Connecting Strength

Assembly Manual

InsertionRail System

BasicClip on trapezoidal sheet metal

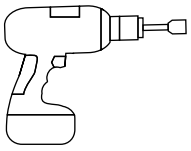
Content

Quality tested - multiple 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:
www.k2-systems.com/en/technical-information

Tools overview

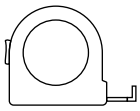


4/6 mm

8 mm

6 - 30 Nm
(4,5 - 22,2 lb-ft)

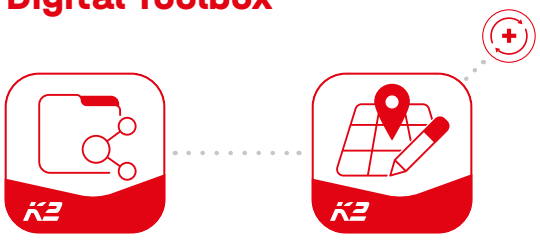
4/6 mm



≥ 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.

With the K2 DocuApp, project documentation is done quickly and easily - without any annoying paperwork.

Get started and register now:

docuapp.k2-systems.com

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

- 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 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 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 under 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 a construction recommendation, parts list and the structural analysis report. Simply register and start planning:
base.k2-systems.com

Roof requirements

- Sheet thickness: Aluminium ≥ 0.5 mm and steel ≥ 0.4 mm
- If the roof pitch is less than 12°, the module must be secured against upward migration using a module earthing clip or by inserting a wire rope in the insertion profile.
- Minimum tensile strength for aluminium: 165 N/mm²; steel grade minimum S235
- Minimum 22 mm crest width
- Roof pitch inclination: 5 - 75°

Structural requirements

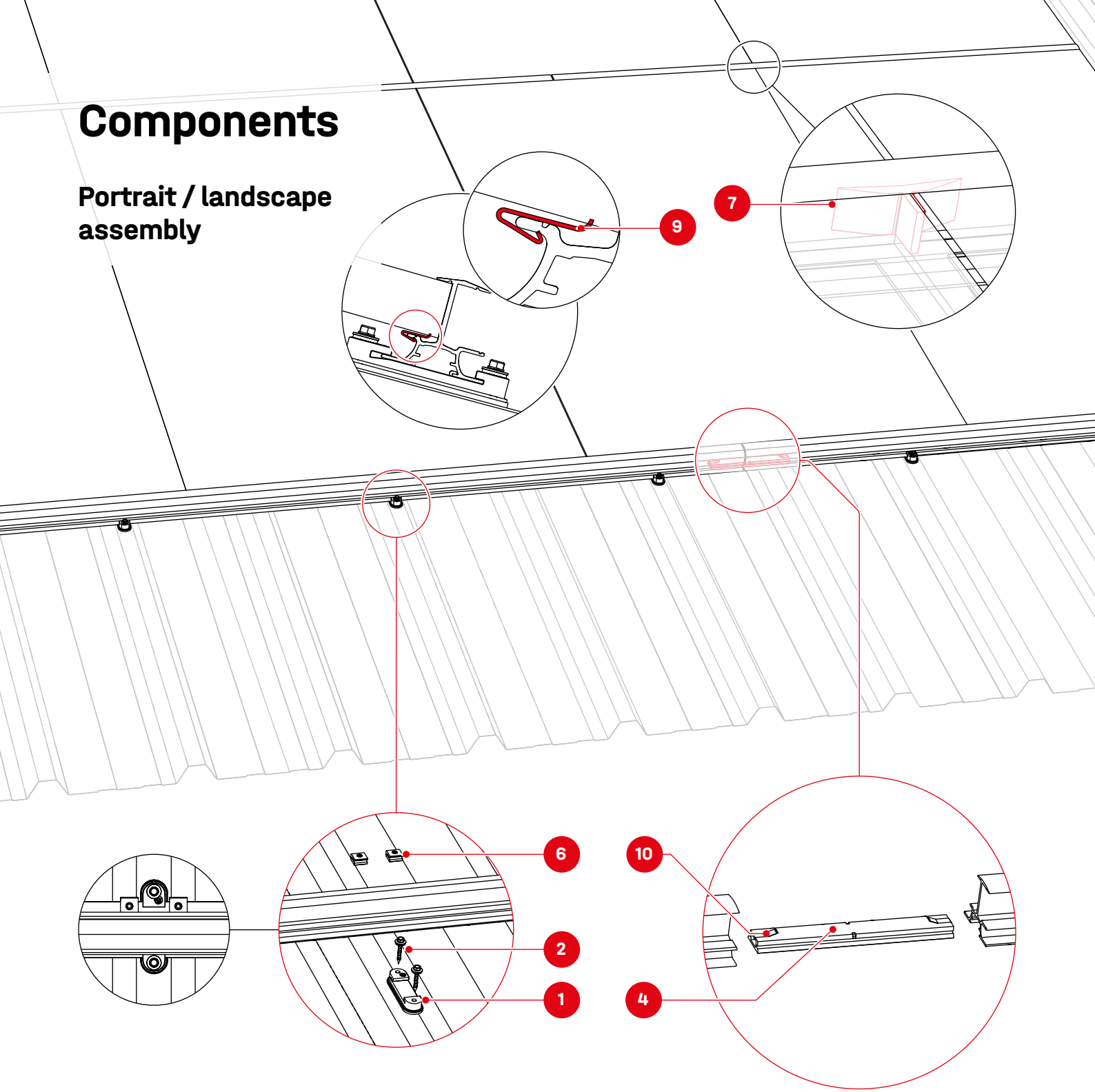
Sufficient holding force of the roof covering on the support or substructure

Important mounting instructions

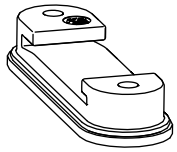
- Earthing must be ensured (use lightning arrestor clamp if necessary).
- If the troughed sheet is to be fastened with calottes, please never bolt the BasicClips to the calottes! Instead of this, mount all BasicClips staggered in this sequence on the troughed sheet.
- Every fourth of all BasicClips is mounted rotated 180° to fix vertical position. Rotated BasicClips must not be placed at the end of the rail; see assembly step 4.
- For rail joints, BasicClips must be attached to the nearest high crest on both sides.
- Each cut-to-size rail section (InsertionRail) must have at least 2 fastening points (BasicClip).
- Rail cut (InsertionRail) ≥ 70 cm
- Horizontal distance between the modules must be at least 5 mm (ModuleSafety).
- Ensure a thermal separation after 21 m horizontally and 13.6 m vertically. The minimum distance between two rails should be 30 mm.
- Attention: Modules must never be clamped over the thermal expansion joint.
- No pre-drilling required! Predrill only with overlapping sheets to reduce spacing.

Components

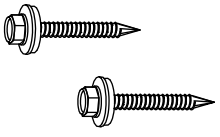
Portrait / landscape assembly



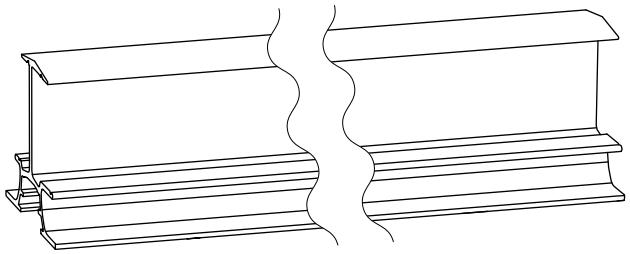
1 1001164
BasicClip

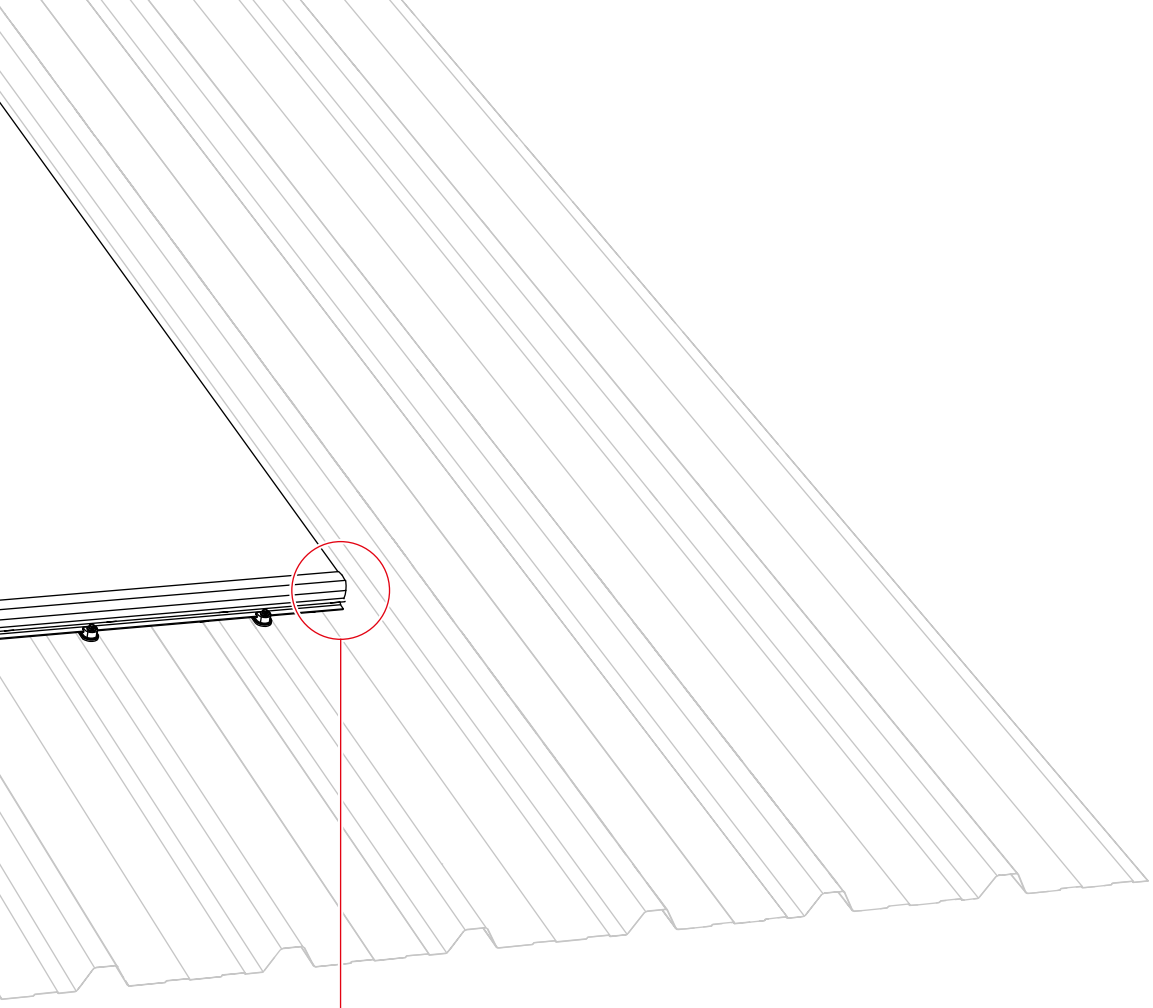


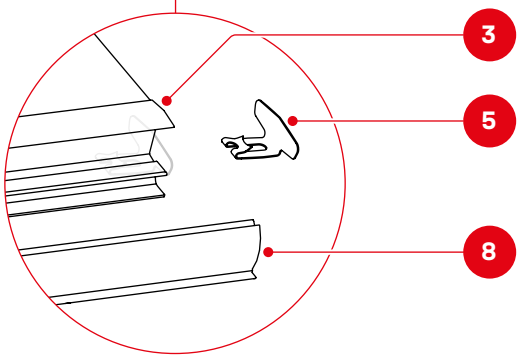
2 1005193
Self-tapping screw 6×38



3 Item number system-specific
InsertionRail 2.0 silver/black

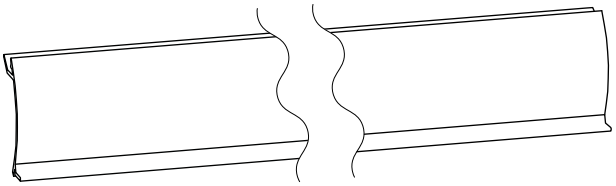




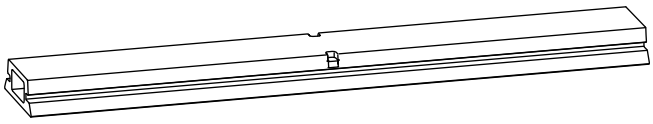


Optional

8 Item number system-specific
InsertionRail 2.0 Cover silver/black



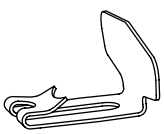
4 2004355/2004322
InsertionRail 2.0 silver/black



9 2000056
TerraGrif K2U17

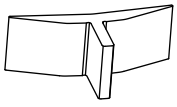
10 2004102
TerraGrif PL

5 2004693/2004692
EndStop S
silber/schwarz

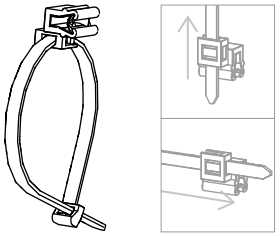


6 2004370
FixStop 2.0

7 2004290
ModuleSafety



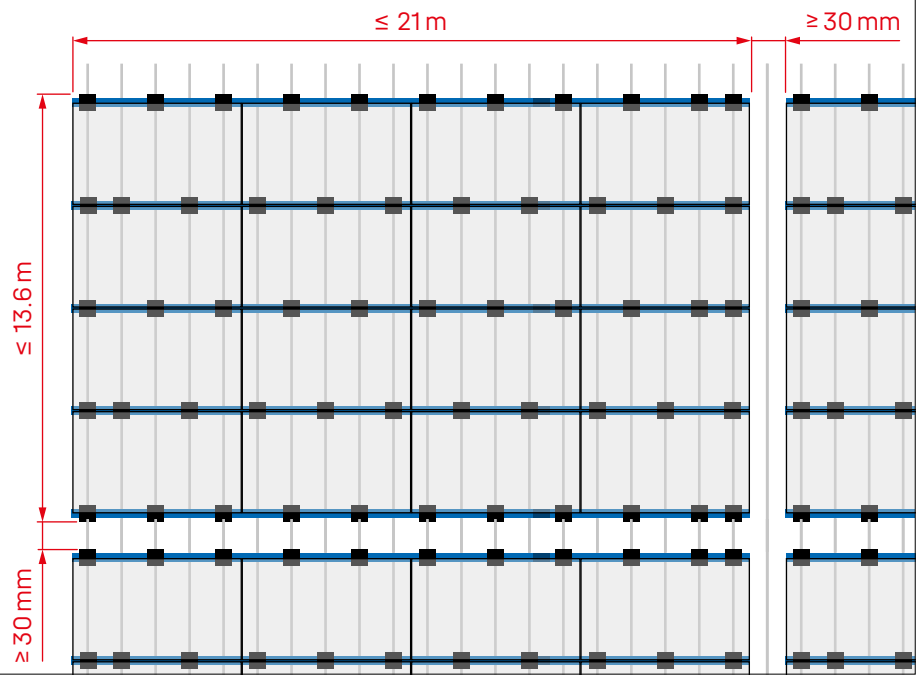
2002870
Cable Manager



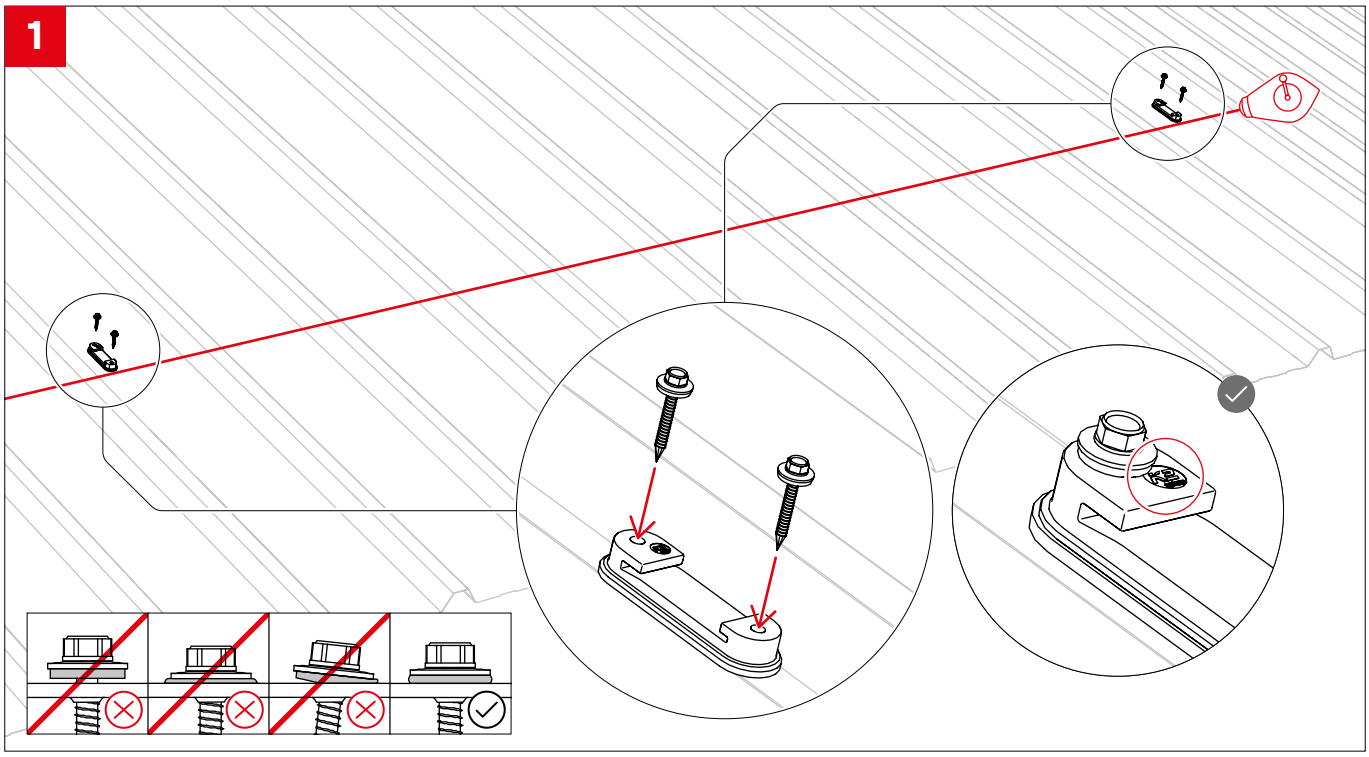
Assembly - portrait and landscape

Module block structure

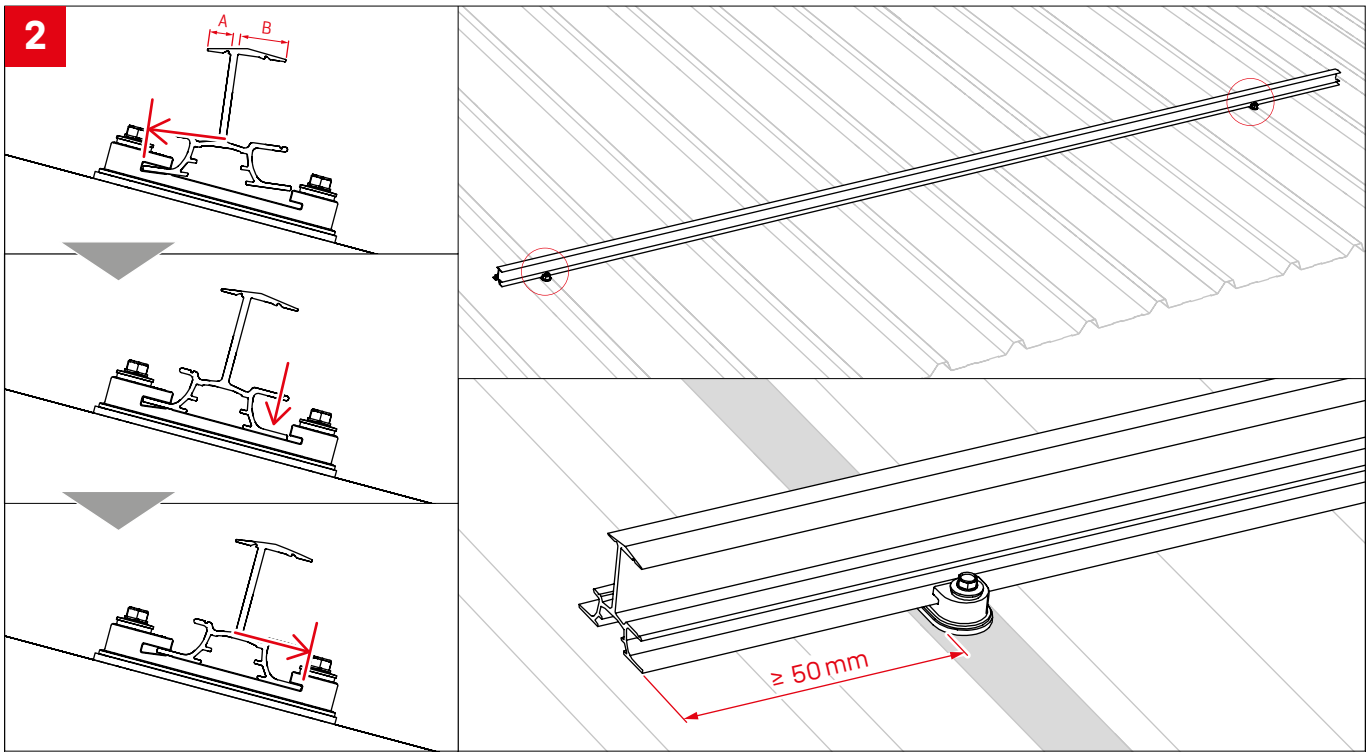
Important dimensions for module arrays or blocks and thermal separations



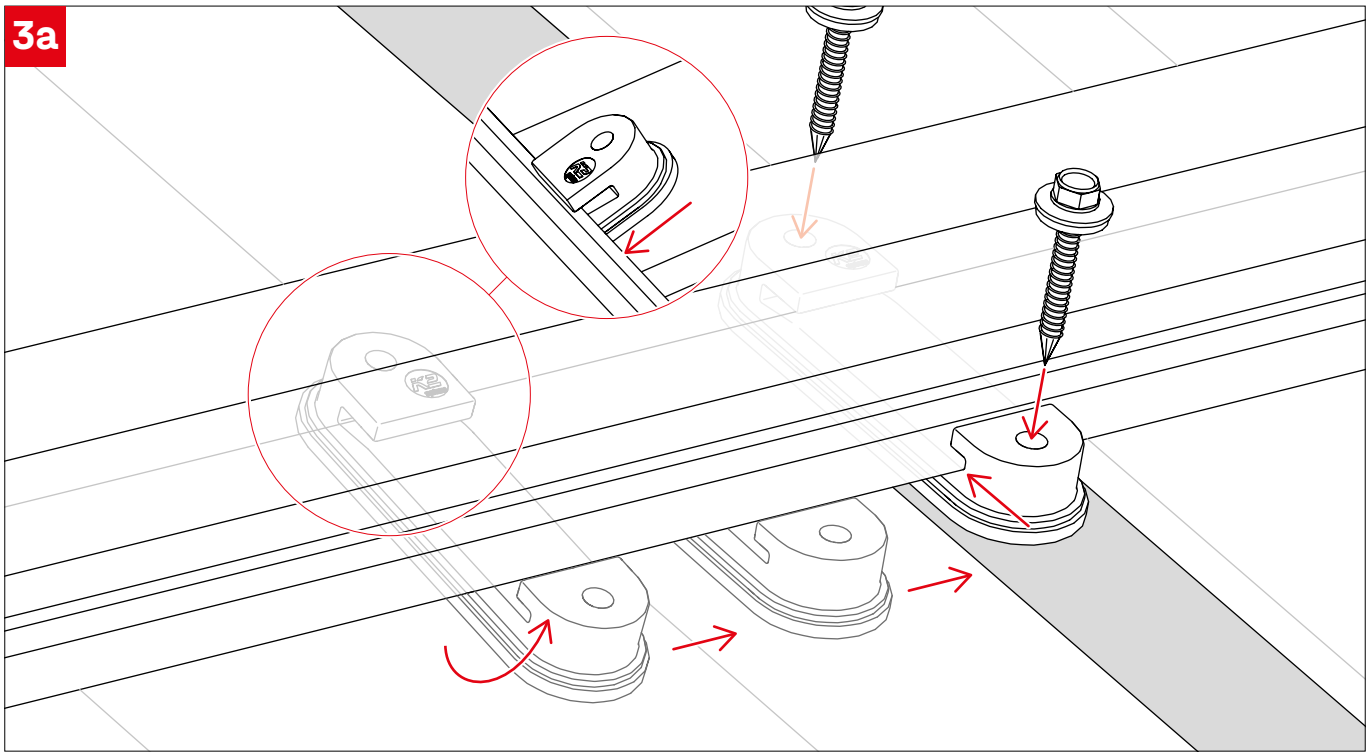
Installation outer BasicClips



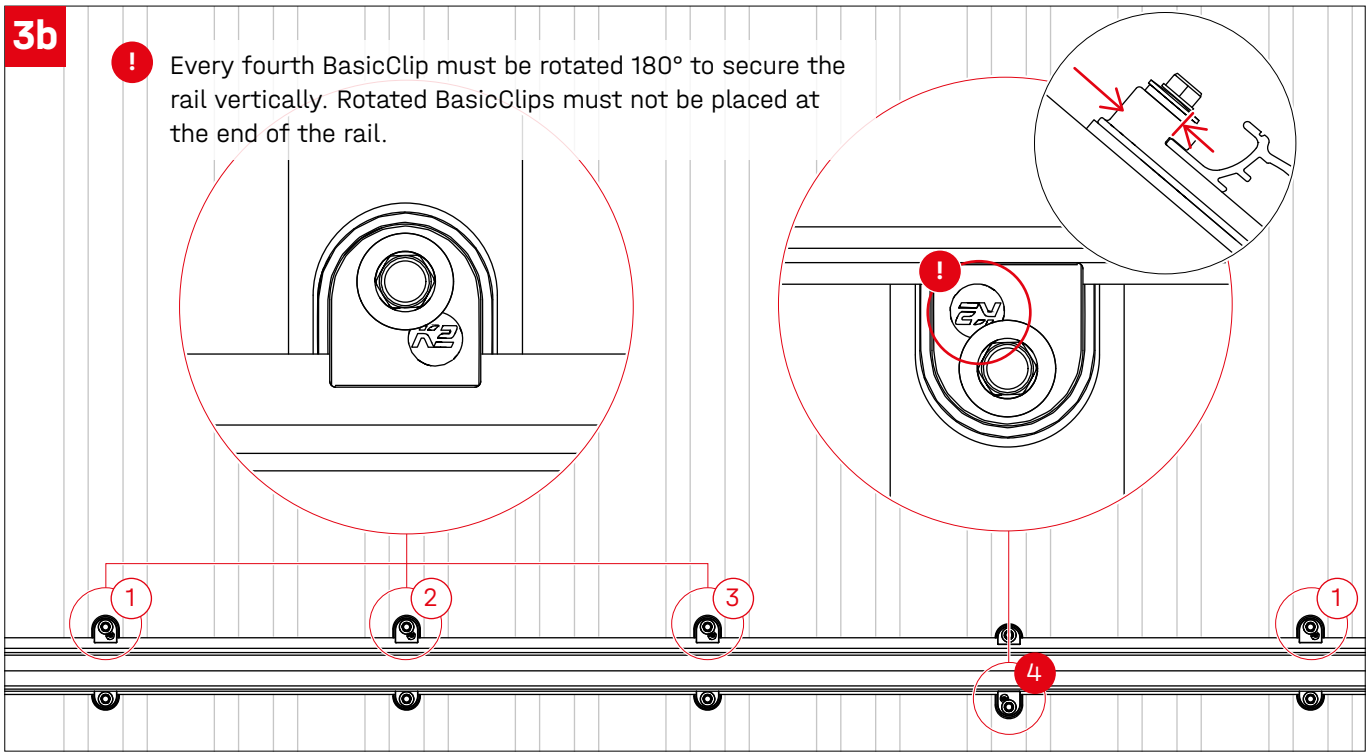
Attach InsertionRail



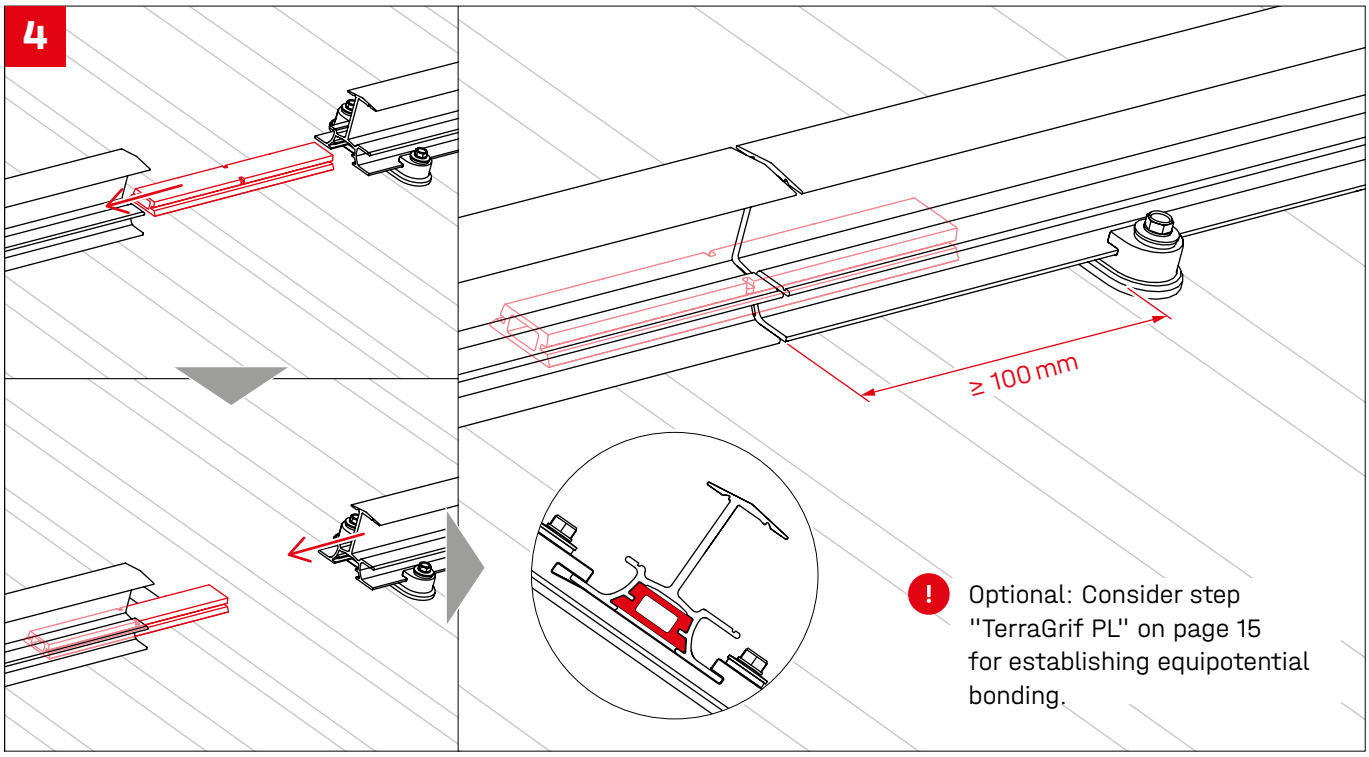
Installation inner BasicClips



Vertical fixation InsertionRail

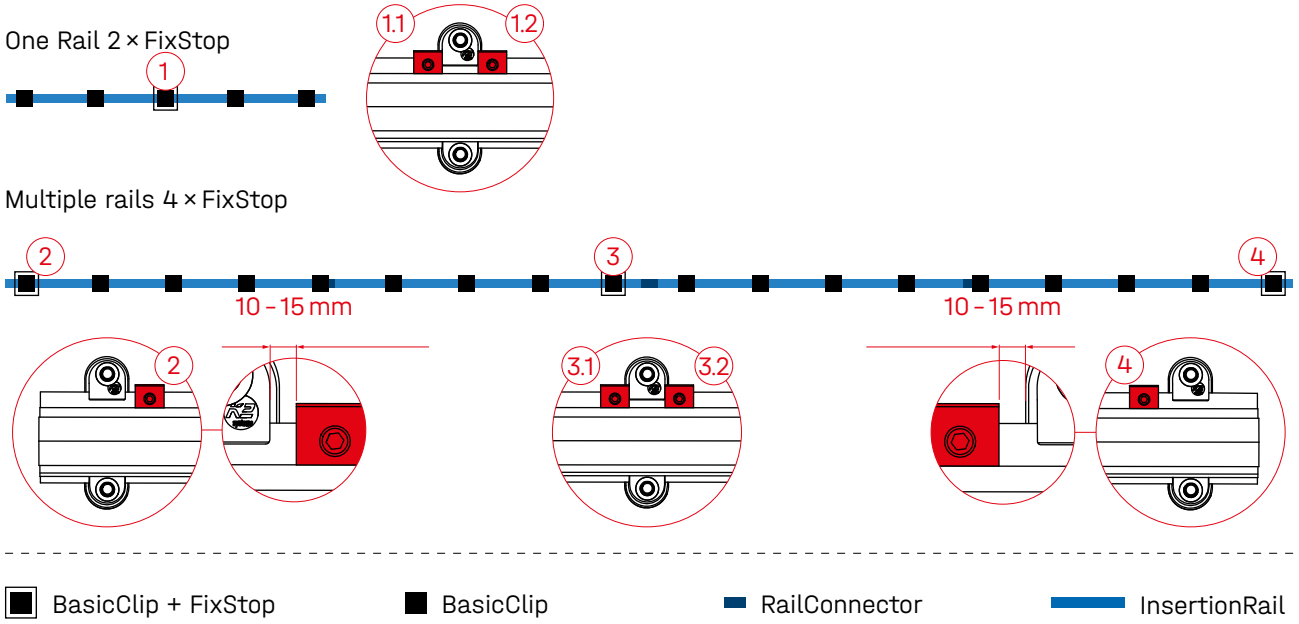


Connecting rails with RailConnector



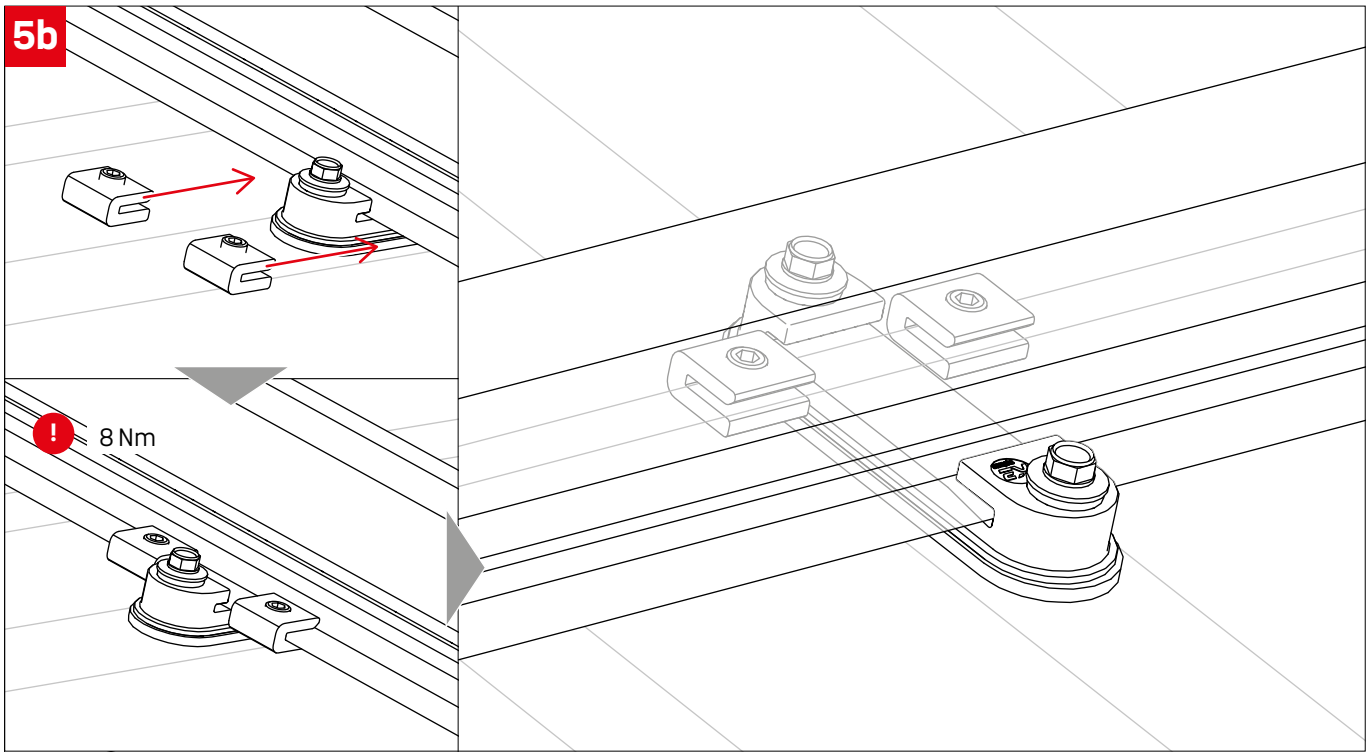
FixStop positioning

5a

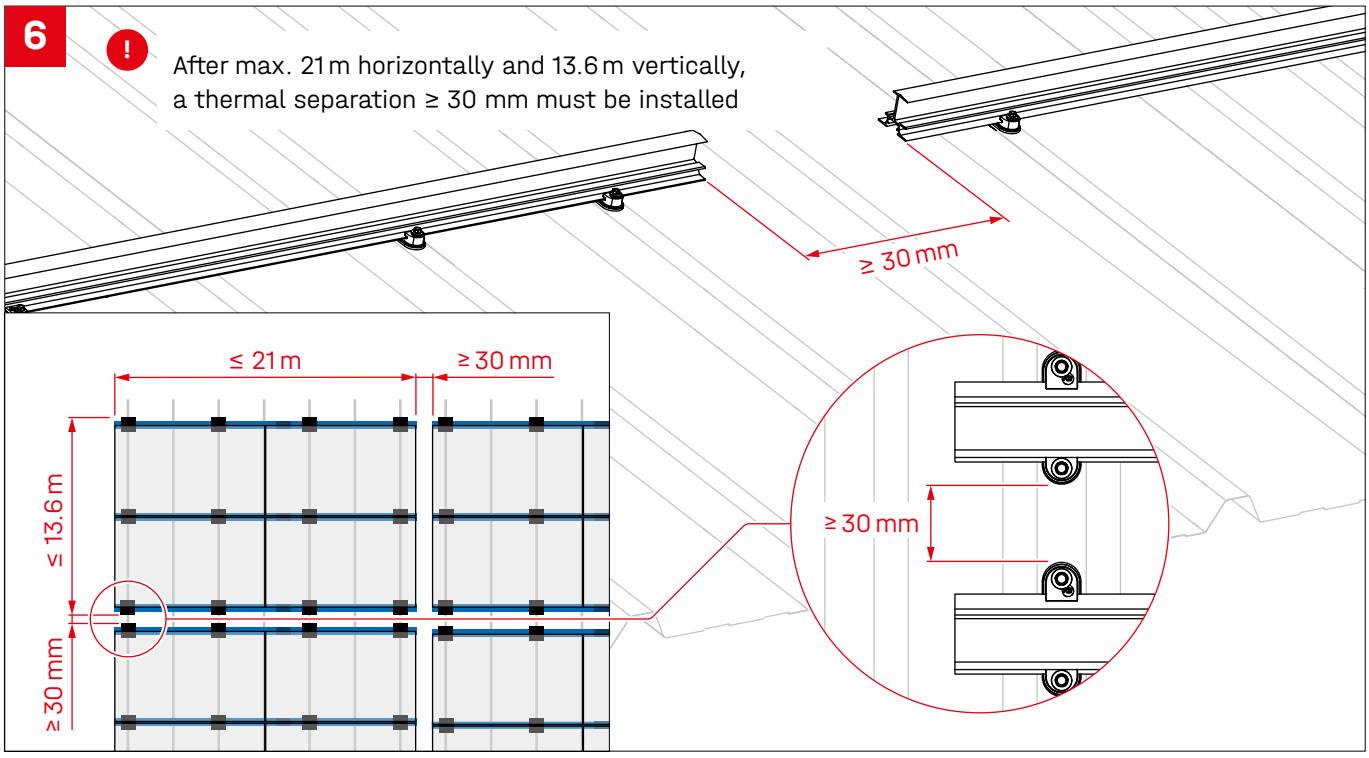


Assembly FixStop

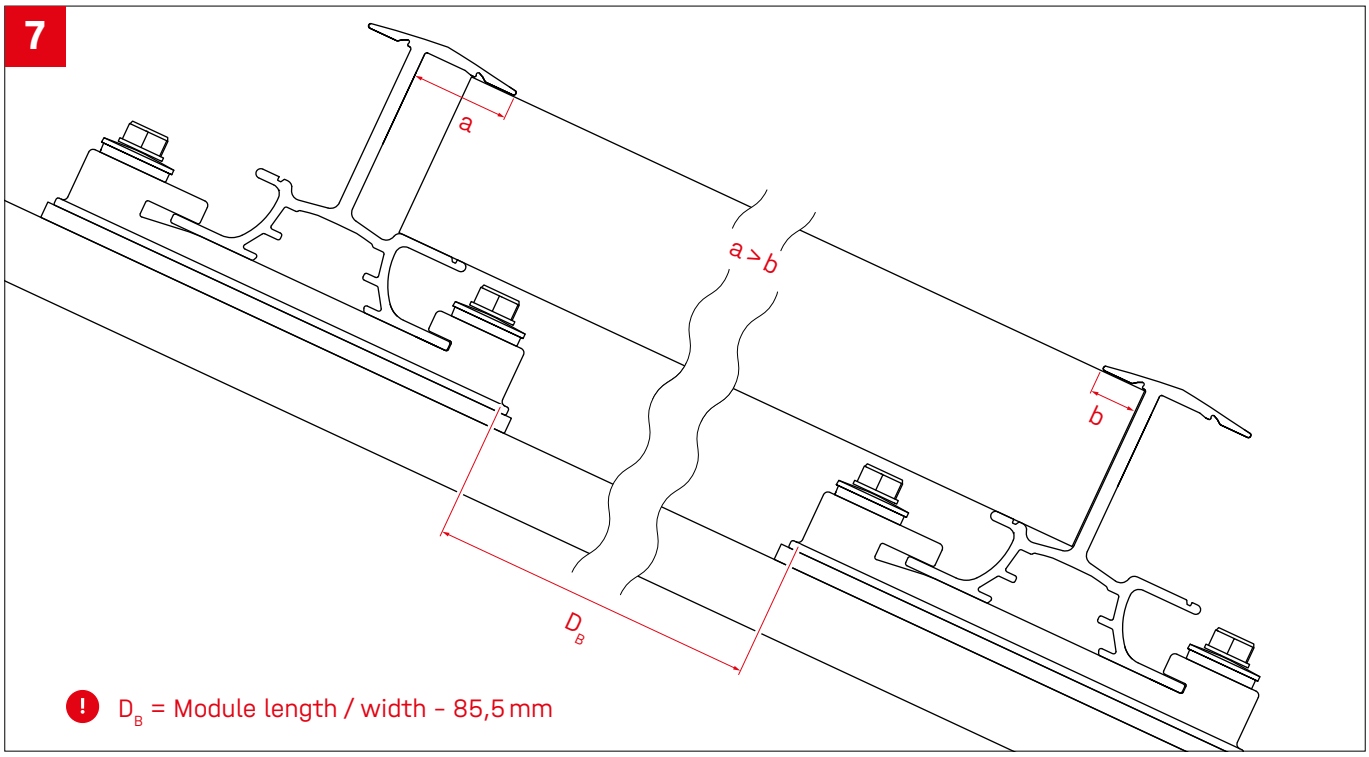
5b



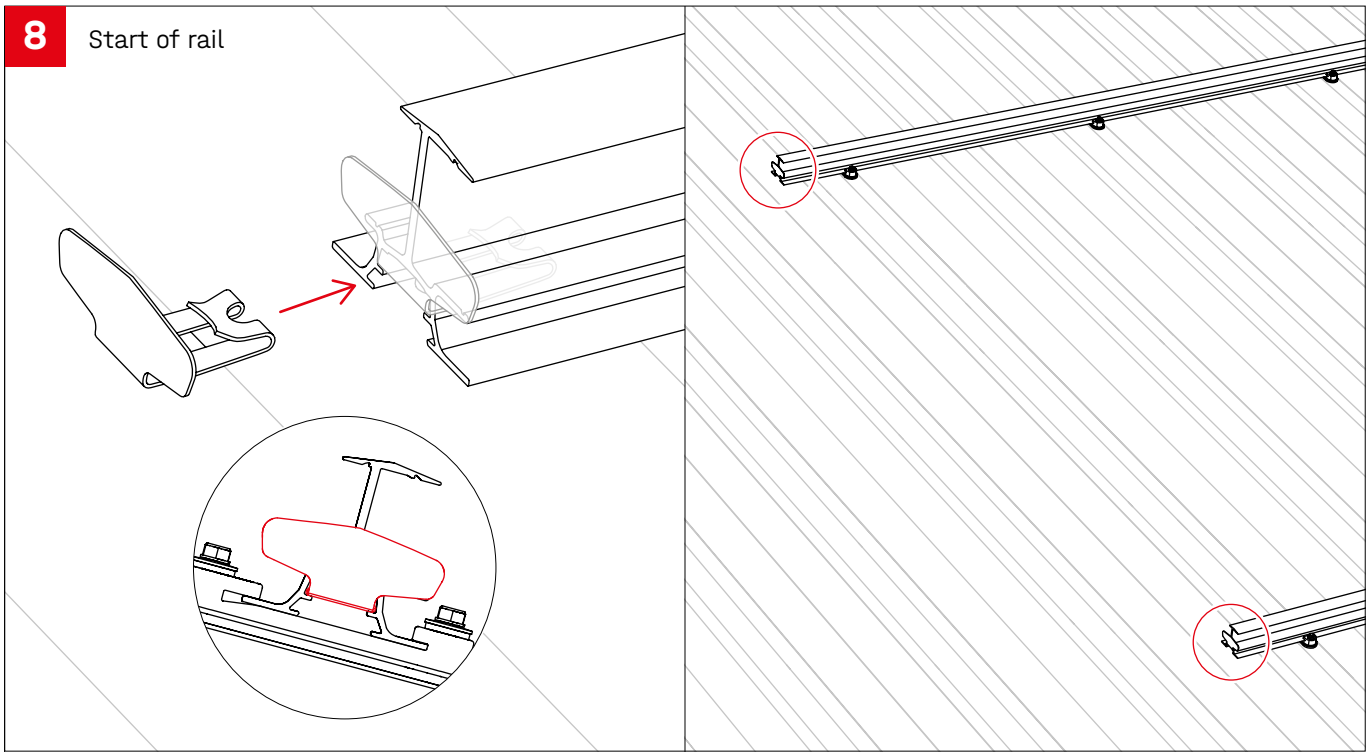
Thermal separations



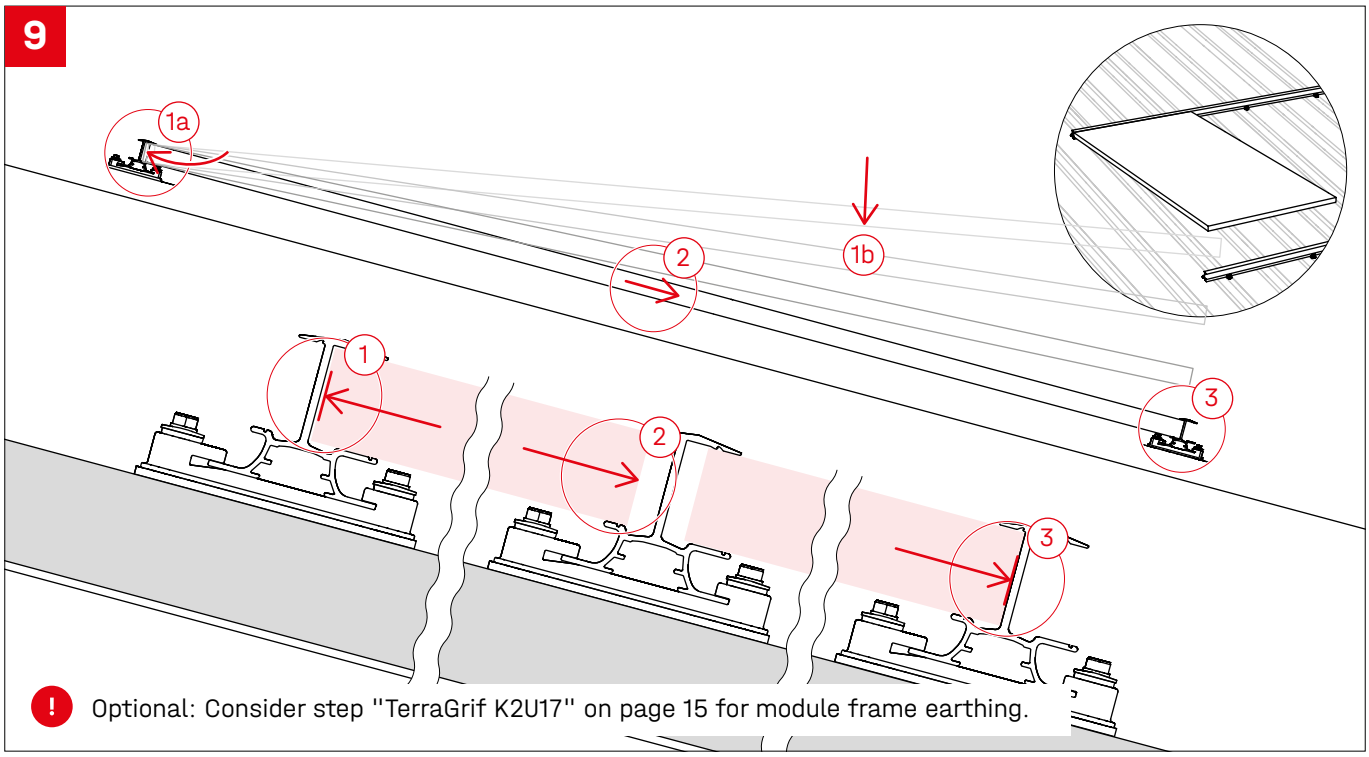
Vertical distance BasicClips



Side guarding EndStop 1

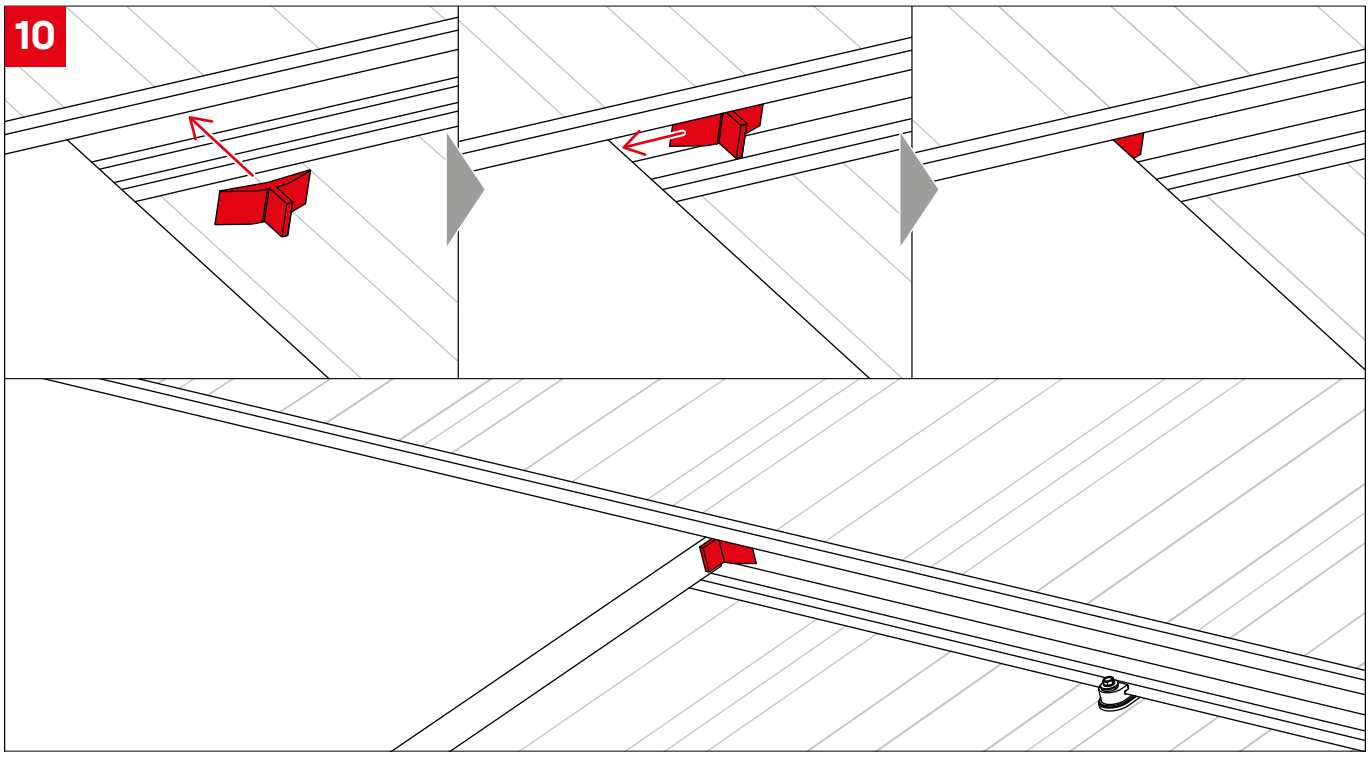


Insert modules

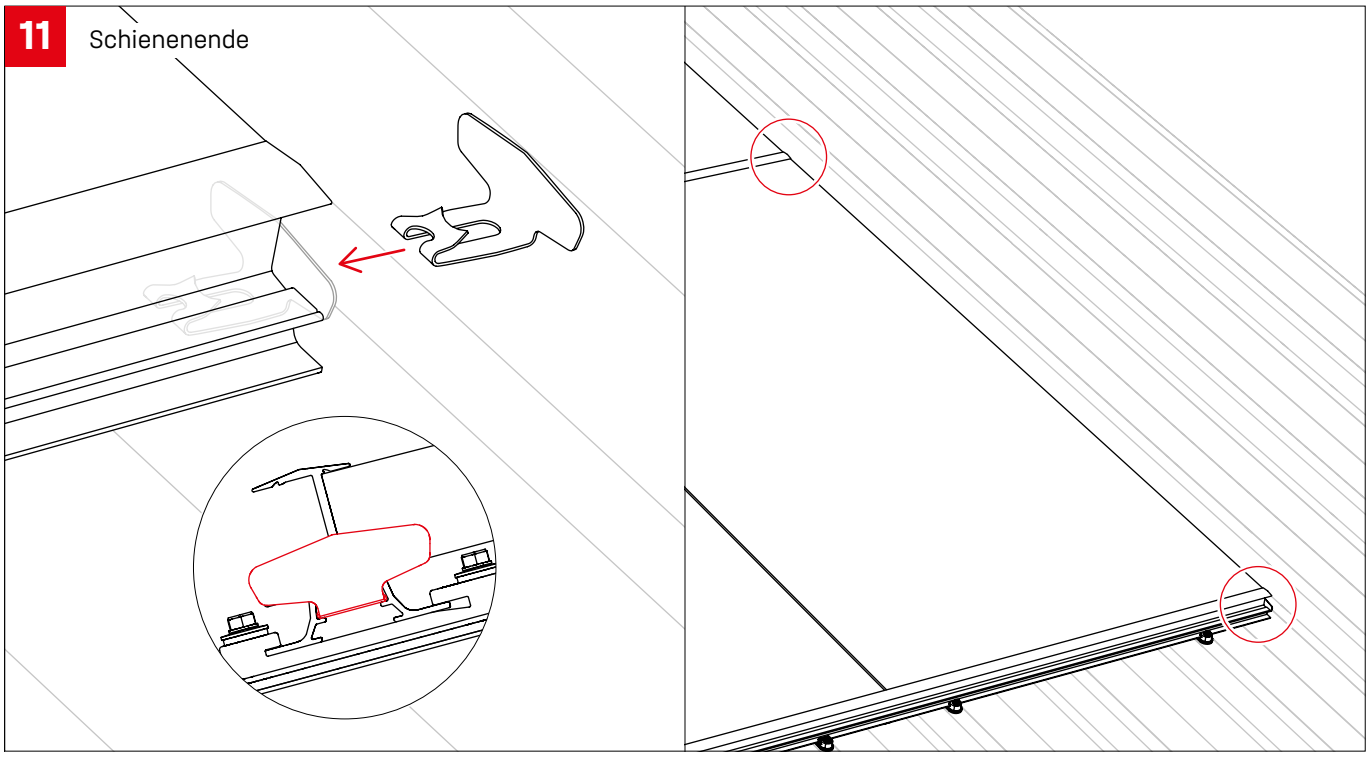


! Optional: Consider step "TerraGrif K2U17" on page 15 for module frame earthing.

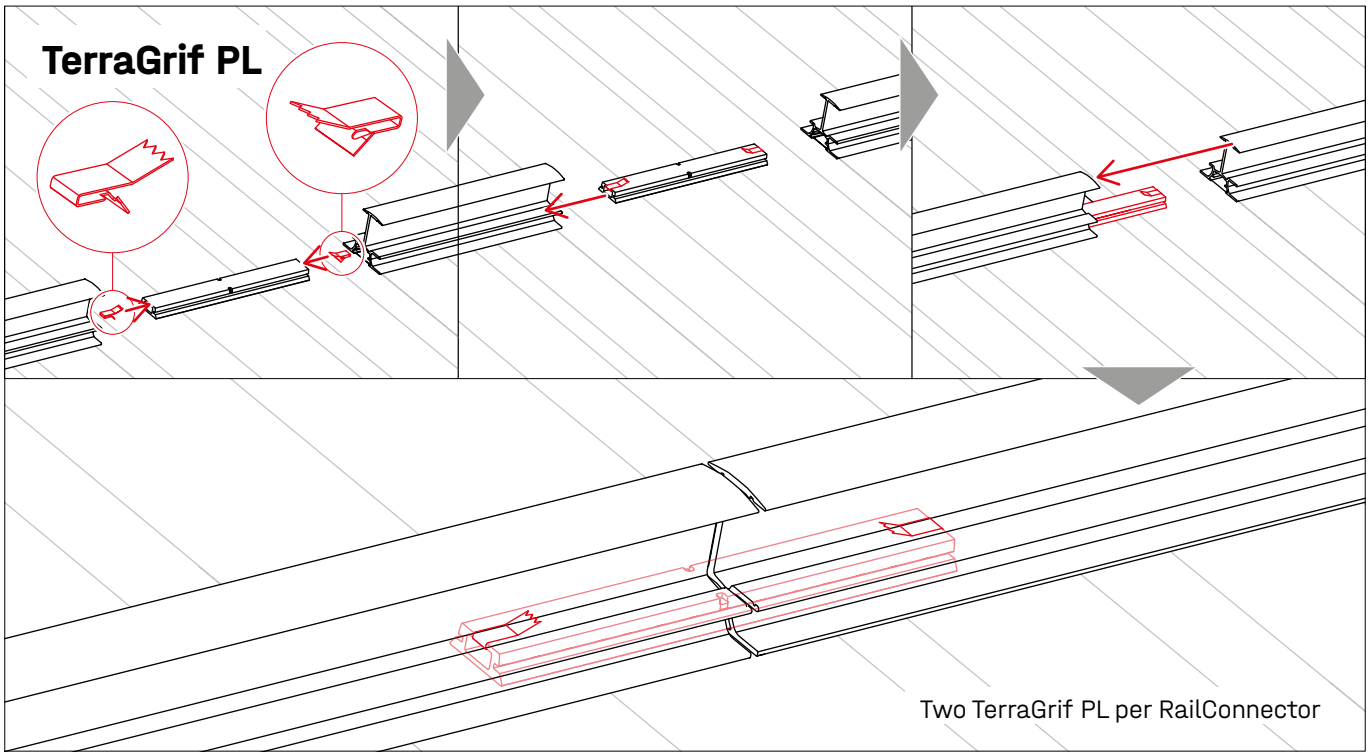
Placement ModuleSafety

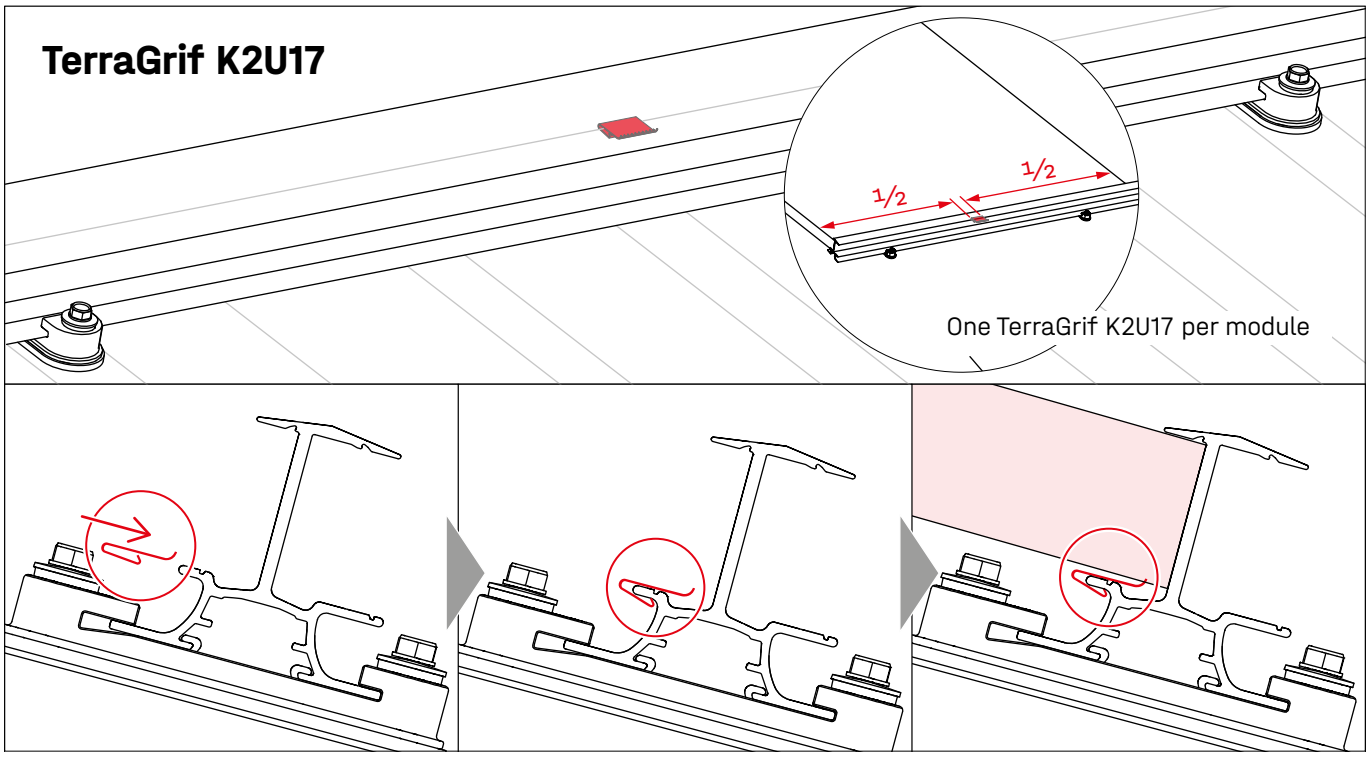


Side guarding EndStop 2



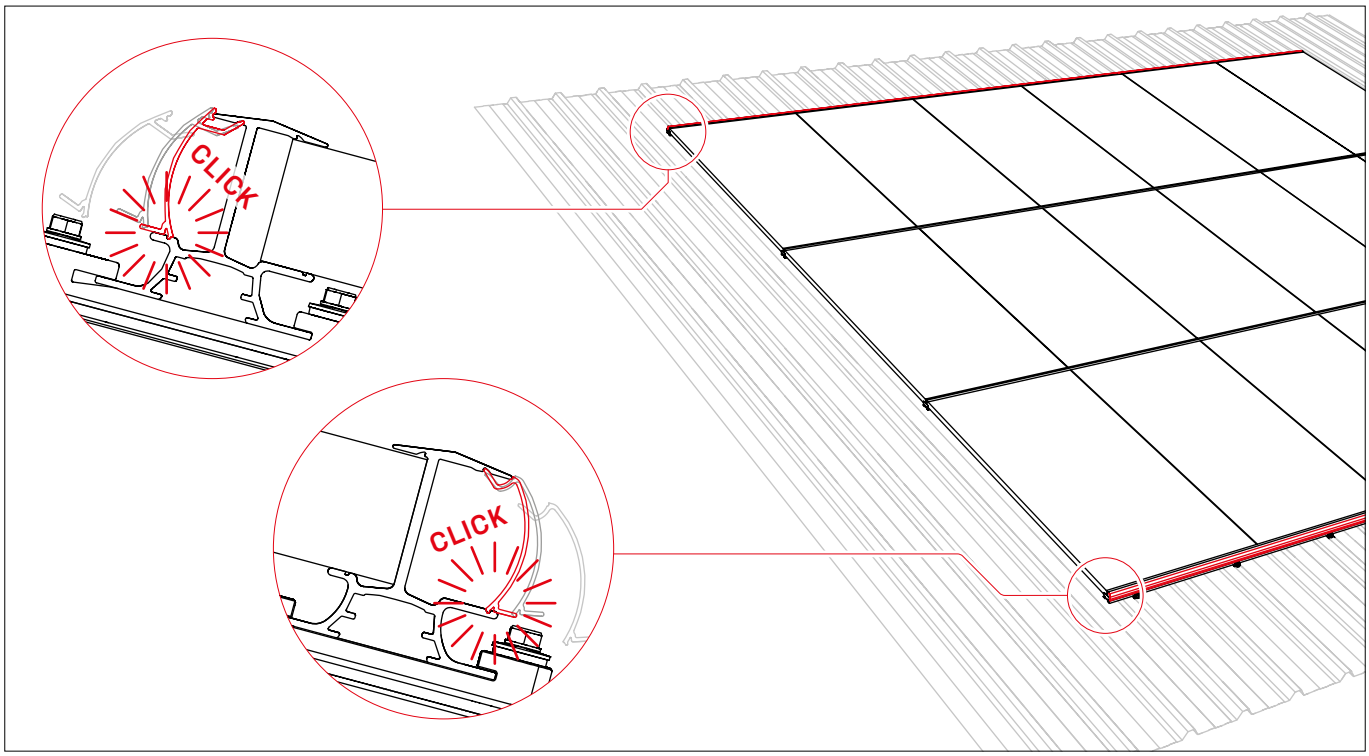
Equipotential bonding / Module frame earthing



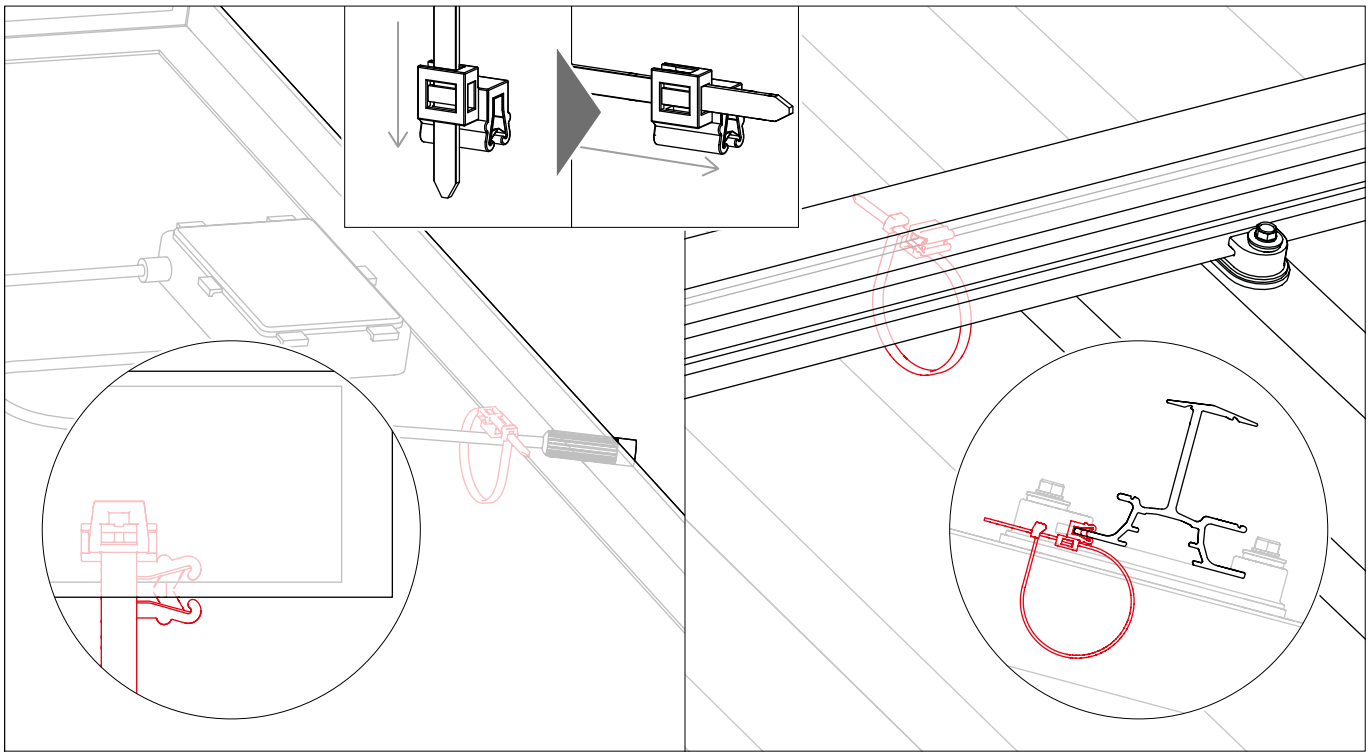


Optional

InsertionRail Cover



Cabel management with Cable Manager



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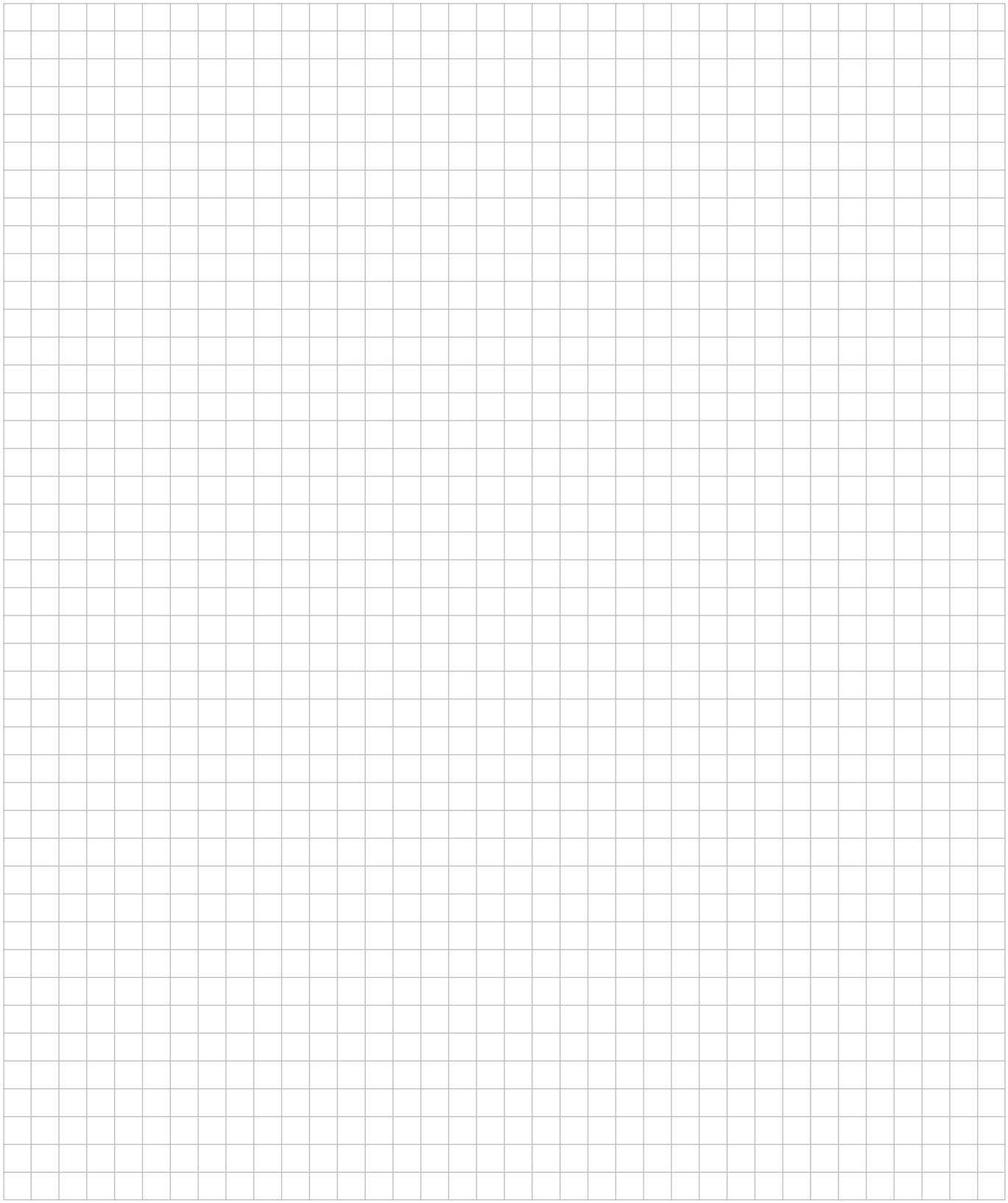
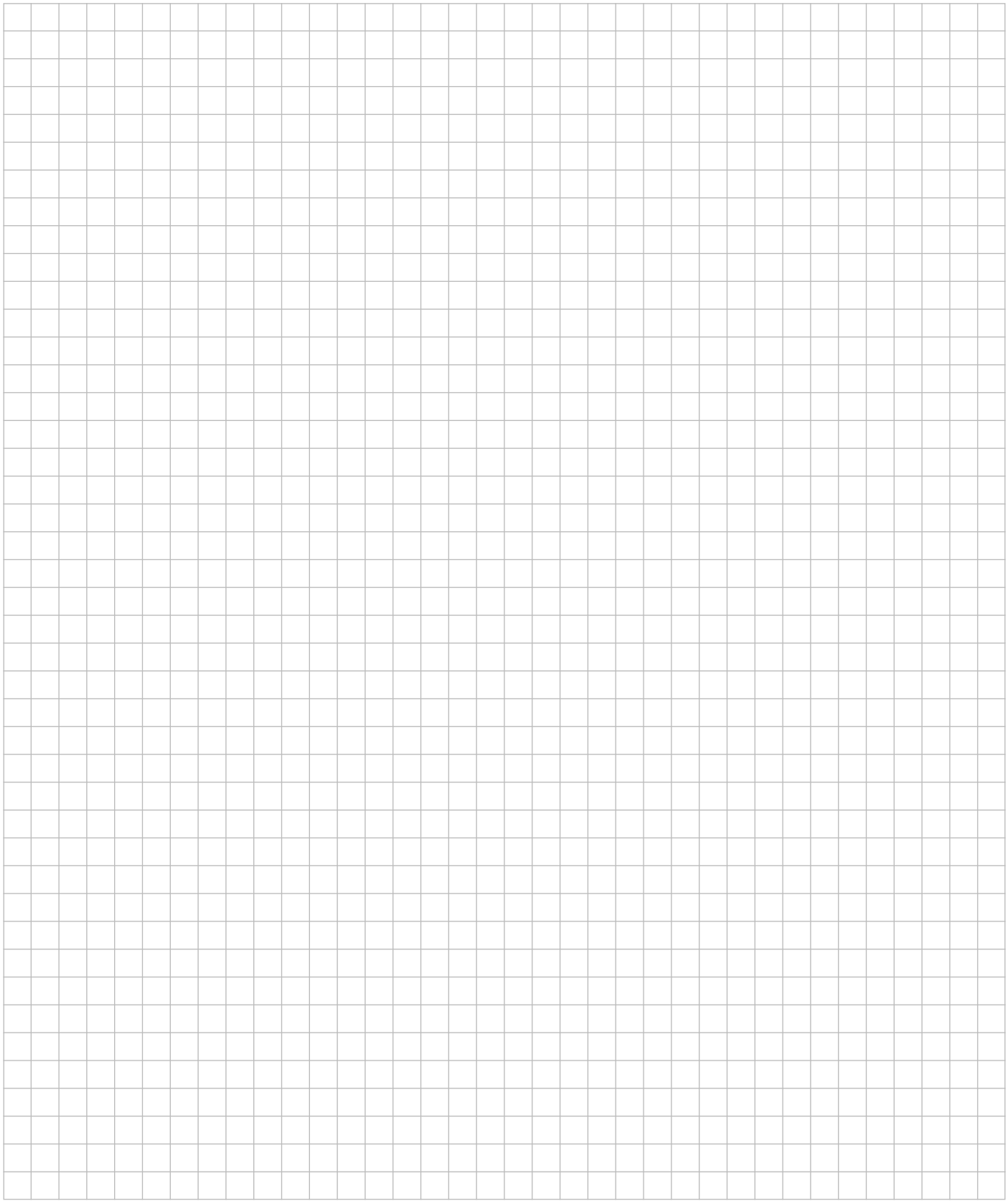
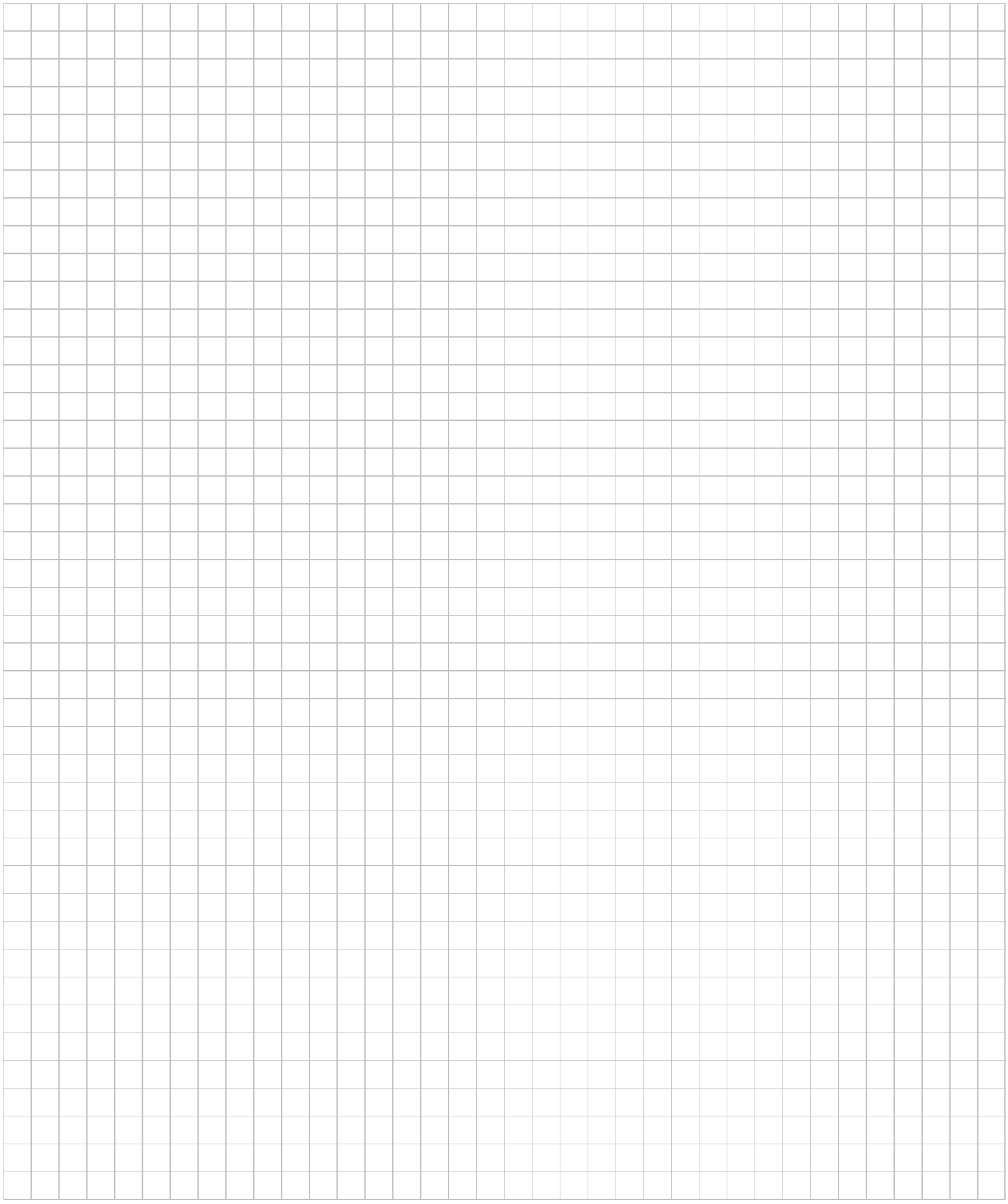


Notes





Connecting Strength

Thank you for choosing a K2 mounting system.

Mounting ystems 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**
- **Service Hotline: +49 (0)7159 42059-0**

Our General Terms of Business apply. Please refer: k2-systems.com

K2 Systems GmbH
Haldenstraße 1 · 71272 Renningen · Germany
+49 (0) 7159 - 42059 - 0 · info@k2-systems.com · k2-systems.com

InsertionRail BasicClip Assembly EN V1 | 0326 · Subject to change