



Assembly instructions

# InsertionRail System

with SolidHook 3S+/4S+



Connecting Strength

[k2-systems.com](https://www.k2-systems.com)

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

# Tools overview



6 mm



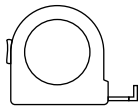
25 / 40



6 - 35 Nm  
(4,5 - 22,2 lb-ft)



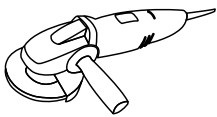
4 / 6 mm



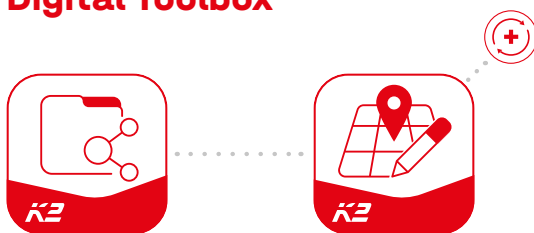
≥ 3.0 m



≥ 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](https://docuapp.k2-systems.com) →

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

- 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 3 m.
  - 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](https://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.
- K2 Systems GmbH reserves the right to exclude liability in case of disregard of our General Safety Instructions as well as in case of installation or mounting of components of a competitor.
- 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 [k2-systems.com/en/warranty-terms-and-conditions](https://www.k2-systems.com/en/warranty-terms-and-conditions) 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



This System can be used without further testing by K2 systems in the following standard conditions. It is also suitable for higher requirements. However, if a value exceeds the standard conditions, please contact K2 Systems.



## Planning with K2 Base

We recommend our free online software K2 Base for the planning. In five steps, you can plan the right assembly system and get an installation recommendation, a bill of materials and the structural analysis report. Simply register and start planning: [base.k2-systems.com](https://base.k2-systems.com)



## Roof requirements

- It is essential to check that the roof structure has sufficient residual load capacity and that the pressure capacity of the roof insulation (where present) is not exceeded.
- Roof pitch of: 5 - 75°
- Sufficient load reserves to support the PV system.

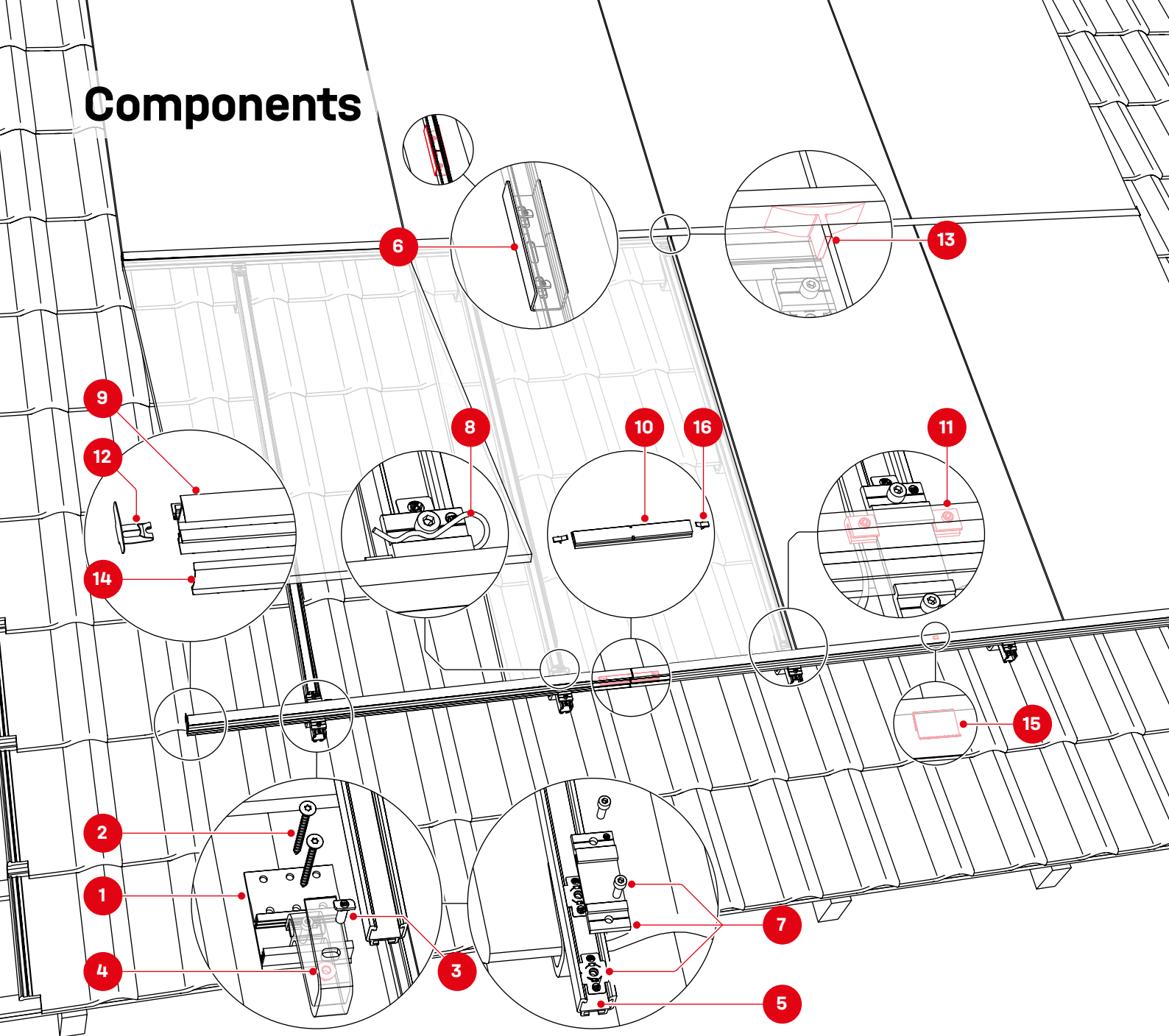


## Important mounting instructions

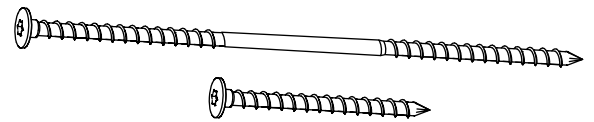
- On-site general standards and regulations for lightning protection must be observed and consultation with a specialist to create a lightning protection concept is recommended (use lightning protection clamp if necessary).
- Please refer to our Handbook "[Wood Screw Fixation of K2 Roof Hooks](#)" for the installation of all roof hooks.
- 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.
- 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.
- After 13.6 m (vertical) and 21.0 m (horizontal) a thermal separation must be installed.
- Each cut-to-size rail section (InsertionRail) must have at least 2 fastening points (Cross-Connector).
- Rail cut (InsertionRail)  $\geq$  70 cm
- Min. 50 mm projection from the end of the rail (InsertionRail) to the outer edge of the Cross-Connector.
- Please refer to the module manufacturer's installation manual.
- Horizontal distance between the modules must be at least 5 mm (ModuleSafety).
- Do not step on roof hooks or rails, as these are not climbing assists.

# Components



**2** Item number system-specific  
**Solar wood screw /  
Wood screw, flange head**



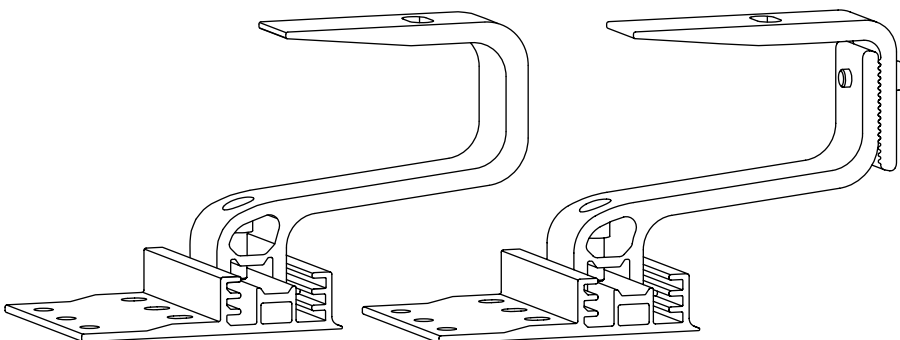
**3** 1000041  
**T-Bolt M10 × 30**

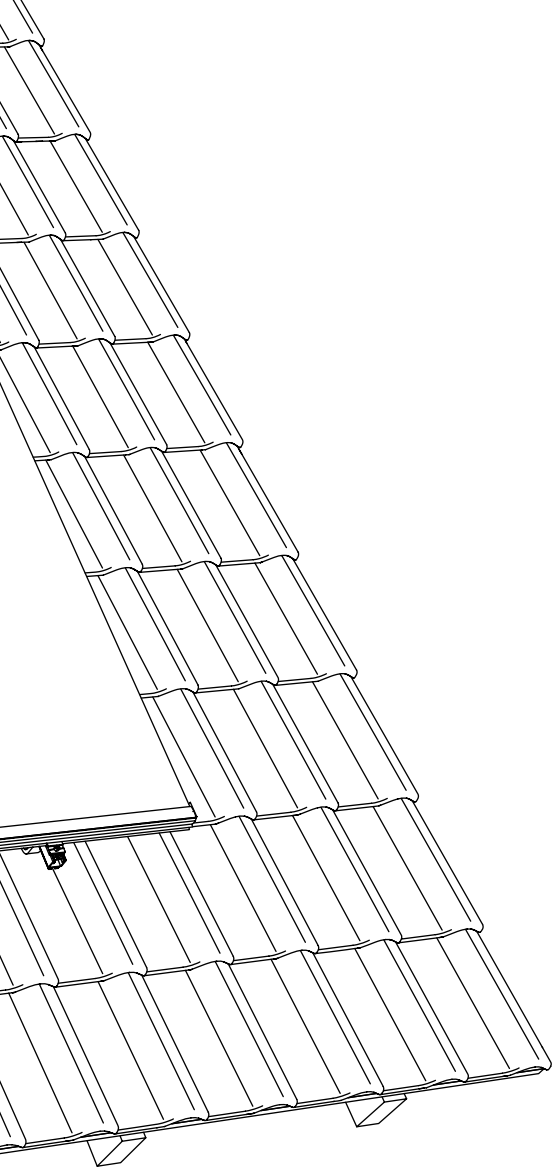


**4** 1000042  
**Hexagon Flange nut  
with serration M10**

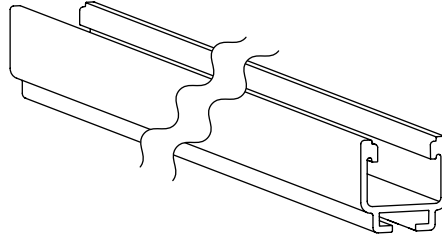


**1** 2002390/2002402  
**Roof Hook SolidHook 3S+ / SolidHook 4S+**

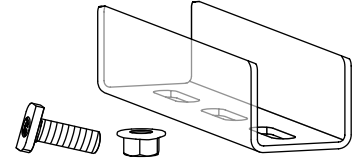




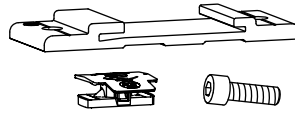
**5** Item number system-specific  
**SolidRail Light /  
SolidRail UltraLight**



**6** 1004107  
**Rail connector Set  
SolidRail Ultra Light and Light**



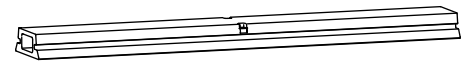
**7** 2004374/2004375  
**CrossConnector Set  
silver/black**



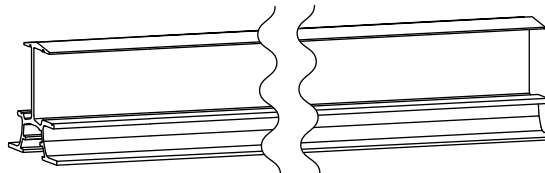
**8** 2001196  
**Spring plug**



**10** 2004355/2004322  
**RailConnector  
silver/black**



**9** Item number system-specific  
**InsertionRail 2.0  
silver/black**

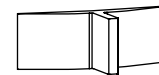


**11** 2004370  
**FixStop 2.0**

**12** 2004693/2004692  
**EndStop S  
silver/black**

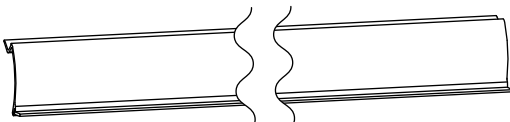


**13** 2004290  
**ModuleSafety**

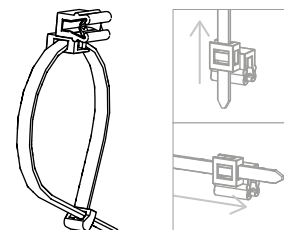


## Optional

**14** Item number system-specific  
**InsertionRail 2.0 Cover silver/black**



2002870  
**Cable Manager**

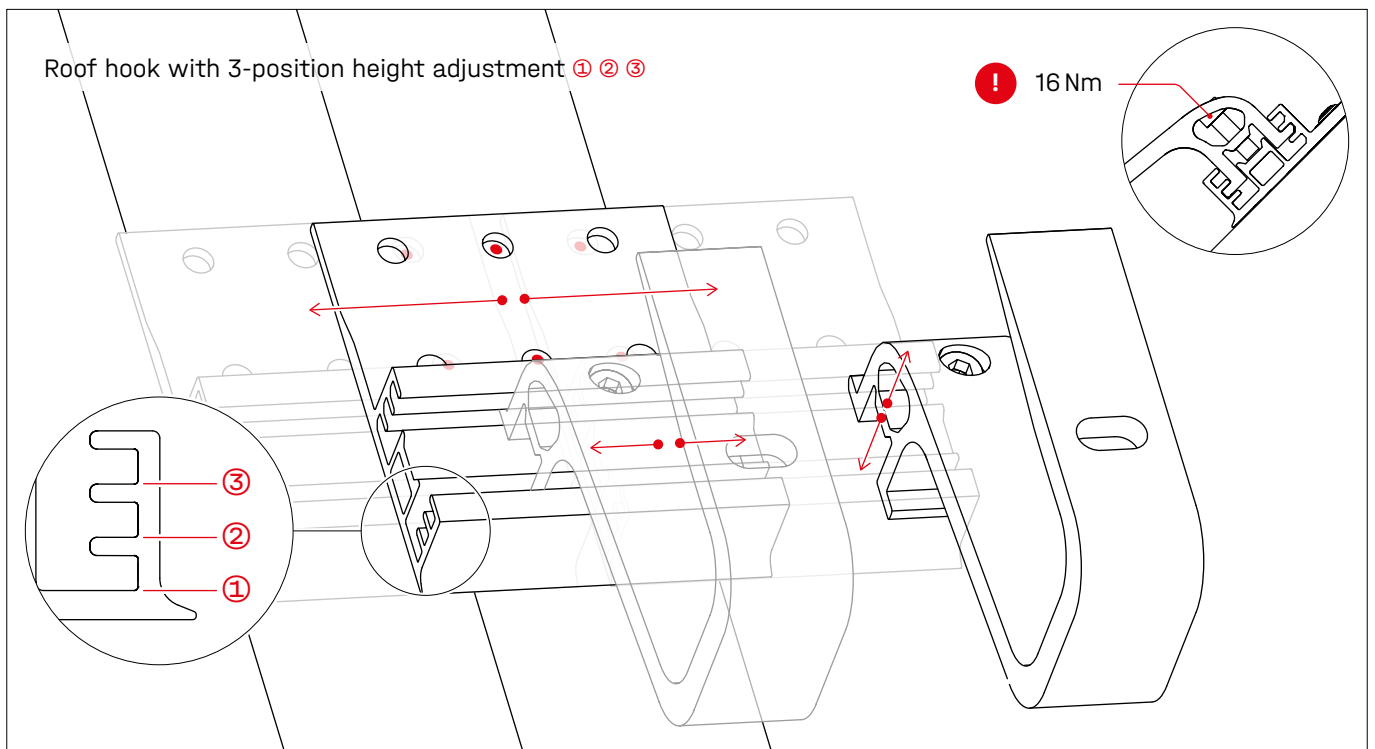


**15** 2000056  
**TerraGrif K2U17**

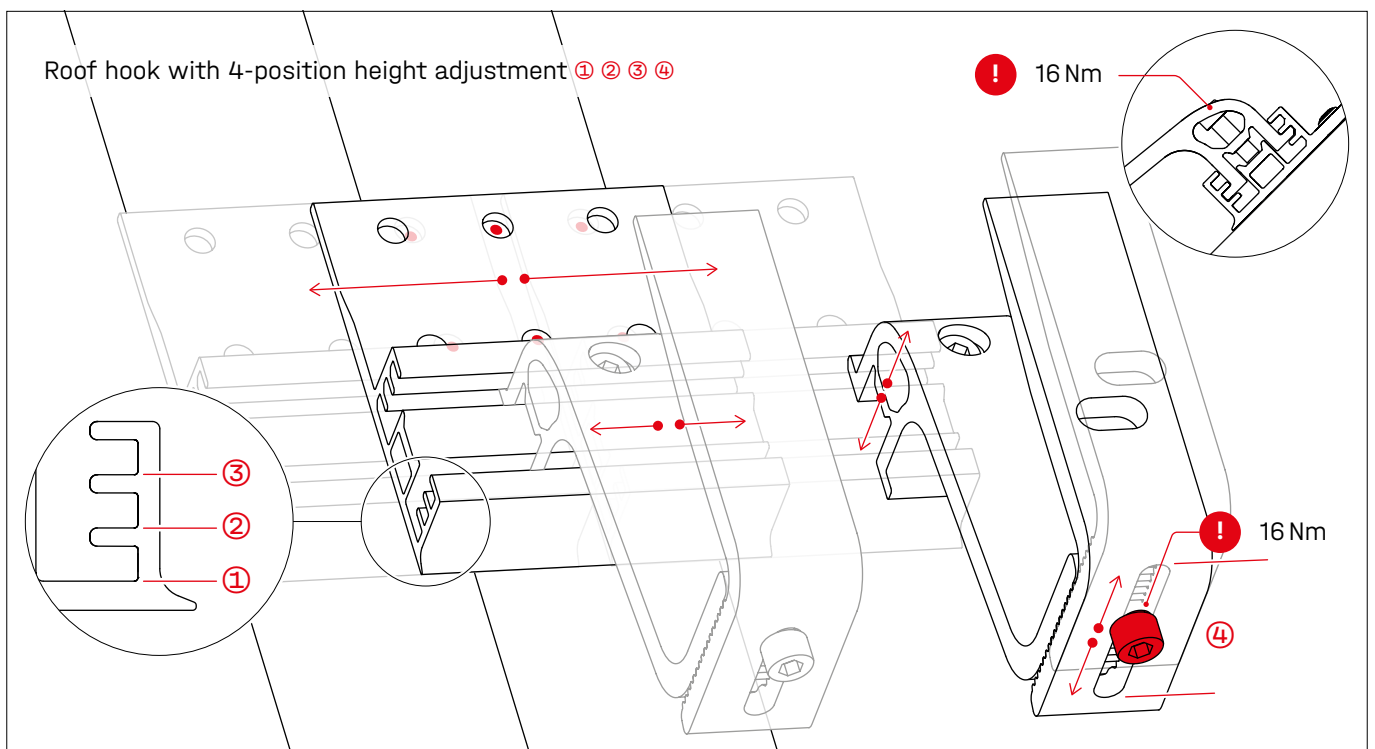
**16** 2004102  
**TerraGrif PL**

# Roof hook variants / functionality

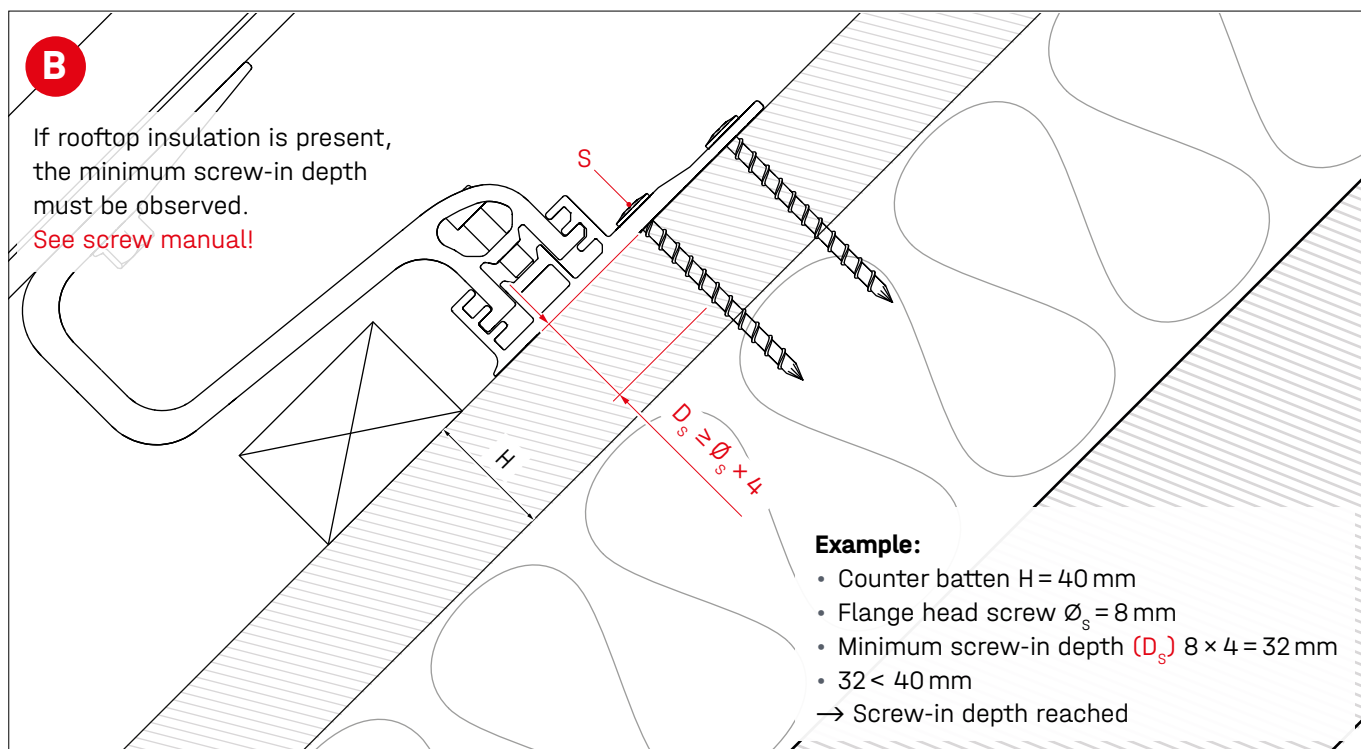
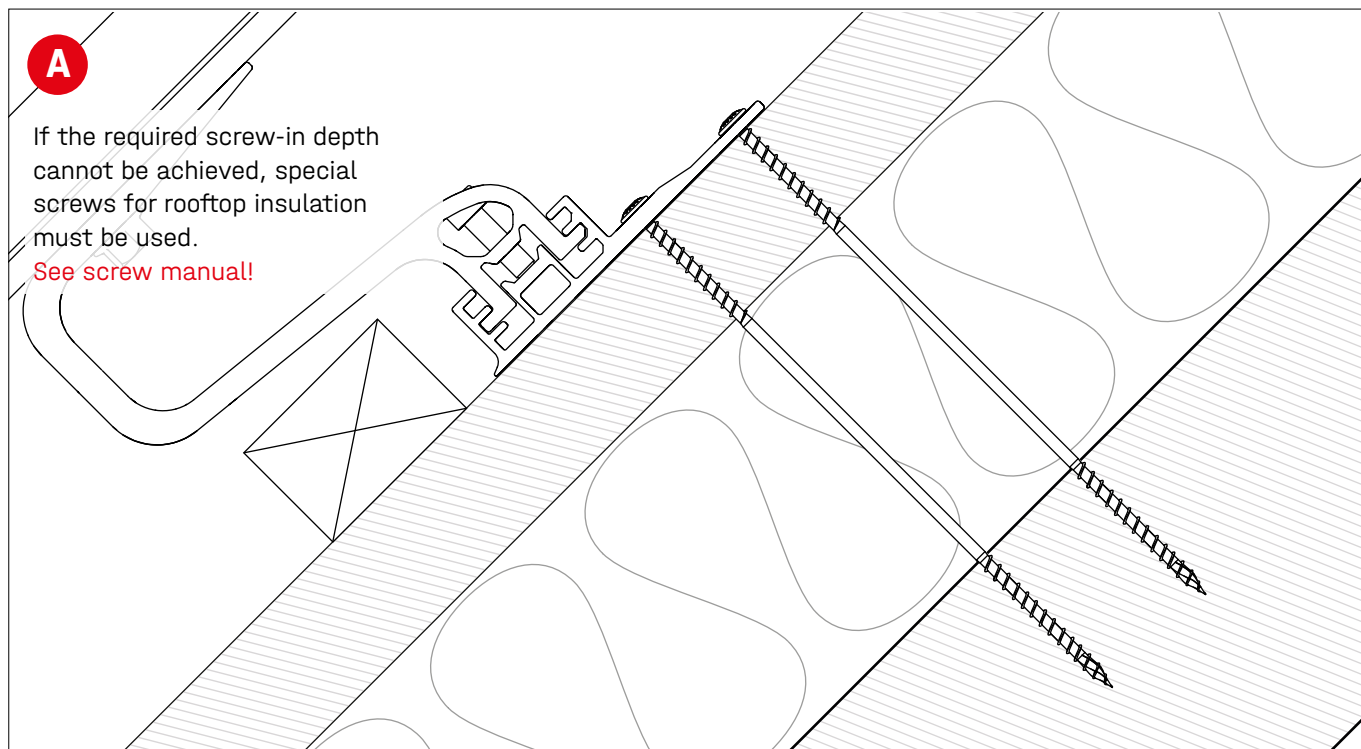
## SolidHook 3S+



## SolidHook 4S+

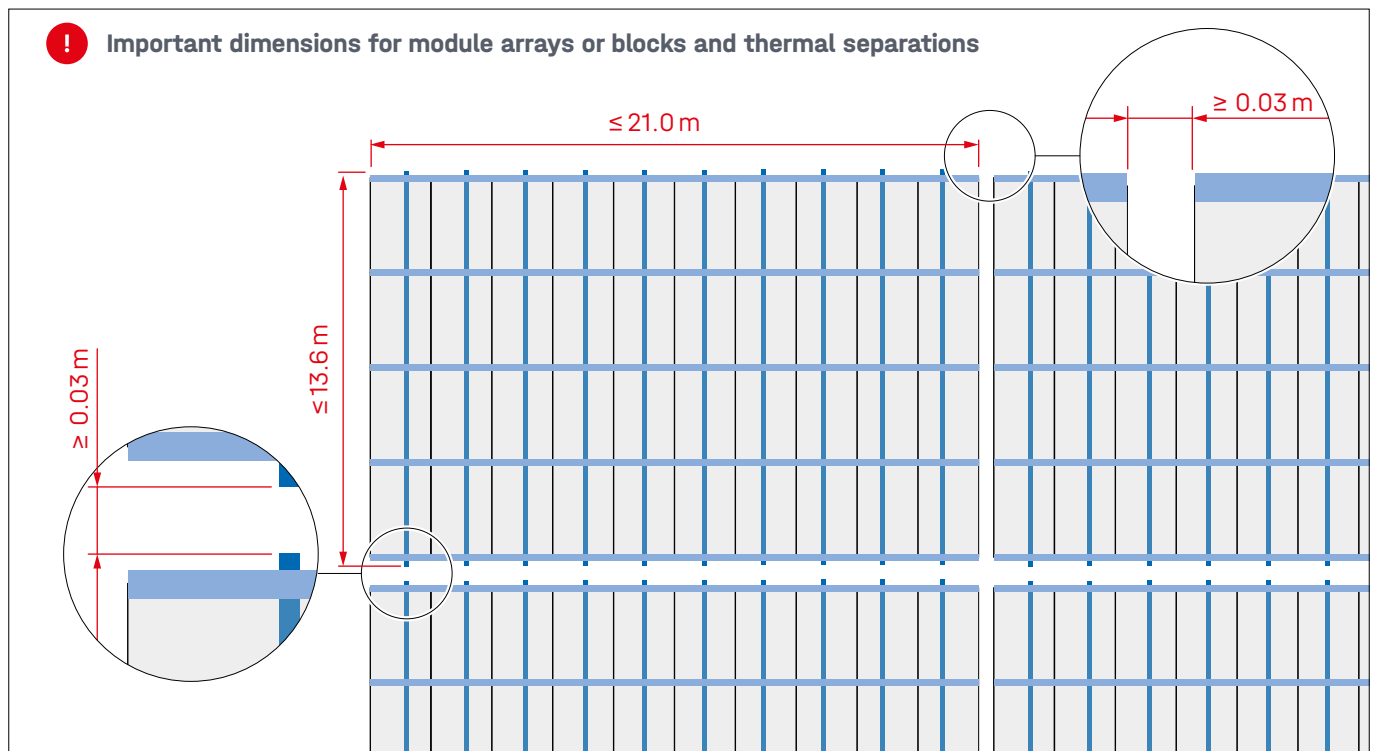


## Notes on rooftop insulation

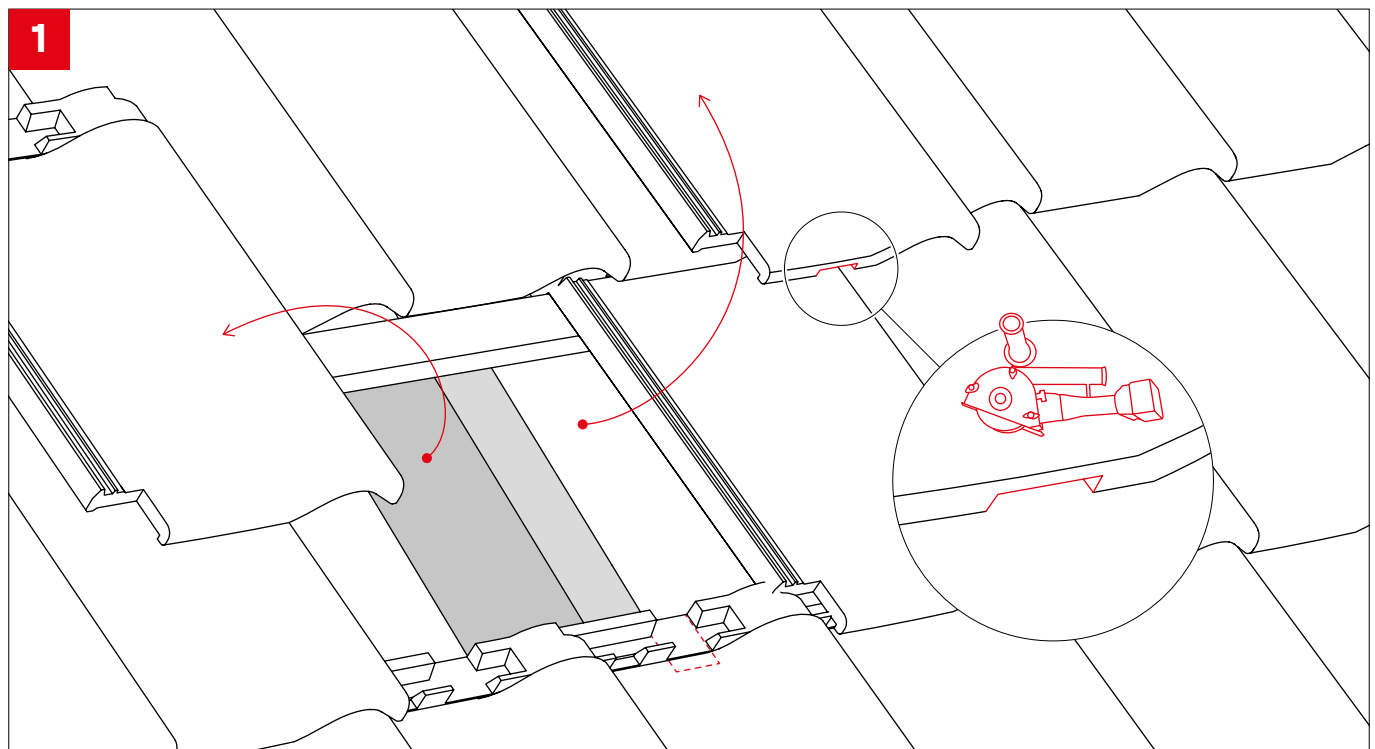


# Assembly - Portrait / Landscape

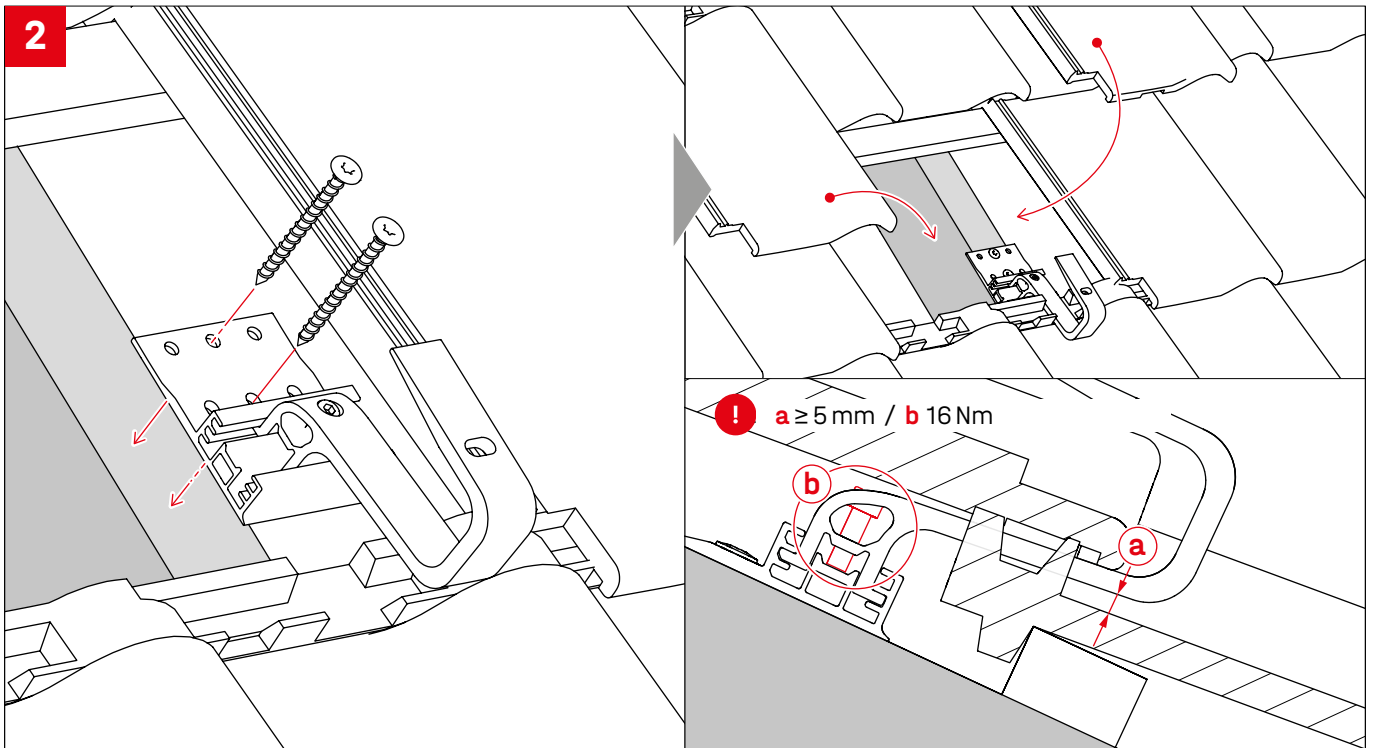
## Module block structure



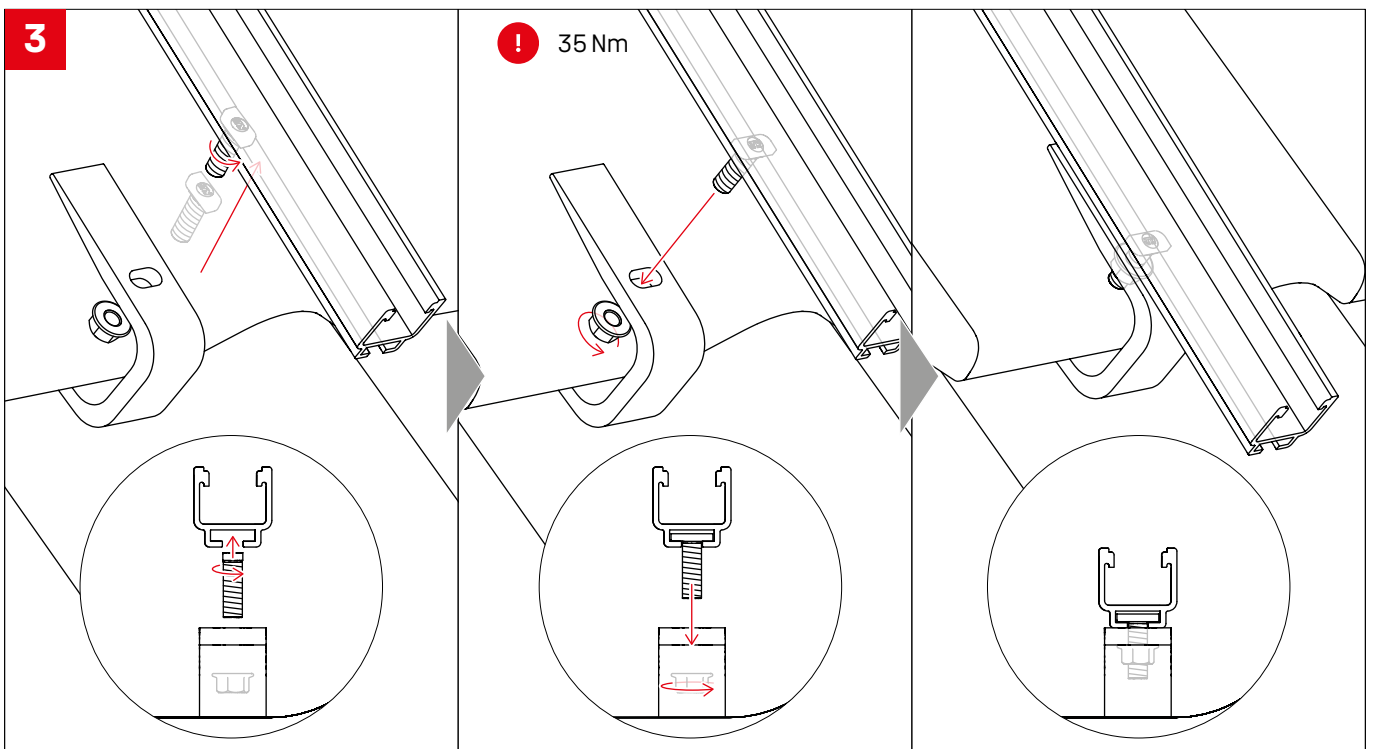
## Uncovering tiles and notching tiles



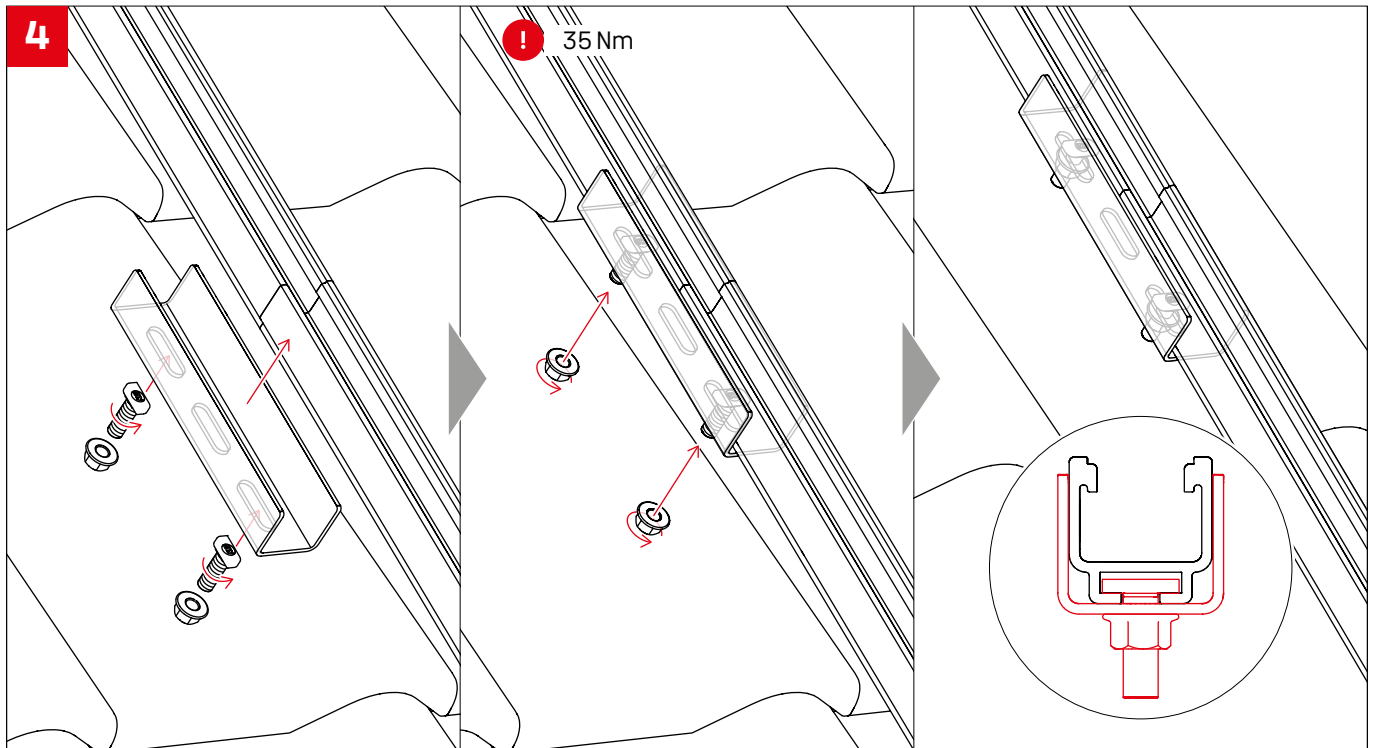
## Attach roof hooks, insert tiles



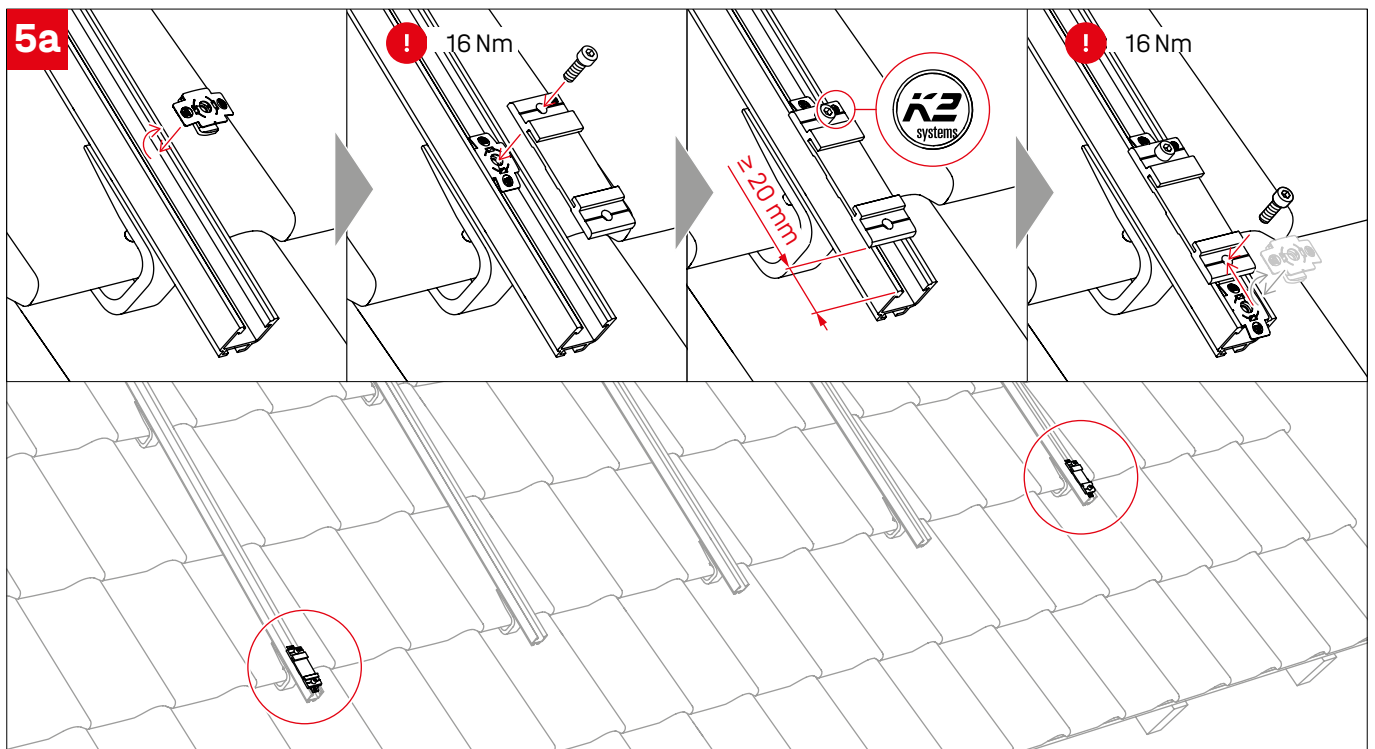
## Connecting SolidRail with roof hooks



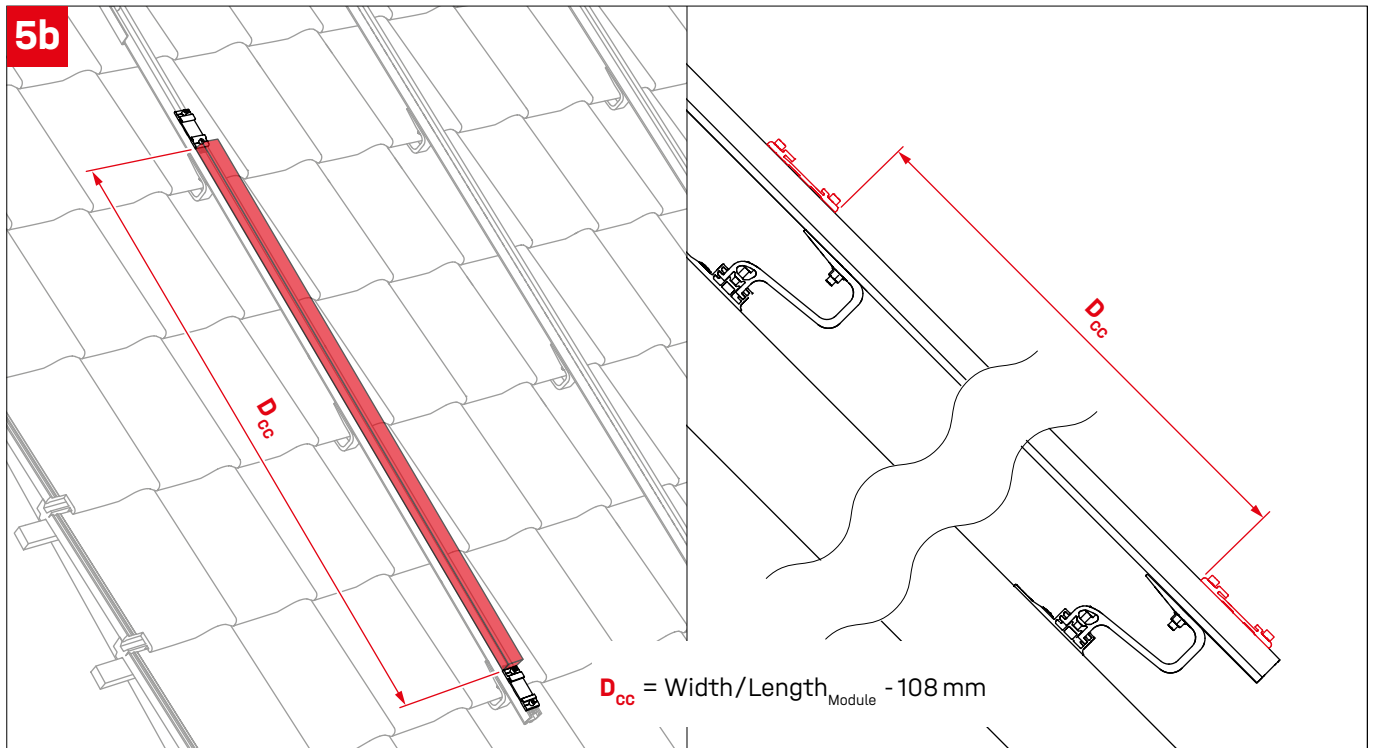
## Connecting SolidRails with SolidRail Connector



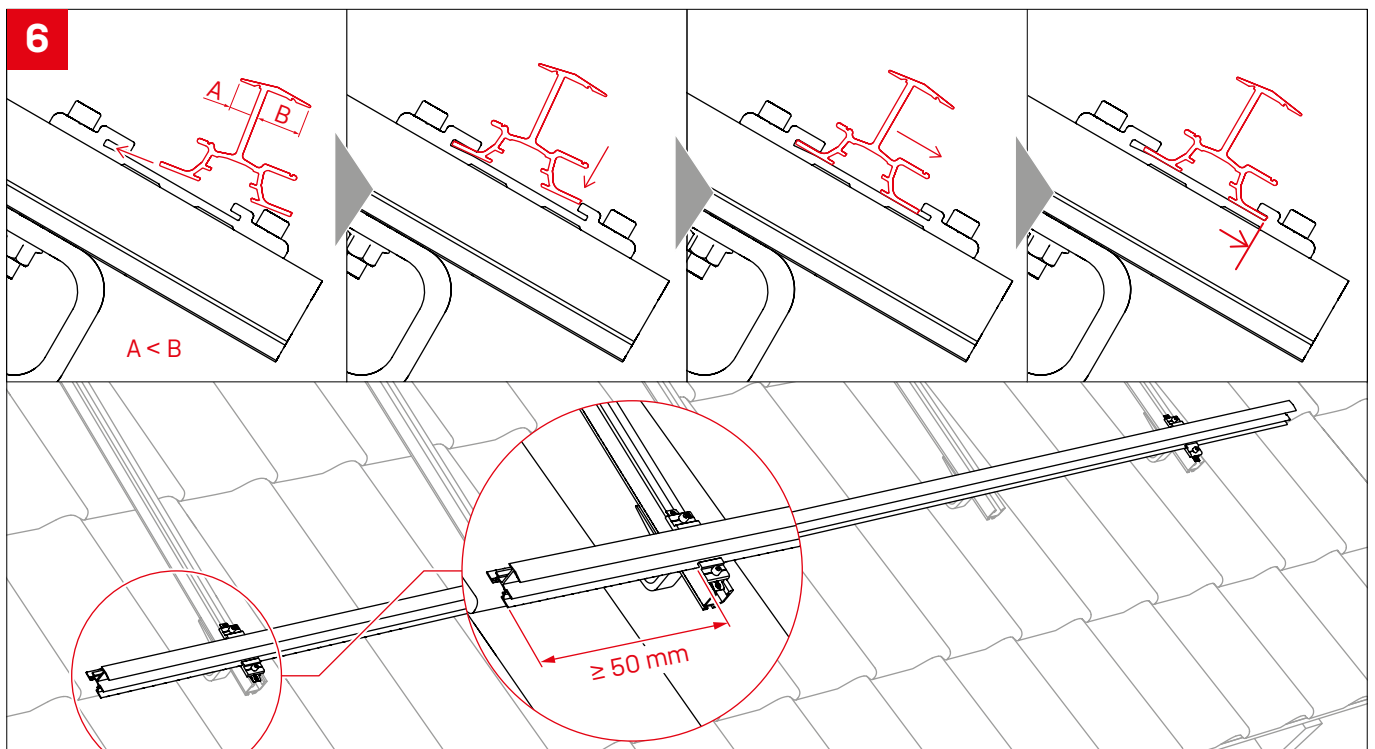
## CrossConnector part 1 - mount external CrossConnectors on SolidRail



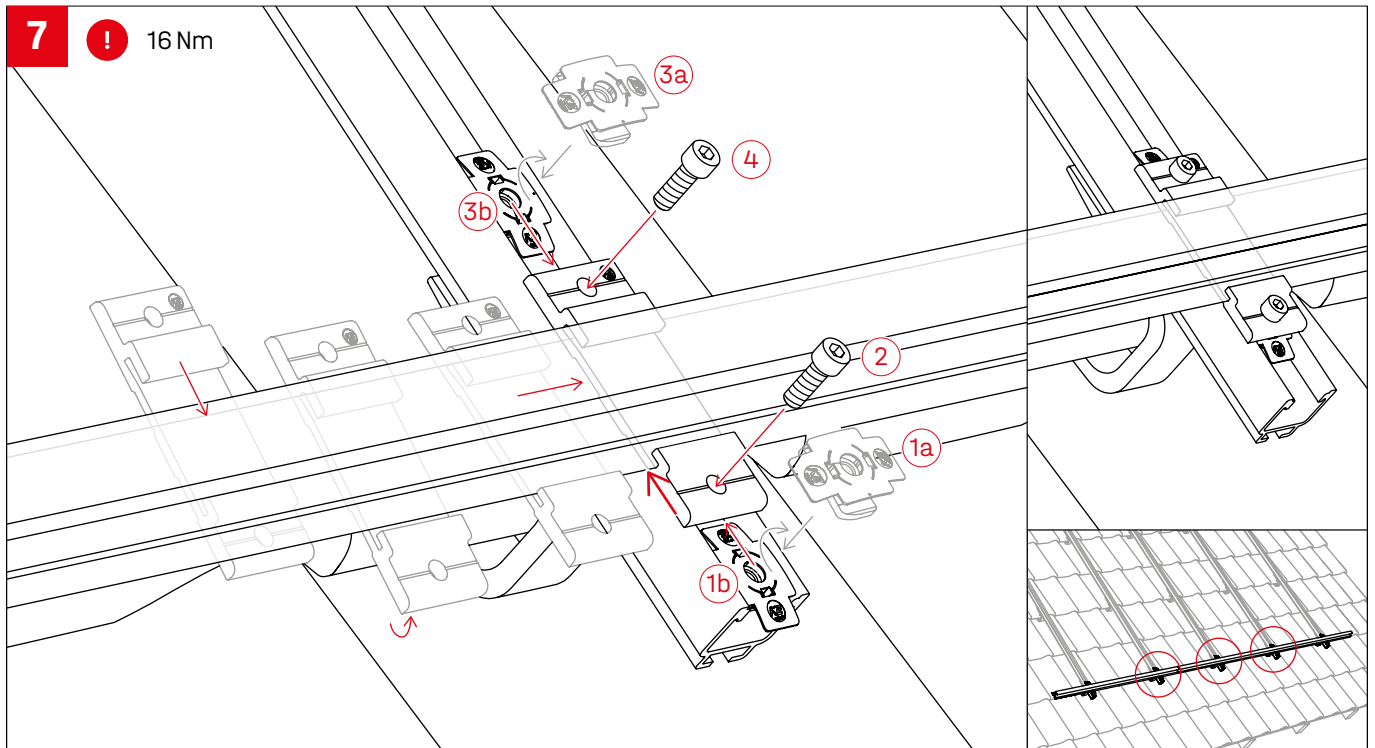
## Vertical distance CrossConnectors



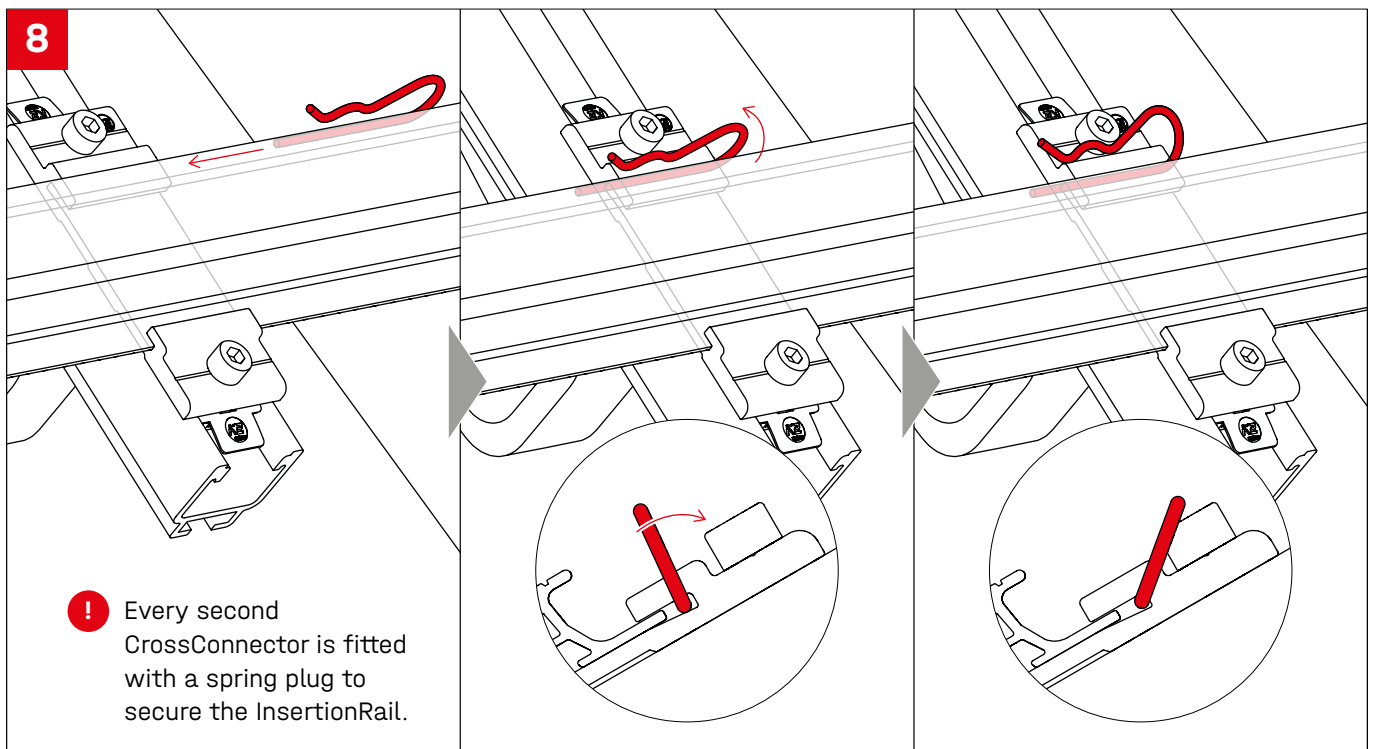
## Attach InsertionRail



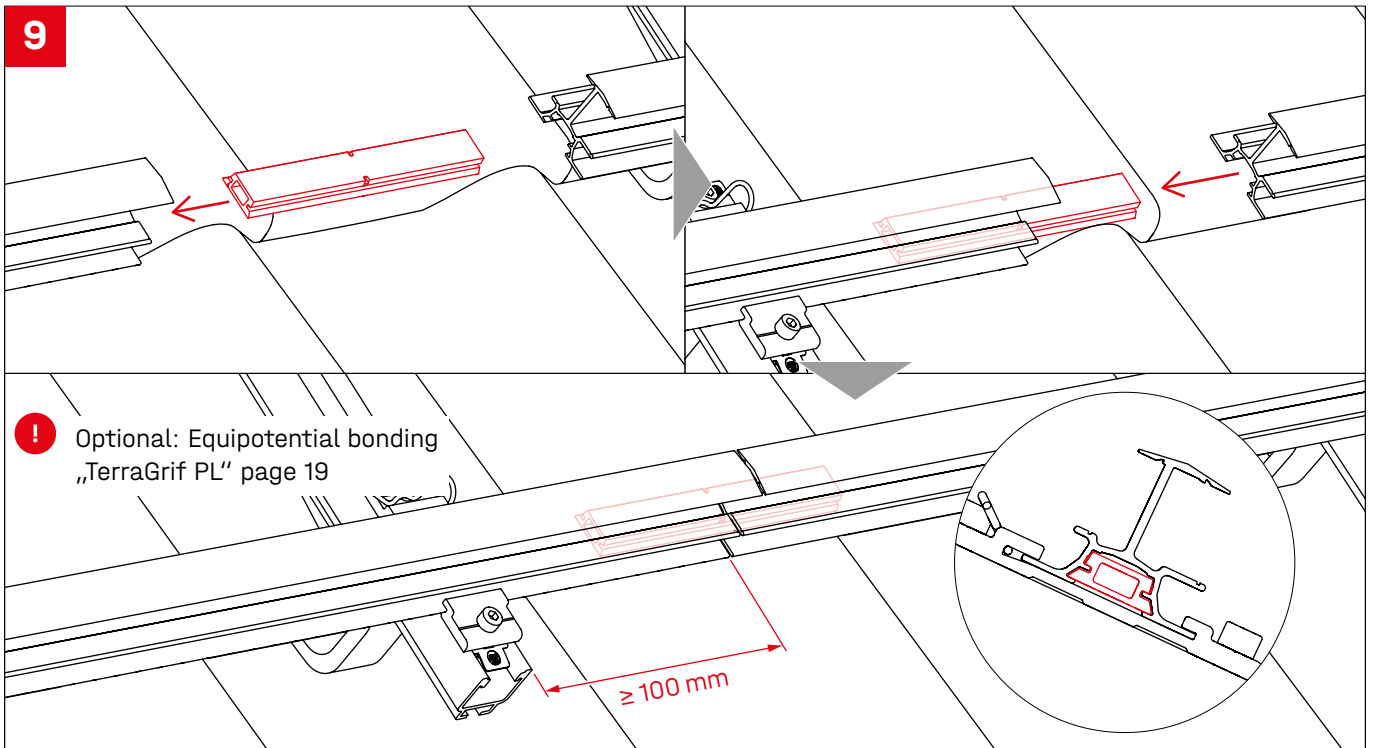
## CrossConnector part 2 - mount internal CrossConnectors on SolidRail



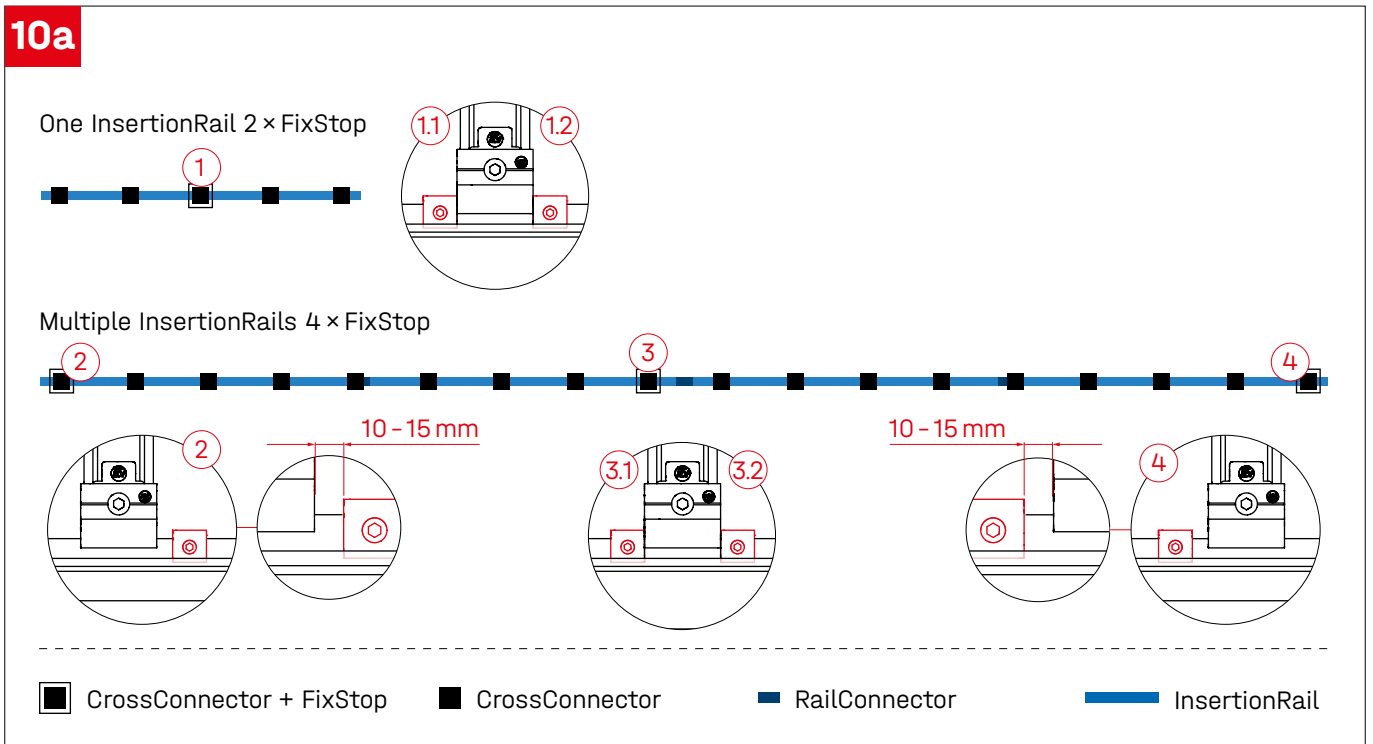
## Fixing InsertionRail with spring plug



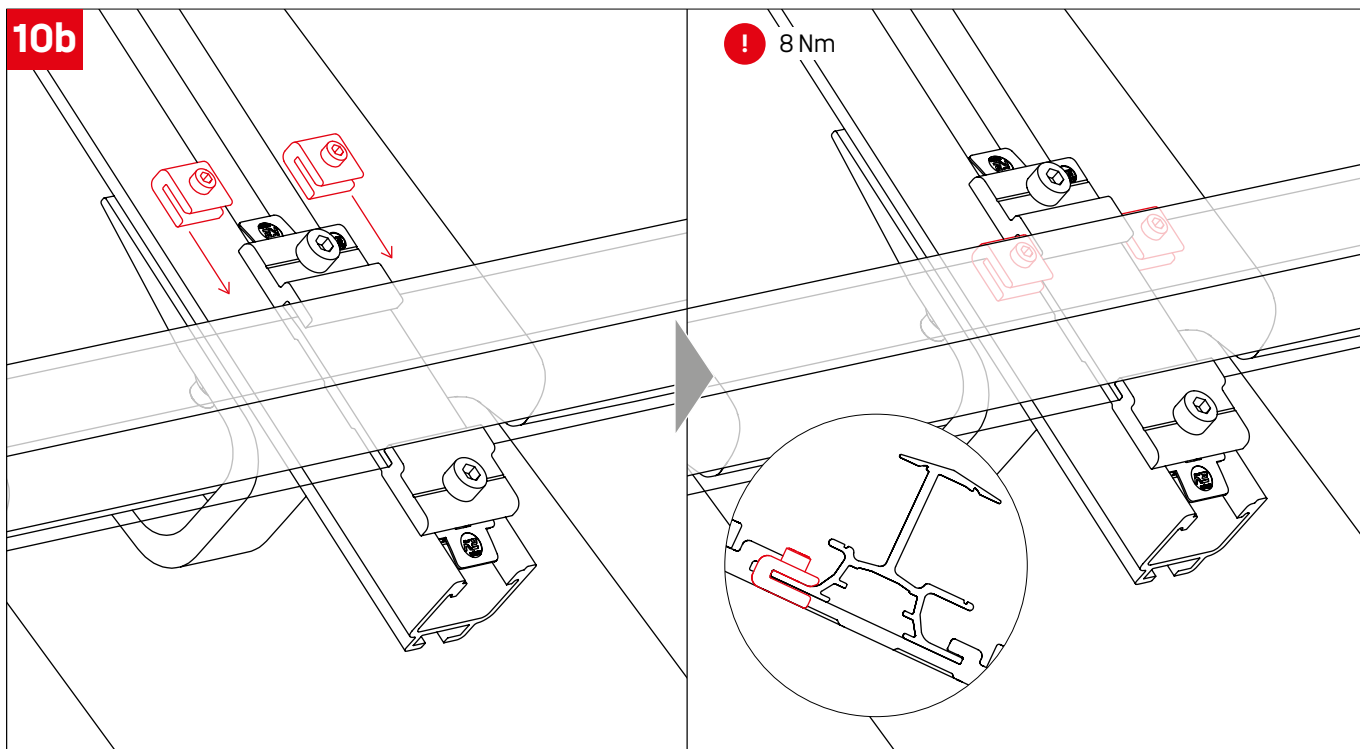
## Connection rails with RailConnector



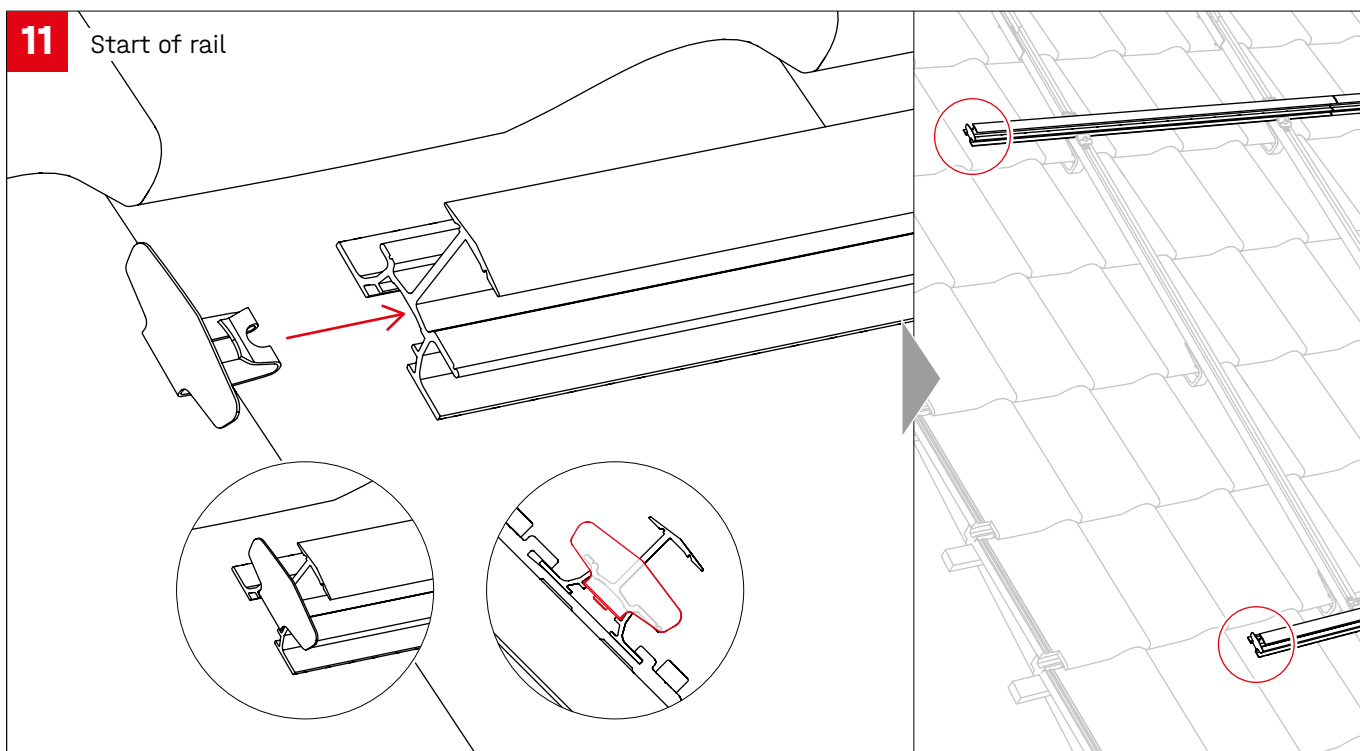
## FixStop positioning



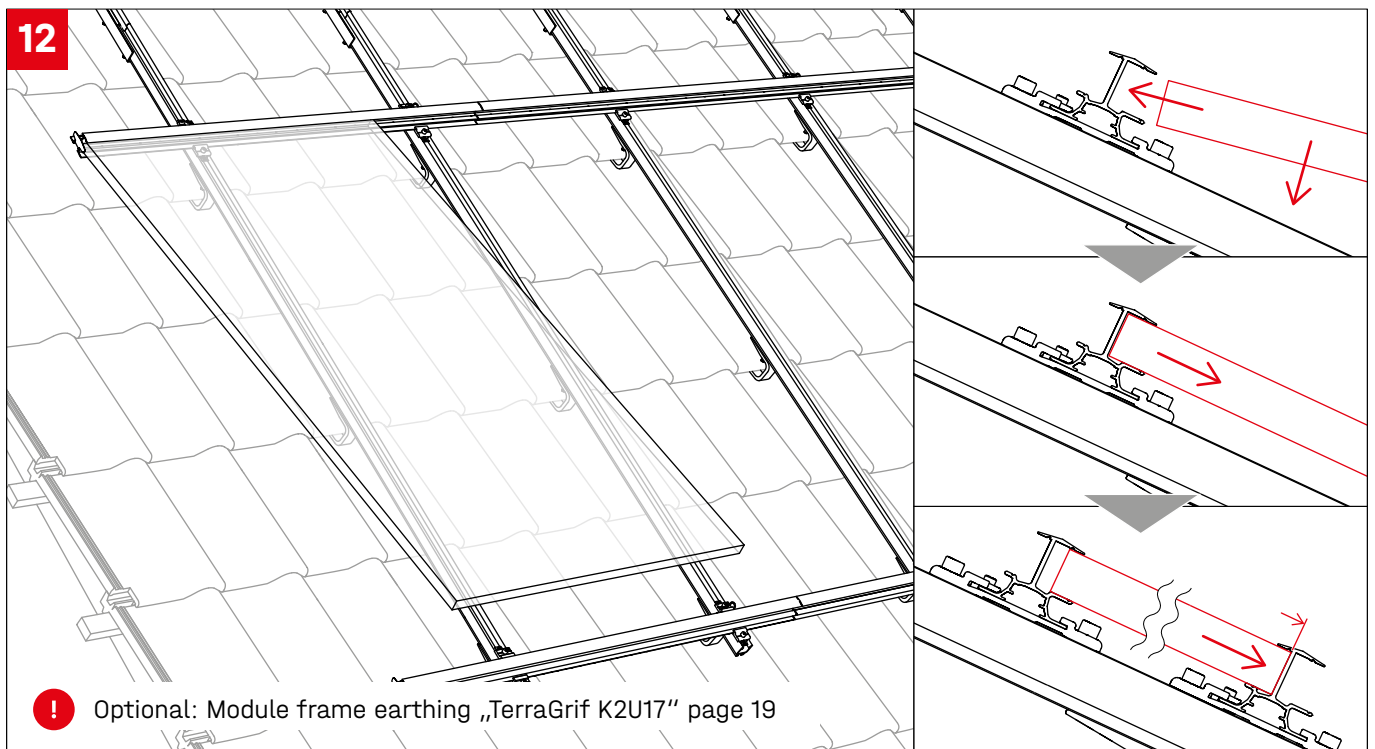
## Assembly FixStop



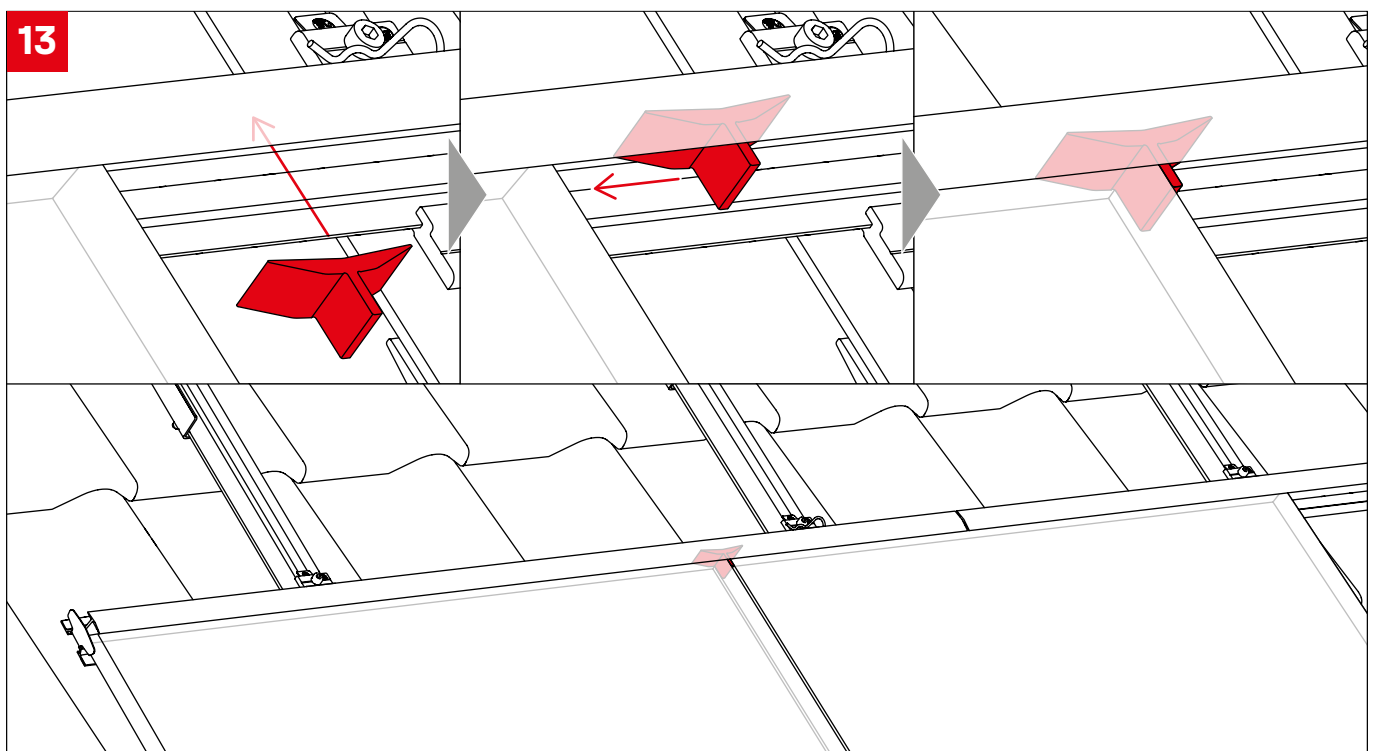
## Side guarding EndStop 1



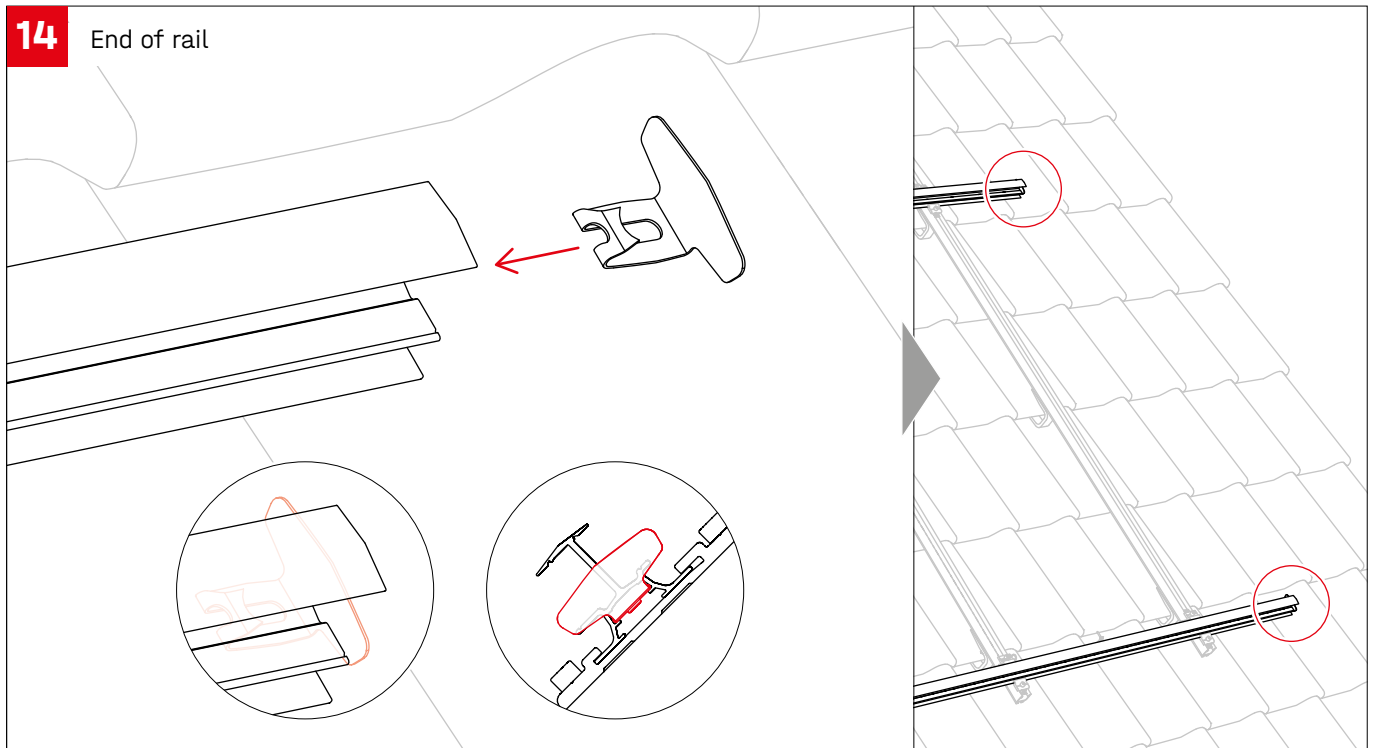
## Insert modules



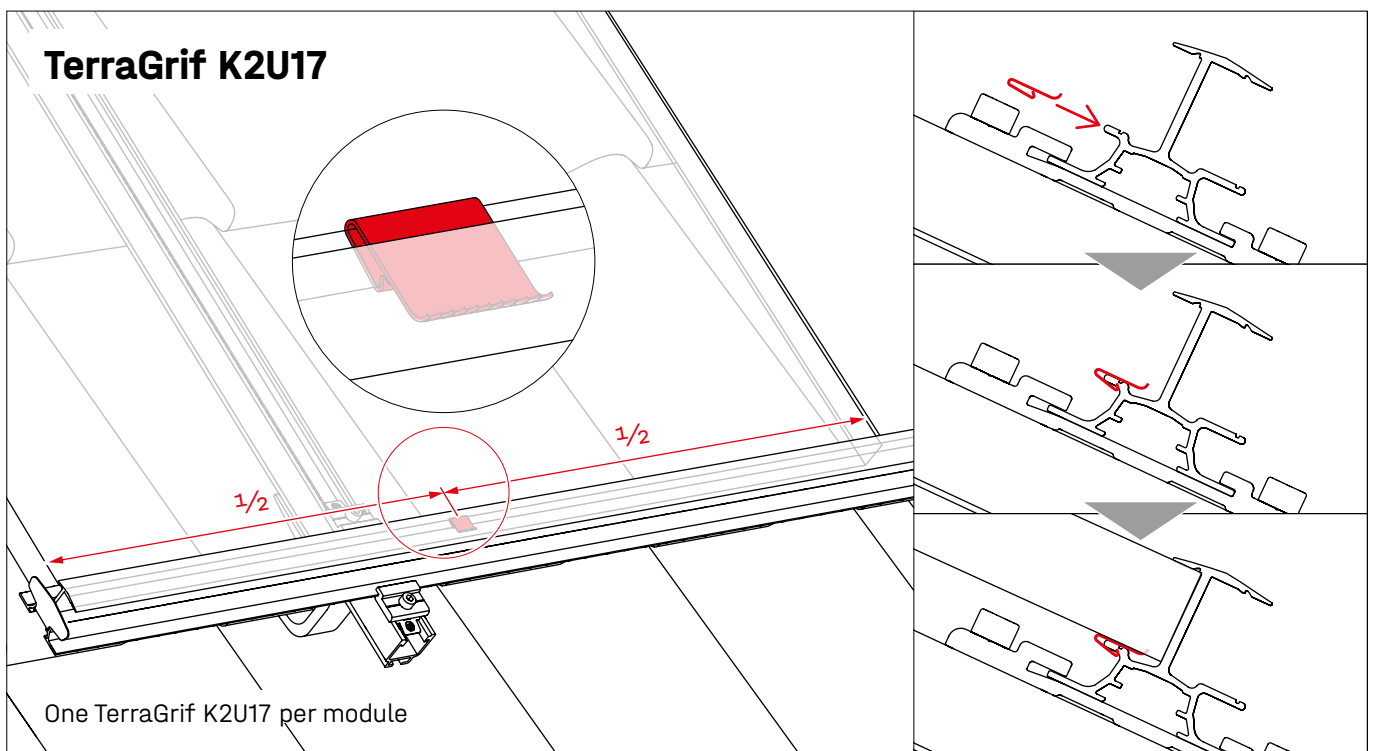
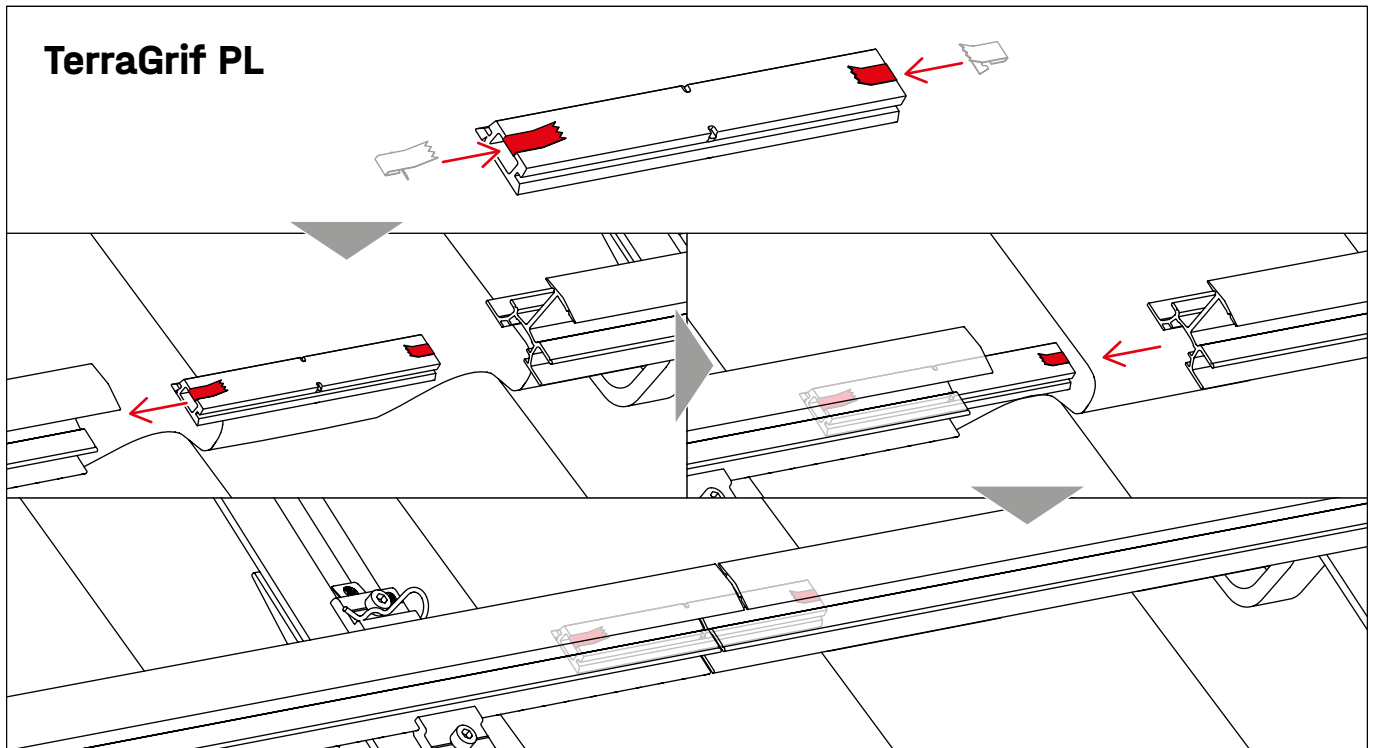
## Placement Module Safety



## Side guarding EndStop 2

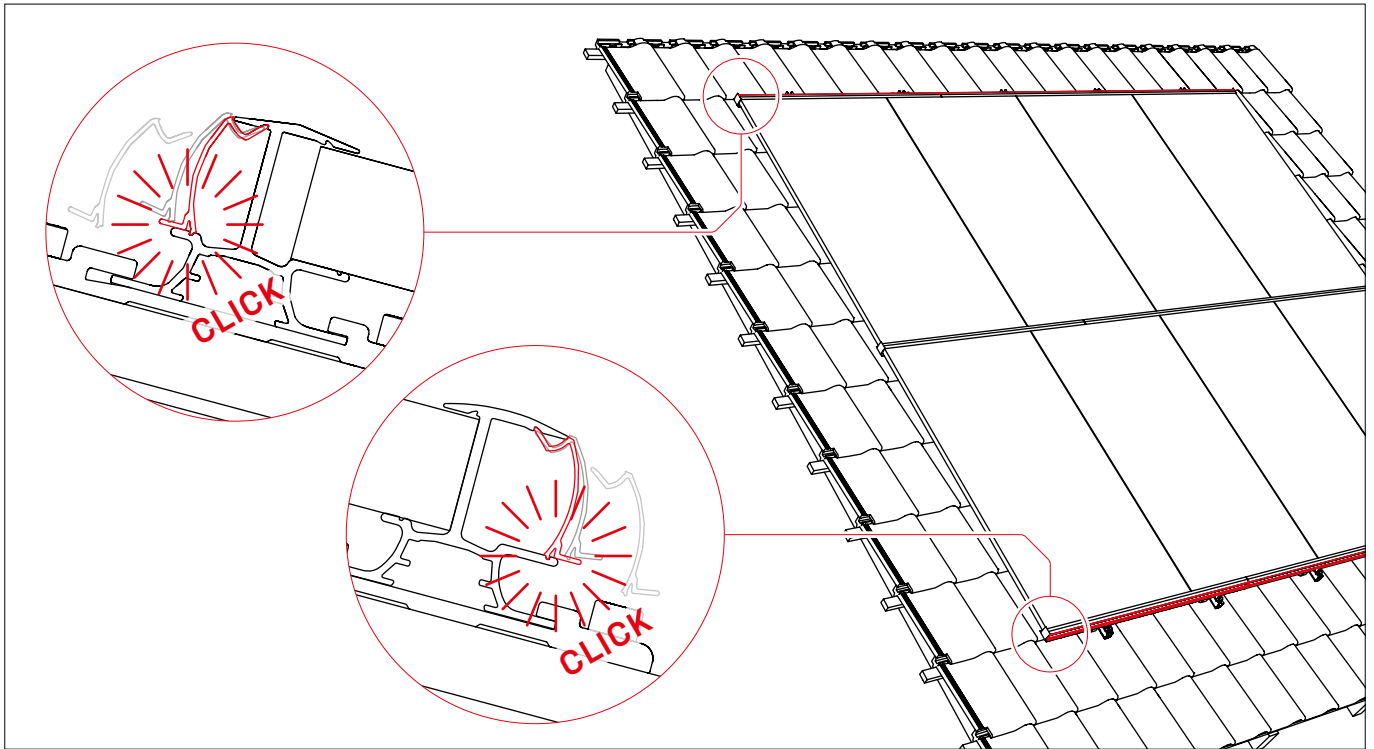


# Equipotential bonding / Module frame earthing

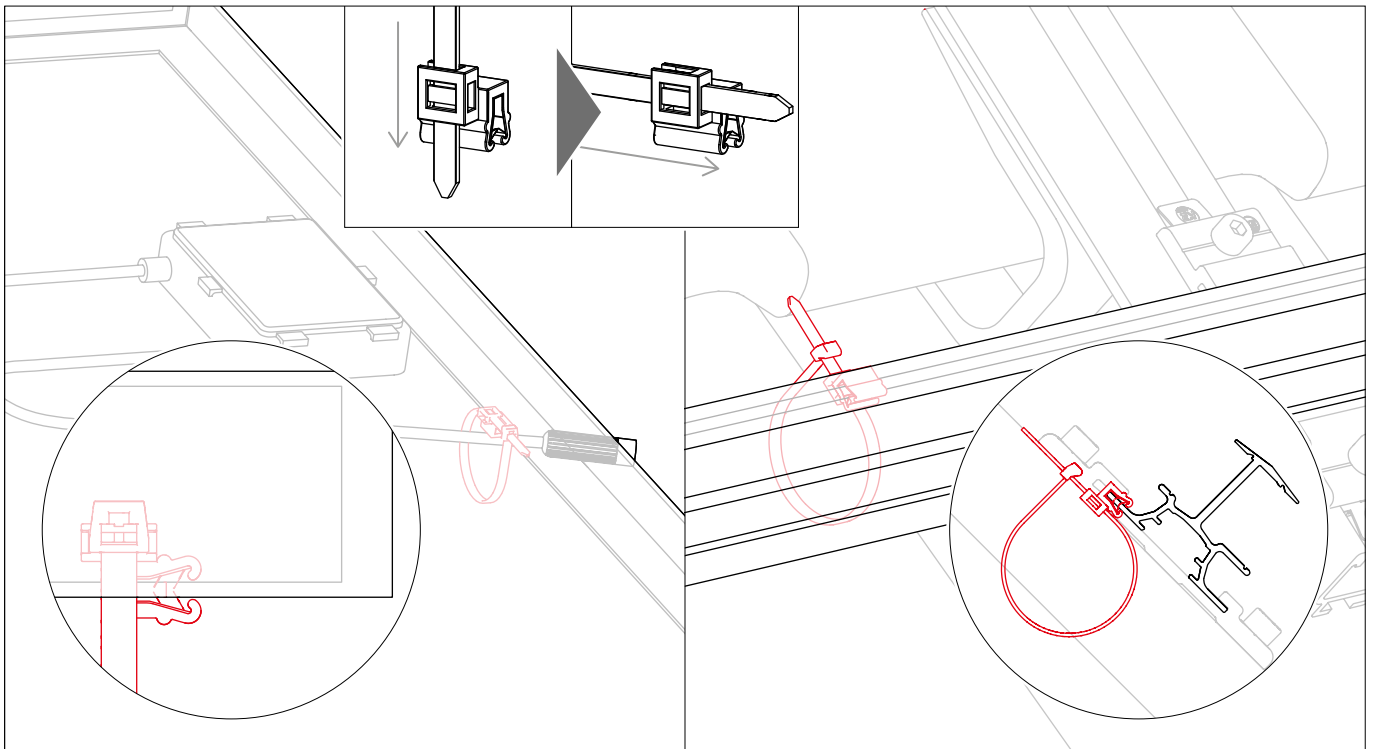


# Optional

## InsertionRail Cover



## Cable management with Cable Manager





# Notes





## Thank you for choosing a K2 mounting system.

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

Our General Terms of Business apply. Please refer: [k2-systems.com](https://k2-systems.com)

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InsertionRail System SolidHook Assembly EN V1 | 0326 · Subject to change  
· Product illustrations are exemplary and may differ from the original.



**Connecting Strength**

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