

Assembly Manual

MultiRail System



Connecting Strength

k2-systems.com

Content

• Tools overview	3
• General safety information	4
• The following guidelines apply	5
· Planning with K2 Base	5
· Roof requirements	5
· Structural requirements	5
· Important mounting instructions	5
• Components	6
· Trapezoidal sheet metal	6
· Corrugated sheet metal	8
• Assembly	10
· Trapezoidal sheet metal	10
· Corrugated sheet metal	14
• Optional assembly steps	19
· Module frame grounding	19
· Roof-parallel elevation with RailUp	19

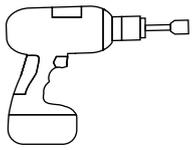
Quality tested - several certifications

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

Tools overview



6 mm



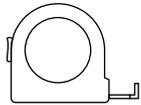
8 mm



6 - 35 Nm
(4.5 - 22.2 lb-ft)



6 mm

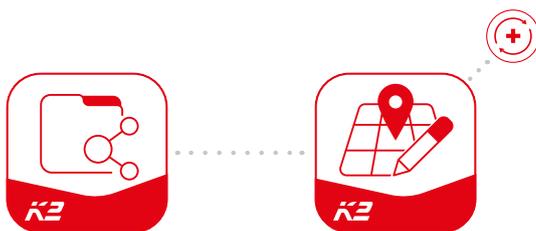


≥ 3.0 m



≥ 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 import the data into 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 other manufacturers. With the K2 DocuApp, project documentation is done quickly and easily - without annoying paperwork.

Get started now and register:

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](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 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 if our general safety instructions are disregarded or if components of the competition are installed or attached.
- 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 installed as standard under the following conditions. Even if the system is capable of meeting higher demands through the integration of safety standards, please get in touch with your contact at K2 Systems if the specified values are exceeded.



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



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). Country-specific regulations must be observed.
- After 13.60 m (length of the module row in the vertical crest direction) a thermal separation must be installed. For this purpose, two rails must be fixed one behind the other on the same high crest. The distance between the MultiRails must be at least 30 mm.
- If the trapezoidal sheet is fastened with storm washers, please do not fasten the MultiRails on the storm washers! Spacing must be measured beforehand.
- Fasten the MultiRails to corrugated or trapezoidal sheet metal with thin sheet metal screws approved by the building authorities.
- Horizontal distance (verge-to-verge direction) between the short sides of the modules must be at least 5 mm



Roof requirements

- The sufficient holding force of the roof covering at the support or substructure must be ensured on site.
- Roof pitch: 5 - 75°
- Thickness trapezoidal sheet metal:
≥ 0.4 mm steel or ≥ 0.5 mm aluminium
- Sheet quality steel at least S235 acc. DIN EN 10025-1
- Minimum tensile strength for aluminium 165 N/mm²
- High crest width ≥ 22 mm, flush area surrounding the bore hole: ≥ 20 mm
- High bead radius for corrugated sheet metal: $r = 22 - 45$ mm

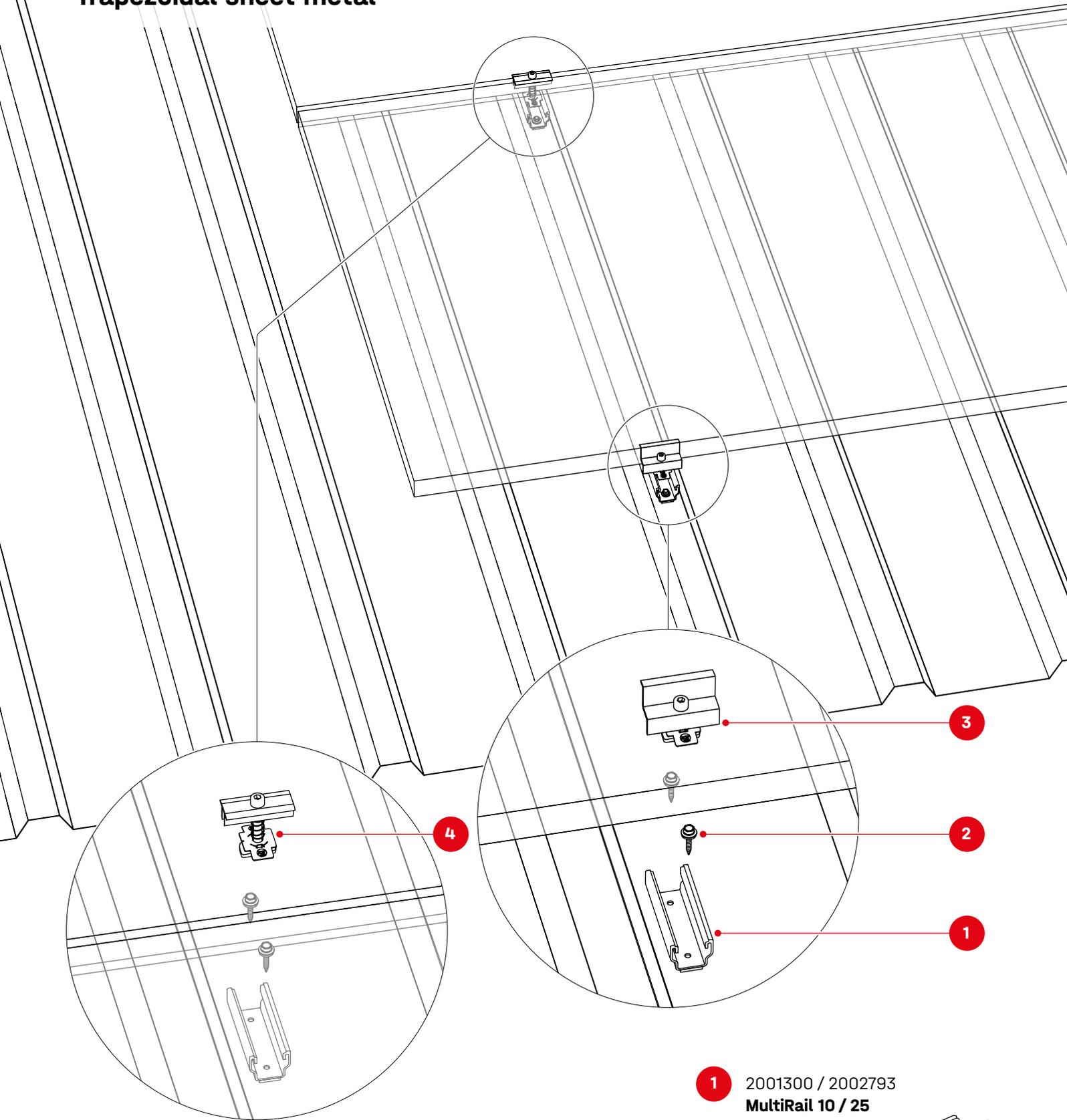


Structural requirements

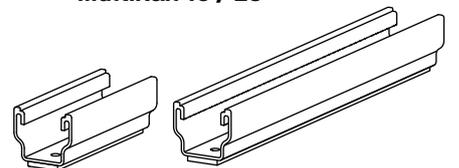
The static verification of the component is automatically calculated with the K2 Base planning software for the respective location. The design provided in a project report must be followed.

Components

Trapezoidal sheet metal



1 2001300 / 2002793
MultiRail 10 / 25

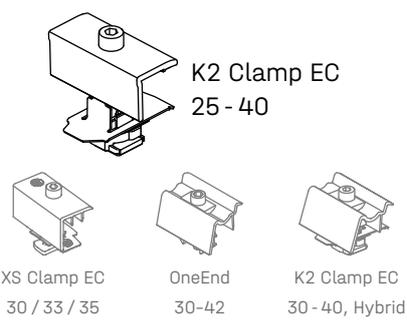




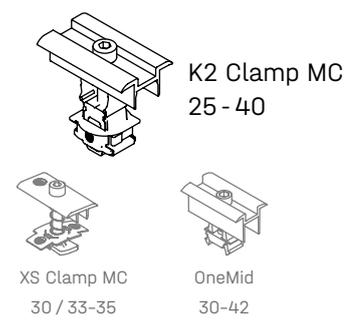
2 1005207
Self-tapping screw with
sealing washer



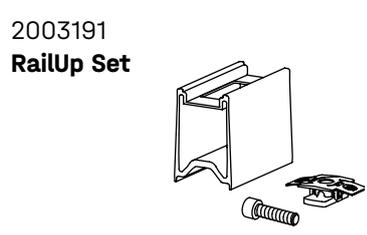
3 Item number project specific
Module end clamps



4 Item number project specific
Module middle clamps

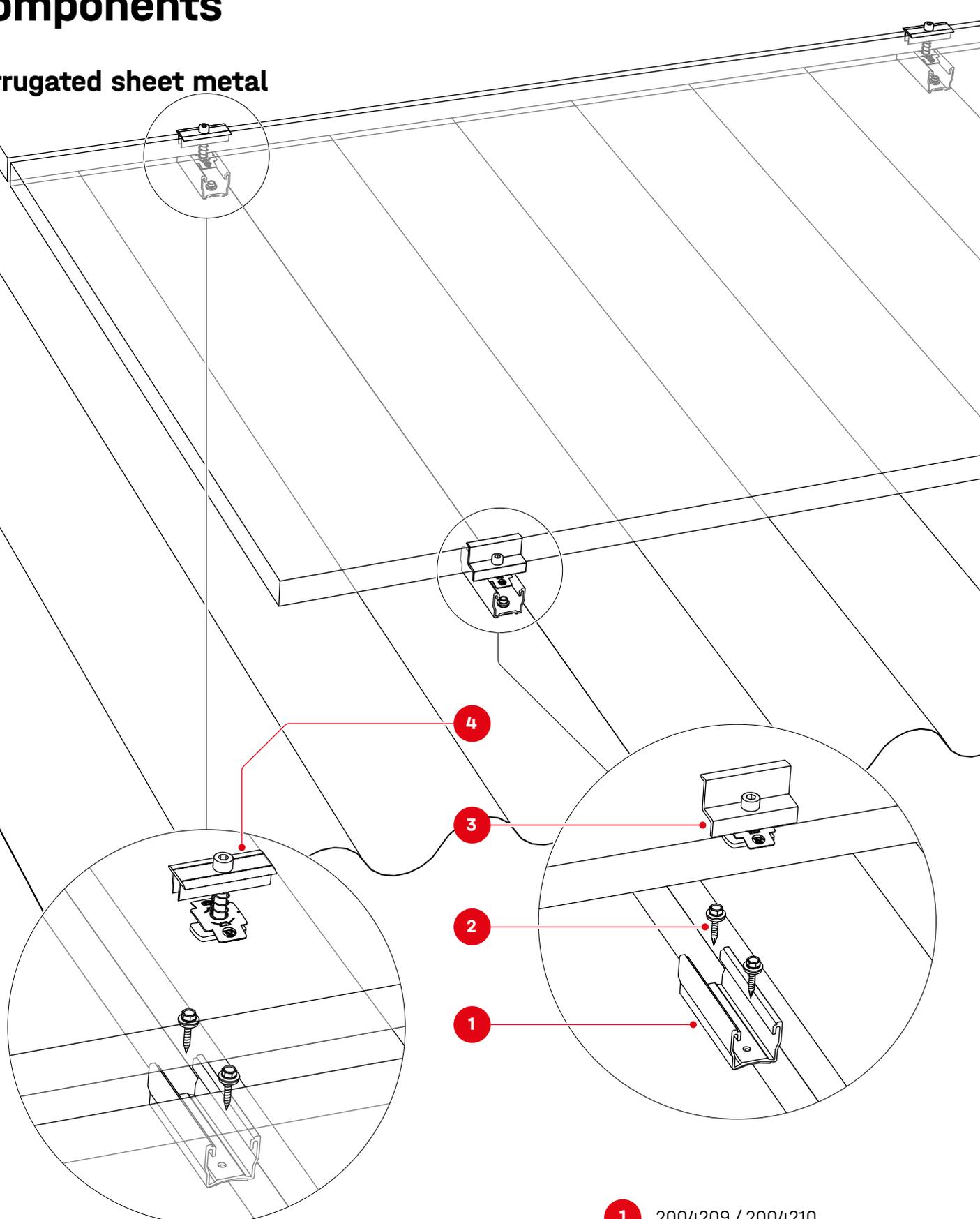


Optional See page 19!

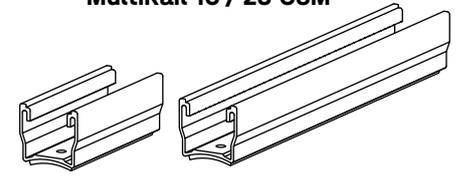


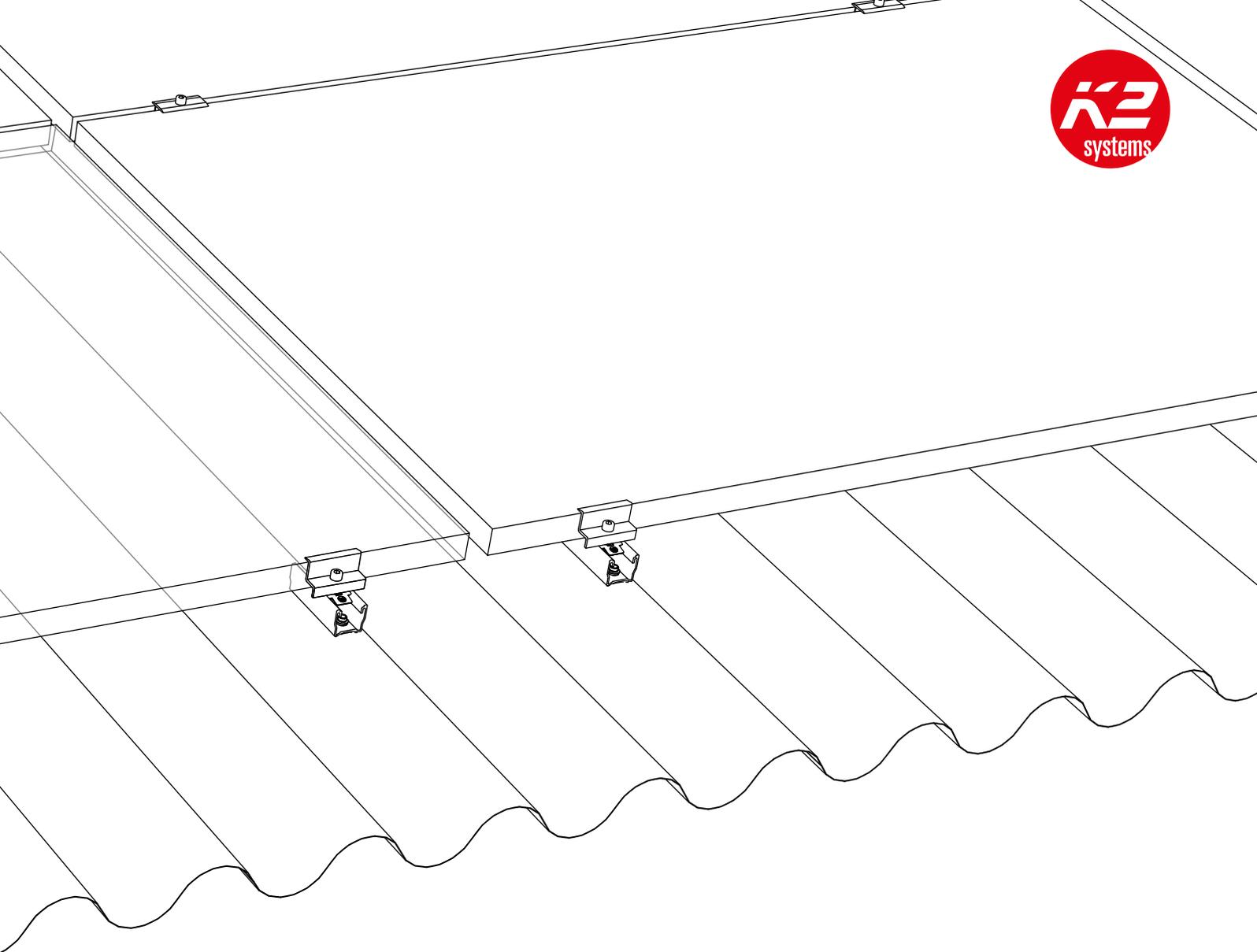
Components

Corrugated sheet metal



1 2004209 / 2004210
MultiRail 10 / 25 CSM

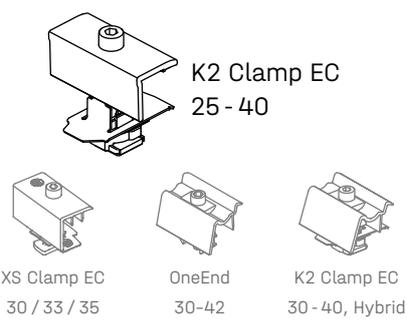




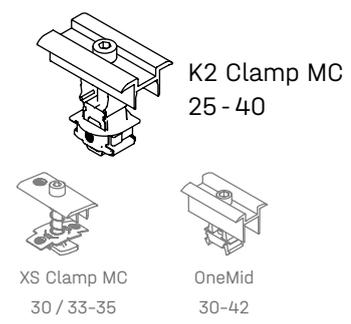
2 1005207
Self-tapping screw with
sealing washer



3 Item number project specific
Module end clamps



4 Item number project specific
Module middle clamps

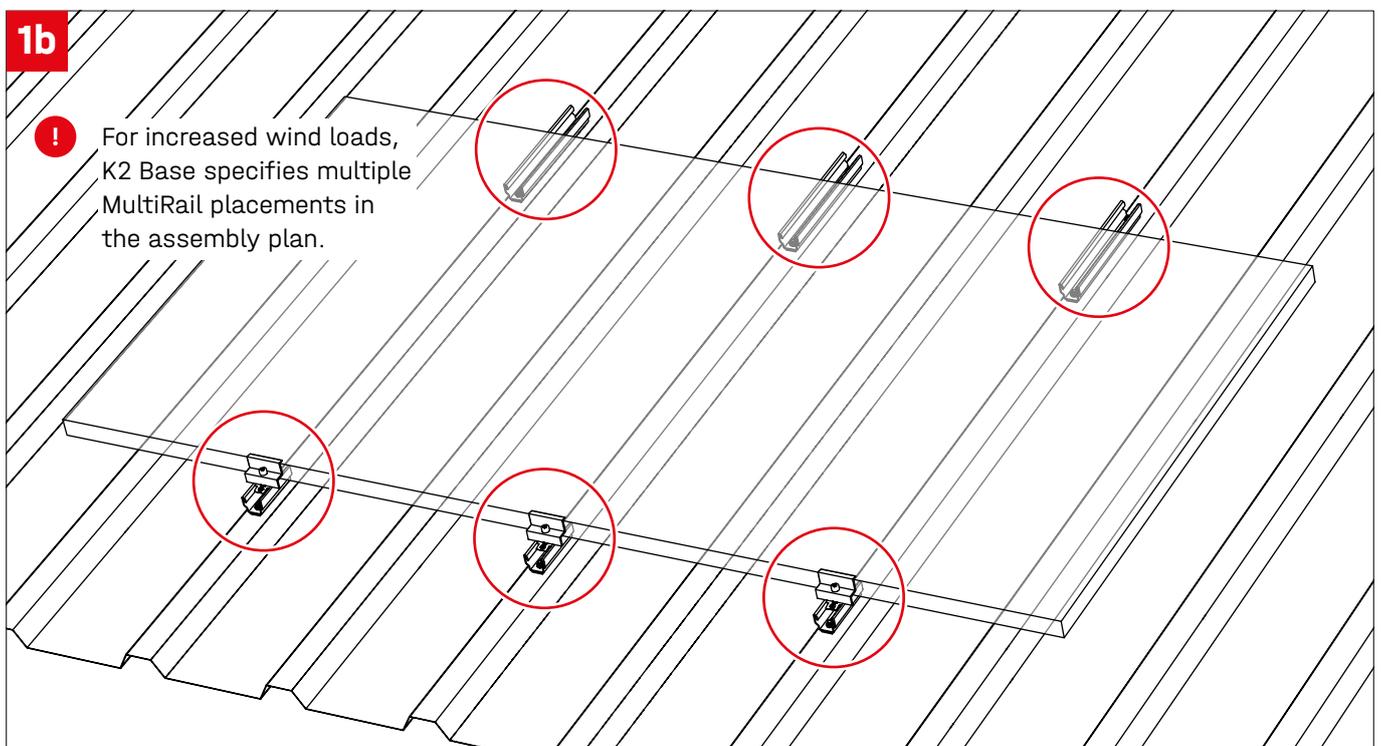
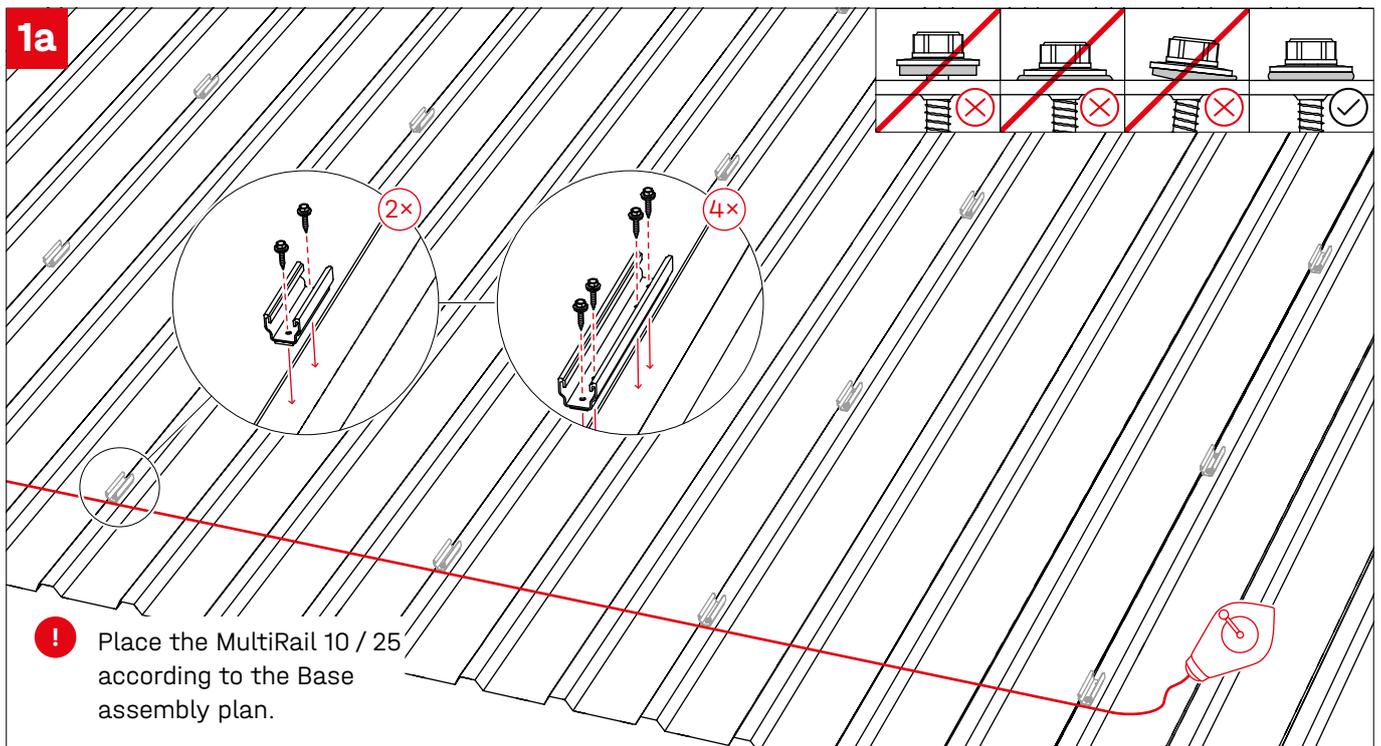


Optional See page 19!



Assembly

Trapezoidal sheet metal



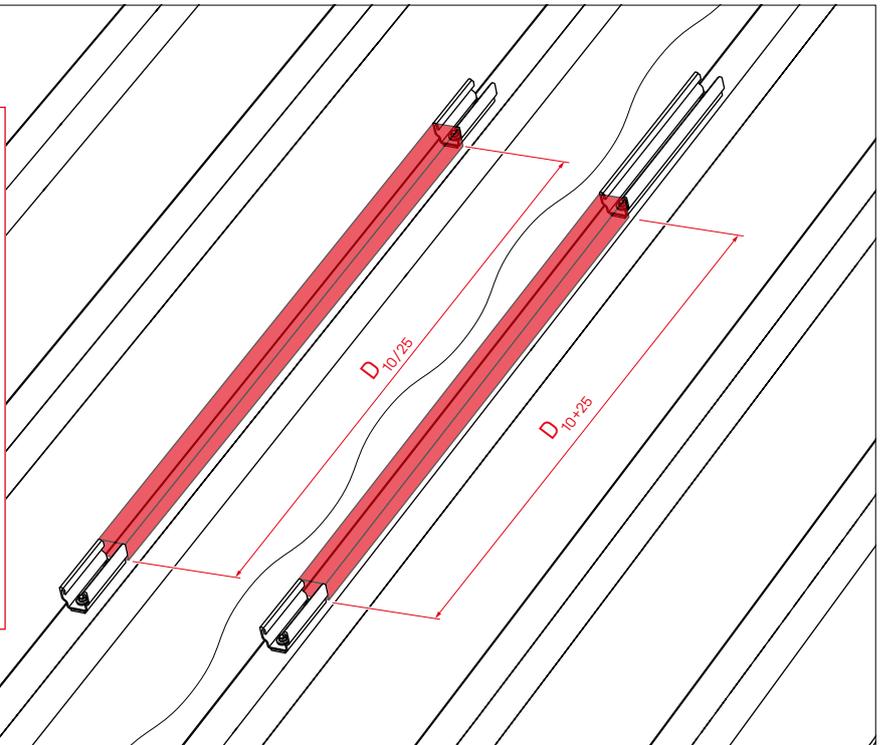
2

Distance template

$$D_{10/25} = \text{width}_{\text{Modul}} - L_{10/25}$$

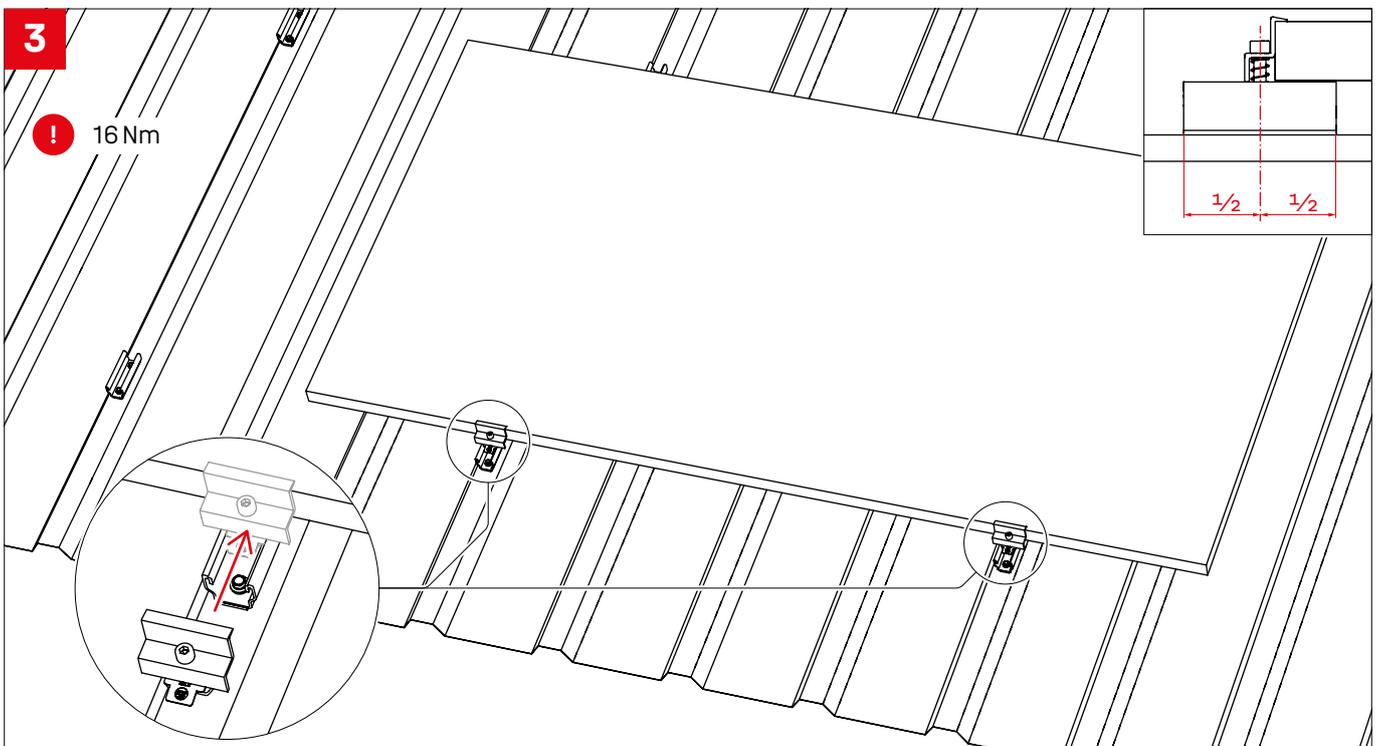
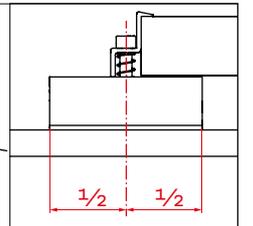
$$D_{10+25} = \text{width}_{\text{Modul}} - L_{10+25}$$

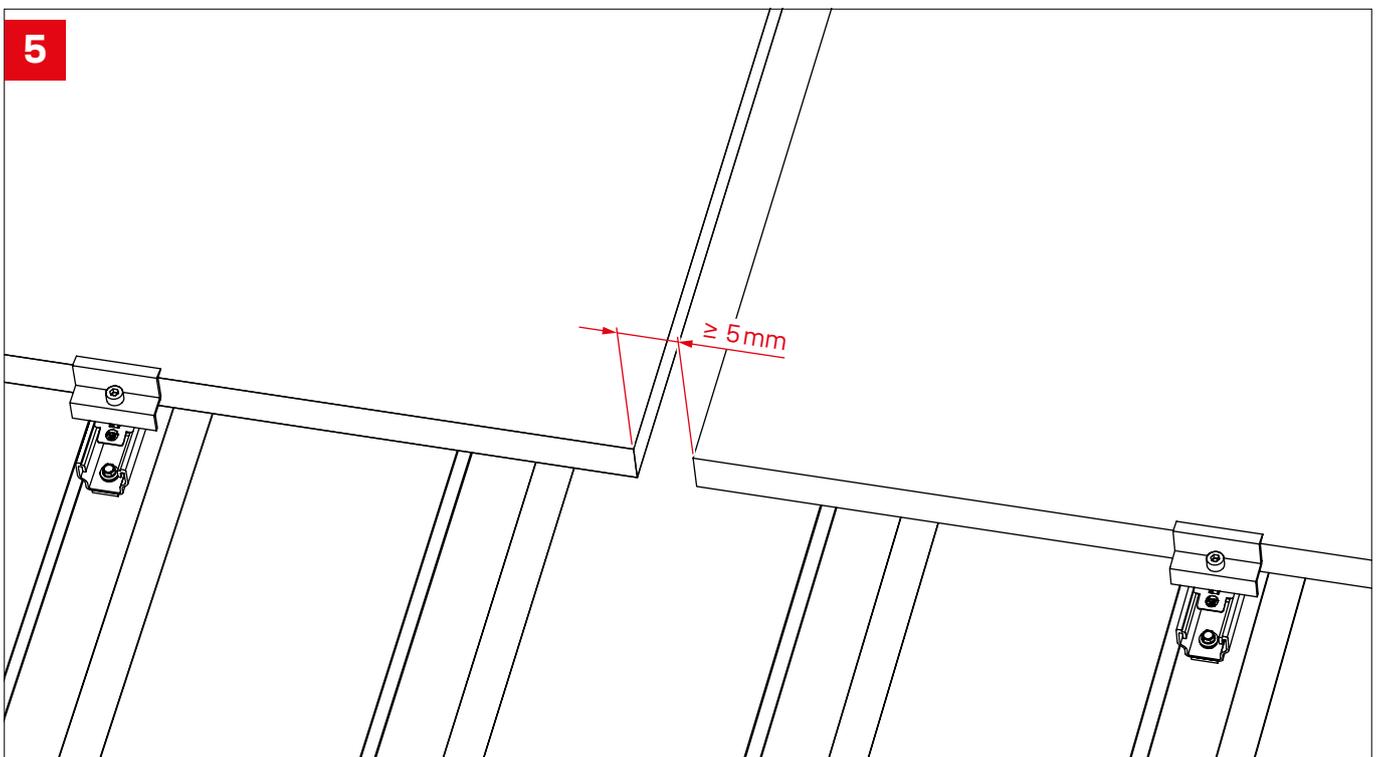
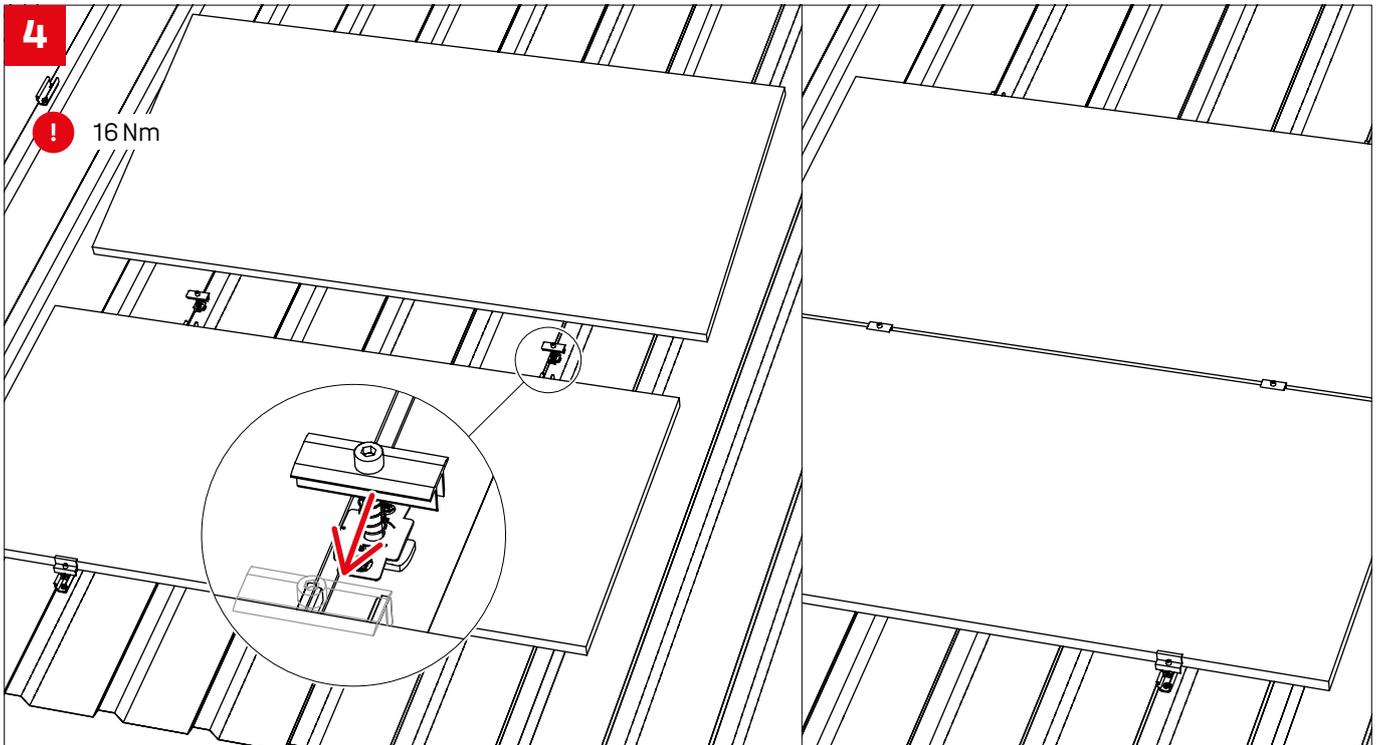
- **MultiRail 10** = L_{10}
 - K2 Clamp MC / OneMid = 80,0 mm
 - XS Clamp MC = 87,5 mm
- **MultiRail 25** = L_{25}
 - K2 Clamp MC / OneMid = 230,0 mm
 - XS Clamp MC = 237,5 mm
- **MultiRail 10 + 25** = L_{10+25}
 - K2 Clamp MC / OneMid = 155,0 mm
 - XS Clamp MC = 162,5 mm

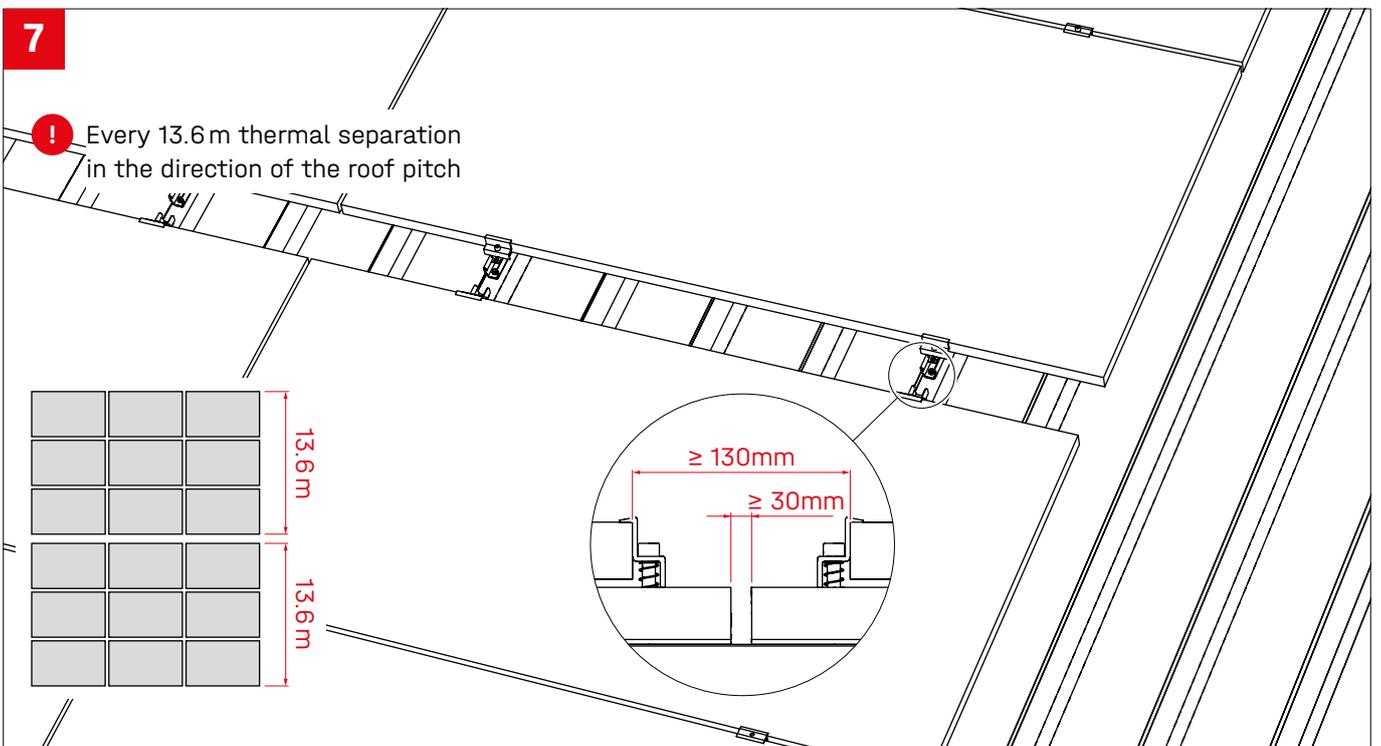
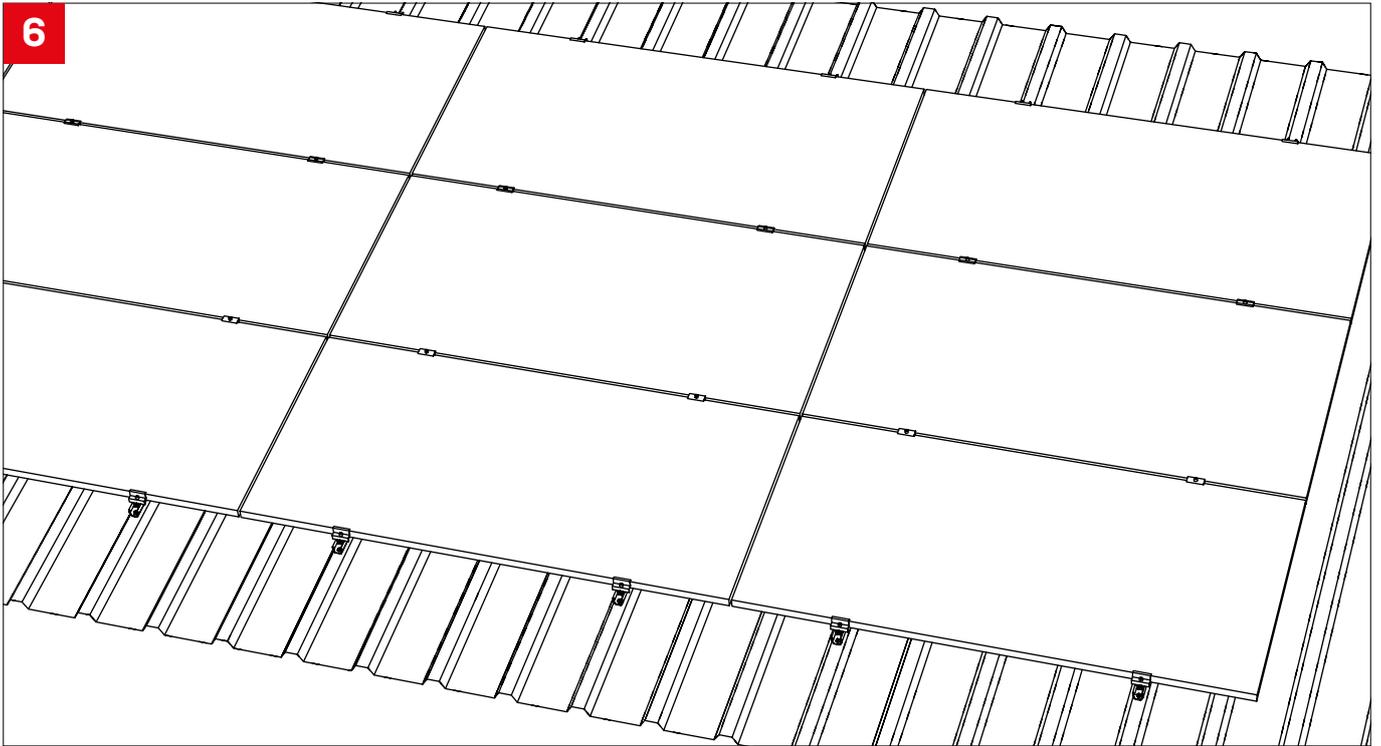


3

! 16 Nm

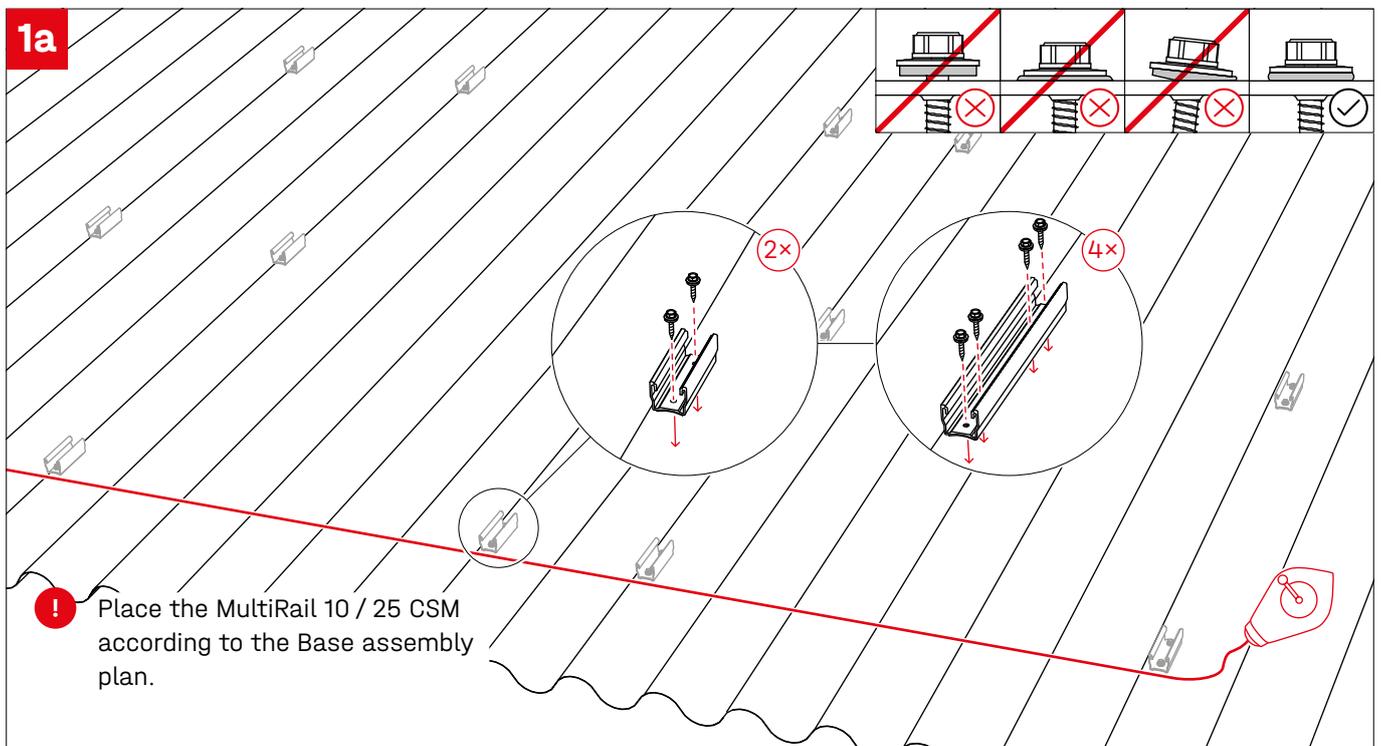
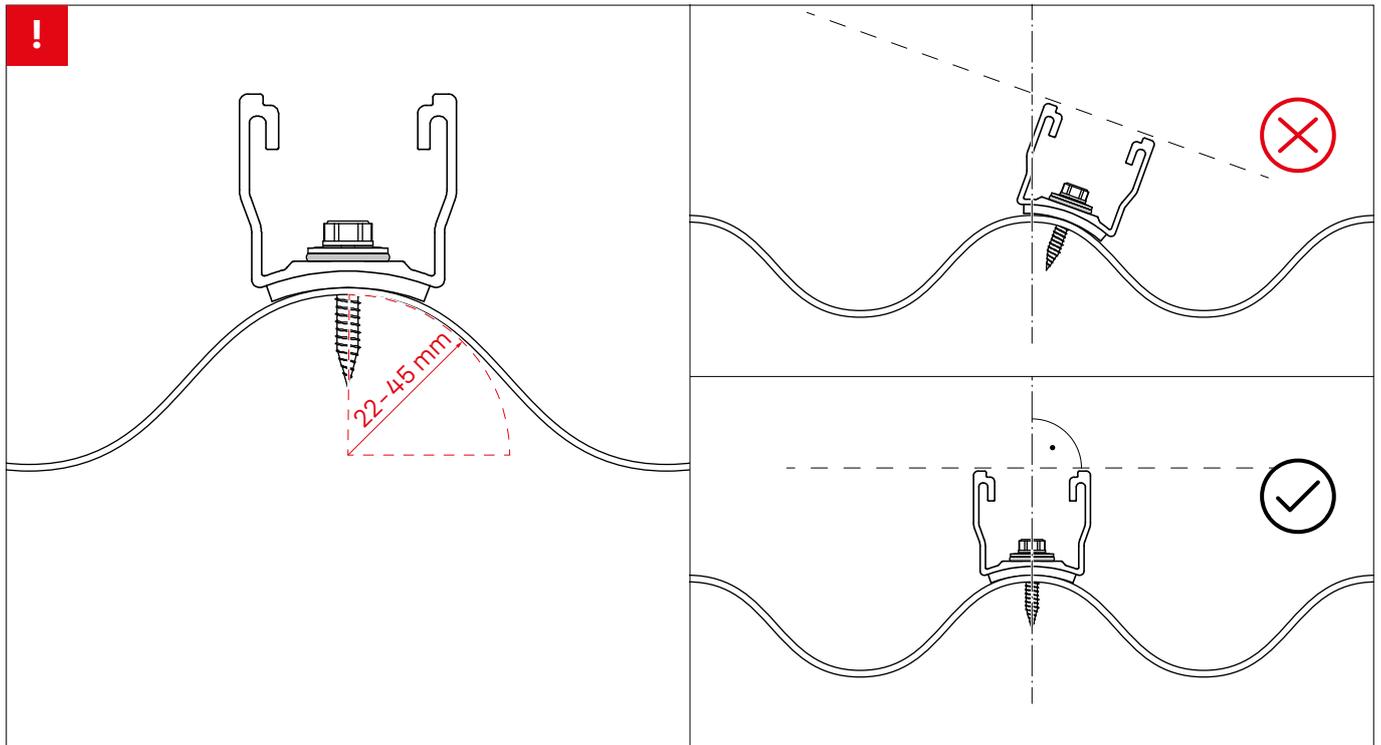






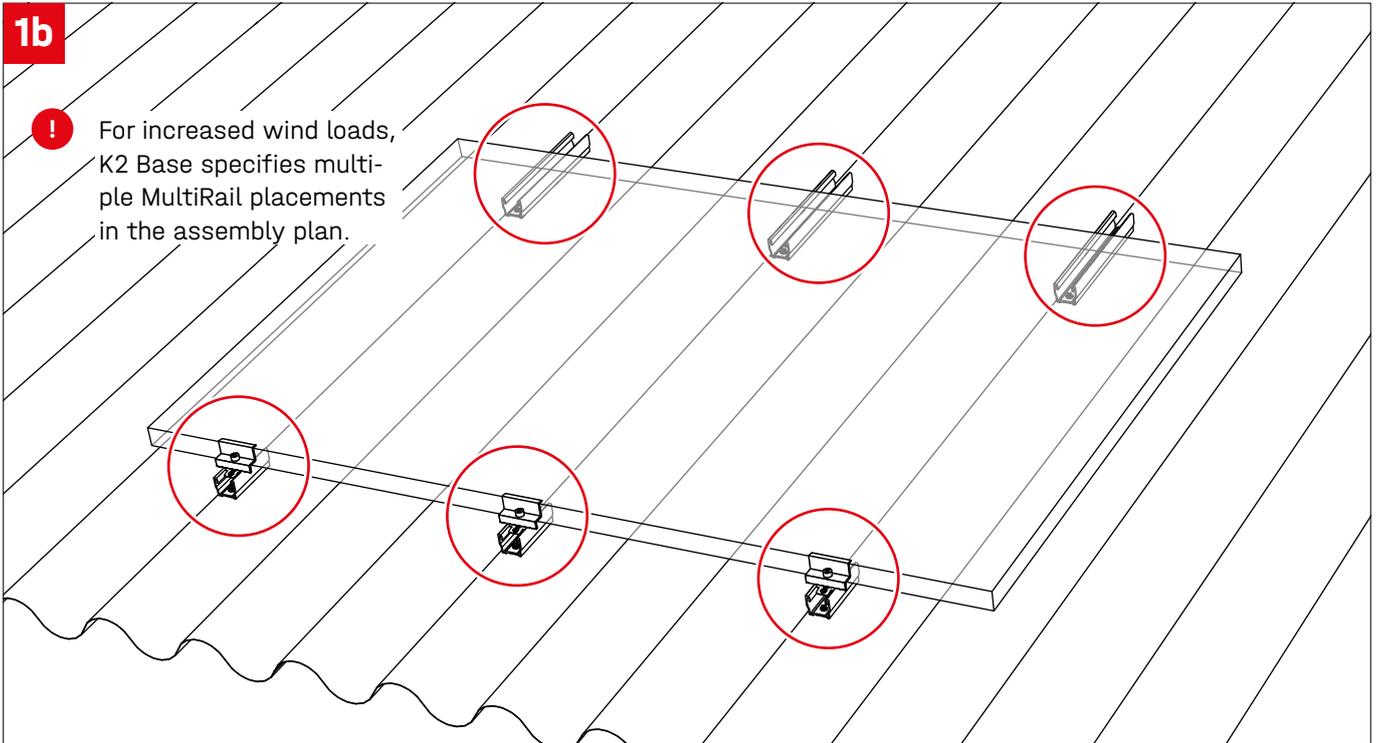
Montage

Corrugated sheet metal



1b

! For increased wind loads, K2 Base specifies multiple MultiRail placements in the assembly plan.



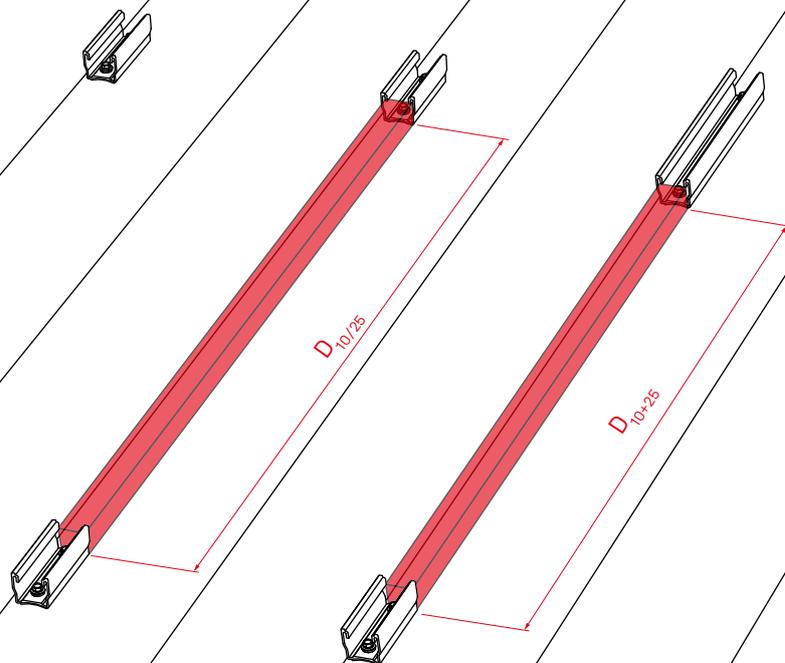
2

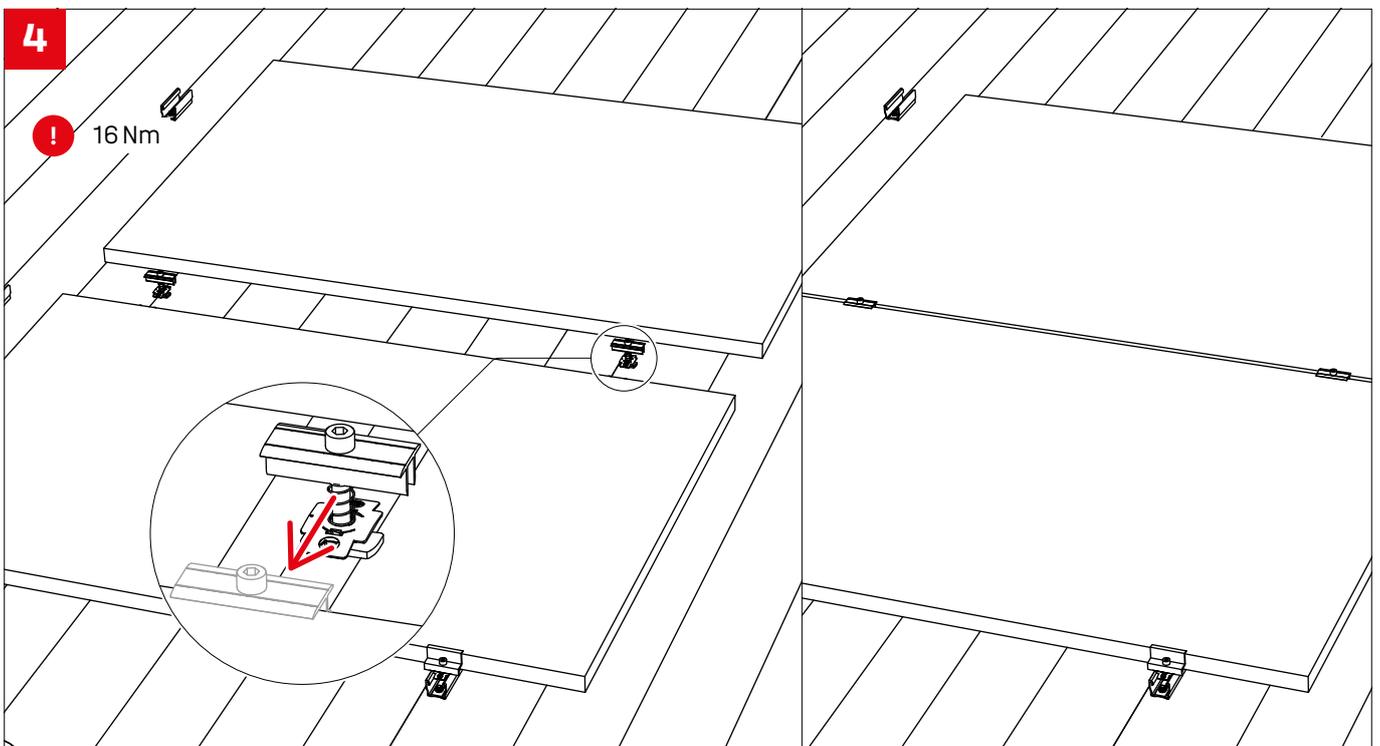
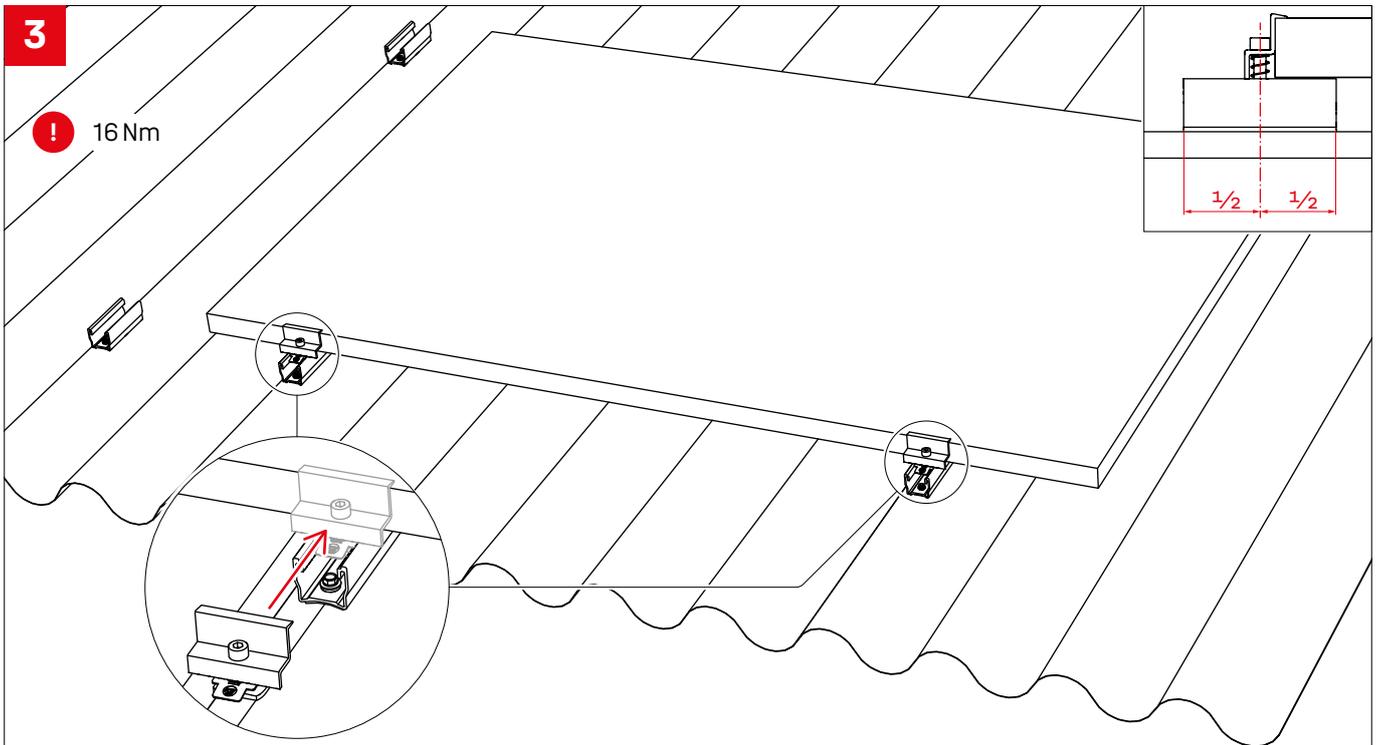
Distance template

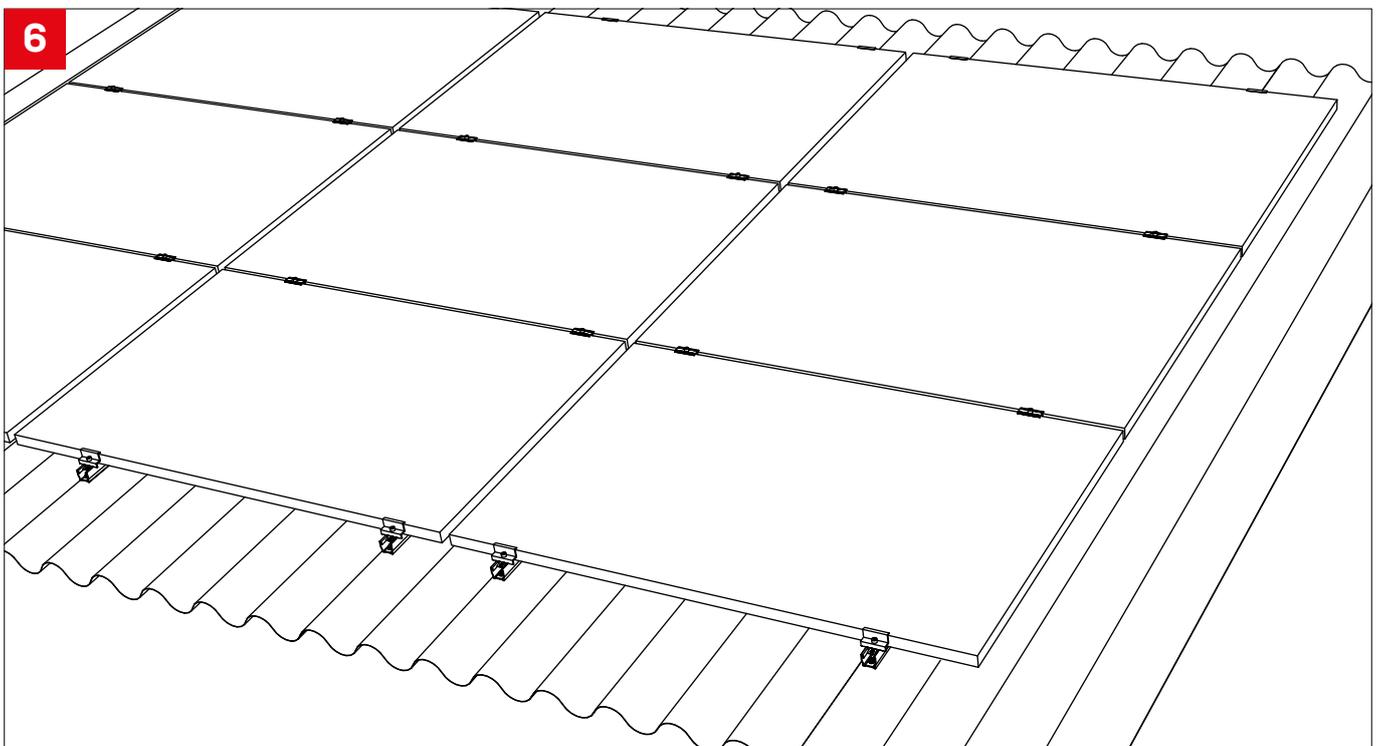
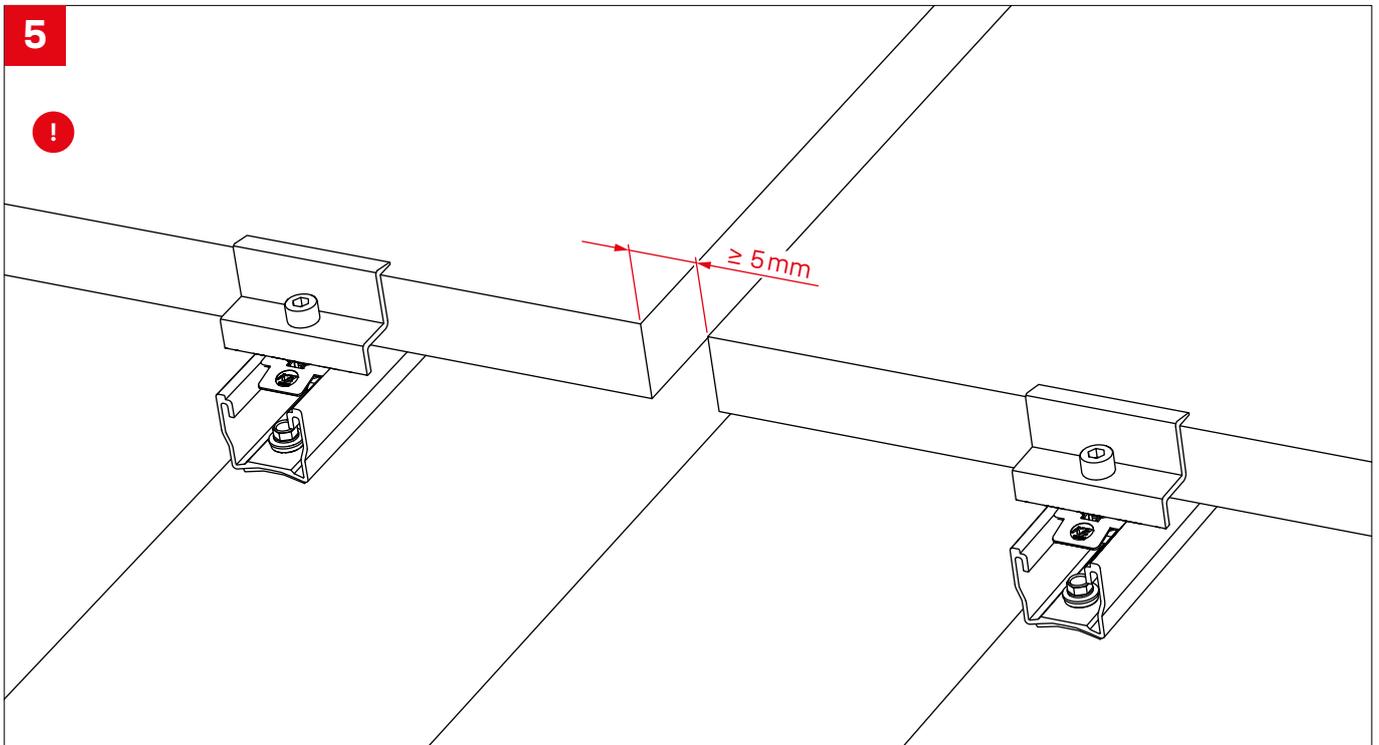
$$D_{10/25} = \text{width}_{\text{Modul}} - L_{10/25}$$

$$D_{10+25} = \text{width}_{\text{Modul}} - L_{10+25}$$

- **MultiRail CSM 10** = L_{10}
 - K2 Clamp MC / OneMid = 80,0 mm
 - XS Clamp MC = 87,5 mm
- **MultiRail CSM 25** = L_{25}
 - K2 Clamp MC / OneMid = 230,0 mm
 - XS Clamp MC = 237,5 mm
- **MultiRail CSM 10 + 25** = L_{10+25}
 - K2 Clamp MC / OneMid = 155,0 mm
 - XS Clamp MC = 162,5 mm

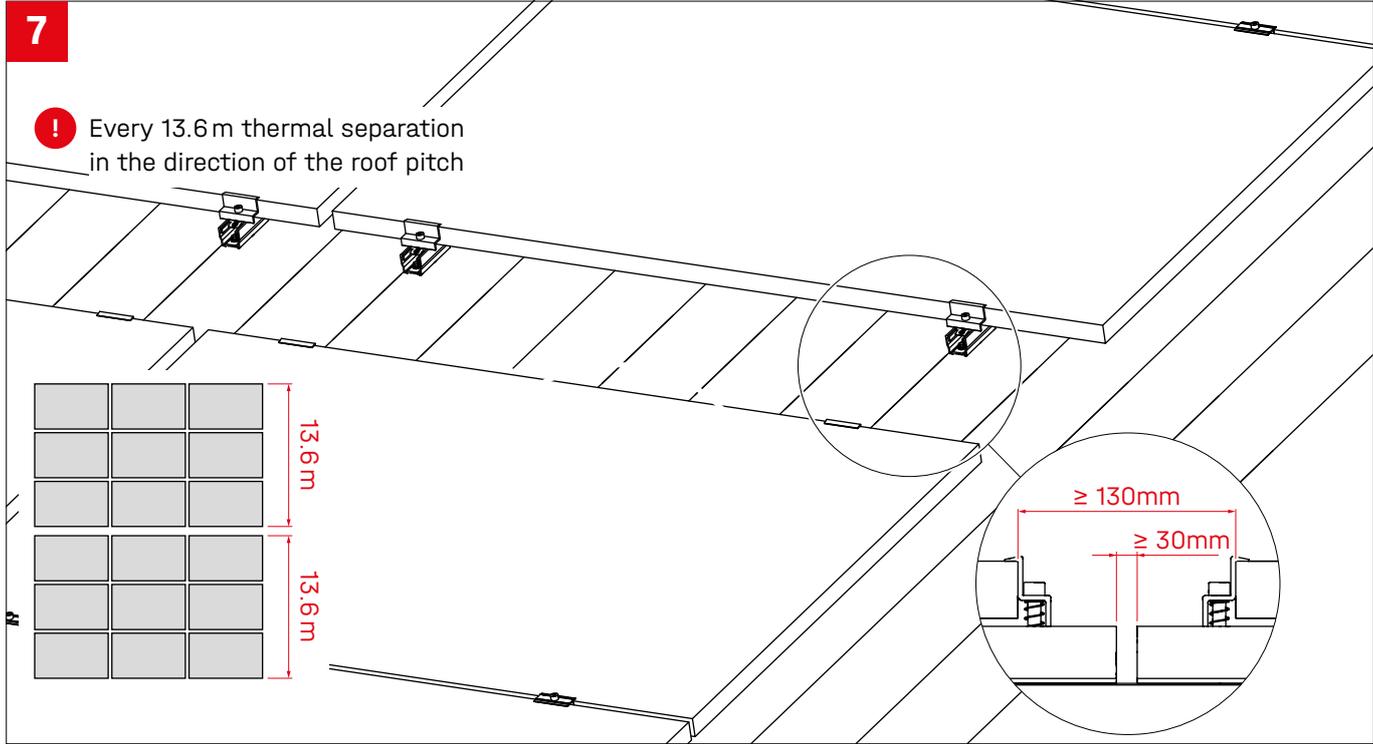






7

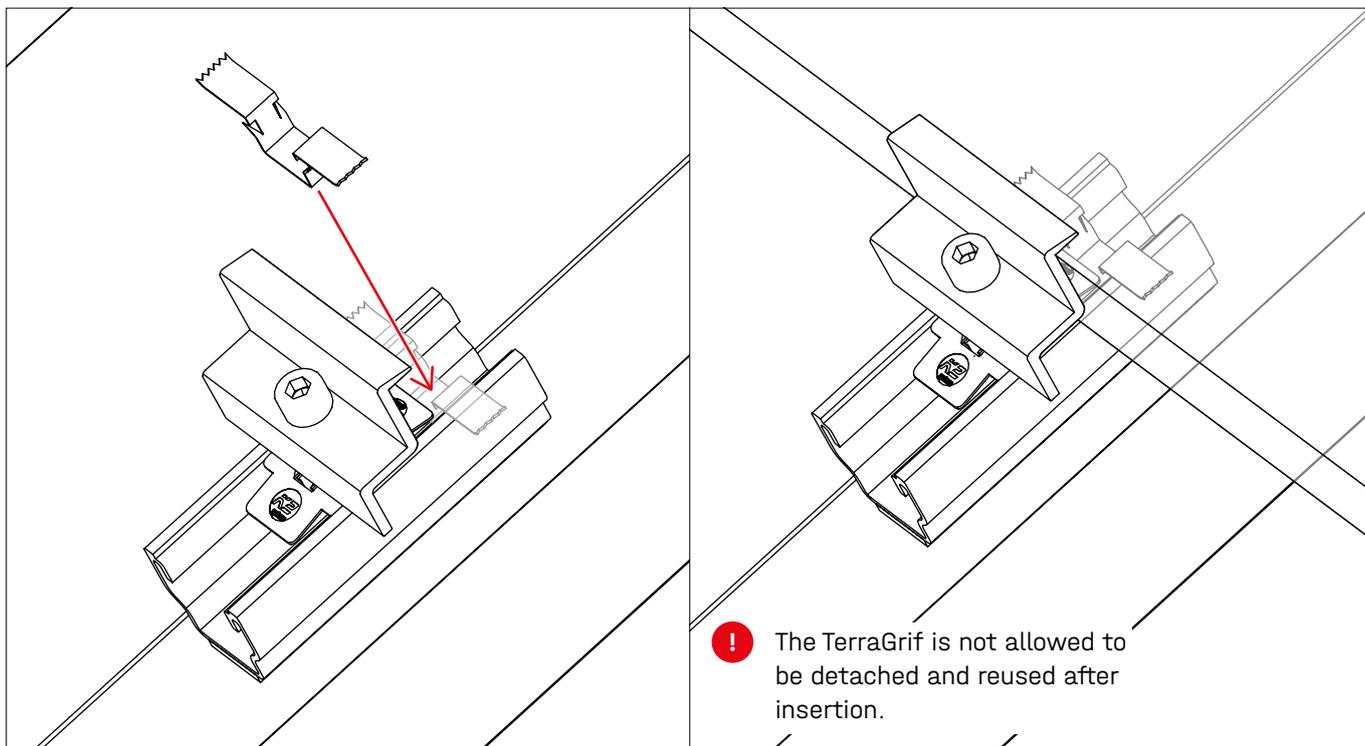
! Every 13.6m thermal separation in the direction of the roof pitch



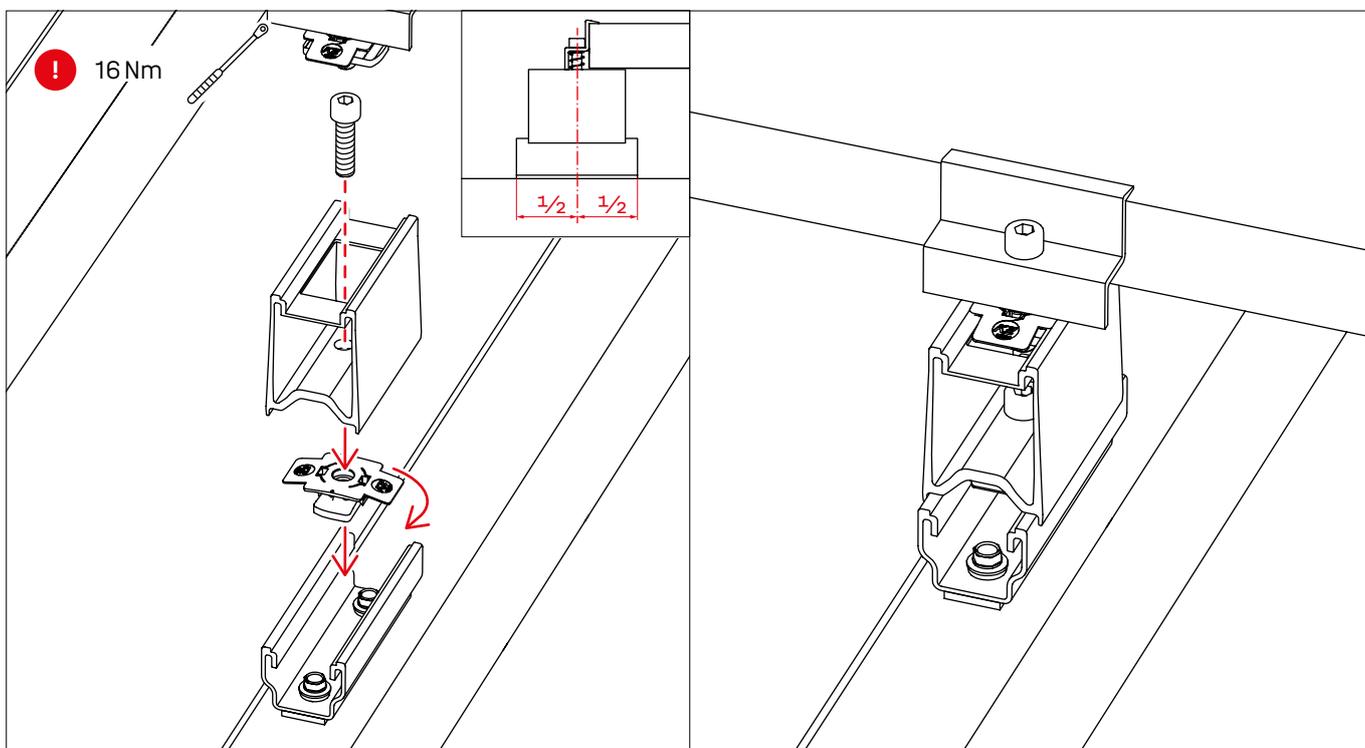
Optional assembly steps



Module frame grounding



Roof-parallel elevation with RailUp



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
- **Service Hotline: +49 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

MultiRail Assembly EN V9 | 0325 · Subject to change
Product illustrations are exemplary and may differ from the original.



Connecting Strength

k2-systems.com