

Assembly Manual

# K2 SingleRail System

## with roof hooks



Connecting Strength

[k2-systems.com](http://k2-systems.com)

# Content

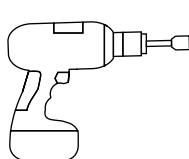
• Tools overview	3	• Assembly	15
• General safety information	4	• Notes on rooftop insulation	15
• The following guidelines apply	4	• Portrait	16
· Roof requirements	5	• Thermal separations	19
· Important mounting	5	• Landscape with two rail layers	20
instructions	5	• Thermal separations for 2-layer rails	22
• Components	6	• Obstructions / roof edge: Use of SingleBoards	23
· Base components	6	• Compensate and underlay height differences	25
· SingleBoards	8	• Attach BlackCover and EndCap	26
· Height compensation and underlay	9	• Notes	27
• Compatible roof hooks	10		
· SingleHook 3S	10		
· SingleHook 3S Light	10		
· SingleHook 3S Long	11		
· SingleHook 4S	11		
· SingleHook 1.1	12		
· SingleHook Alpin	12		
· SingleHook 2	13		
· SingleHook Vario	13		
· L-Adapter for further roof hooks	14		

## Quality tested - several certifications

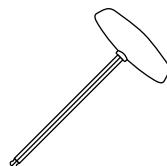
K2 Systems stands for secure connections, highest quality and precision. Our customers and business partners have known that for a long time. Independent institutes have tested, confirmed and certified our capabilities and components.

Please find our quality and product certificates under:  
[k2-systems.com/en/technical-information](http://k2-systems.com/en/technical-information)

# Tools overview



TX25/40 SW 13 mm 6 mm 8,5 mm



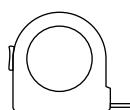
6 mm



6 - 30 Nm  
(4.5 - 22.2 lb·ft)



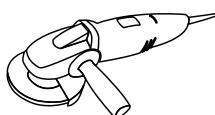
13 mm



≥ 3.0 m



≥ 6.0 m



## Digital Toolbox



**Do you already know our digital services?** Use our K2 DocuApp now and record the first important data directly at the customer or project site. Simply transfer the data to our online planning software K2 Base. Here you can plan your project easily, safely and quickly. You receive a detailed project report with assembly plan and static report.

The K2+ interface enables seamless project data transfer to the planning tools of well-known inverter manufacturers or yield planning tools.

### Get started and register now:

[docuapp.k2-systems.com](http://docuapp.k2-systems.com)



[base.k2-systems.com](http://base.k2-systems.com)



# General safety information

Please note that our general mounting instructions must be followed at all times and can be viewed online at [k2-systems.com/en/technical-information](http://k2-systems.com/en/technical-information)

- The equipment may only be installed and operated by qualified and adequately trained installers.
- Prior to installation, ensure that the product complies with on-site static loading requirements.  
For roof-mounted systems, the roof load-bearing capacity must always be checked.
- National and local building regulations and environmental requirements must be adhered to.
- Compliance with health and safety regulations, accident prevention guidelines and applicable standards is required.
  - Protective equipment such as safety helmet, boots and gloves must be worn.
  - Roofing works must be in accordance with roofing regulations utilising fall protection safeguards when eaves height exceeds 3m.
  - At least two people must be present for the duration of the installation work in order to provide rapid assistance in the event of an emergency.
- K2 mounting systems are continuously developed and improved and the installation process may thereby change at any time. Prior to installation consult our website at [www.k2-systems.com/en/technical-information](http://www.k2-systems.com/en/technical-information) for up-to-date instructions.  
We can send you the latest version on request.
- The assembly instructions of the module manufacturer must be adhered to.
- Equipotential bonding/grounding/earthing between individual parts is to be performed according to country specific standards, as well as national laws and regulations.
- At least one copy of the assembly instructions should be available on site throughout the duration of the installation.
- Failure to adhere to our general safety and assembly instructions and not using all system components, K2 is not liable for any resulting defects or damages. We do not accept liability for any damage resulting in the use of competitor's parts. Warranty is excluded in such cases.
- German law shall apply excluding the UN Convention on CISG. Place of venue is Stuttgart. Our General Terms of Business apply.
- If all safety instructions are adhered to and the system is correctly installed, there is a product warranty entitlement of 12 years! We strongly recommend reviewing our terms of guarantee, which can be viewed at [www.k2-systems.com/en/technical-information](http://www.k2-systems.com/en/technical-information)  
We will also send this information on request.
- Dismantling of the system is performed in reverse order to the assembly.
- K2 stainless steel components are available in different corrosion resistance classes. Each structure or component must be carefully checked for possible corrosion exposure.

# The following guidelines apply



The SingleRail system with roof hooks can be used without further testing by K2 Systems in the following standard conditions. To calculate maximum distances between supports we recommend using our calculation tool K2 Base. The system is also suitable for higher requirements. However, if a value exceeds the standard conditions, please contact K2 Systems.



## Roof requirements

- The sufficient holding force of the roof covering at the support or substructure must be ensured on site.
- Roof pitch of 5 - 75°
- Sufficient load reserves to support the PV system.



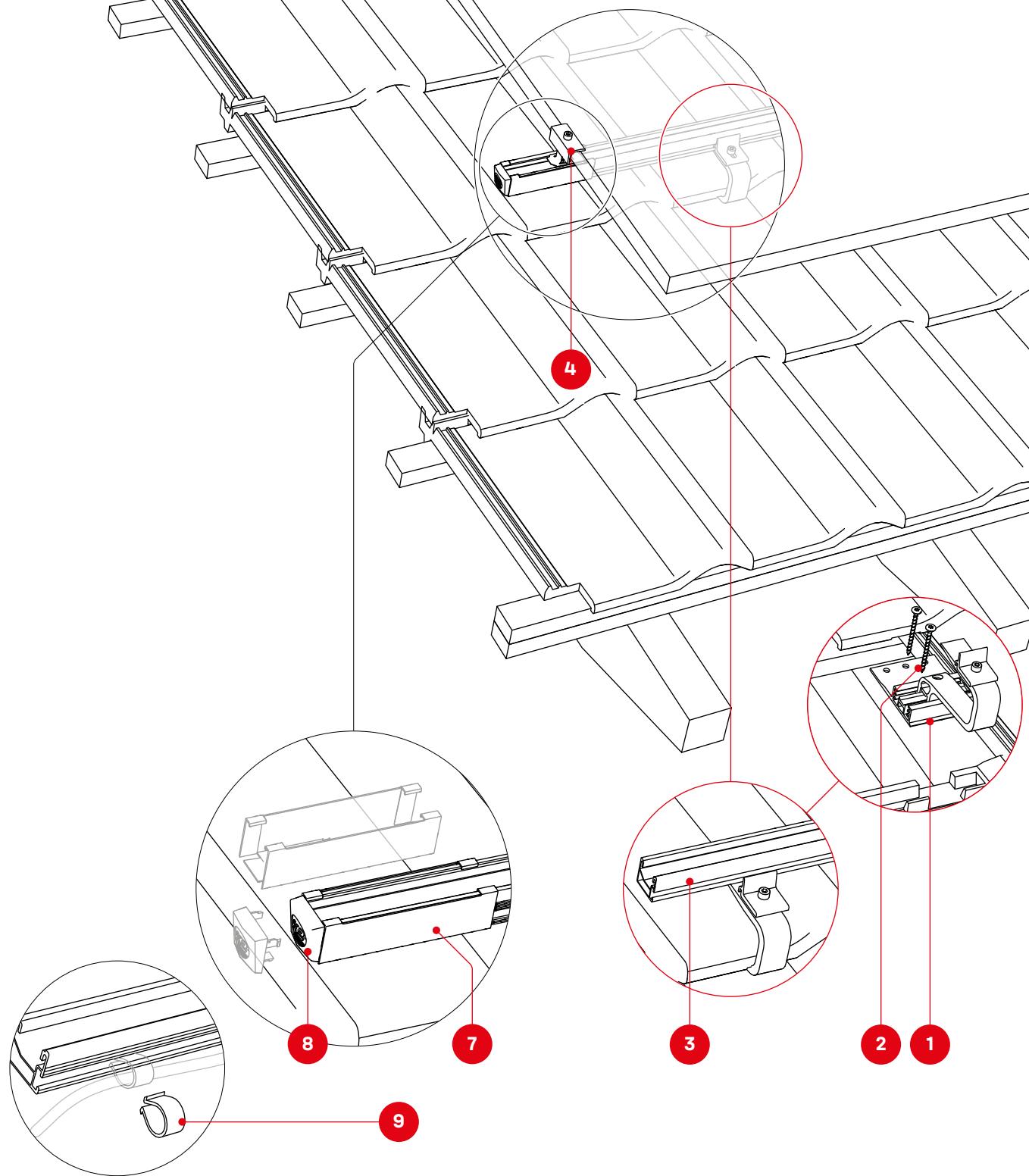
## Important mounting instructions

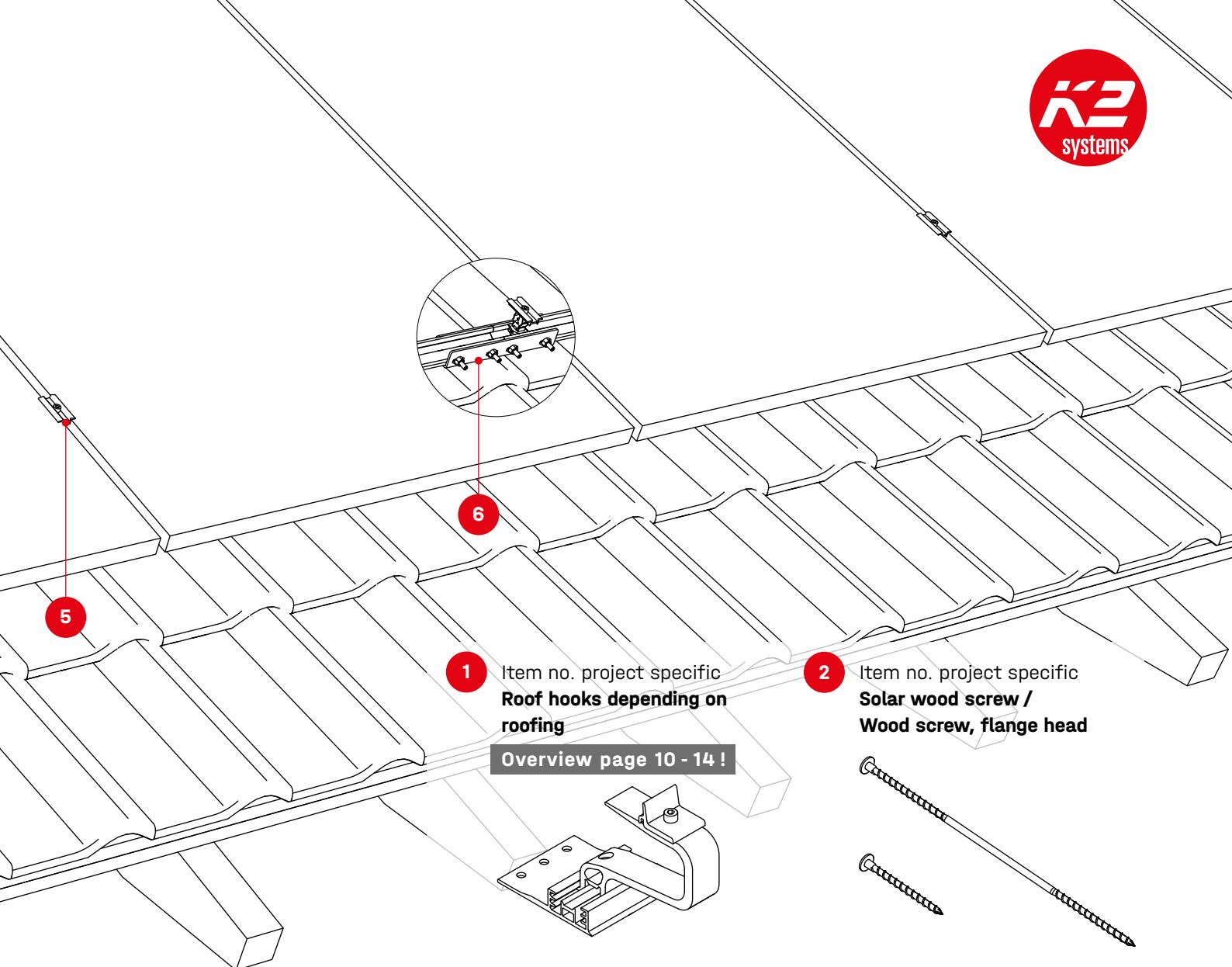
- On-site general standards and regulations for lightning protection must be observed and consultation with a specialist to create a lightning protection concept is recommended (use lightning protection clamp if necessary).
- Please refer to our Handbook "Wood Screw Fixation of K2 Roof Hooks" for the installation of all roof hooks  
[k2-systems.com/en/handbook-roof-hooks](http://k2-systems.com/en/handbook-roof-hooks)
- We recommend a thermal separation after maximum of 17.6 m.
- A minimum mounting distance of 50 mm from the end of the rail / rail joint to the module frame.
- Tightening torque for all module clamps 16 Nm

- For manufacturer information regarding clamps see the manufacturing module data sheet.
- In order to avoid damage under high snow loads, replace the clay/concrete roof tile with metal roof plate or sheet metal replacement tile under the bracket of the roof hook (exception SingleHook 2).
- Do not step on roof hooks or rails, as these are not climbing assists.
- Sizing and positioning of the wood screws are subject to the relevant regulations.
- In the case of pressure-soft rooftop insulation, especially that made of mineral fibres, care must be taken to ensure a suitable spacer screw connection of the counter batten to the rafter.
- The following applies to all insulation materials: With counter-batten thicknesses greater than 40 mm, the roof hooks can also be fastened exclusively into the counter-batten if it is sufficiently shear- and pressure-resistant.

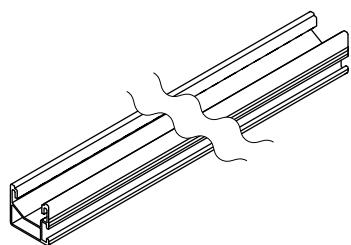
# Components

## Base components

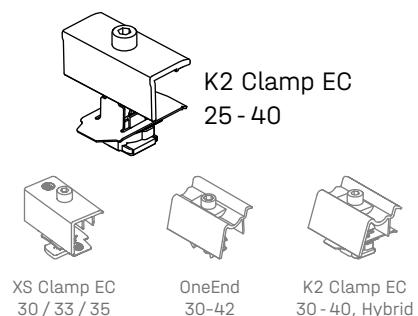




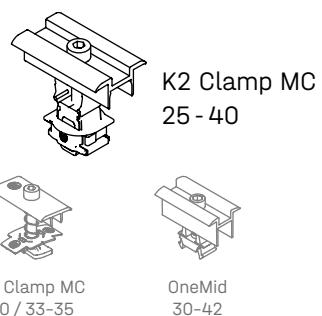
3 Item no. project specific  
**SingleRail 36, 50 or Light**



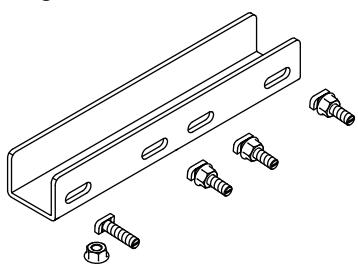
4 Item no. project specific  
**Module end clamps**



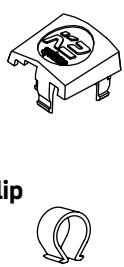
5 Item no. project specific  
**Module middle clamps**



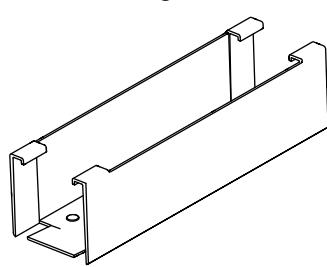
6 2001976 / 2002404  
**SingleRail 36/50 Connector Set**



7 1004767  
**EndCap SingleRail 36**



8 2003523  
**BlackCover SingleRail 36**

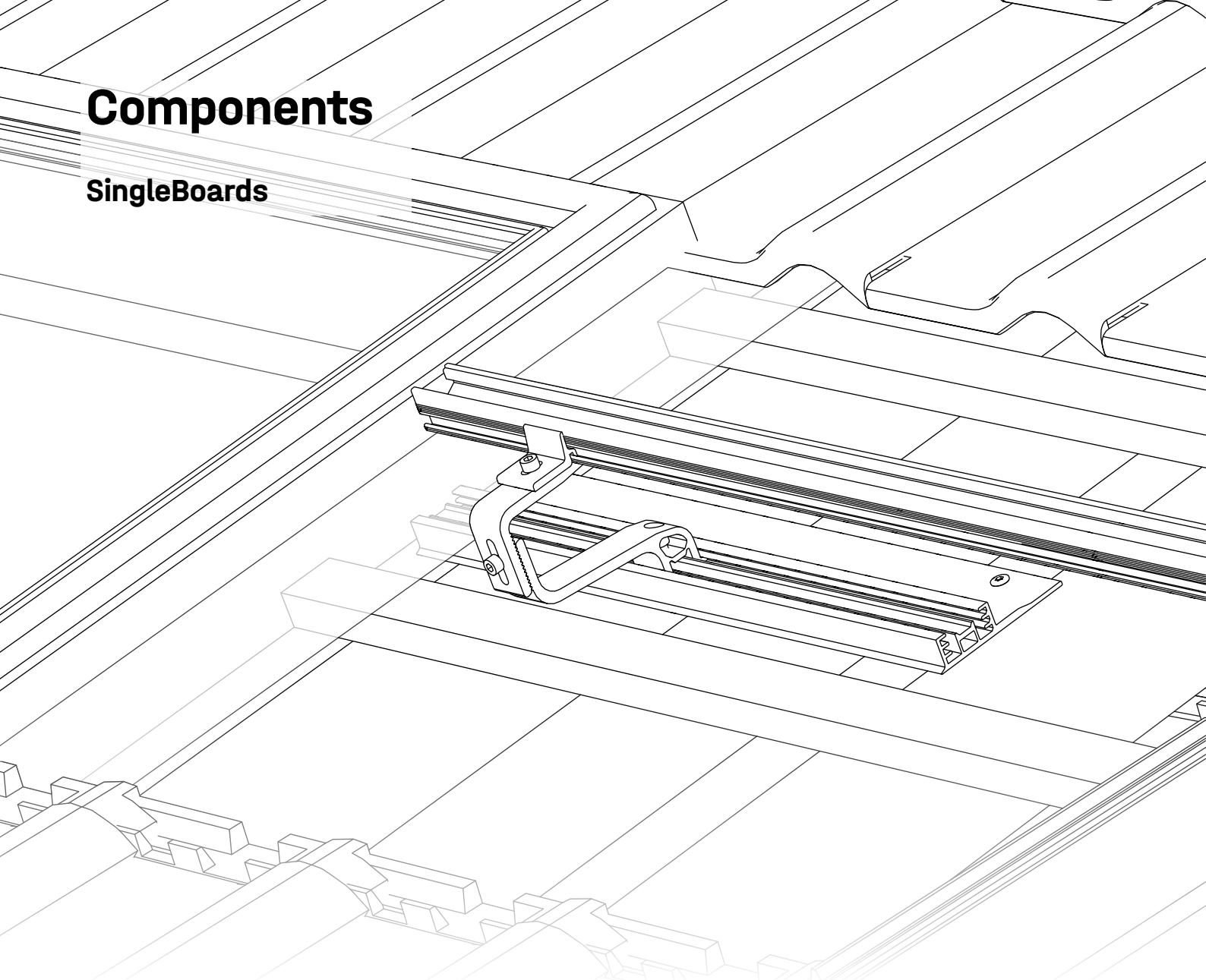


9 1005394  
**Omega Cable Clip**

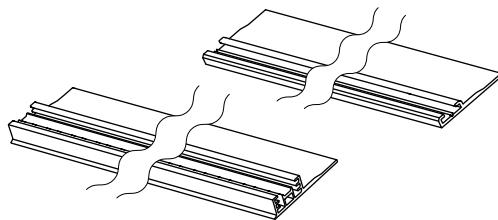


# Components

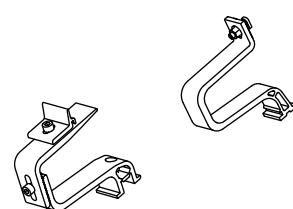
## SingleBoards



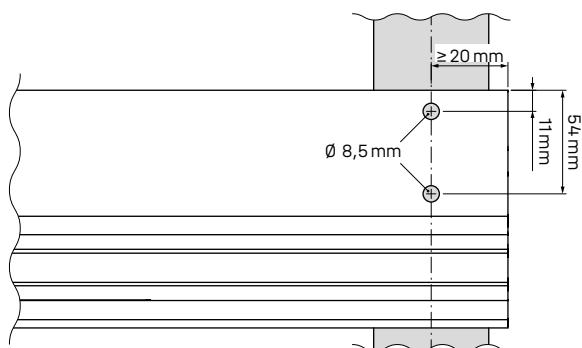
1 2001972 / 2002935  
**SingleBoard 3S/4S / SingleBoard**



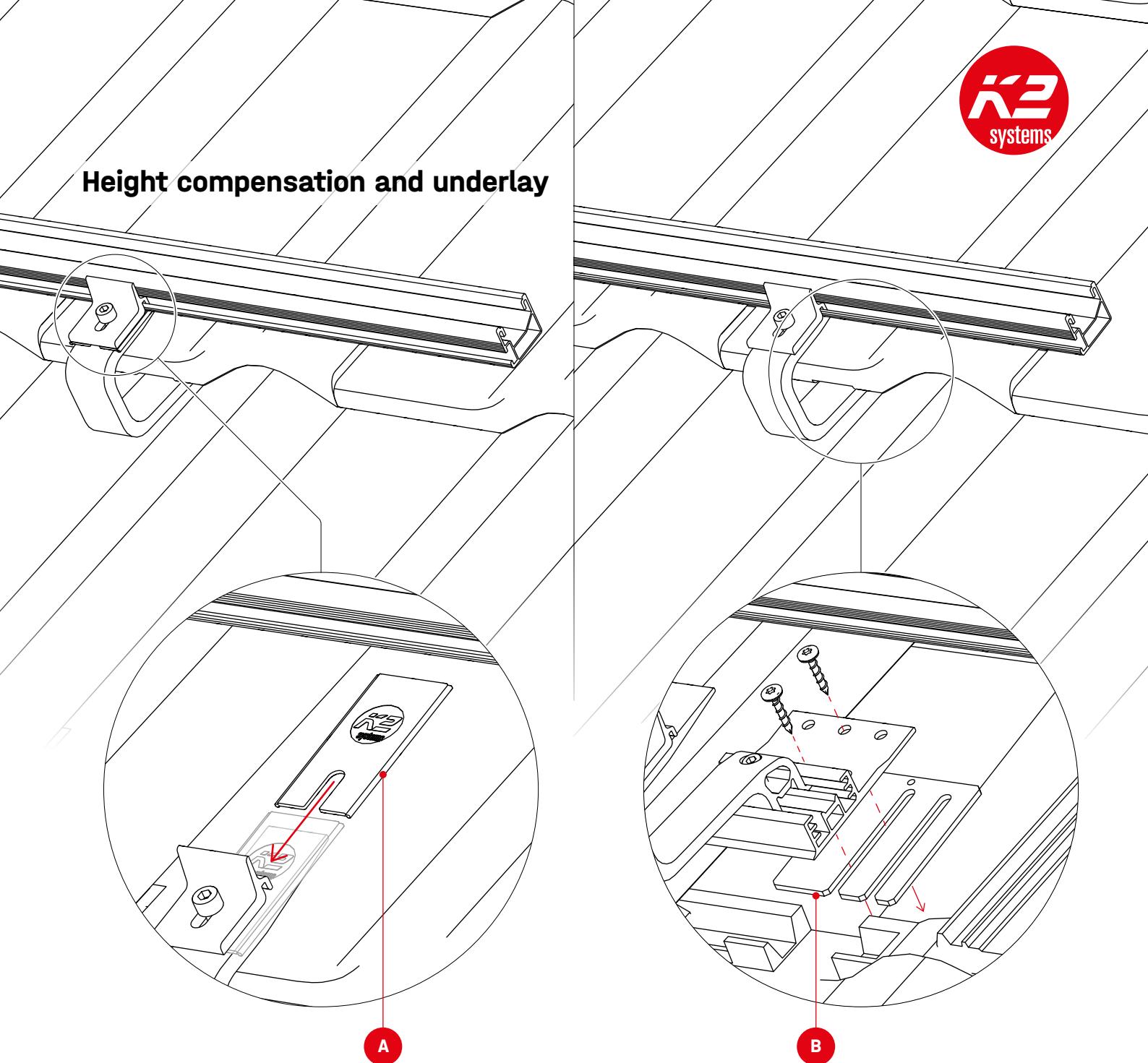
2 2002927 / 2003152  
**SingleBracket 4S / SingleBracket 1.1**



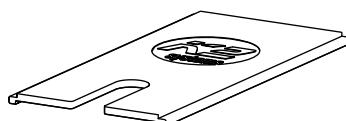
### Drilling specifications for SingleBoards



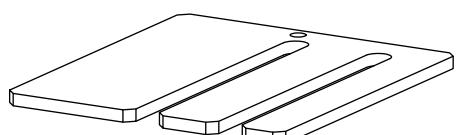
## Height compensation and underlay



1002361  
**Distance Pad**  
2 mm



2002332  
**Roof Hook Height Compensator**  
4 mm



**SingleHook**  
3S/4S/3S Long



**SingleHook**  
1.1/Vario/Alpin

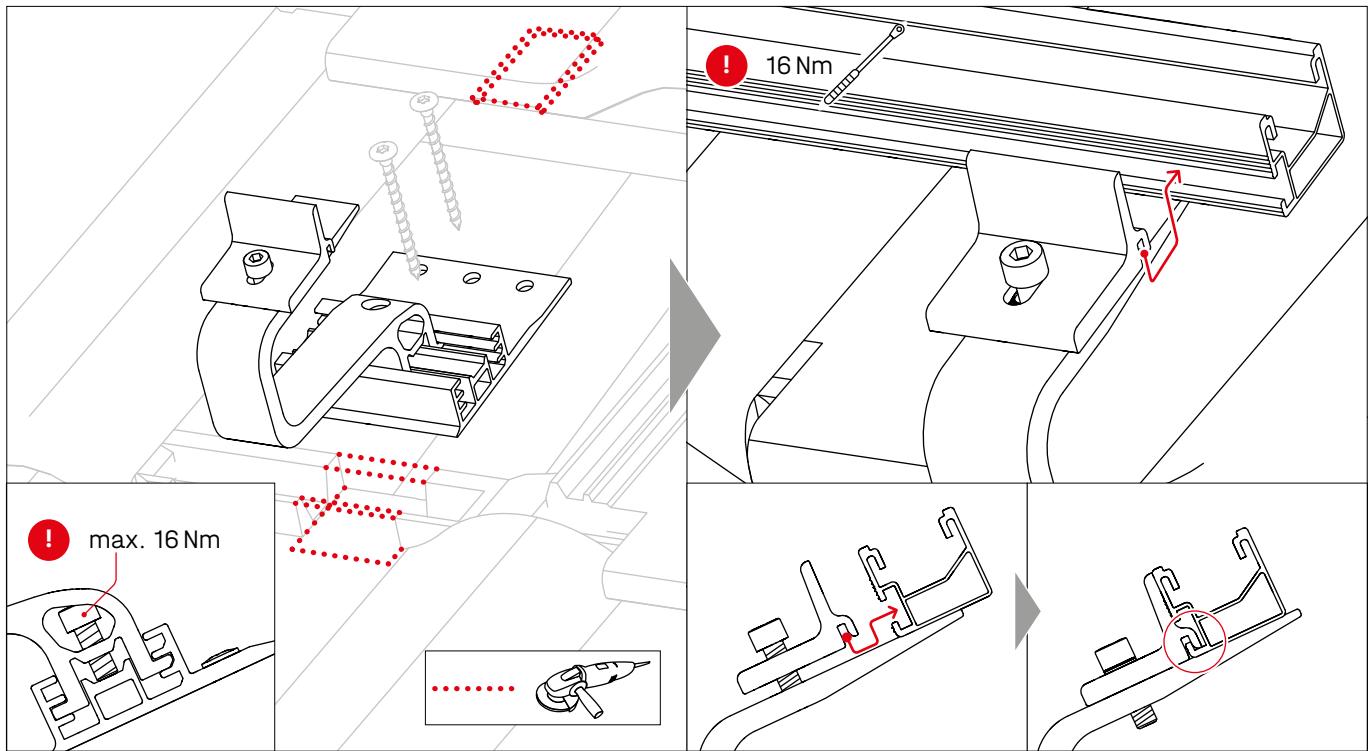


● Compatible

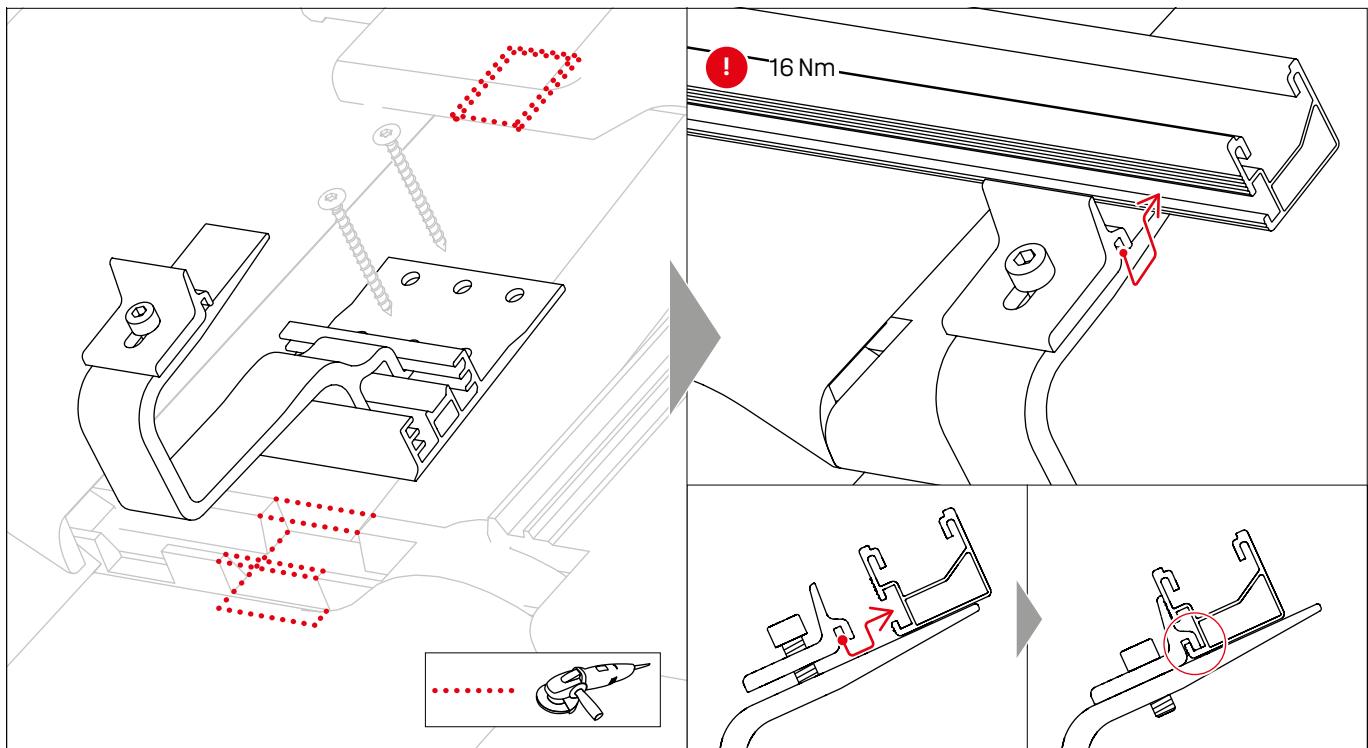
○ Not Compatible

# Compatible roof hooks

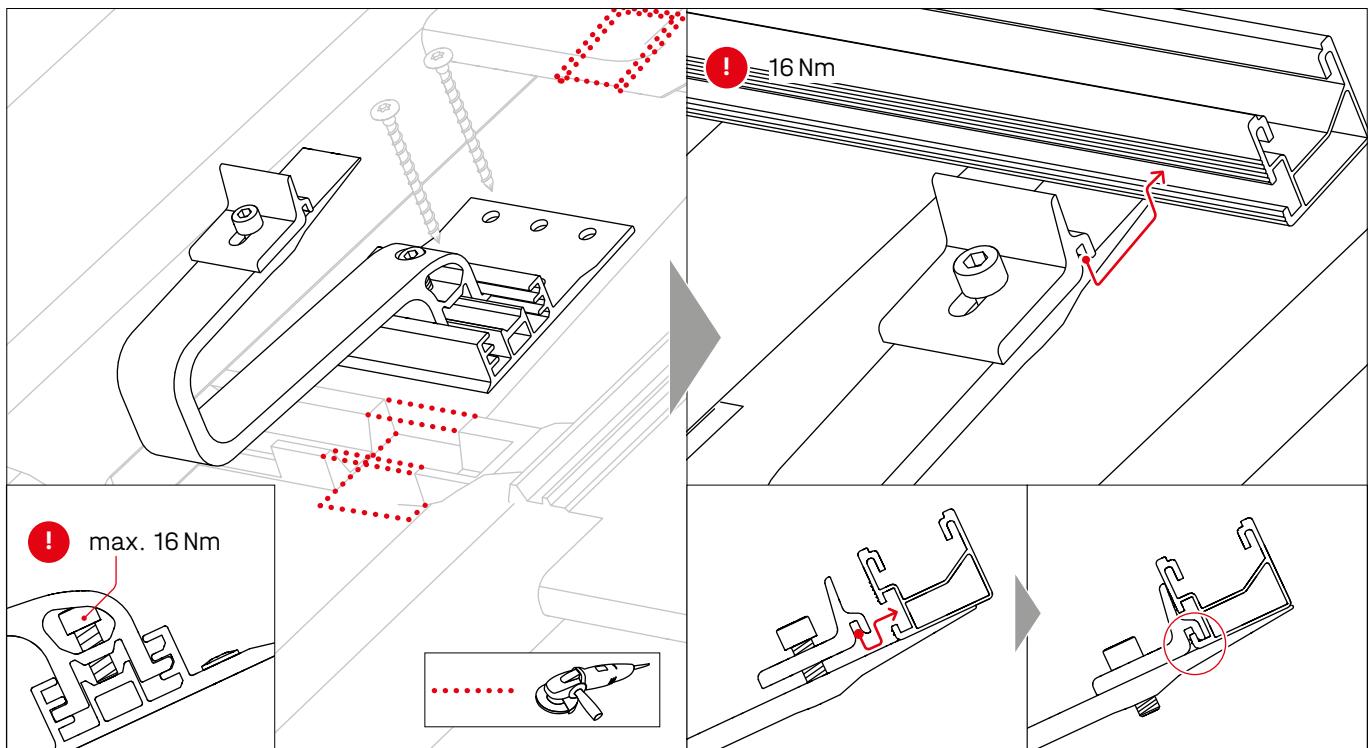
## SingleHook 3S · 2003215



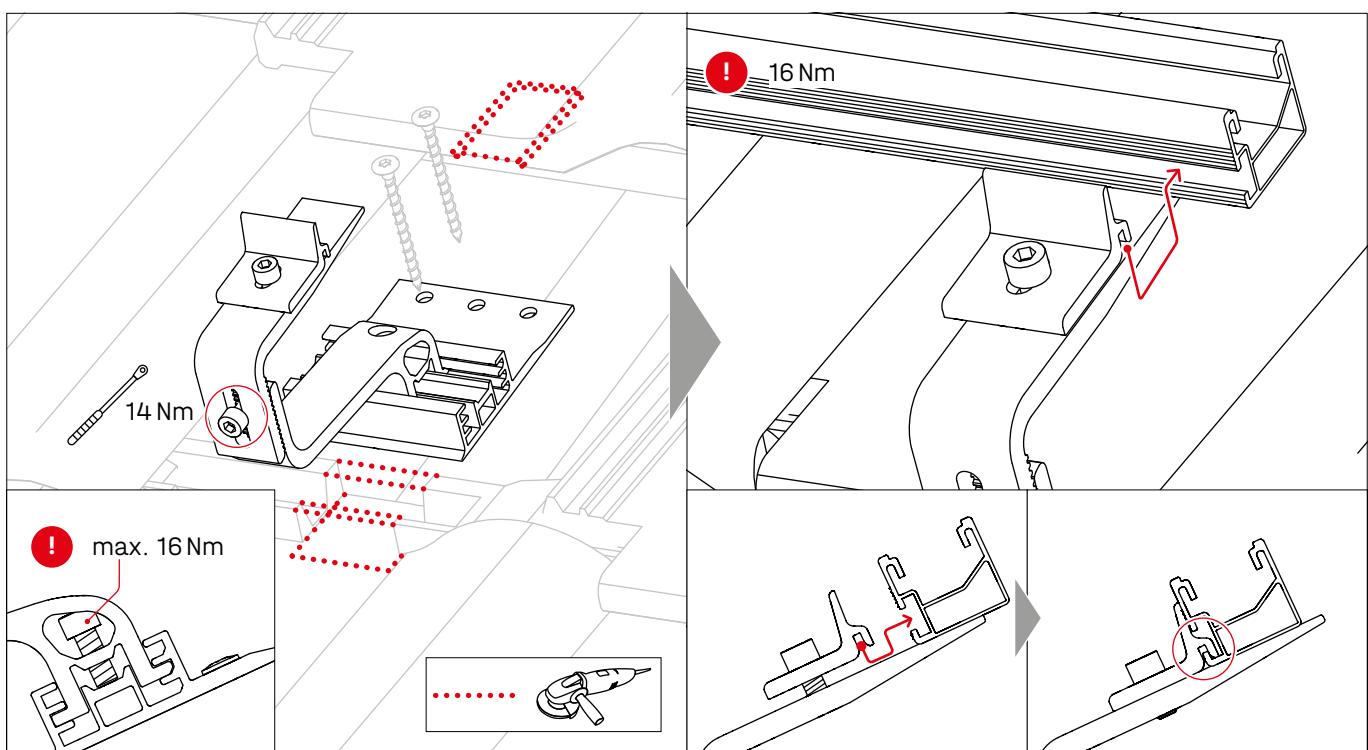
## SingleHook 3S Light · 2004795



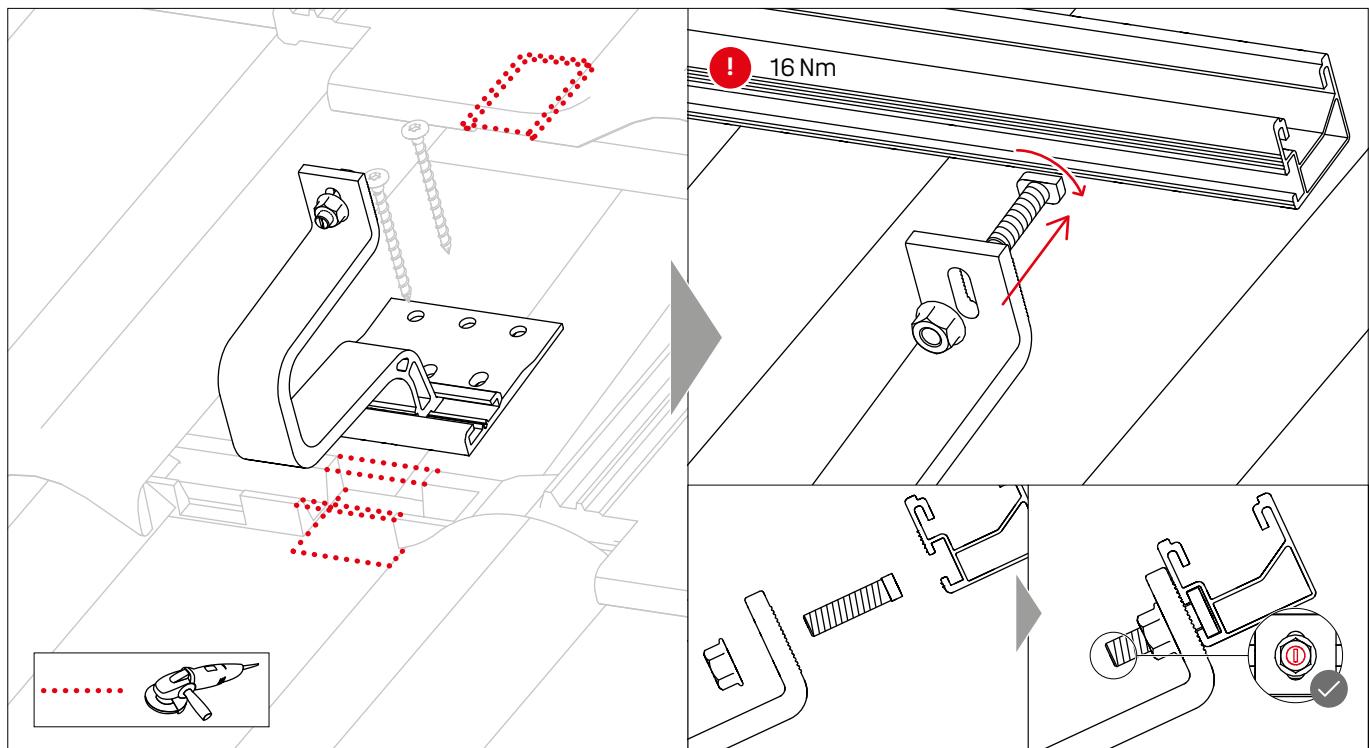
## SingleHook 3S Long · 2004222



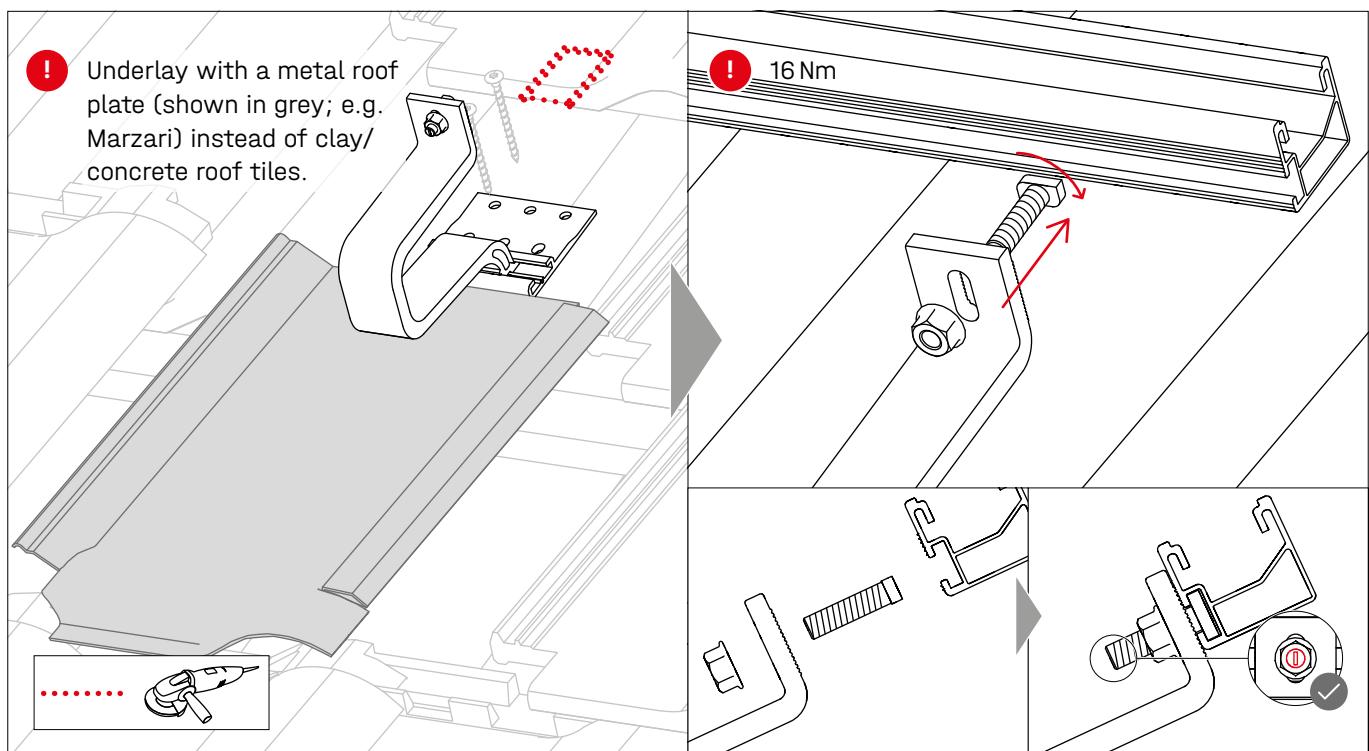
## SingleHook 4S · 2003144



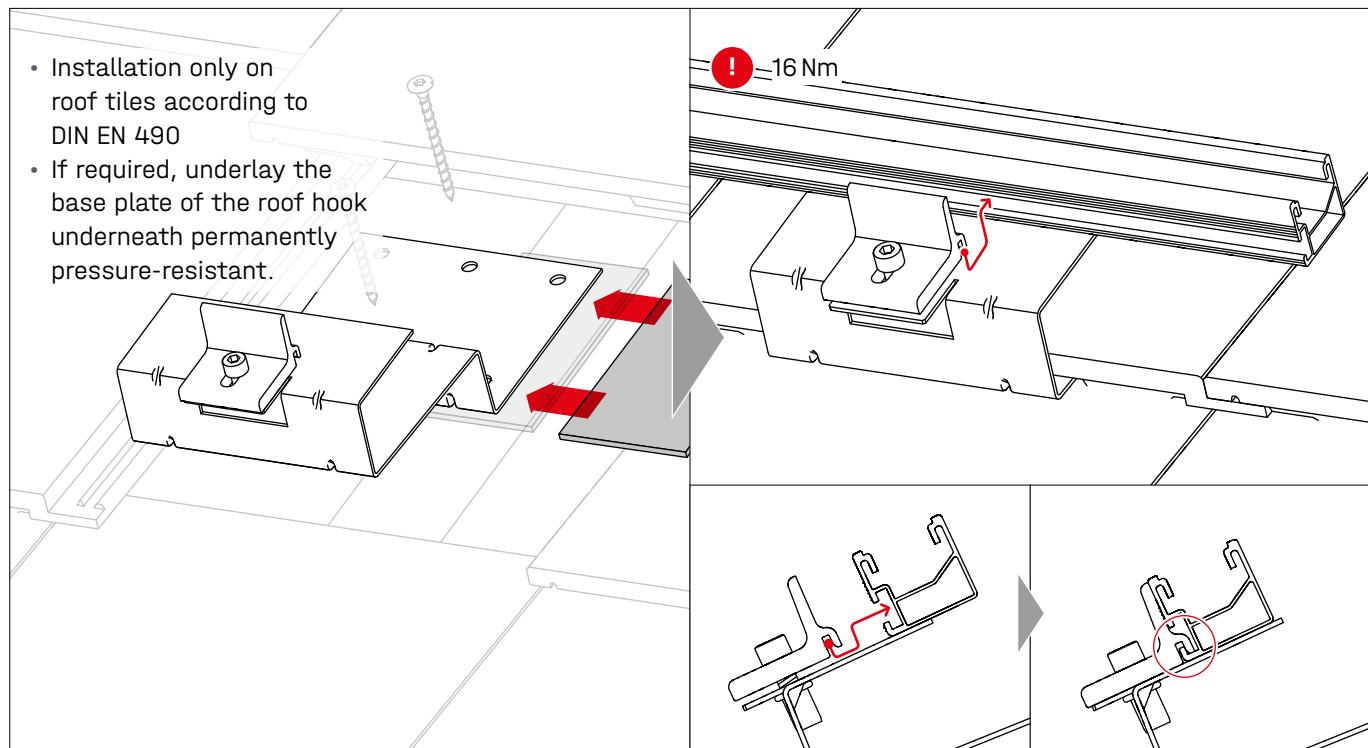
## SingleHook 1.1 · 2001928



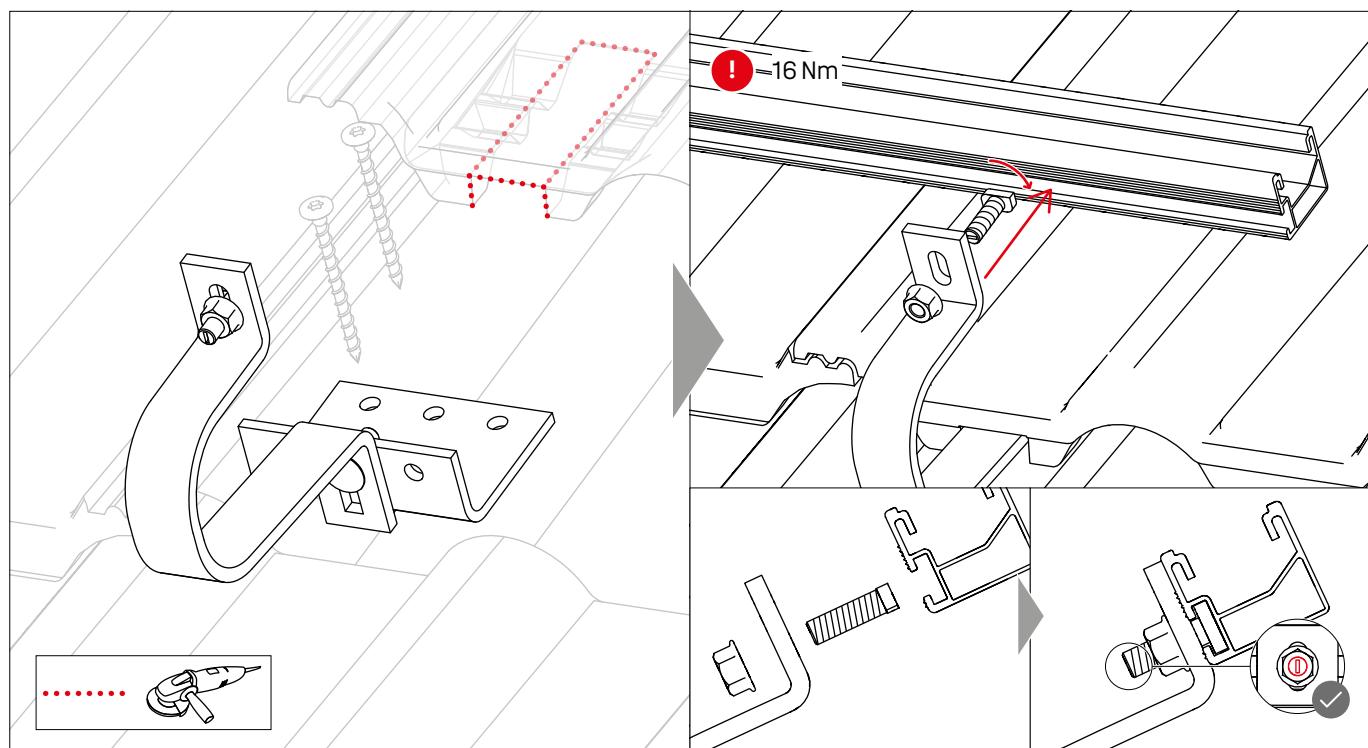
## SingleHook Alpin · 2003155



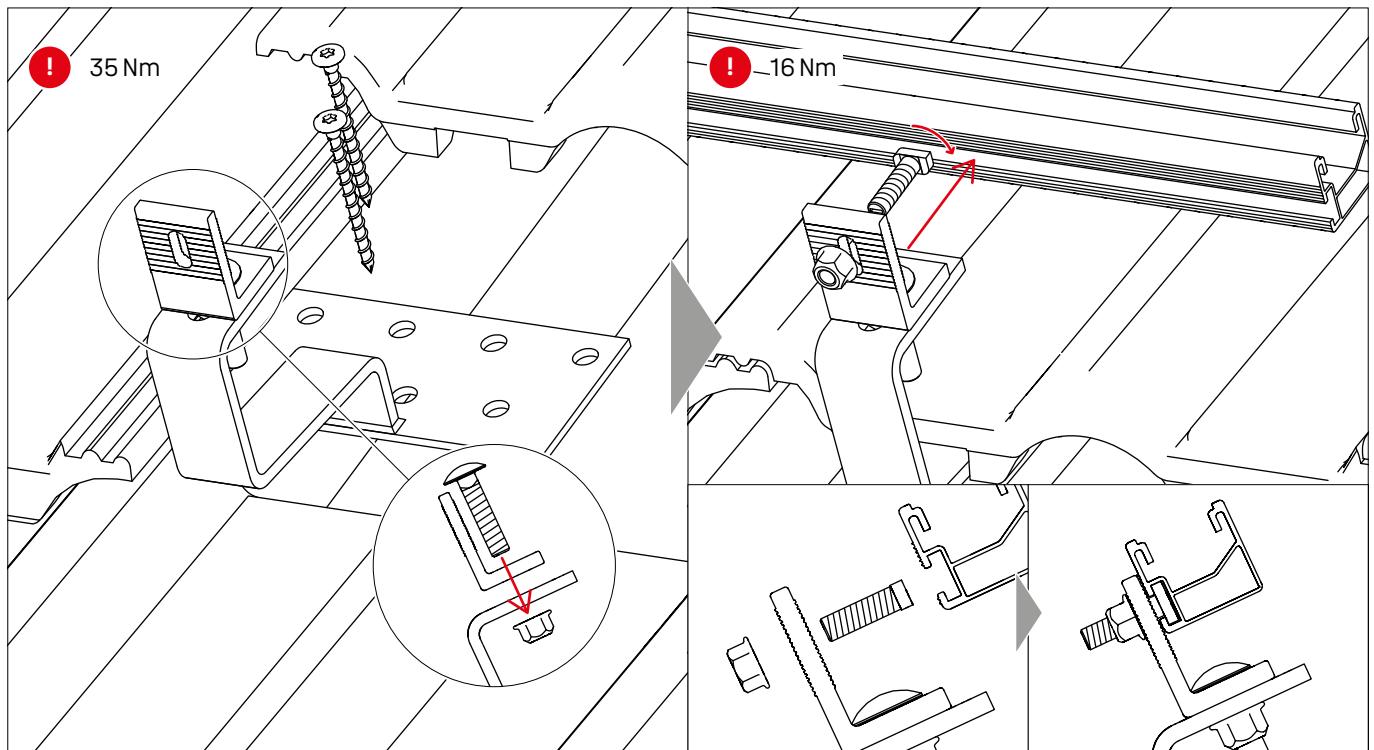
## SingleHook 2 · 2003175



## SingleHook Vario · 2002651



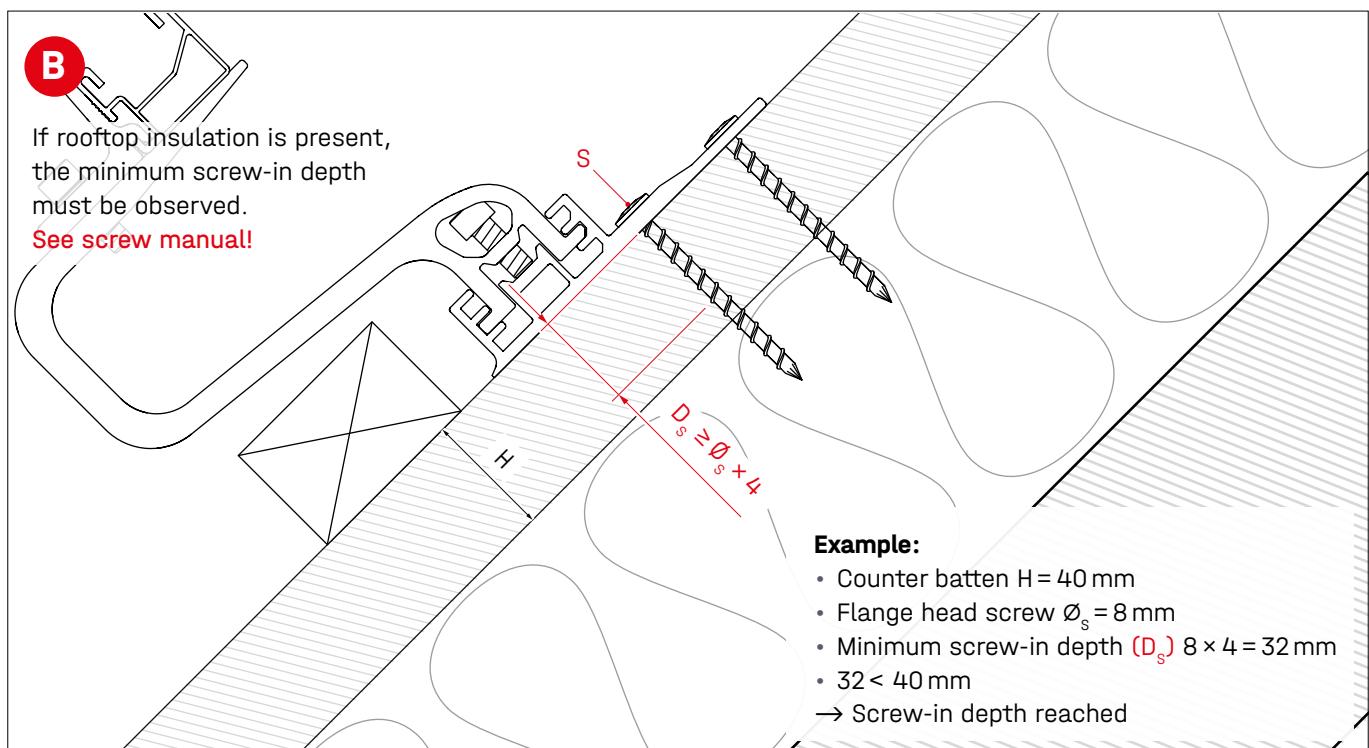
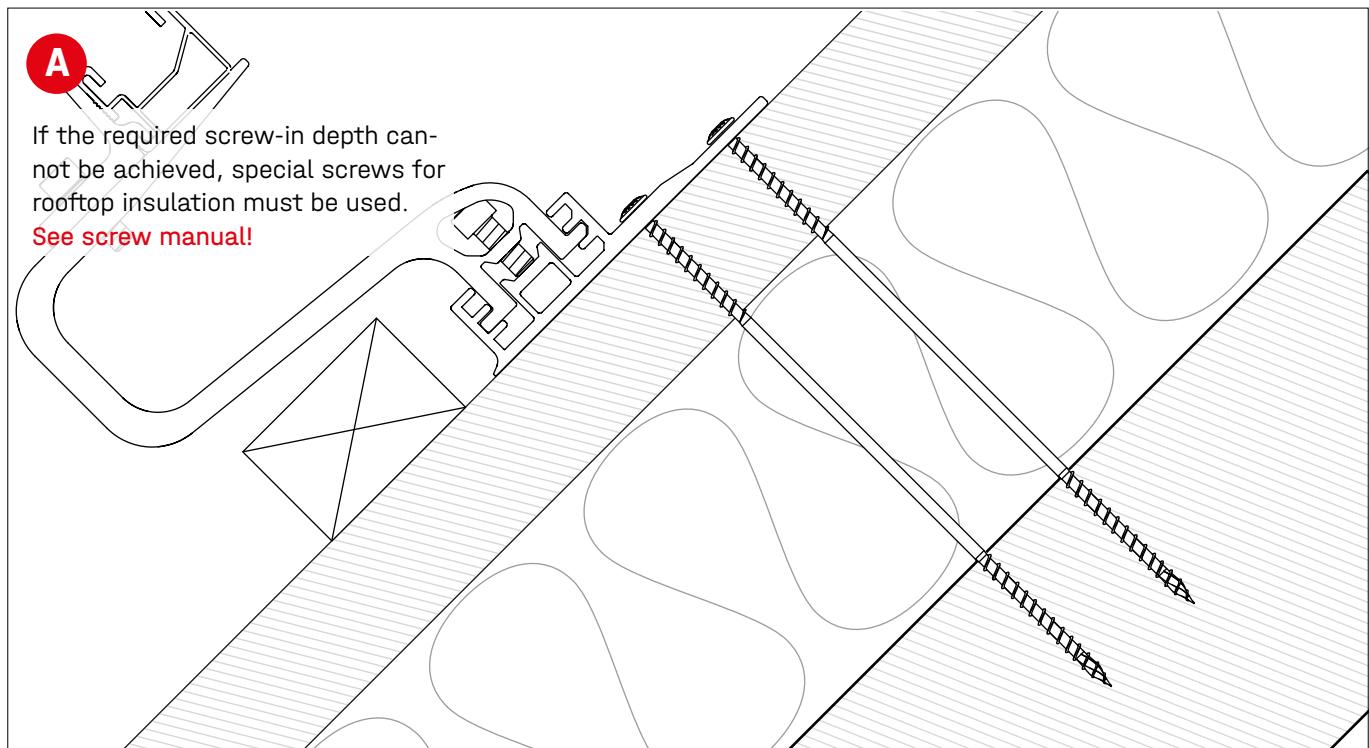
## L-Adapter for further roof hooks · 2002683



# Assembly

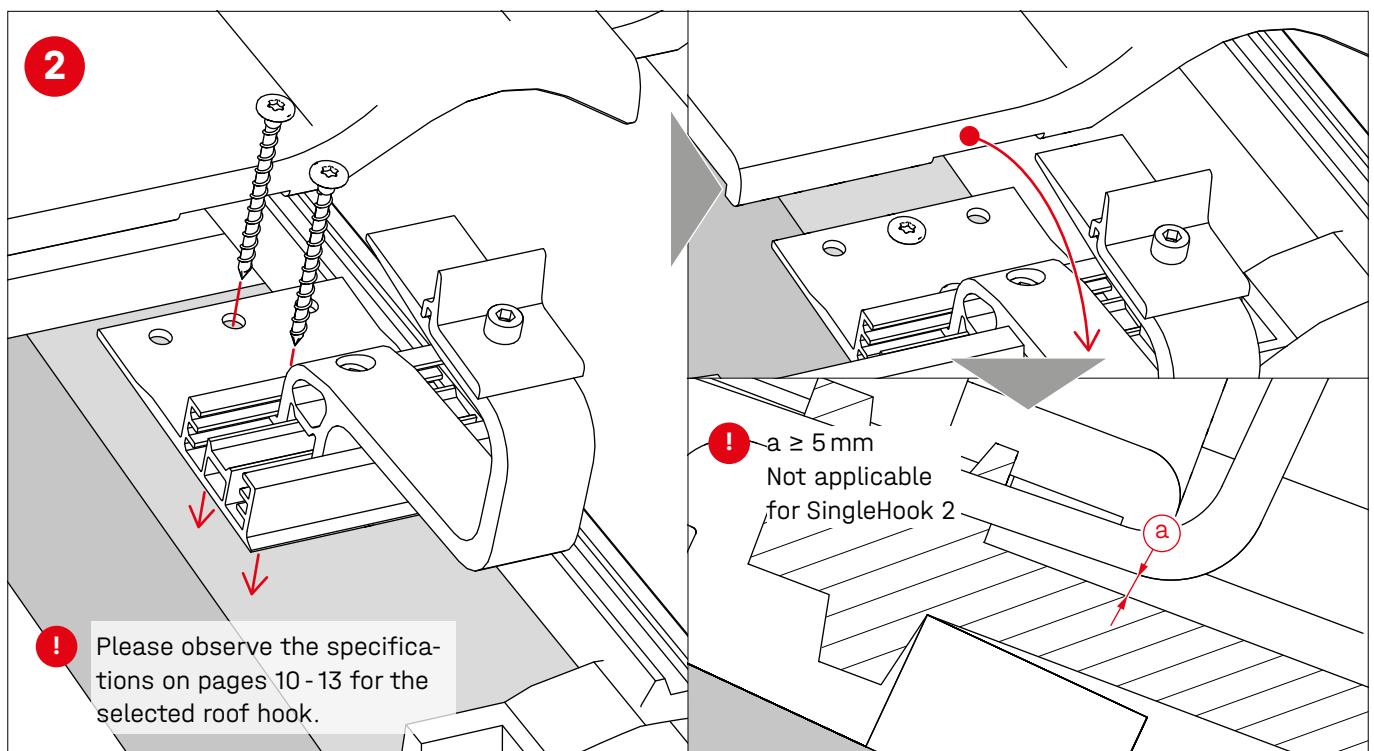
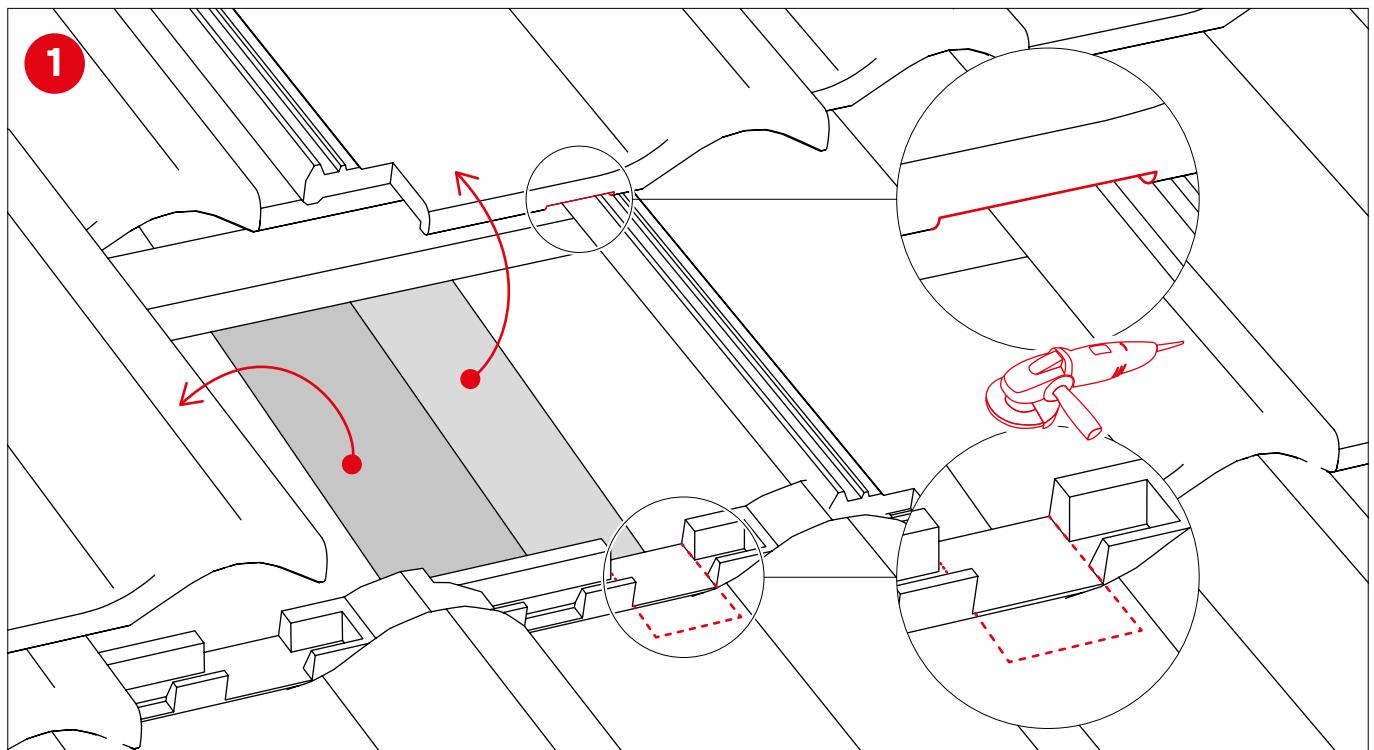


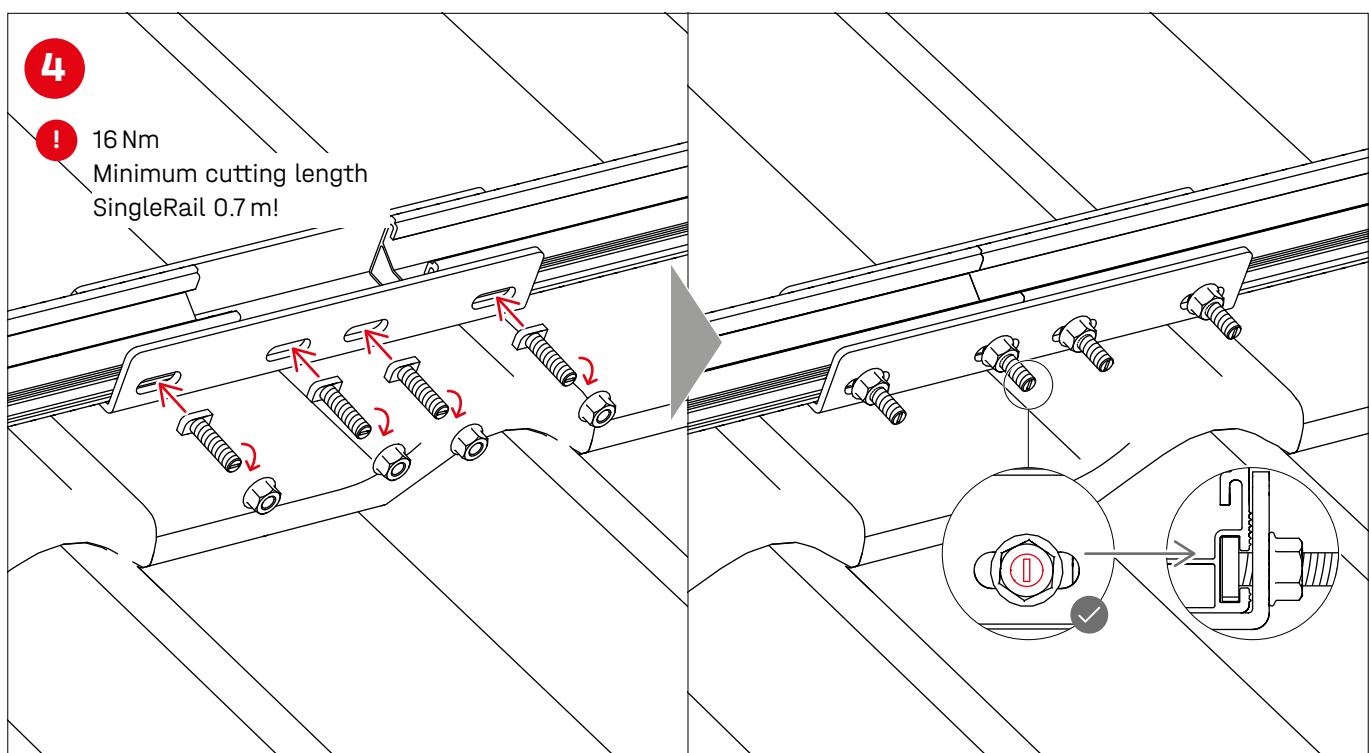
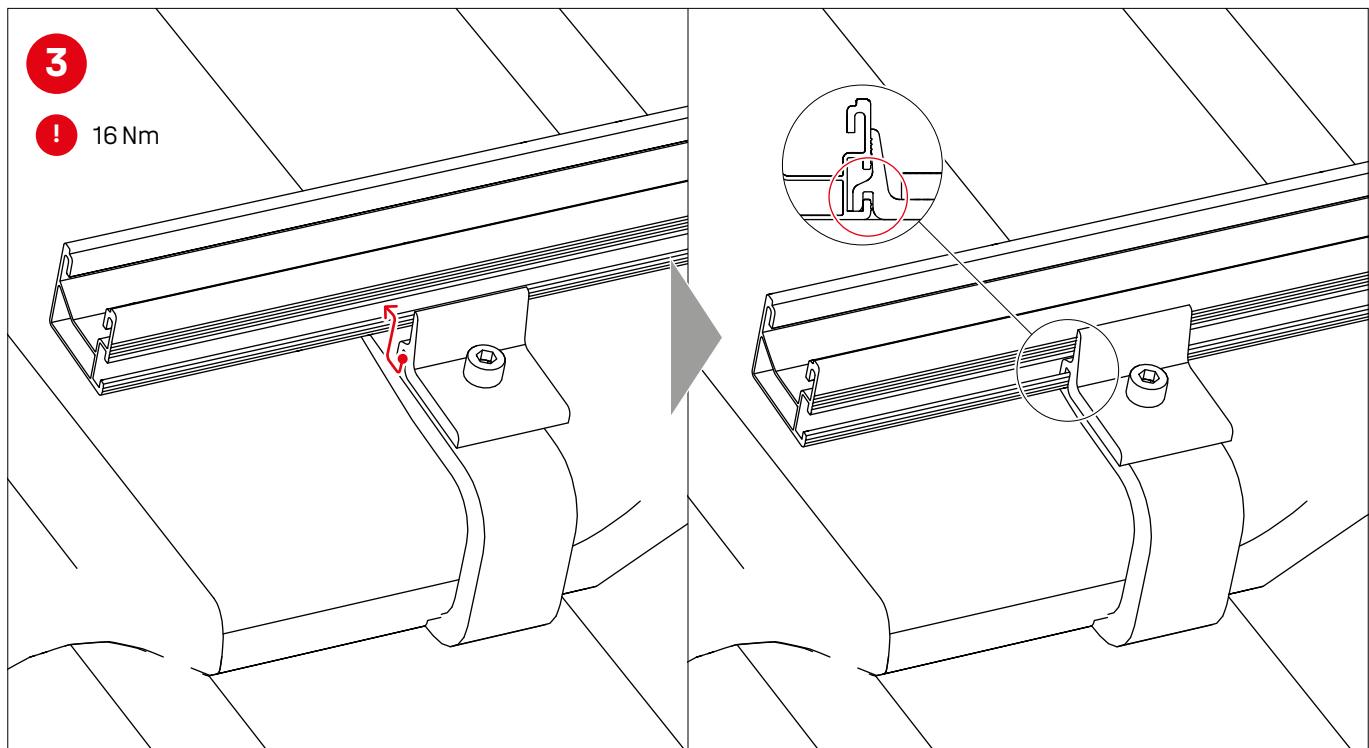
## Notes on rooftop insulation

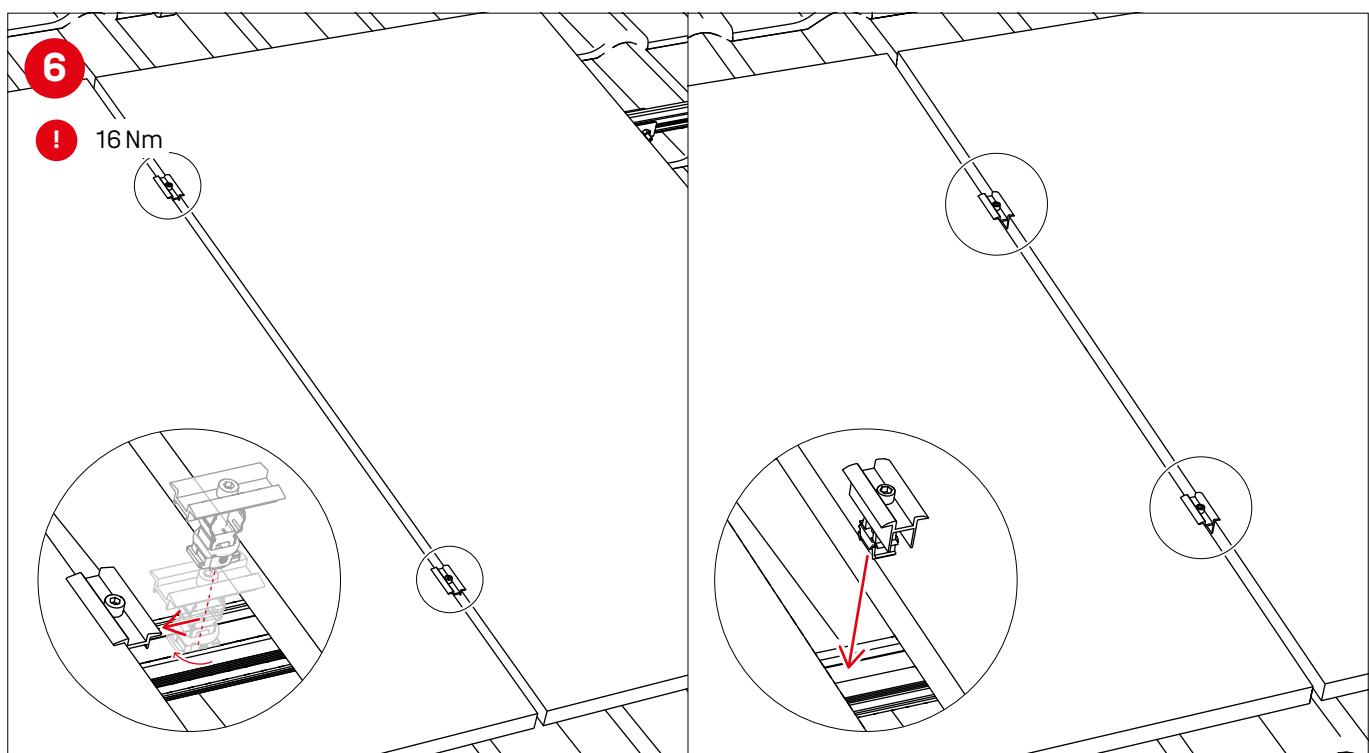
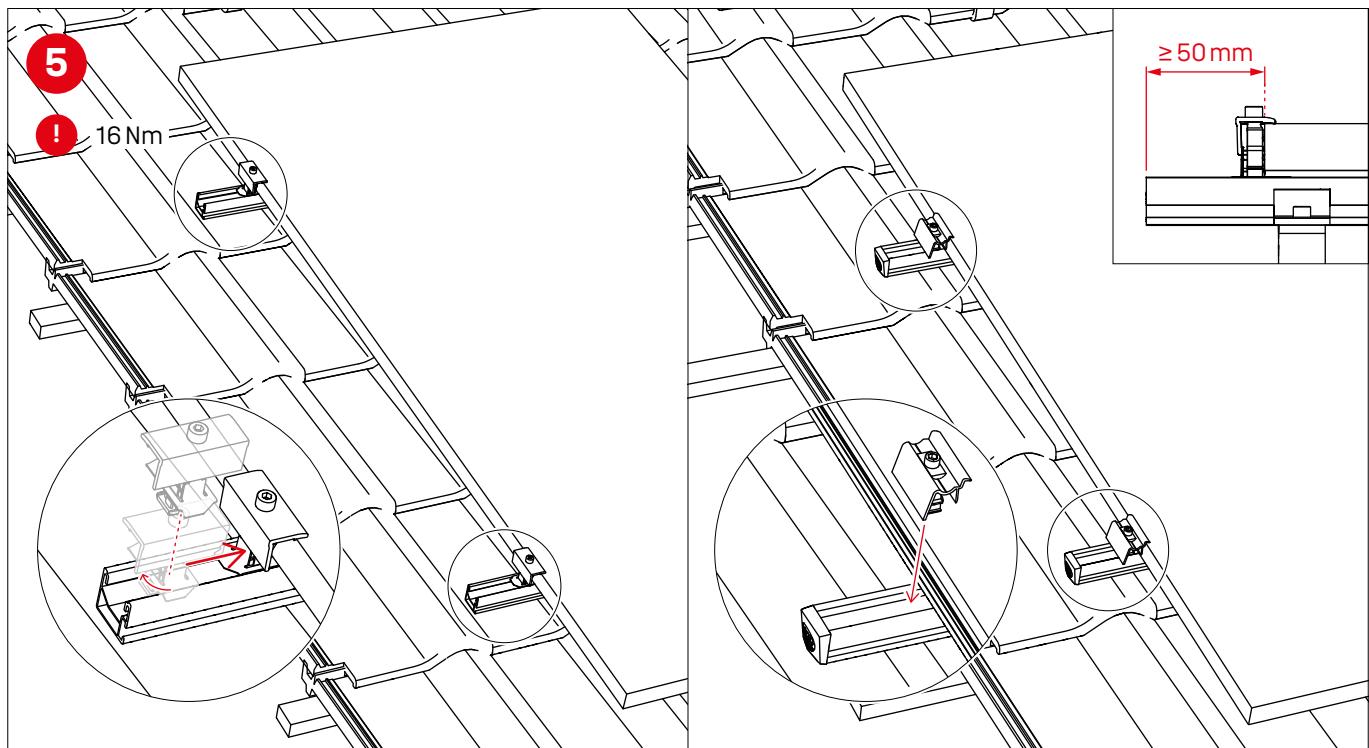


# Assembly

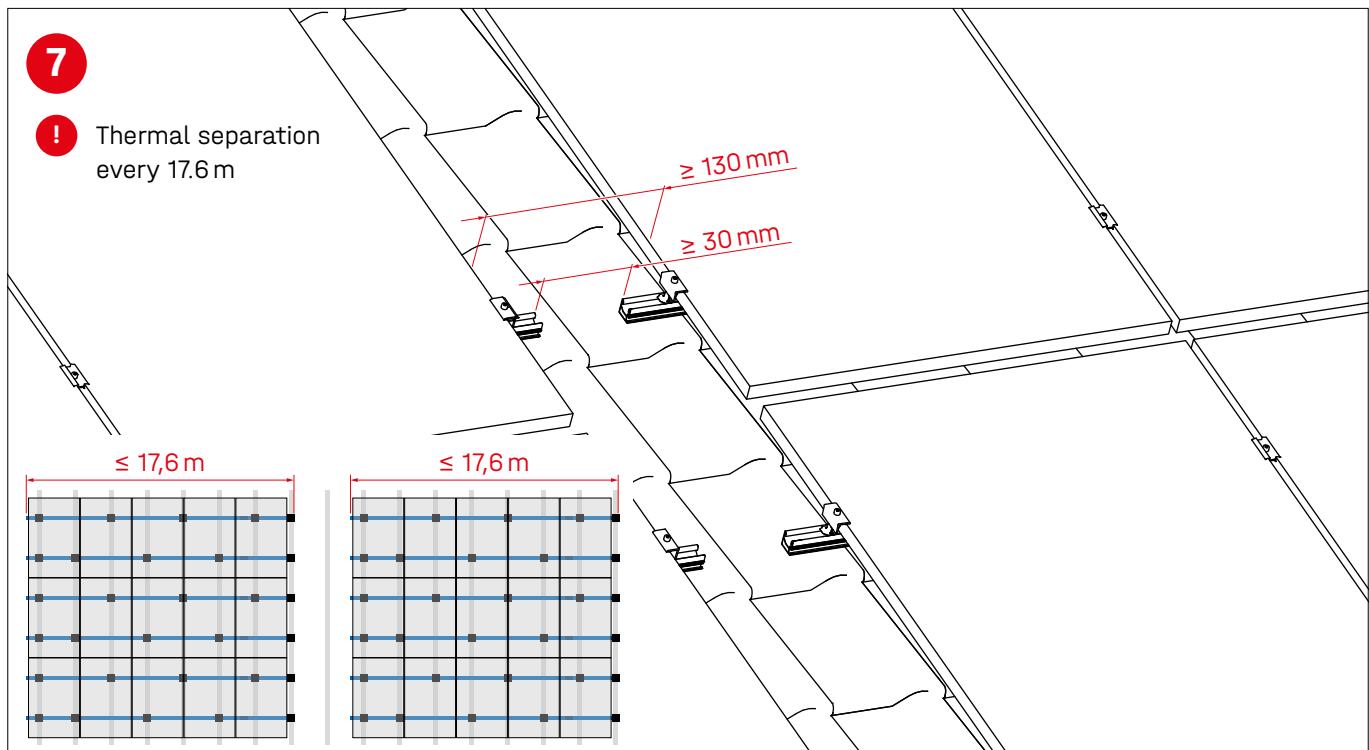
## Portrait



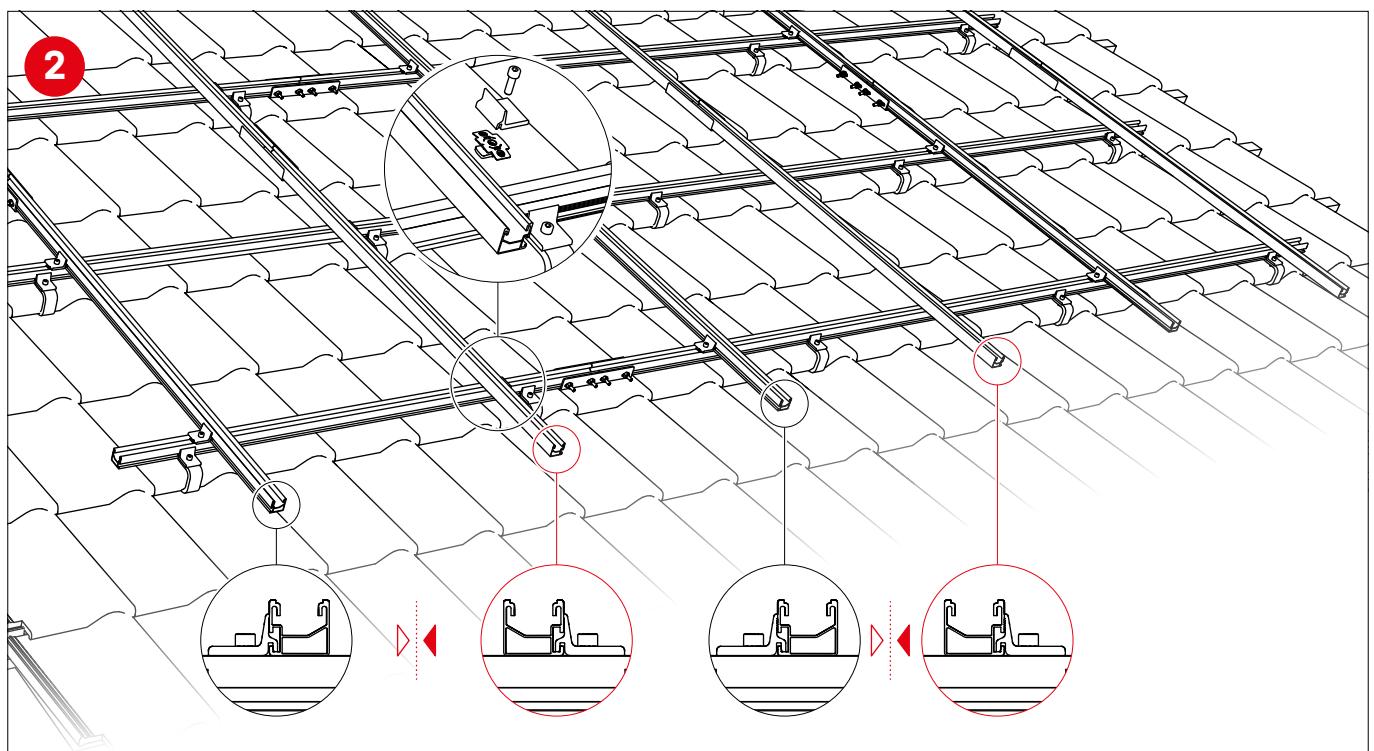
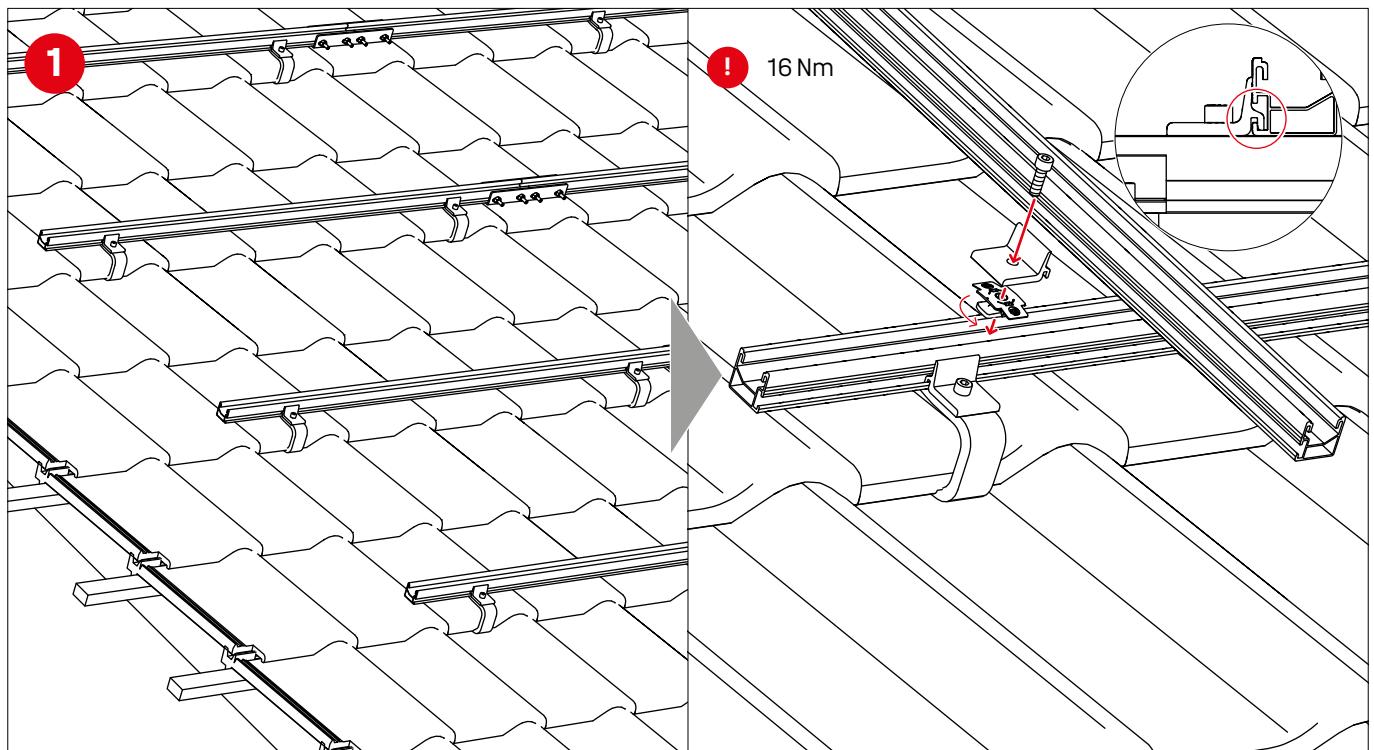


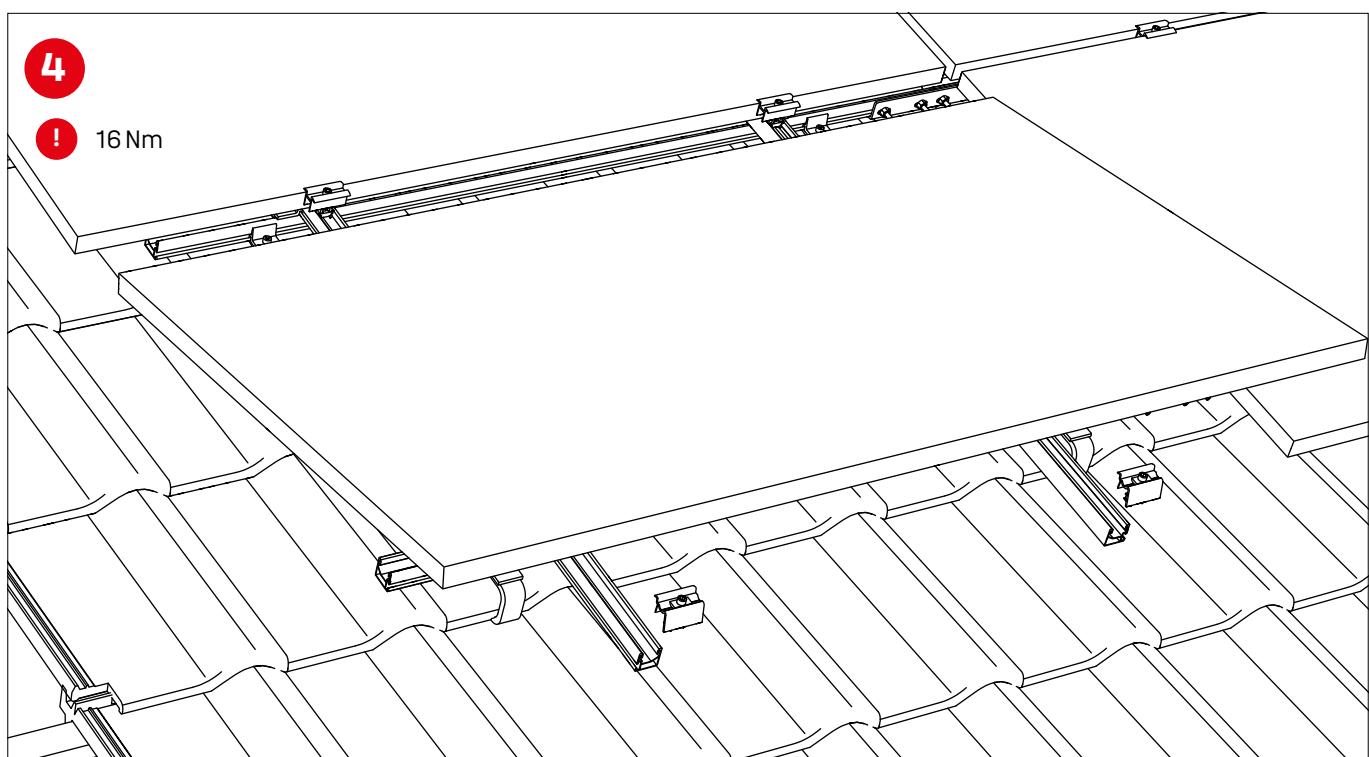
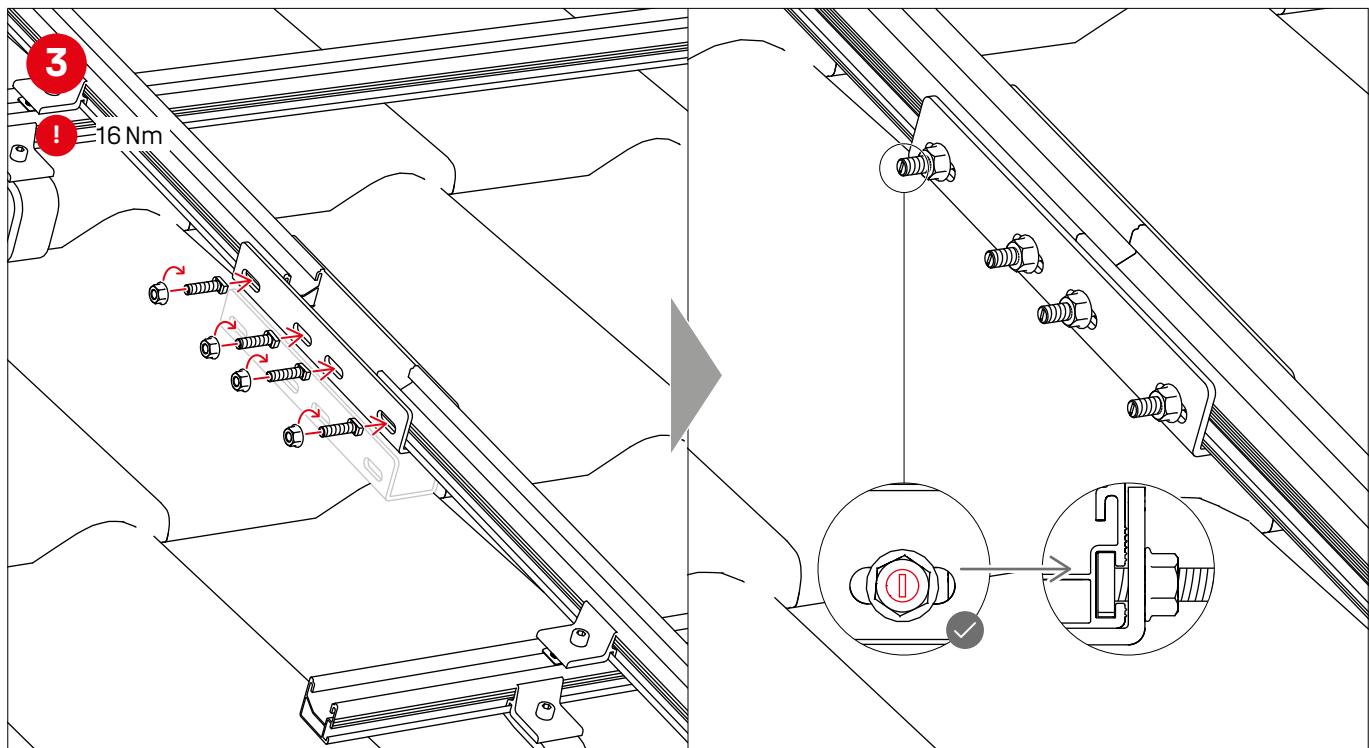


## Thermal separations

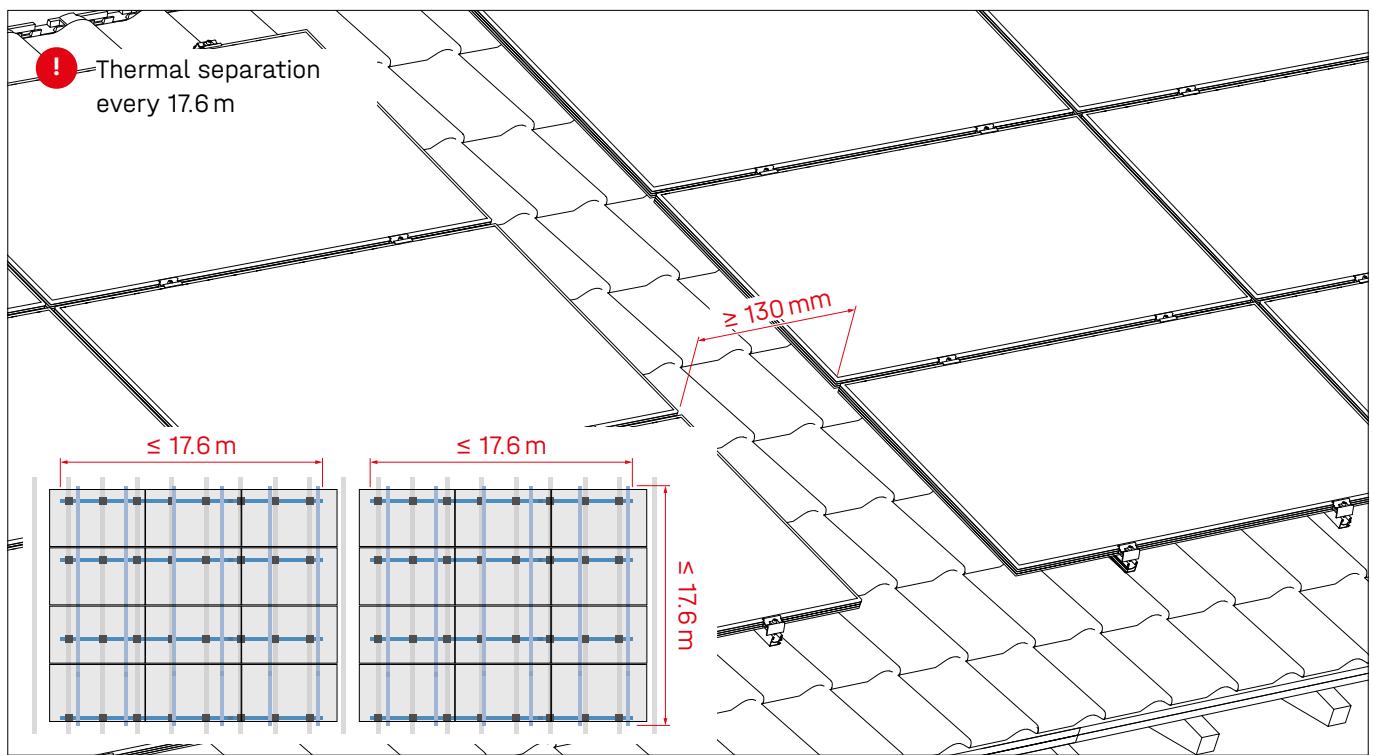


## Landscape with two rail layers

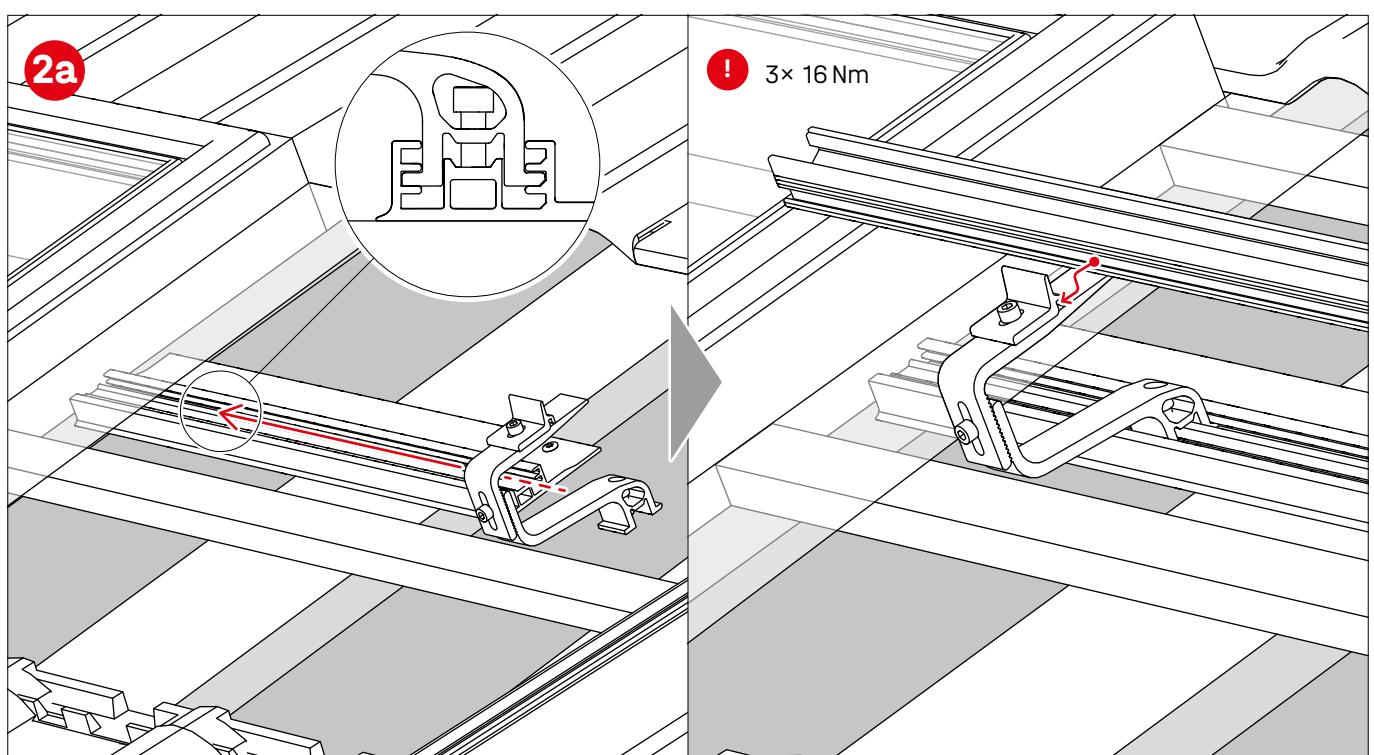
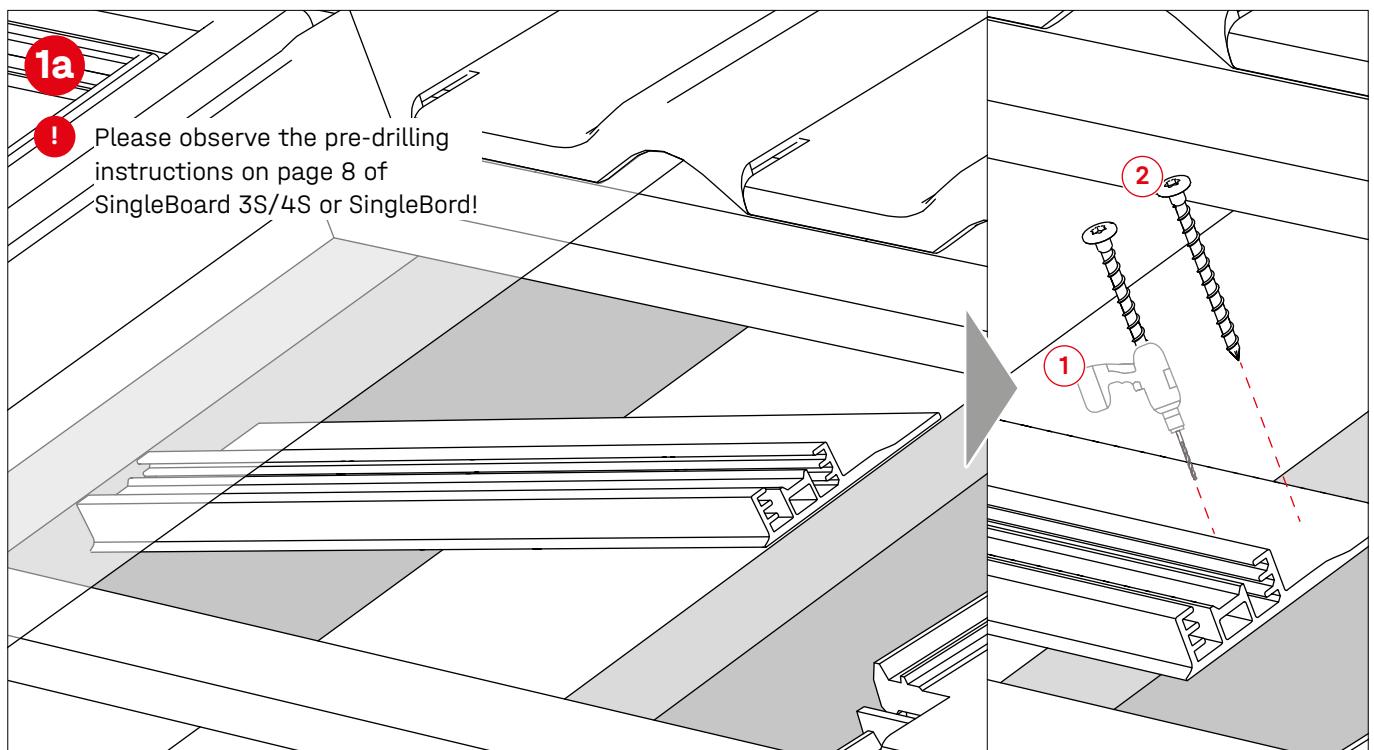


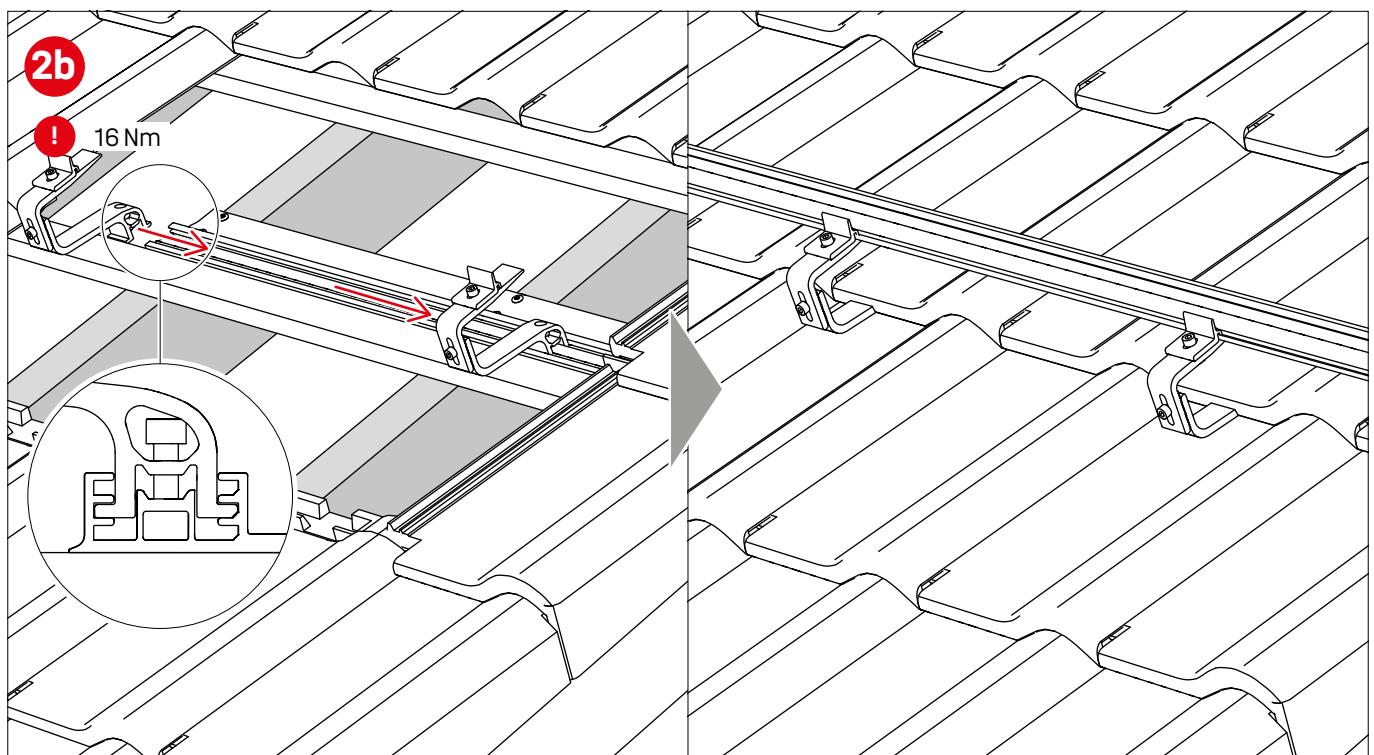
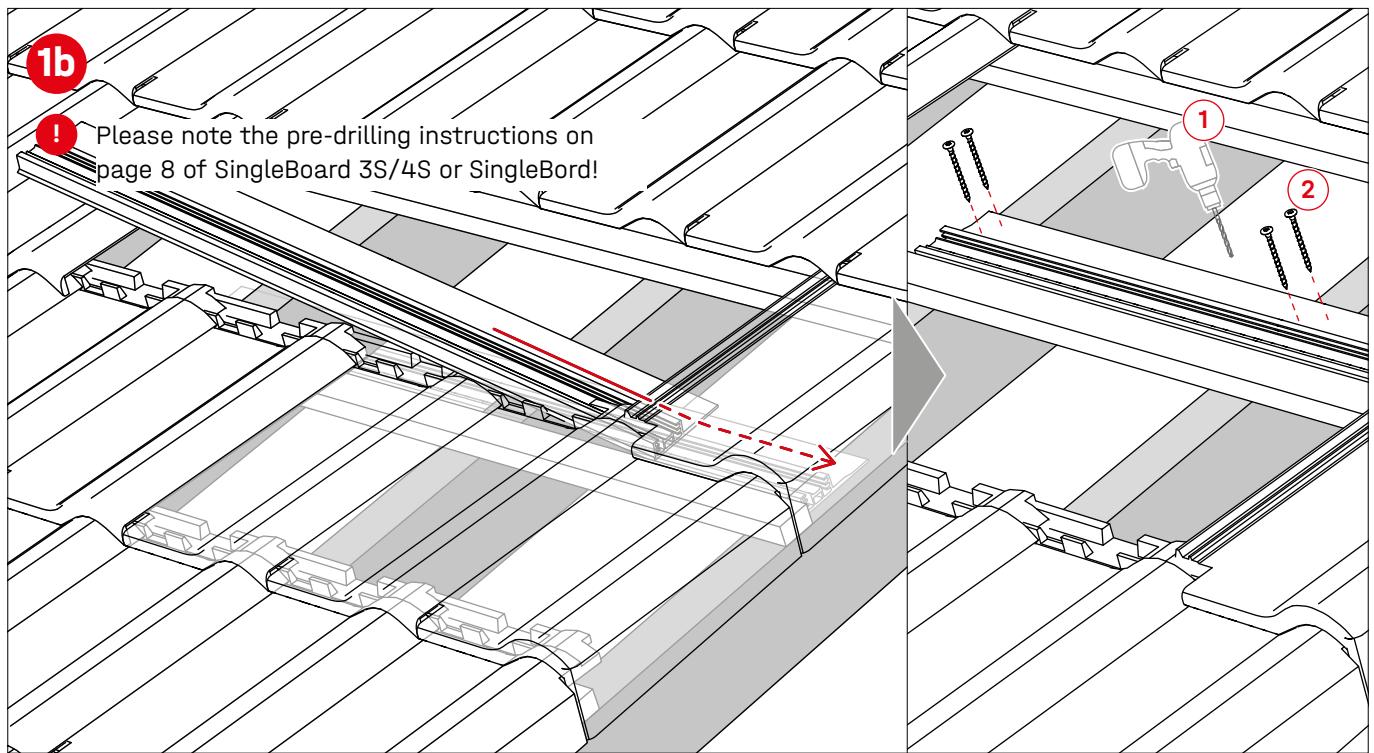


## Thermal separations for 2-layer rails

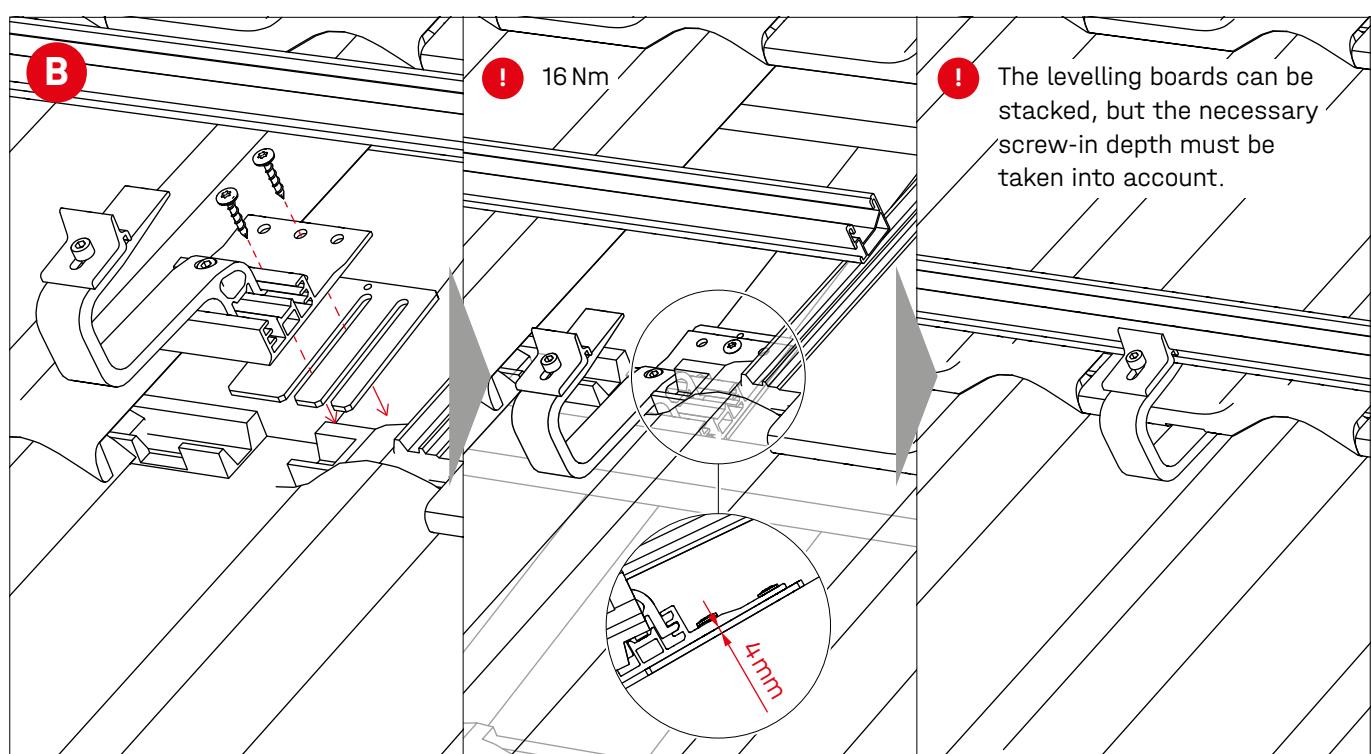
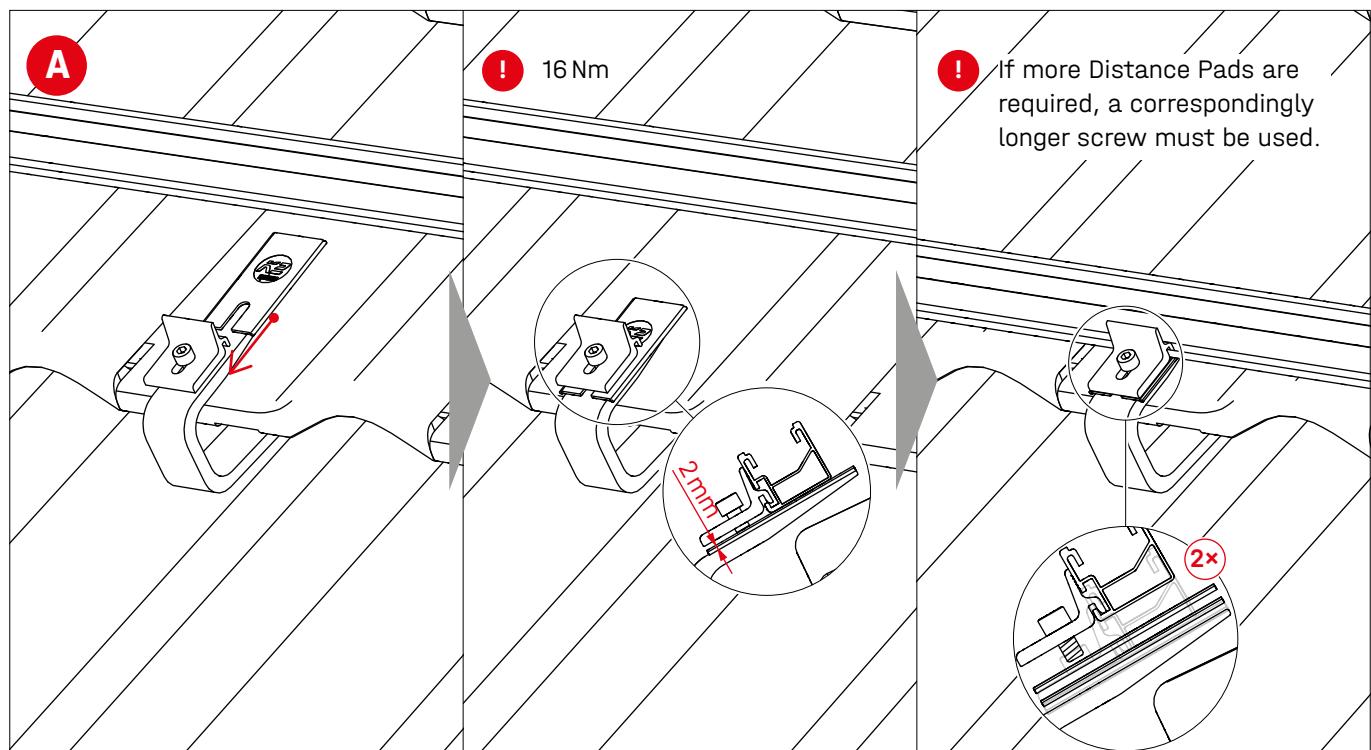


## Obstructions / roof edge: Use of SingleBoards

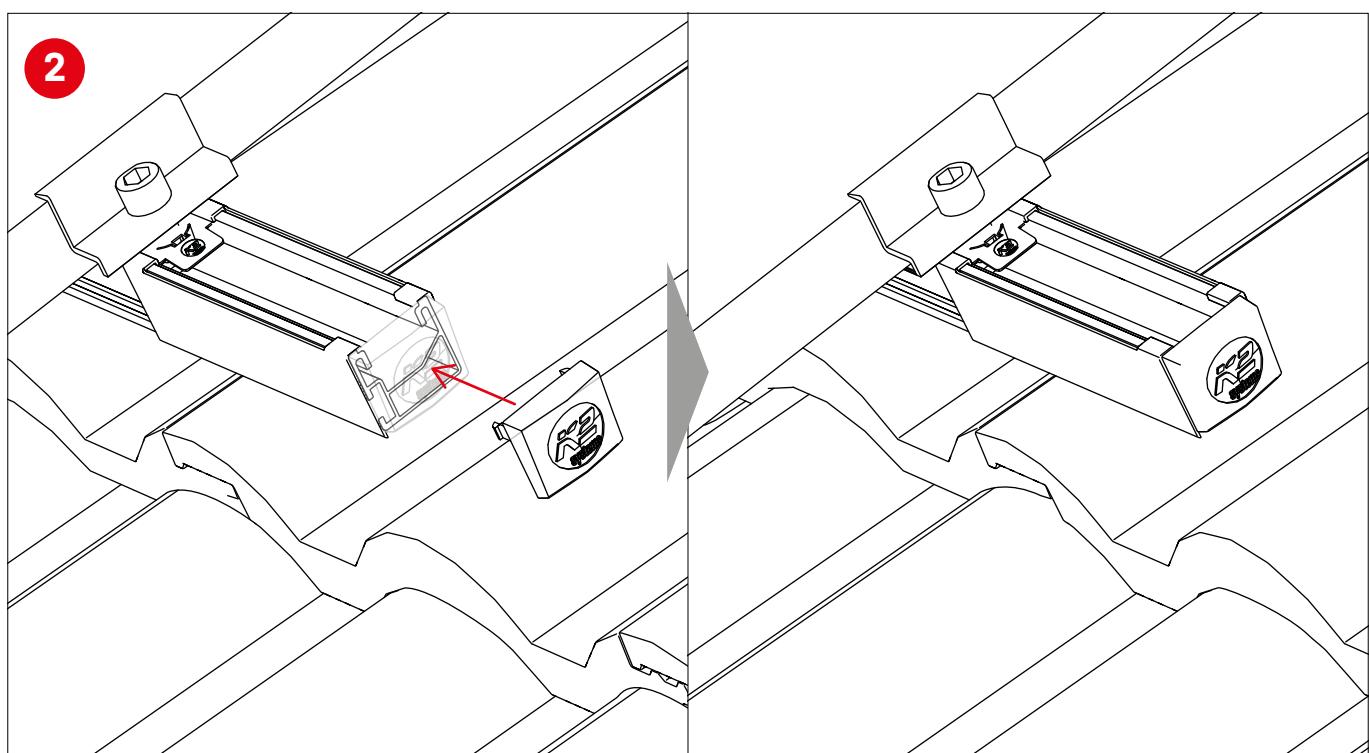
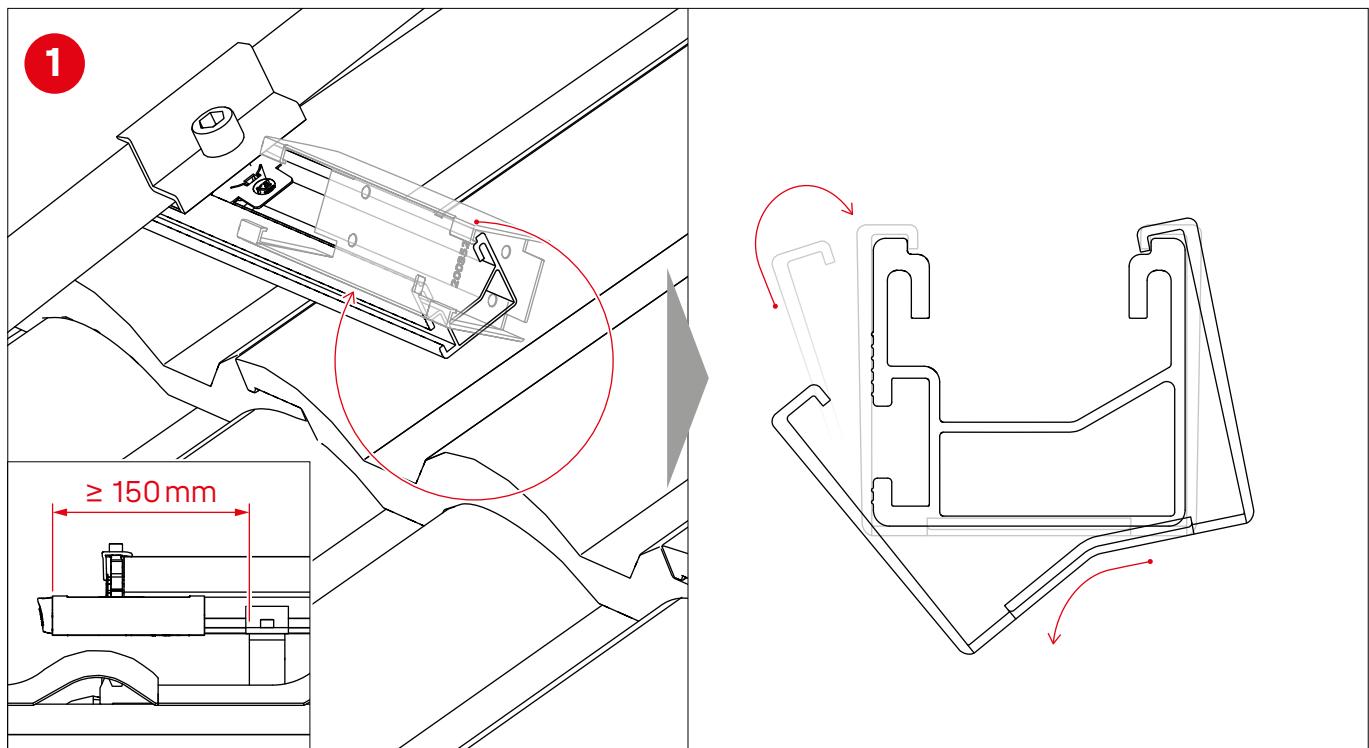




## Compensate and underlay height differences



## Attach BlackCover and EndCap



## Notes



## **Thank you for choosing a K2 mounting system.**

Systems from K2 Systems are quick and easy to install. We hope these instructions have helped. Please contact us with any questions or suggestions for improvement.

Our contact data:

- [k2-systems.com/en/contact](http://k2-systems.com/en/contact)
- **Service Hotline: +49 (0)7159 42059-0**

German law shall apply excluding the UN Convention on CISG. Place of venue is Stuttgart.

**K2 Systems GmbH**  
Haldenstraße 1 · 71272 Renningen · Germany  
+49 (0) 7159 - 42059 - 0 · [info@k2-systems.com](mailto:info@k2-systems.com) · [k2-systems.com](http://k2-systems.com)

SingleRail Roof Hooks Assembly EN V11 | 0126 · Subject to change  
Product illustrations are exemplary and may differ from the original.



**Connecting Strength**

**[k2-systems.com](http://k2-systems.com)**