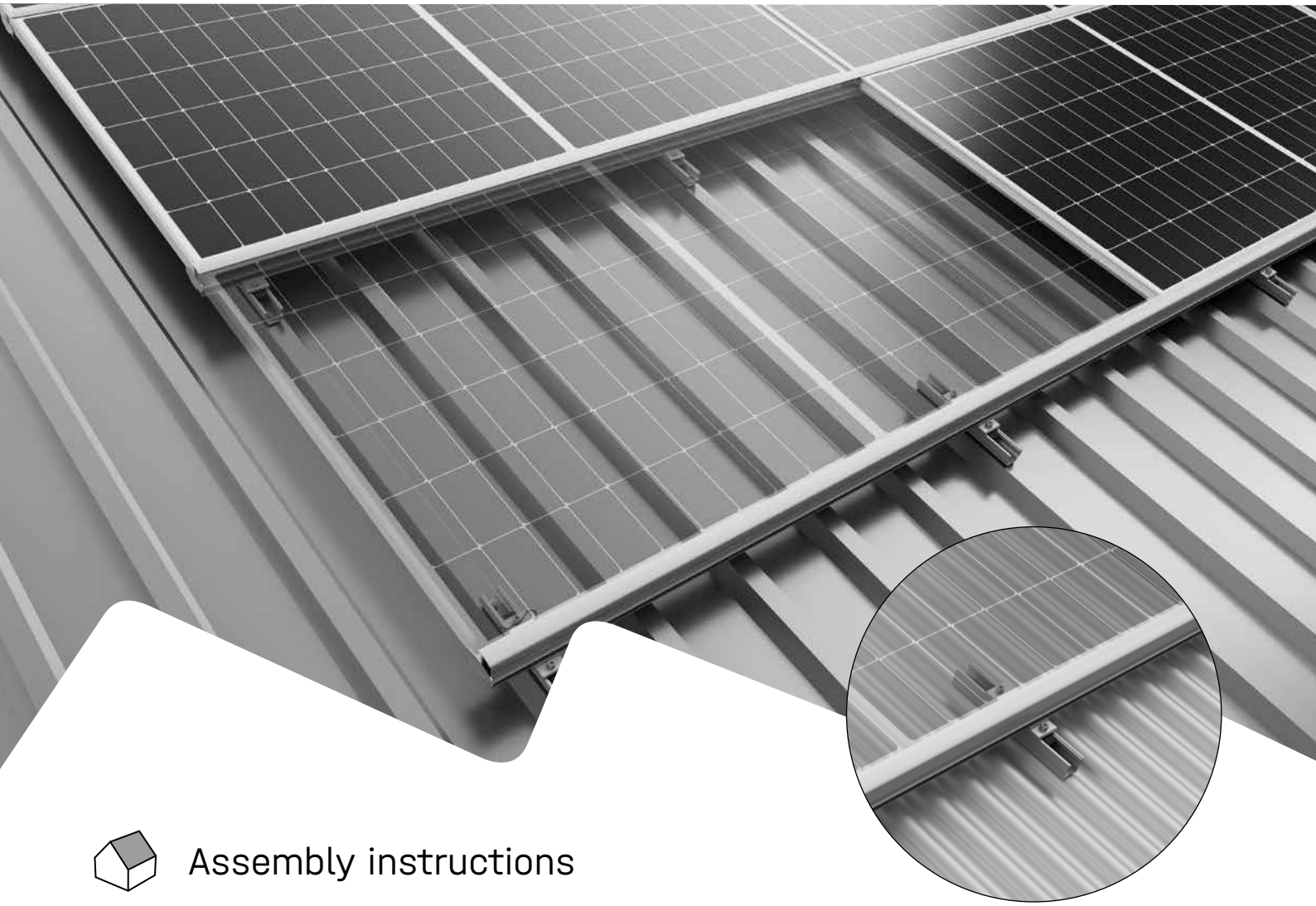
Connecting Strength



Assembly instructions

InsertionRail System

on trapezoidal and corrugated sheet metal with MultiRail

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

- Sufficient holding force of the roof covering on the supporting or substructure
- Roof pitch: 5 - 75°
- Trapezoidal sheet or corrugated sheet thickness:
  ≥ 0.4 mm steel or ≥ 0.5 mm aluminium
- Steel grade min. S235 according to DIN EN 10025-1
- Minimum tensile strength aluminium 165 N/mm2
- Trapezoidal sheet:
  - Minimum crest width: 22 mm
  - Plane support around the borehole: Ø ≥ 20 mm
- Corrugated sheet:
  - High bead radius: r = 22 - 45 mm

Structural requirements

The static verification of the components is automatically calculated for the respective location by the K2 Base planning software. The design is provided by means of a project report and must be adhered to.

Important mounting instructions

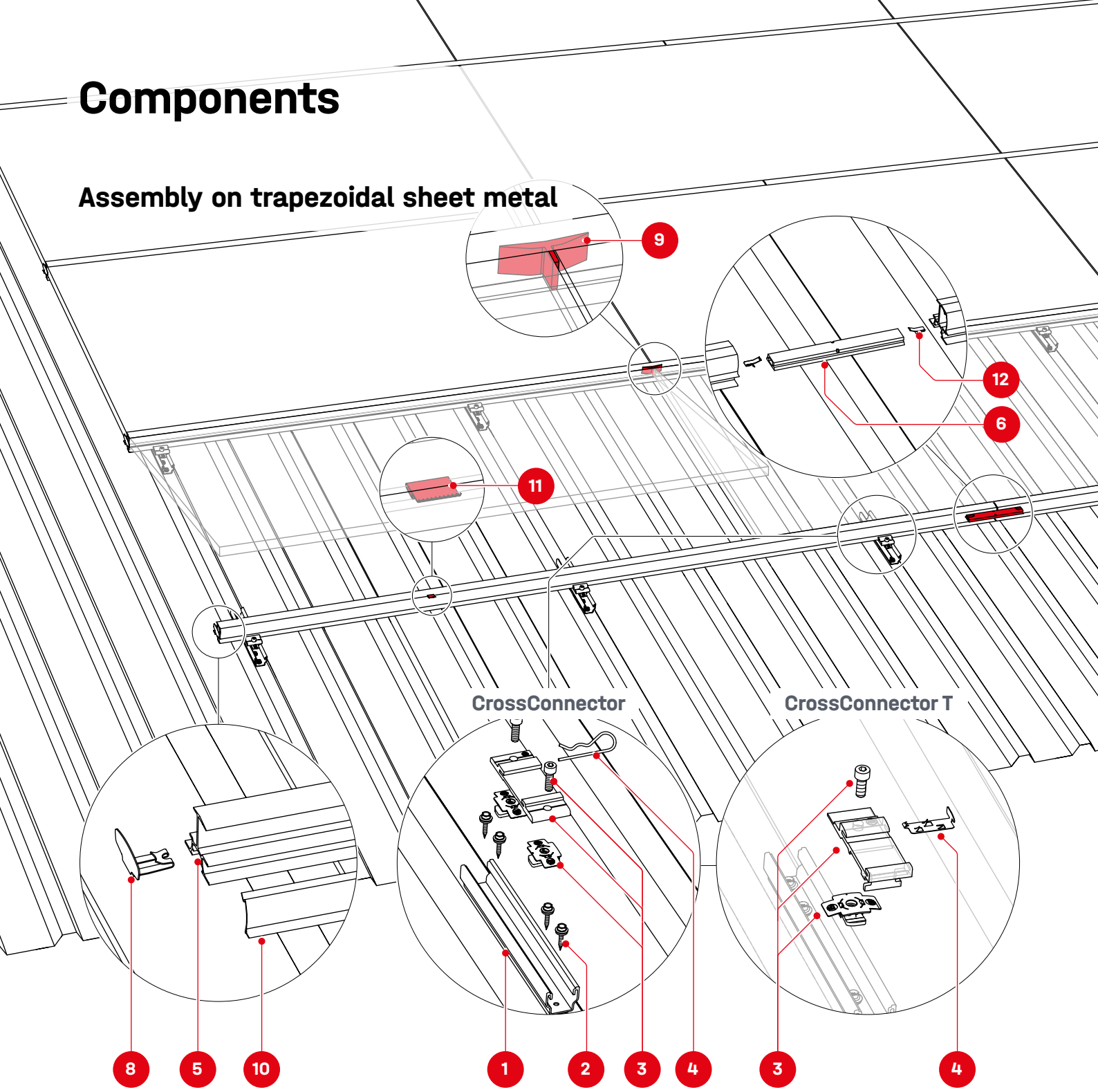
- On site, the general standards and regulations for lightning protection must be observed and, if necessary, a specialist must be called in to draw up a lightning protection concept (use lightning protection terminal if necessary). Country-specific regulations must be observed.
- If the trapezoidal sheet metal is fastened with calottes, the MultiRails must not be screwed onto them. It is absolutely necessary to measure the distances in advance.
- Fastening of the MultiRails on trapezoidal or corrugated sheet metal with building authority approved thin sheet metal screws.
- Thermal separation of module blocks:
  - MultiRail:
    max. 13.6 m
  - Insertion rails / module level:
    max. 21.0 m

First/last MultiRail vertical axis

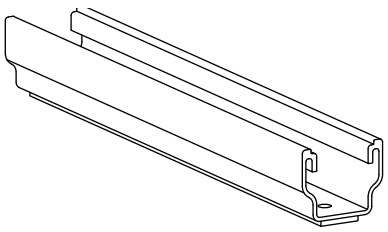
- For aesthetic reasons, the first and last MultiRail row can be moved further inwards. This makes the rail ends less visible. The distances to the next MultiRail row change in this area.
  - **Standard dimension D_R = Width/Length$_{Module}$ -236,5 mm**
    Please note that a minimum distance of 20 mm (standard 64 mm) must be maintained between the CrossConnector and the end of the rail, see also step 3a, page 11.
  - Calculation example for modified distance dimension with 20 mm rail projection:
    64 mm - 20 mm = 44 mm
    236,5 mm - 44 mm = 192,5 mm
    The distance dimension D_{R1} is as follows:
    D_{R1} = Width/Length$_{Module}$ - 192,5 mm
    D_{R2} = Width/Length$_{Module}$ - 236,5 mm

Components

Assembly on trapezoidal sheet metal



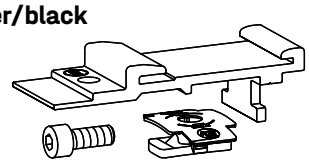
1 2002793
MultiRail 25



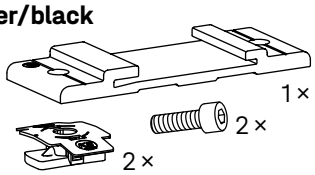
2 1005207
Thread-forming metal screw 6×25



3 2004812/2004813
CrossConnector-T Set silver/black



2004374/2004375
CrossConnector 2.0 Set silver/black

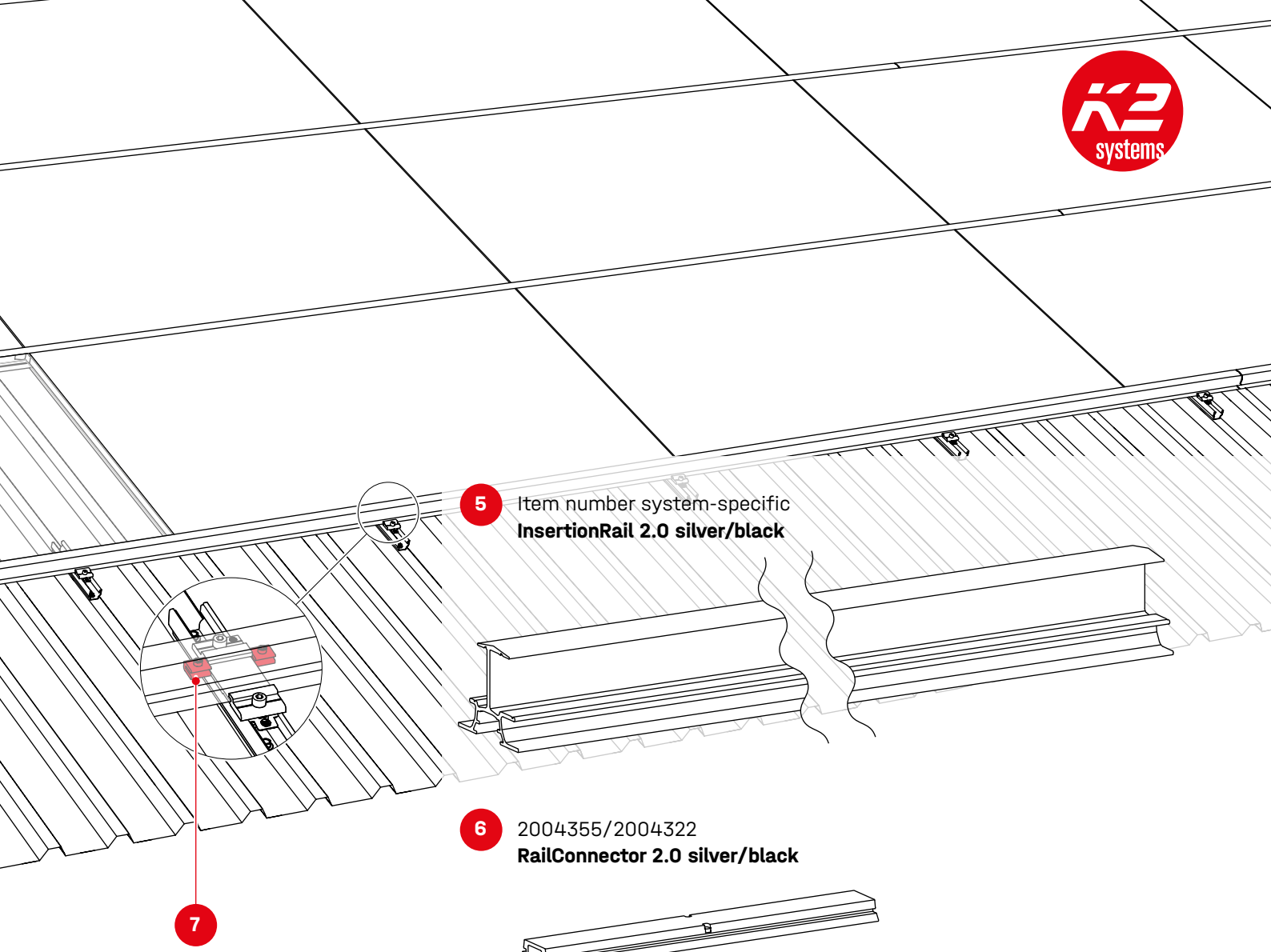


4 2004916
CrossConnector Clip



2001196
Spring Plug





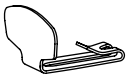
5 Item number system-specific
InsertionRail 2.0 silver/black

6 2004355/2004322
RailConnector 2.0 silver/black

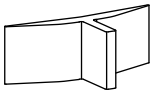
7 2004370
FixStop 2.0



8 2004693/2004692
EndStop S silver/black

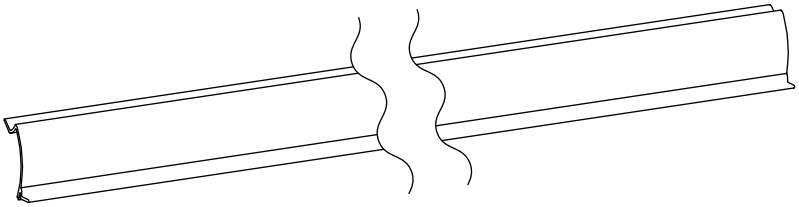


9 2004290
ModuleSafety



Optional

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



2005041
Alpha PV-Clip



11 2000056
TerraGrif K2U17

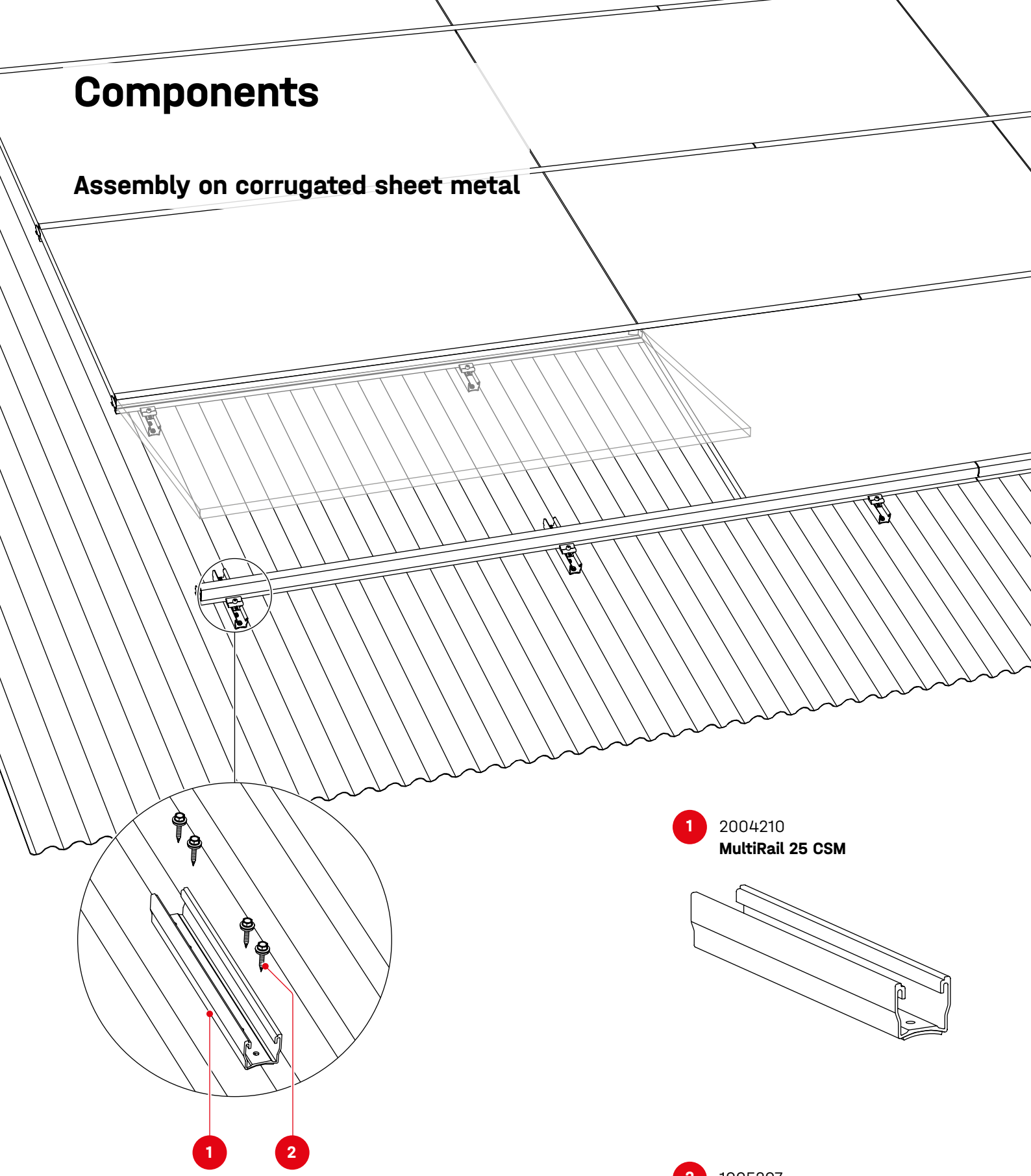


12 2004102
TerraGrif PL



Components

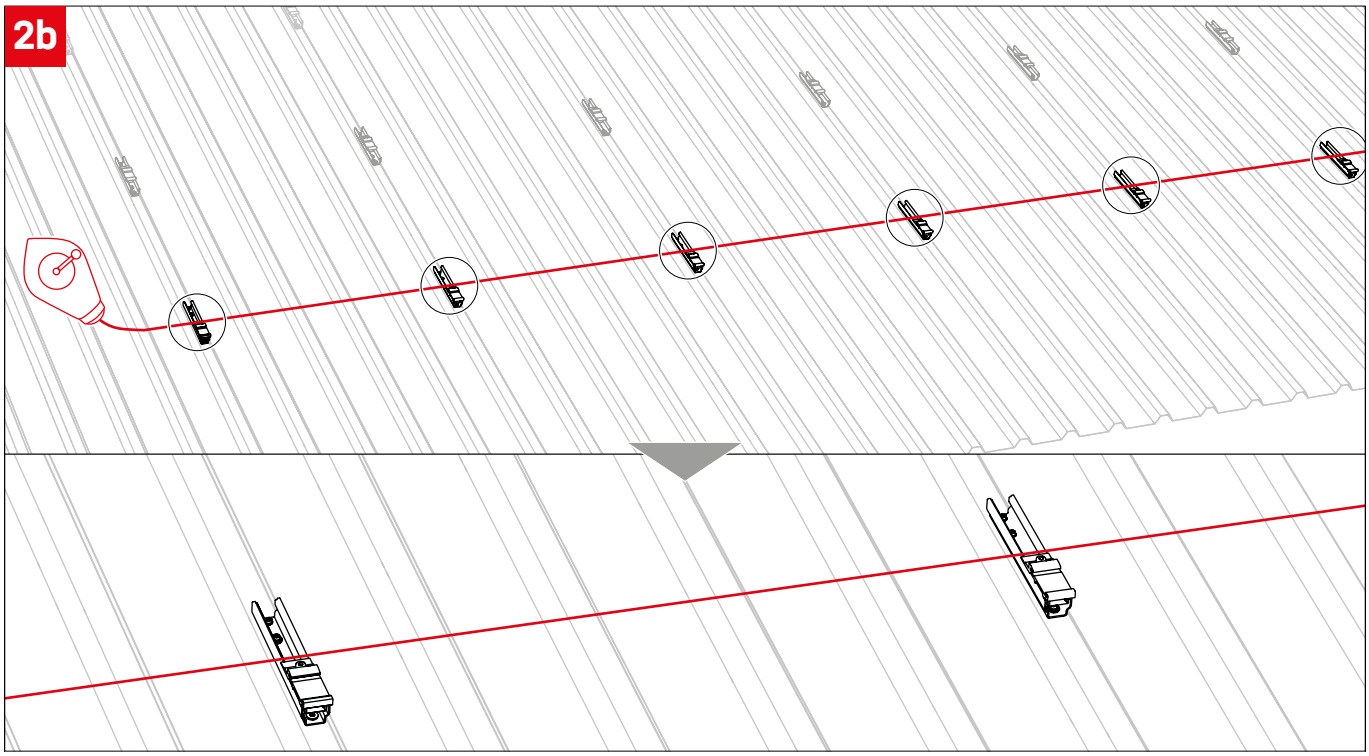
Assembly on corrugated sheet metal

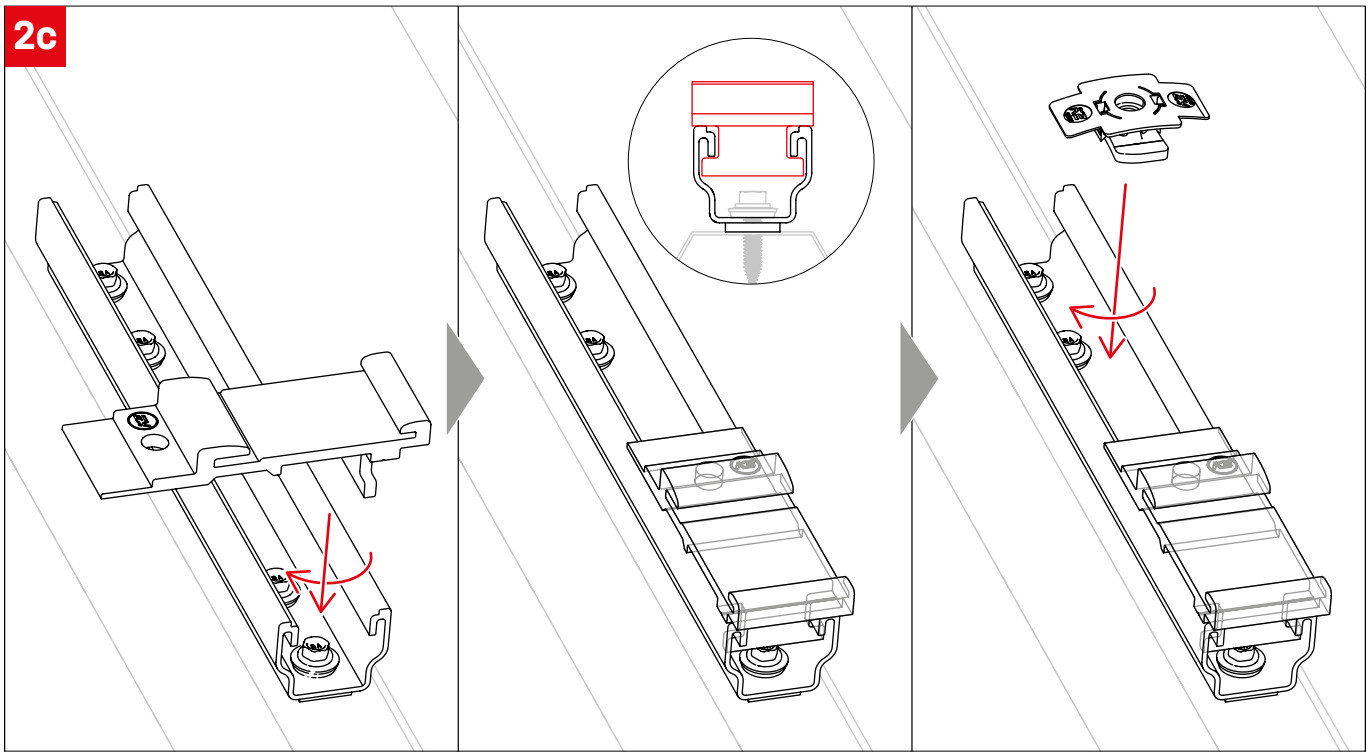


1 2004210
MultiRail 25 CSM

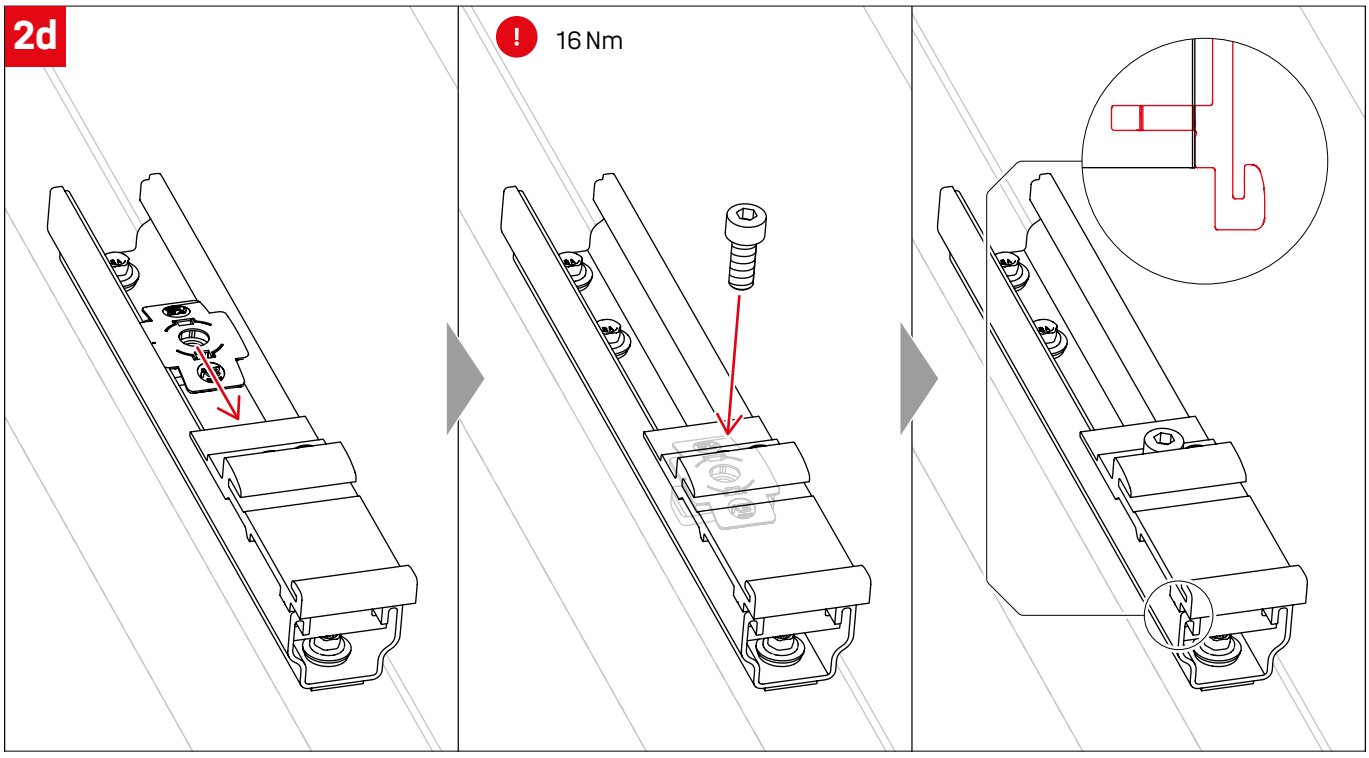
2 1005207
Thread-forming metal screw 6×25



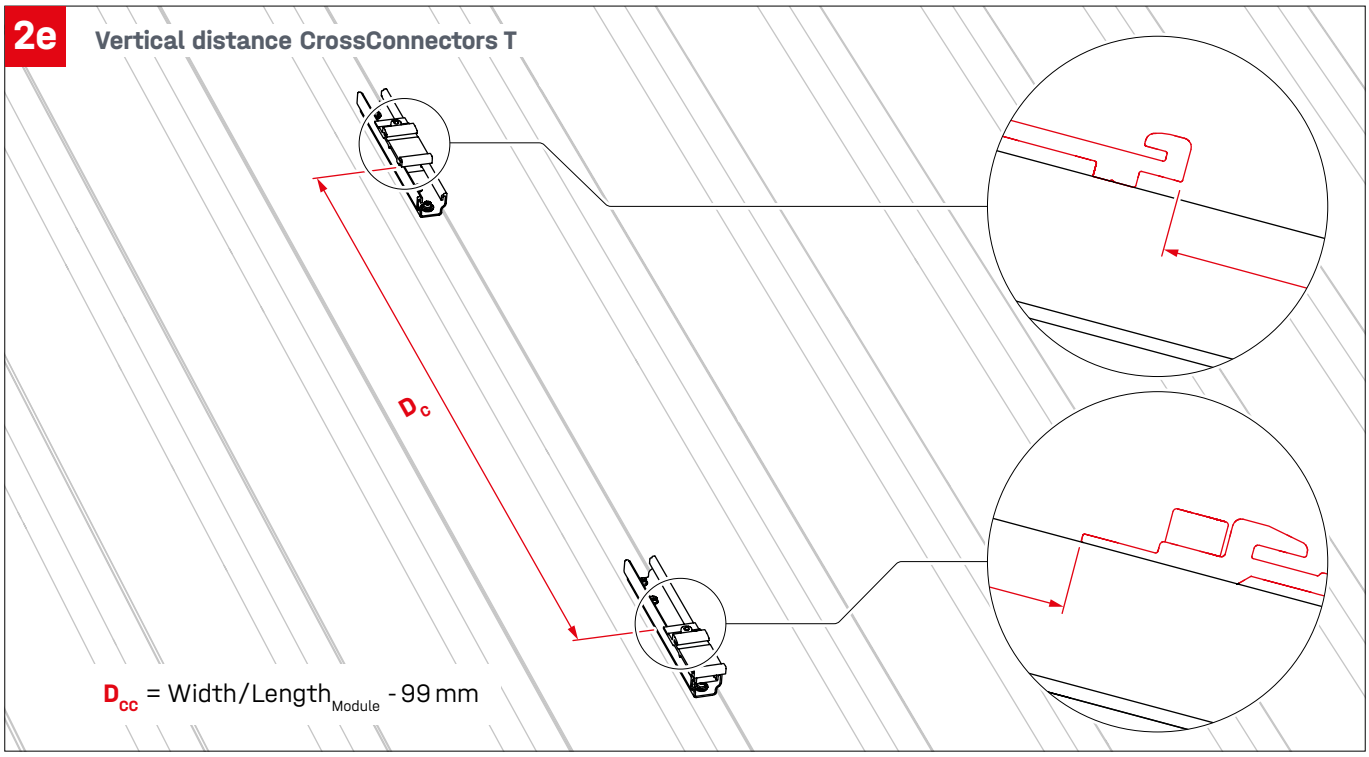

2b


2c

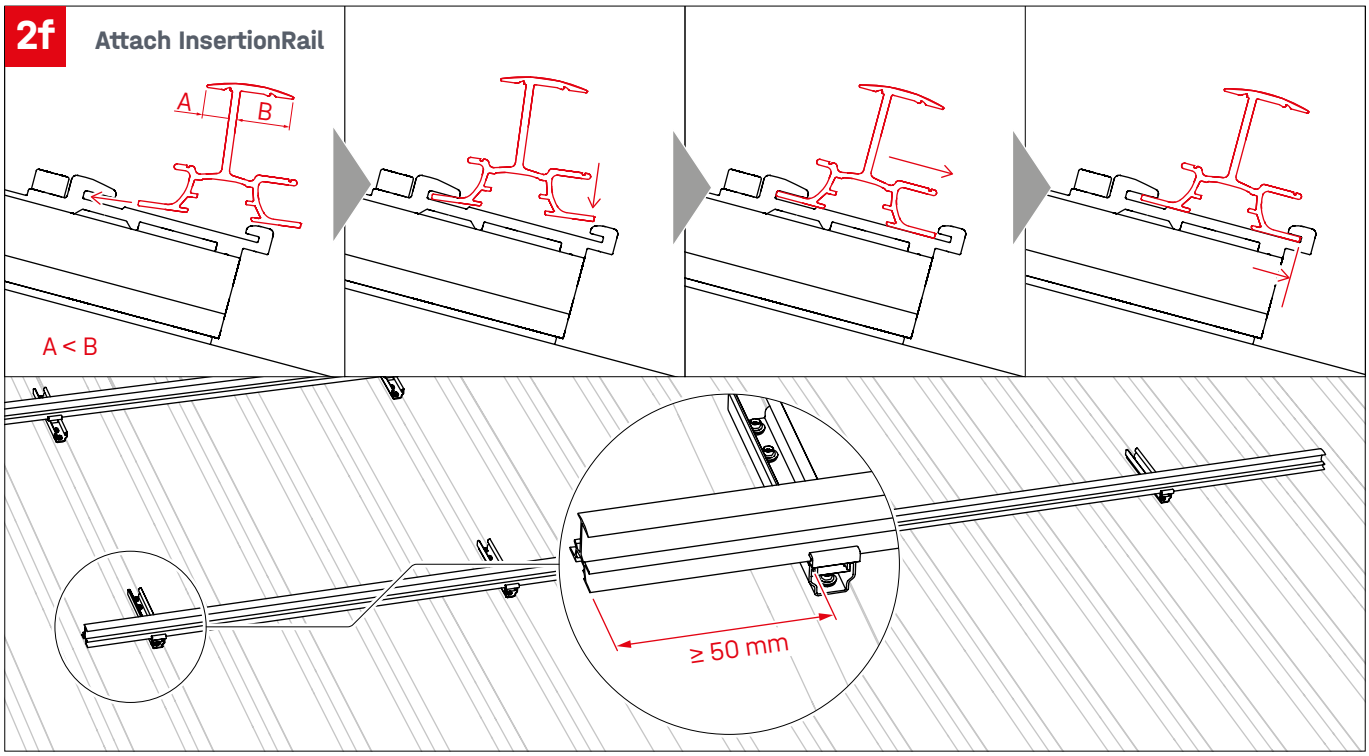
2d



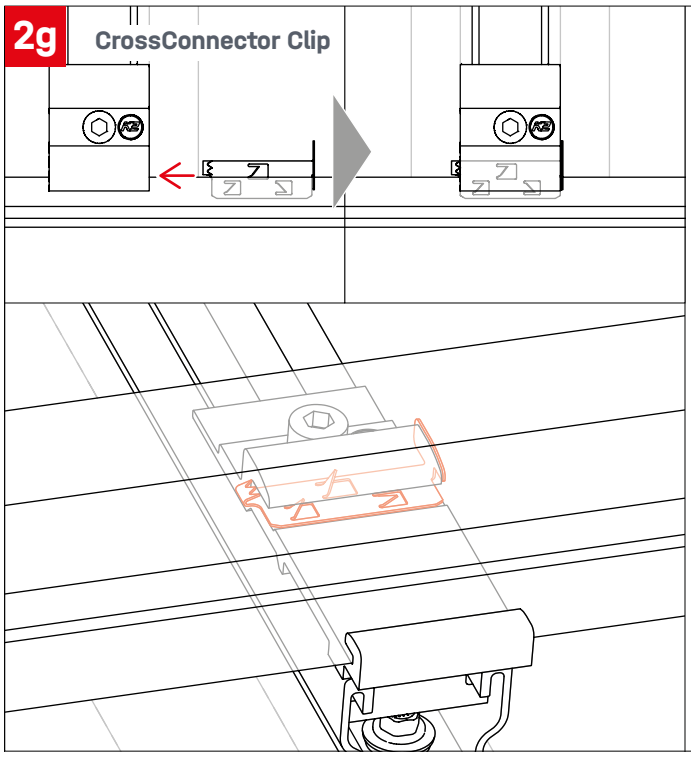
2e Vertical distance CrossConnectors T

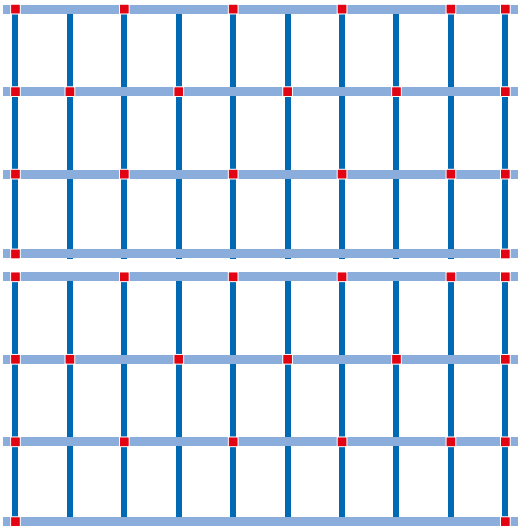


2f Attach InsertionRail



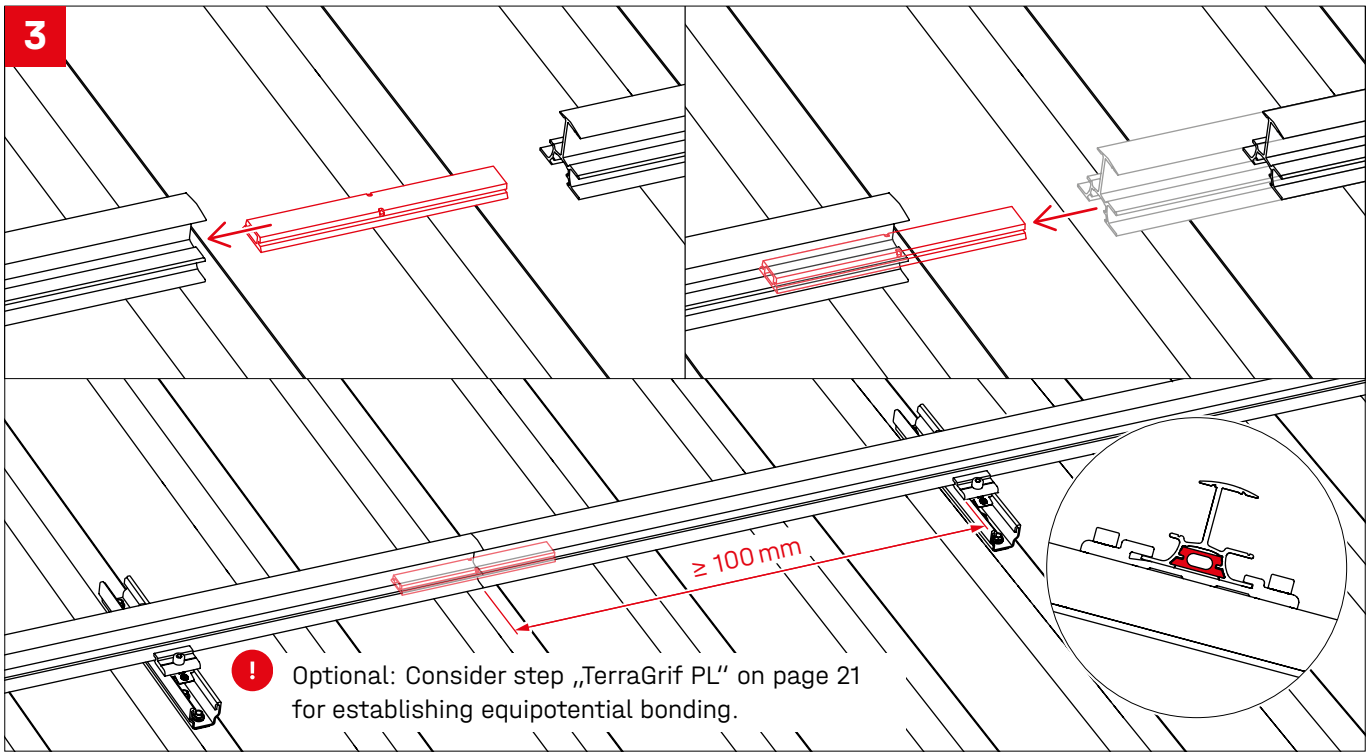
2g CrossConnector Clip



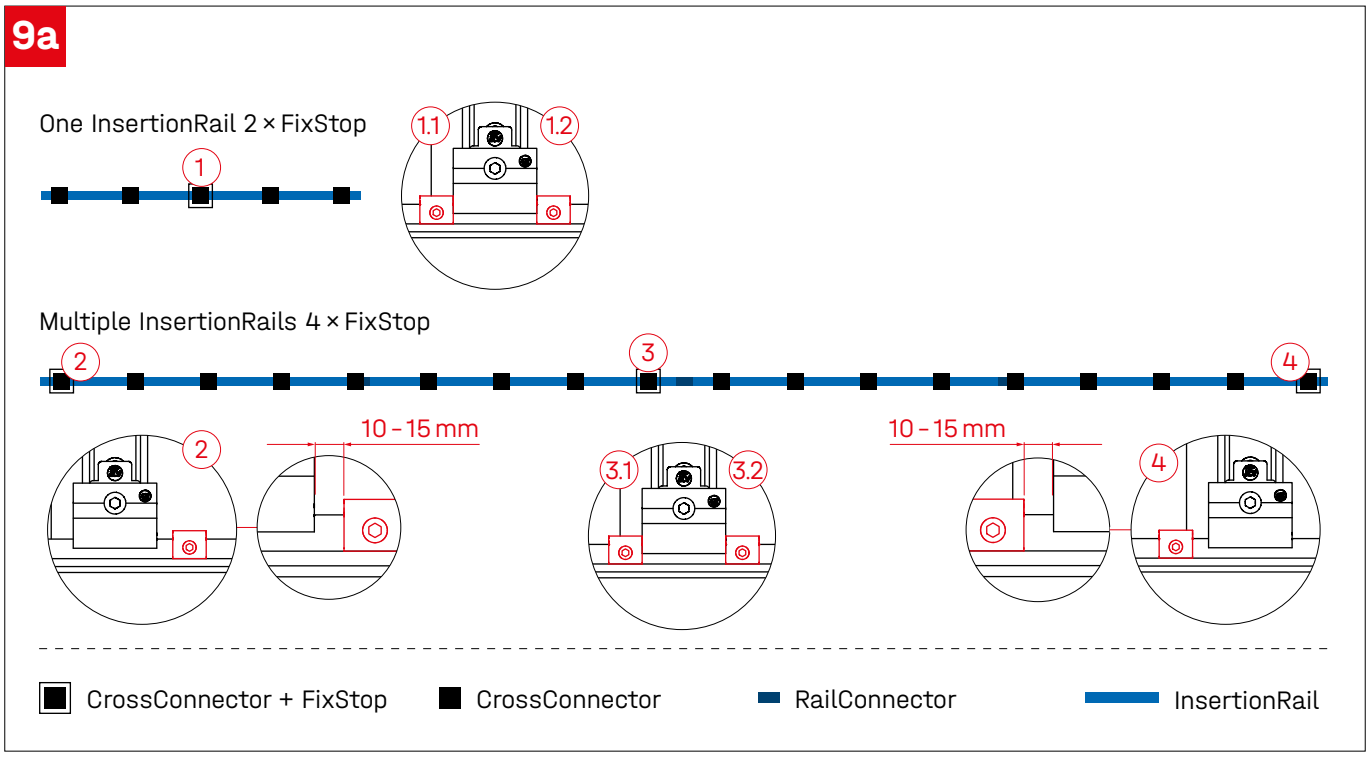


! To secure the InsertionRail, attach a CrossConnector Clip ■ to each outer CrossConnector. Starting from the second row, to every second CrossConnector.

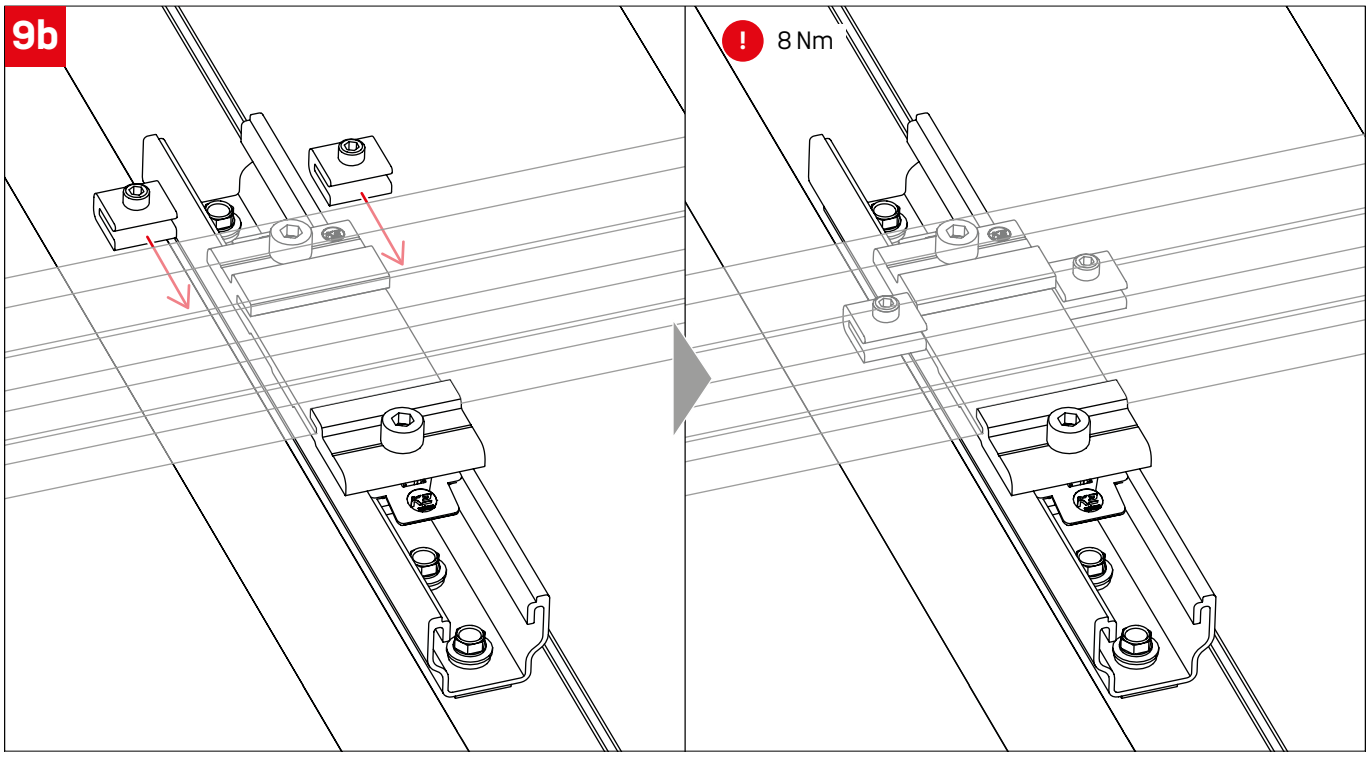
Connecting rails with RailConnector



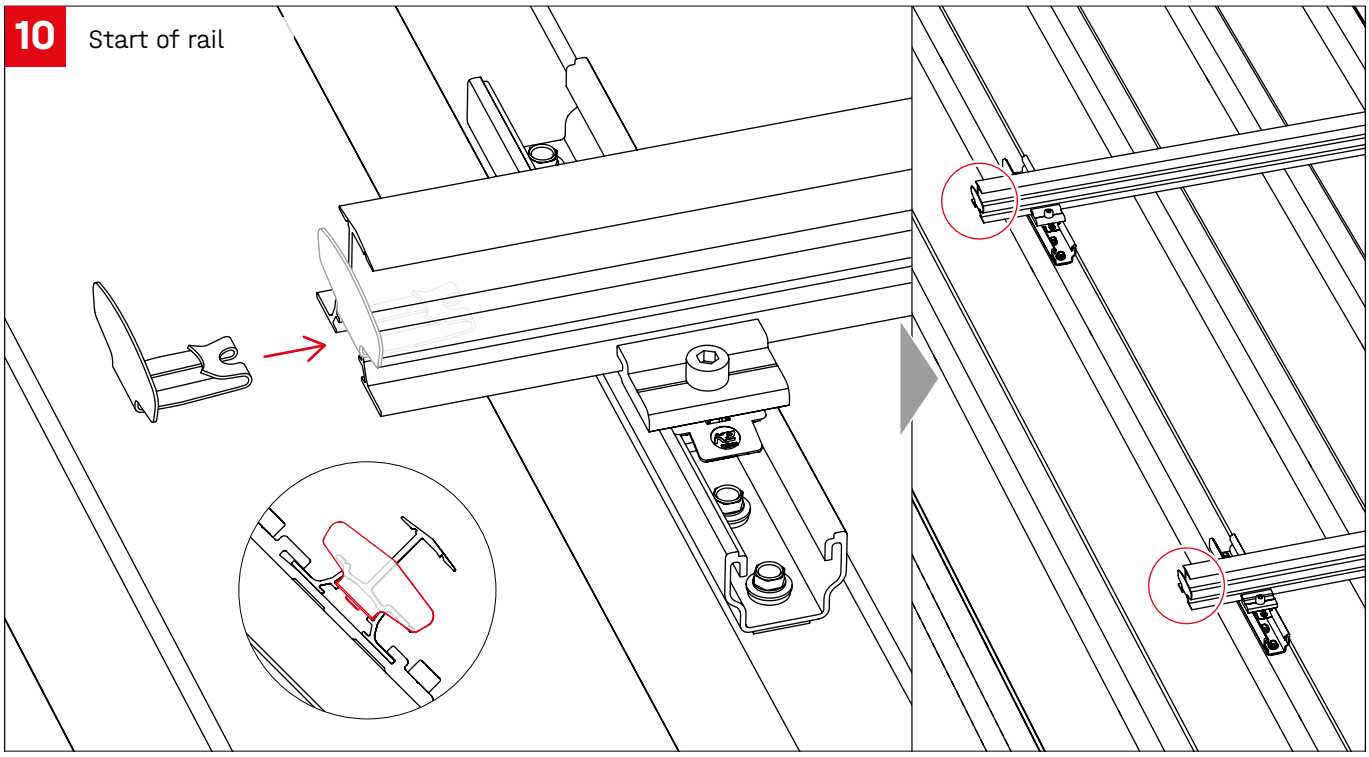
FixStop positioning



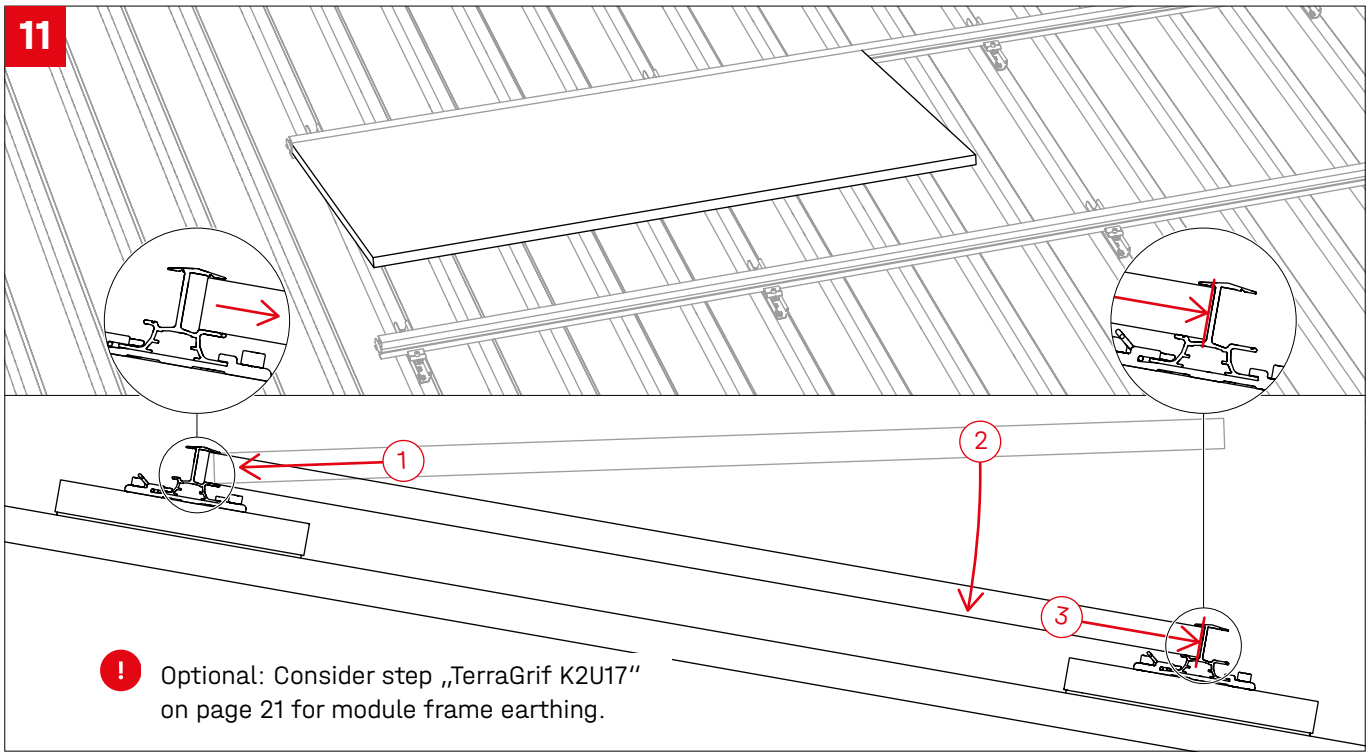
Assembly FixStop



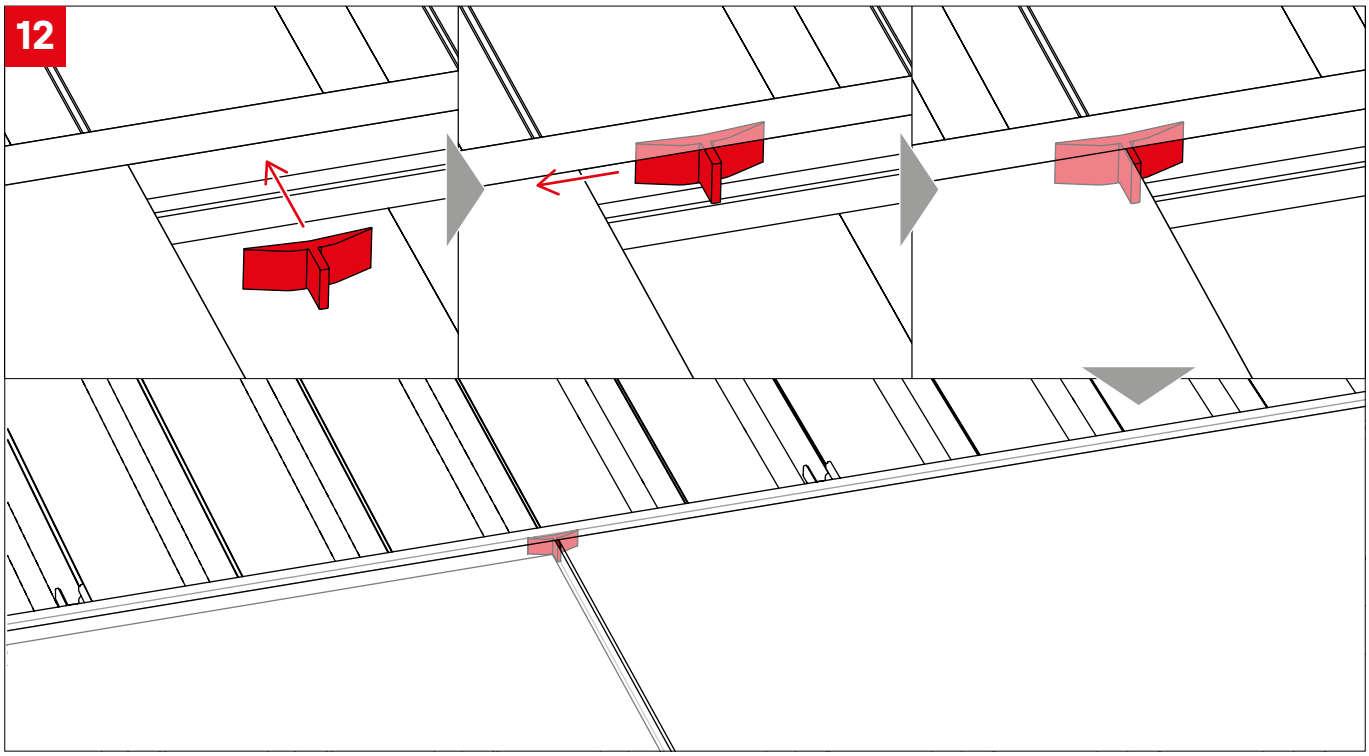
Side guarding EndStop 1



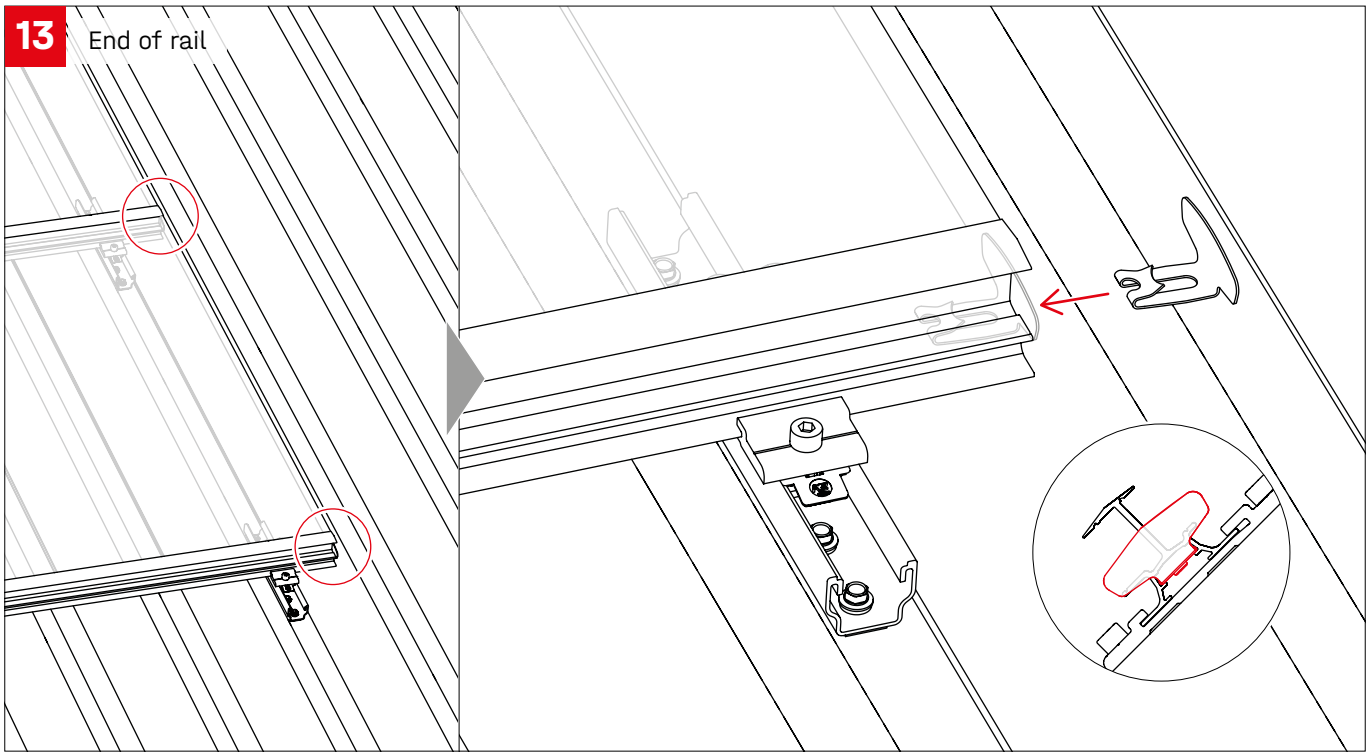
Insert modules



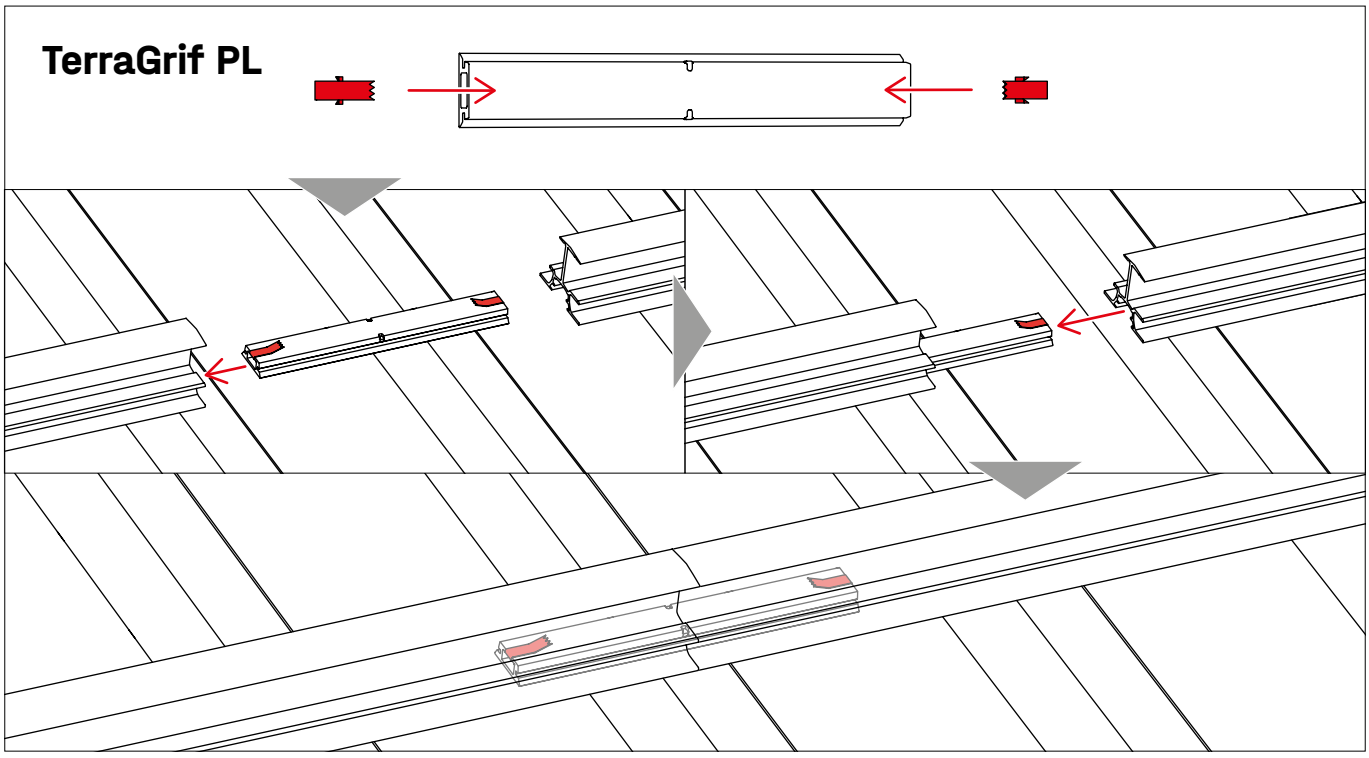
Placement of spacers ModuleSafety

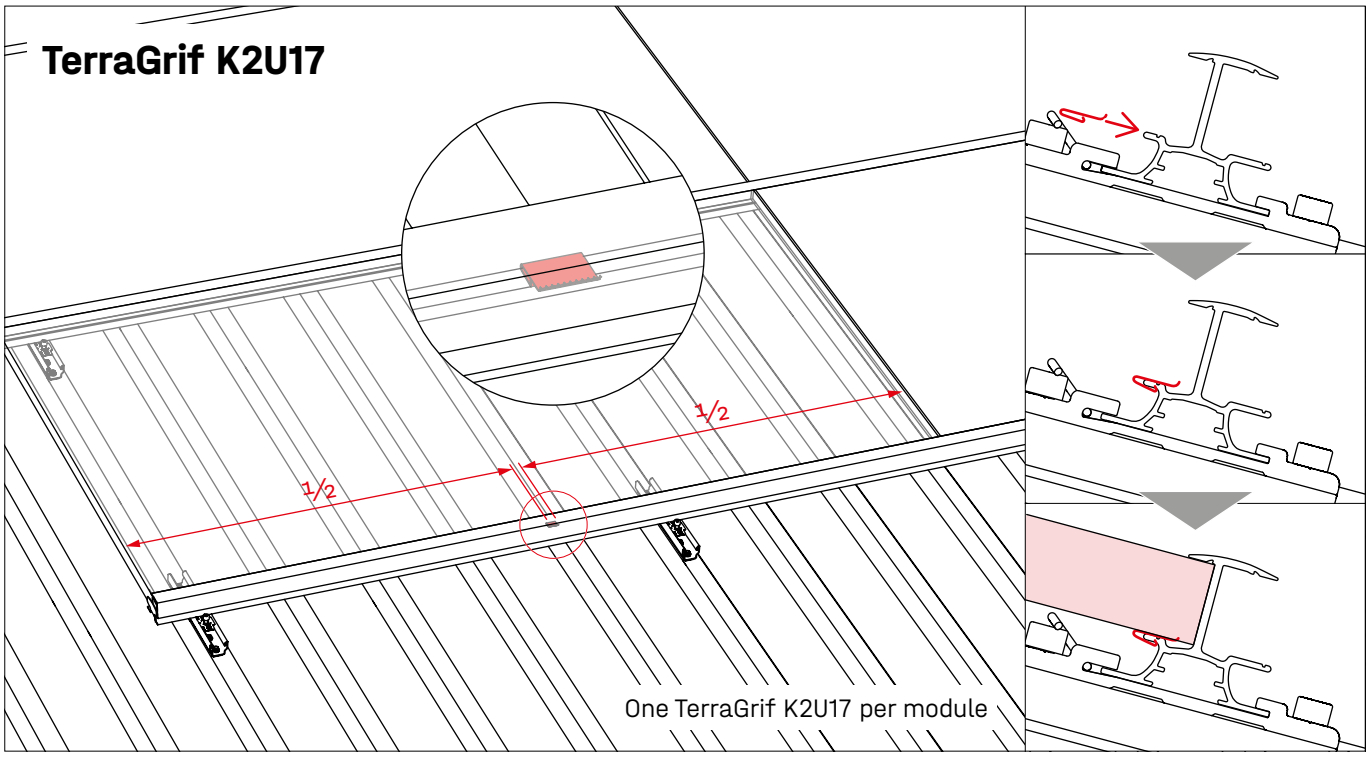


Side guarding EndStop 2



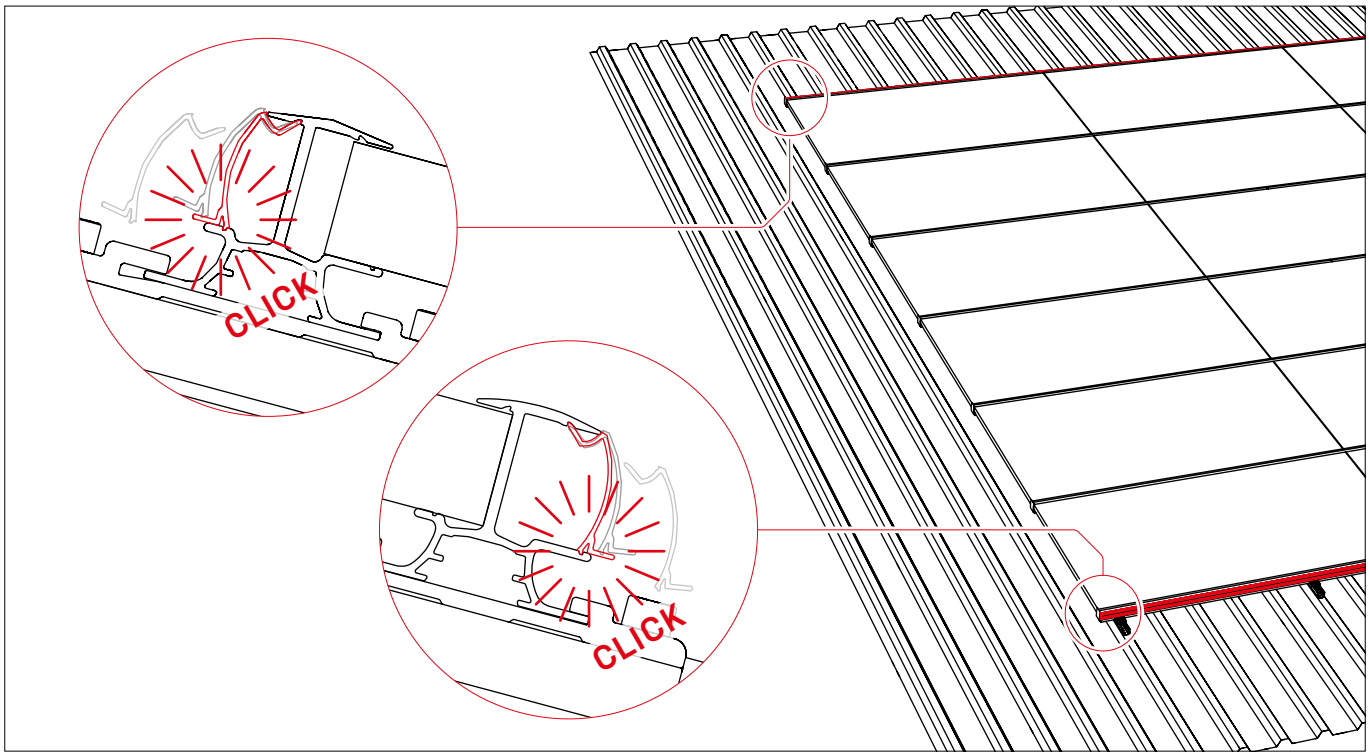
Equipotential bonding / Module frame earthing



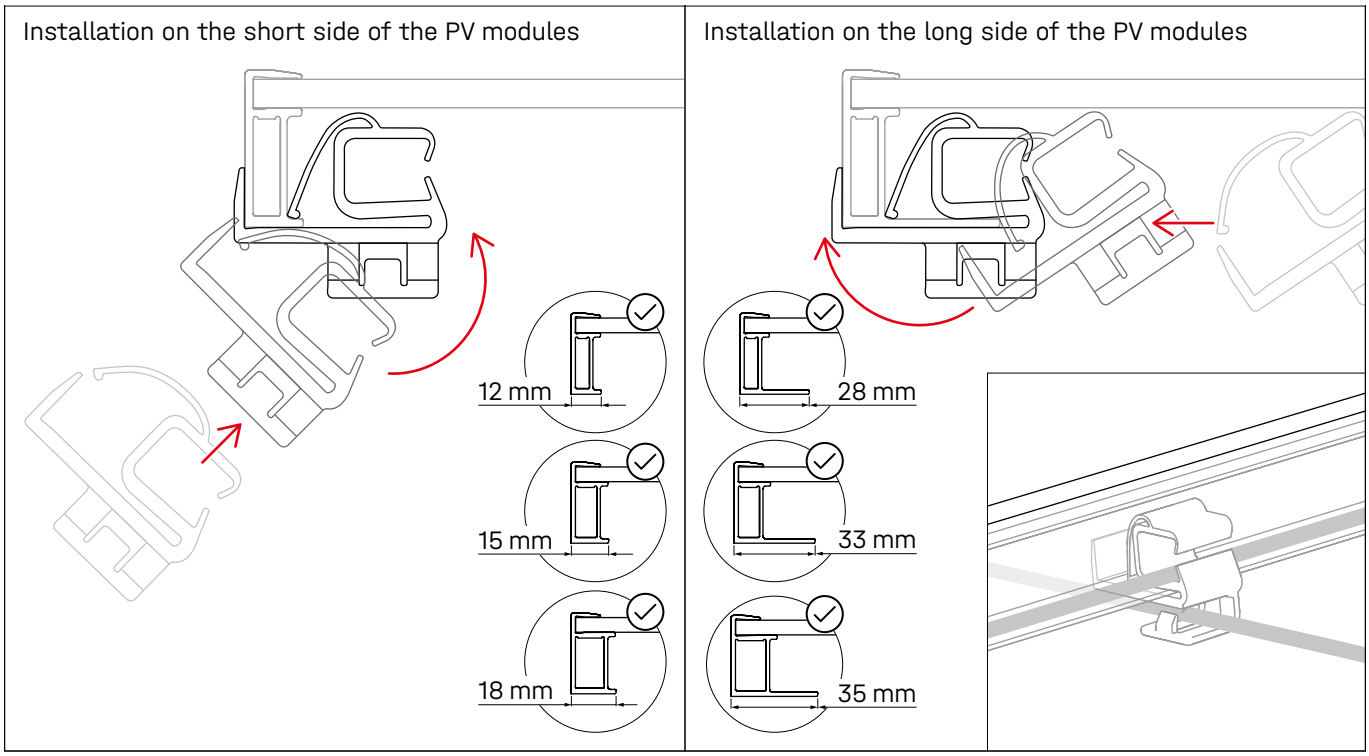


Optional

InsertionRail Cover



Cabel management with Alpha PV Clip



Connecting Strength

Thank you for choosing a K2 mounting system.

Mounting sytems 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 7159 42059-0**

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

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Insertion System MultiRail Assembly EN V6 | 0826 · Subject to change
Product illustrations are exemplary and may differ from the original.