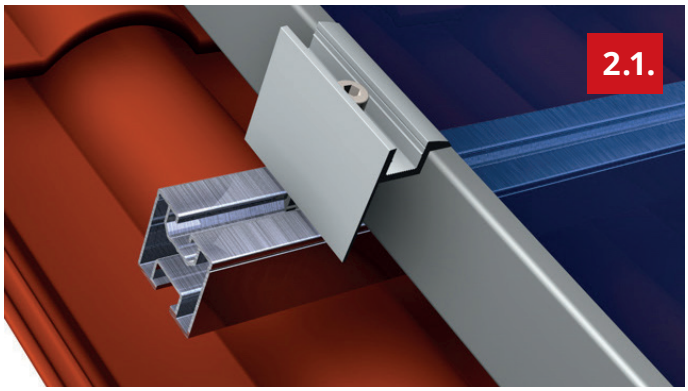
ASSEMBLY INSTRUCTIONS

Installation sequence of the inclined roof frame with framed PV modules

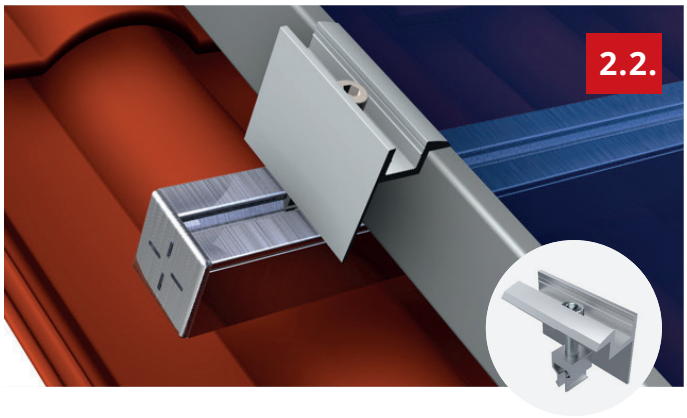


1

Fastening examples for centre and end clamps:



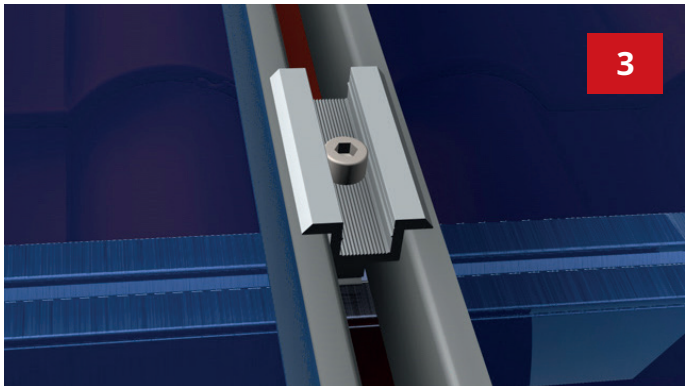
2.1.



2.2.

Image 2.1: Swivel the sliding block into the top rail and click into place. Turn the end clamp with the corresponding screw (depending on the module height) into the sliding block. Alternatively, click the click kit (9742-WASICLIPE-(30>>50)) into the upper channel of the rail and tighten. (Tightening torque up to max. 18 Nm depending on module manufacturer). A cover (9664-cap40(SE)) can be used as a moulded cover for the rail. (Image 2.2)

Image 3: Swivel the sliding block into the top rail and click into place. Turn the centre clamp (9745-WASI13) with the corresponding screw (depending on the module height) into the sliding block. Alternatively, click the click kit (9745-WASICLIPM(1>>3)) into the upper channel of the rail and tighten. (Tightening torque up to max. 18 Nm depending on module manufacturer)



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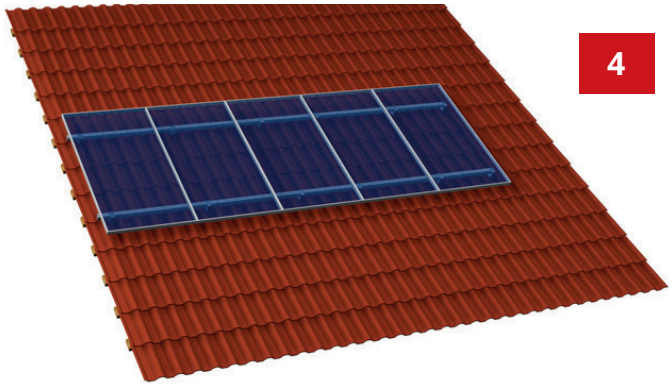


4

ASSEMBLY INSTRUCTIONS

Installation sequence of the pitched roof frame with frameless PV modules

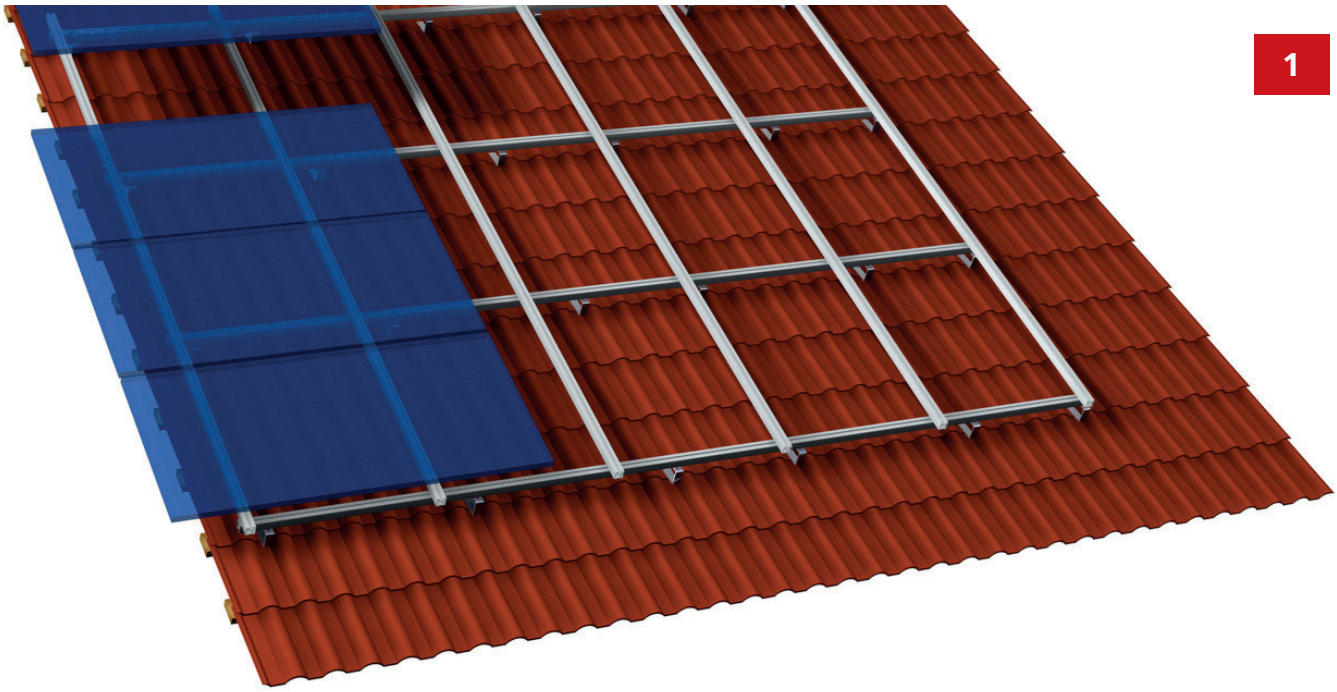
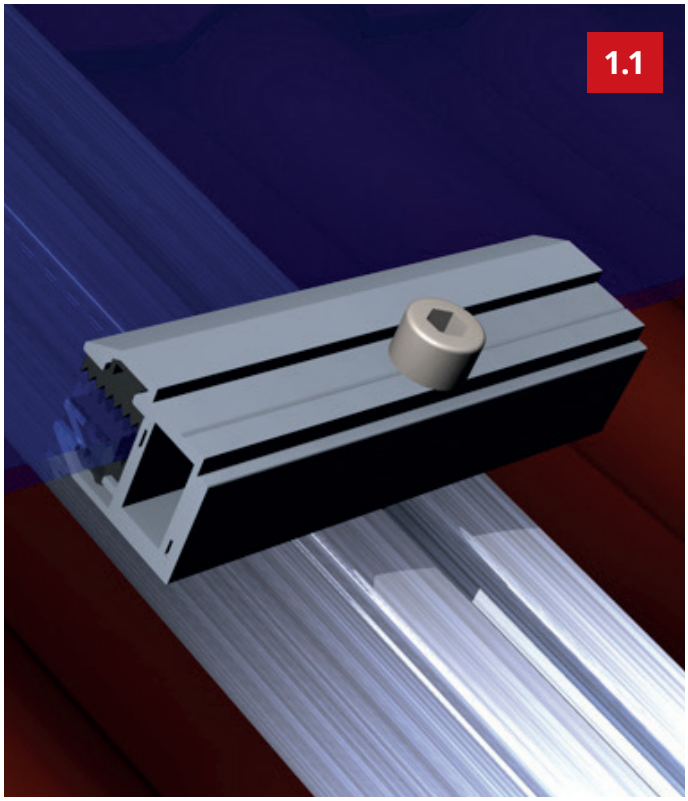


Image 1: Swivel the sliding block into the upper rail and click into place. Screw the end clamp into the sliding block using a DIN 912 A2 M8x35mm screw and tighten (tightening torque up to 15 Nm).

Image 2: Swivel the sliding block into the upper rail and click into place. Screw the end clamp into the sliding block using a DIN 912 A2 M8x35mm screw and tighten (tightening torque up to 15 Nm).



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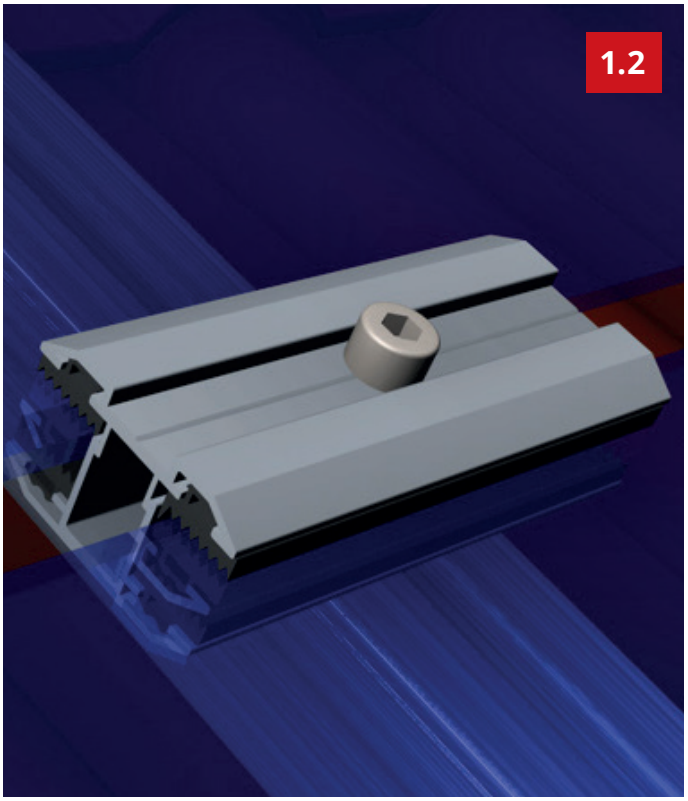

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MAKE YOUR NOTES

Make a note of important things here.

ASSEMBLY INSTRUCTIONS

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ASSEMBLY INSTRUCTIONS

Important notes

Important standards and regulations:

BGV A2 Electrical installations and equipment

BGV C22 Construction work

BGV D35 Ladders and steps

BGV A1 Accident prevention regulations

DIN 1052-2 Timber structures: Mechanical connections

DIN 1055 Load acceptance for buildings

DIN 18299 General regulations for all types of construction work

DIN 18451 Scaffolding construction

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