

Optionally with  
RailUp elevation



Assembly Manual

# K2 BasicRail System



Connecting Strength

[k2-systems.com](http://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
· Portrait assembly	6
· Landscape assembly with AddOn	8
· Landscape assembly with two layers of rails	9
• Assembly	10
• Alternative system assemblies	15
· Thermal cut space saving method	15
· Landscape assembly with two layers of rails	15
· Landscape assembly with AddOn	16
· Calculation of the installation template	16
• Optional installation steps	17
· Roof-parallel elevation with RailUp	17
· TerraGrif K2SZ	18
· TerraGrif K2PA	18
• Notes	19

## 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:

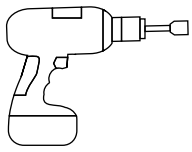
[k2-systems.com](http://k2-systems.com)

Übereinstimmungszeichen (Ü-Zeichen)



The BasicRail system BasicRail/BasicClip has the German general building authority technical approval Z-14.4-603.

# Tools overview



5/6 mm



8 mm



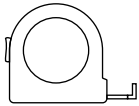
25



6 - 30 Nm  
(4.5 - 22.2 lb-ft)



5/6 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://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 [k2-systems.com](https://k2-systems.com) 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](https://k2-systems.com). 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 BasicRail system can be used without further testing by K2 systems in the following standard conditions. The system 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](http://base.k2-systems.com)



## Roof requirements

- Sheet thickness: Aluminium  $\geq 0.5$  mm and steel  $\geq 0.4$  mm
- Minimum tensile strength for aluminium: 165 N/mm<sup>2</sup>; 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

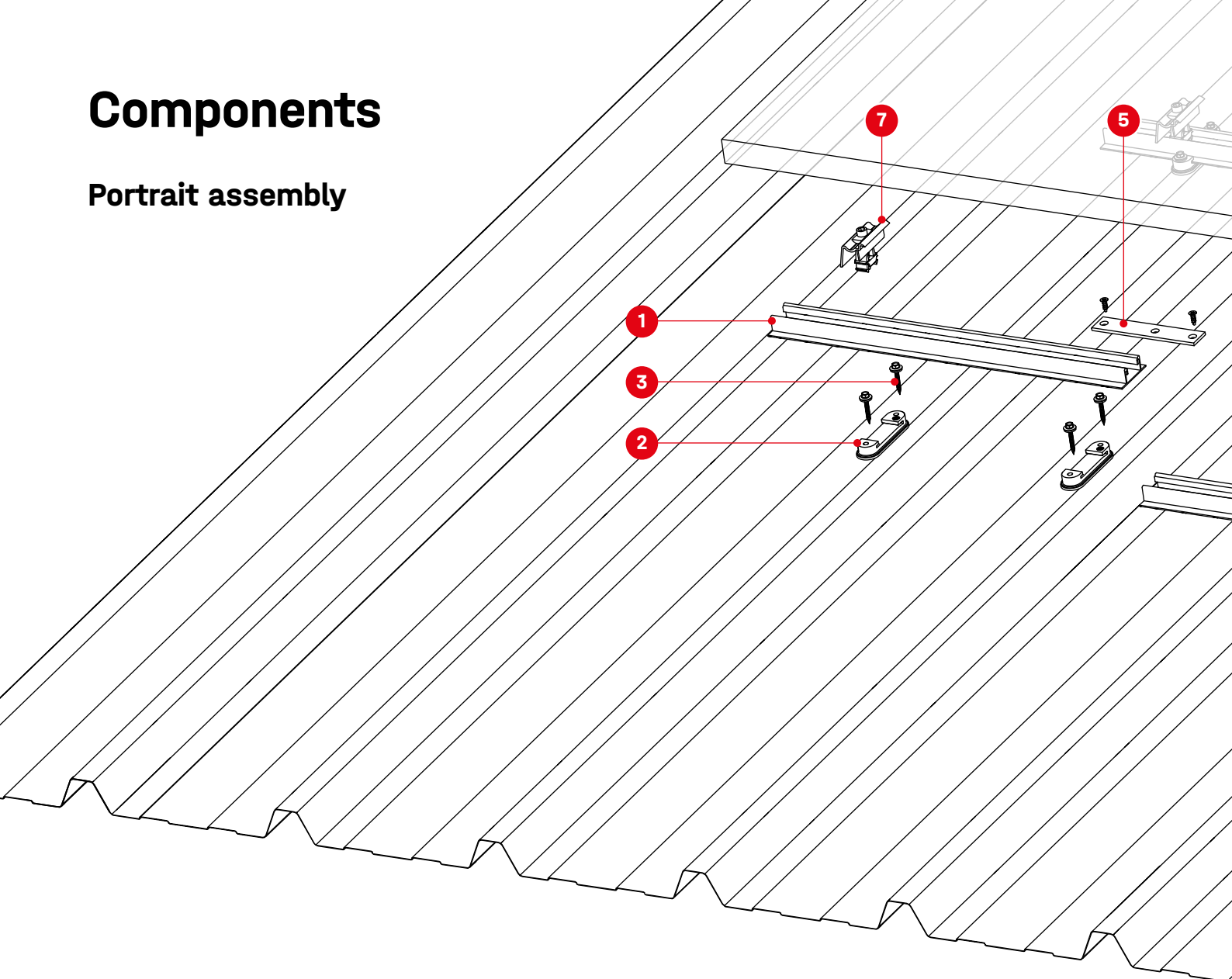


## Important mounting instructions

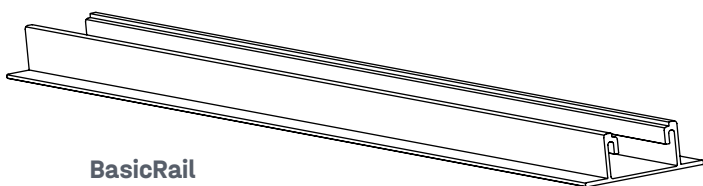
- Earthing must be ensured (use lightning arrester clamp if necessary).
- If the troughed sheet is to be fastened with calottes, please never bolt the BasicClips to the calottes! Instead of this, mount all BasicClips staggered in this sequence on the troughed sheet.
- Every fourth or quarter of all BasicClips is mounted rotated 180° to fix vertical position. Rotated BasicClips must not be placed at the end of the rail; see assembly step 5.
- For rail joints, BasicClips must be attached to the nearest high crest on both sides.
- Ensure a thermal separation after 8.80 m. The minimum distance between two rails should be 3 cm.
- Attention: Modules must never be clamped over the thermal expansion joint.
- A BasicLock per BasicRail up to 8.80 m in total length, is required (BasicRail connected via a rail connector counts as a BasicRail).
- When laying frameless modules vertically, always build in a stopper to prevent sliding-off for each module.
- MK2 insertion nuts and module clamps at rail joints must be avoided!
- A minimum mounting distance of 50 mm from the end of the rail / rail joint to the module frame.
- No pre-drilling required! Pre-drill only with overlapping sheets to reduce spacing.

# Components

## Portrait assembly

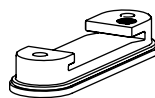


**1** Item number system-specific



BasicRail

**2** 1001164



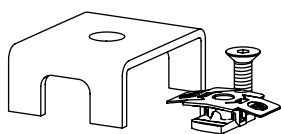
BasicClip

**3** 1005193



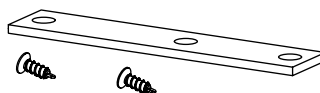
Self-tapping screws with sealing washer 6x38 mm

**4** 1003558



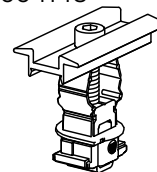
BasicLock Set

**5** 1003571



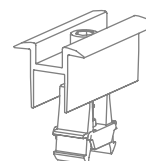
BasicConnector Set

**6** 2004146 / 2004148

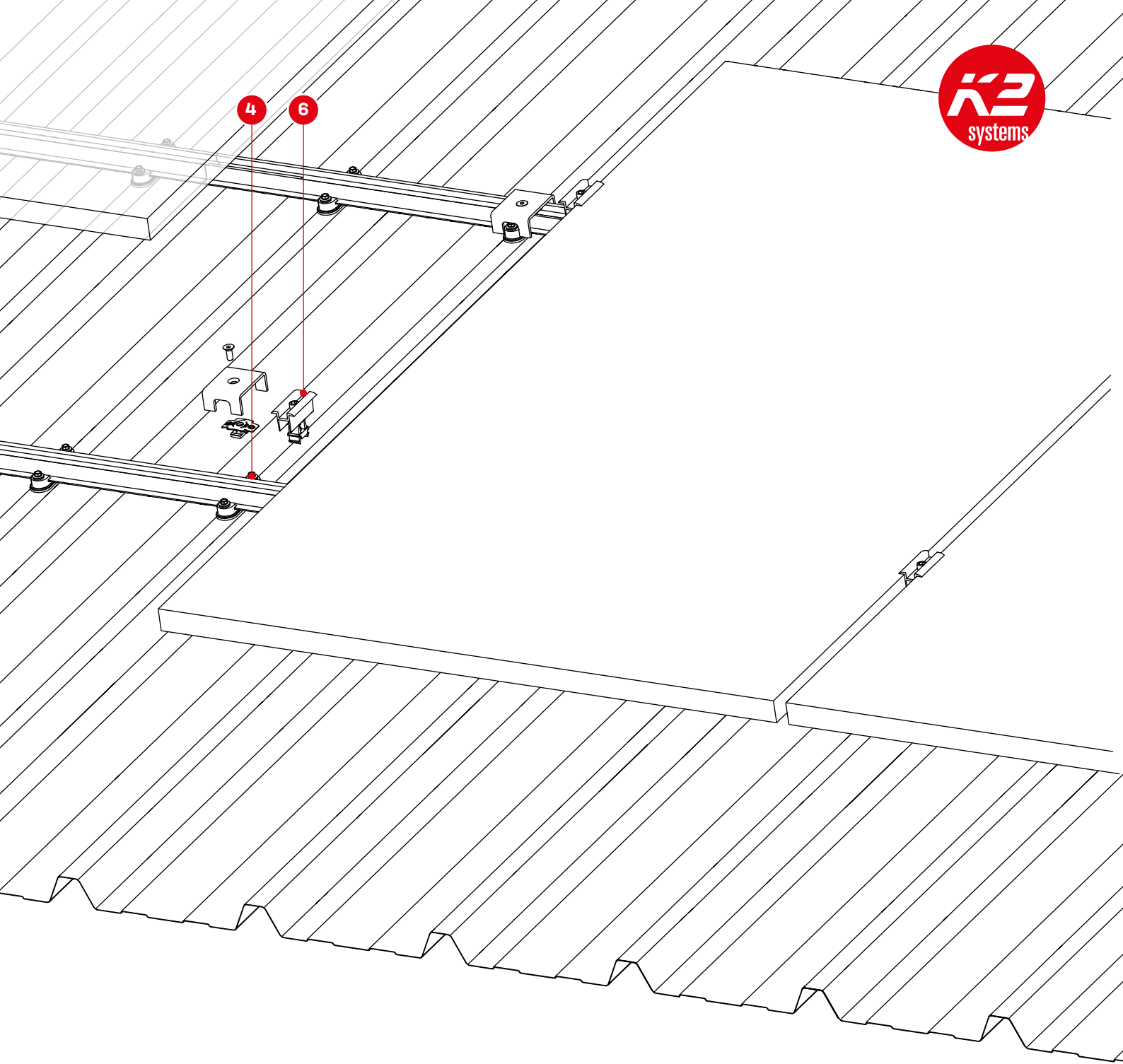


K2 Clamp MC 25 - 40  
silver / black

2003071 / 2003072

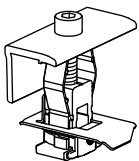


OneMid  
silver / black



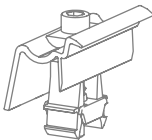
**See page 17 + 18!**

**7** 2004147 /  
2004149



**K2 Clamp EC  
25 - 40**  
silver / black

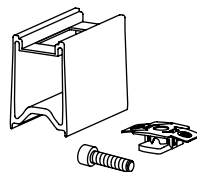
2002514 /  
2002589



**OneEnd**  
silver / black

**Optional components**

2003191



**RailUp Set**

2001881



**TerraGrif K2SZ**

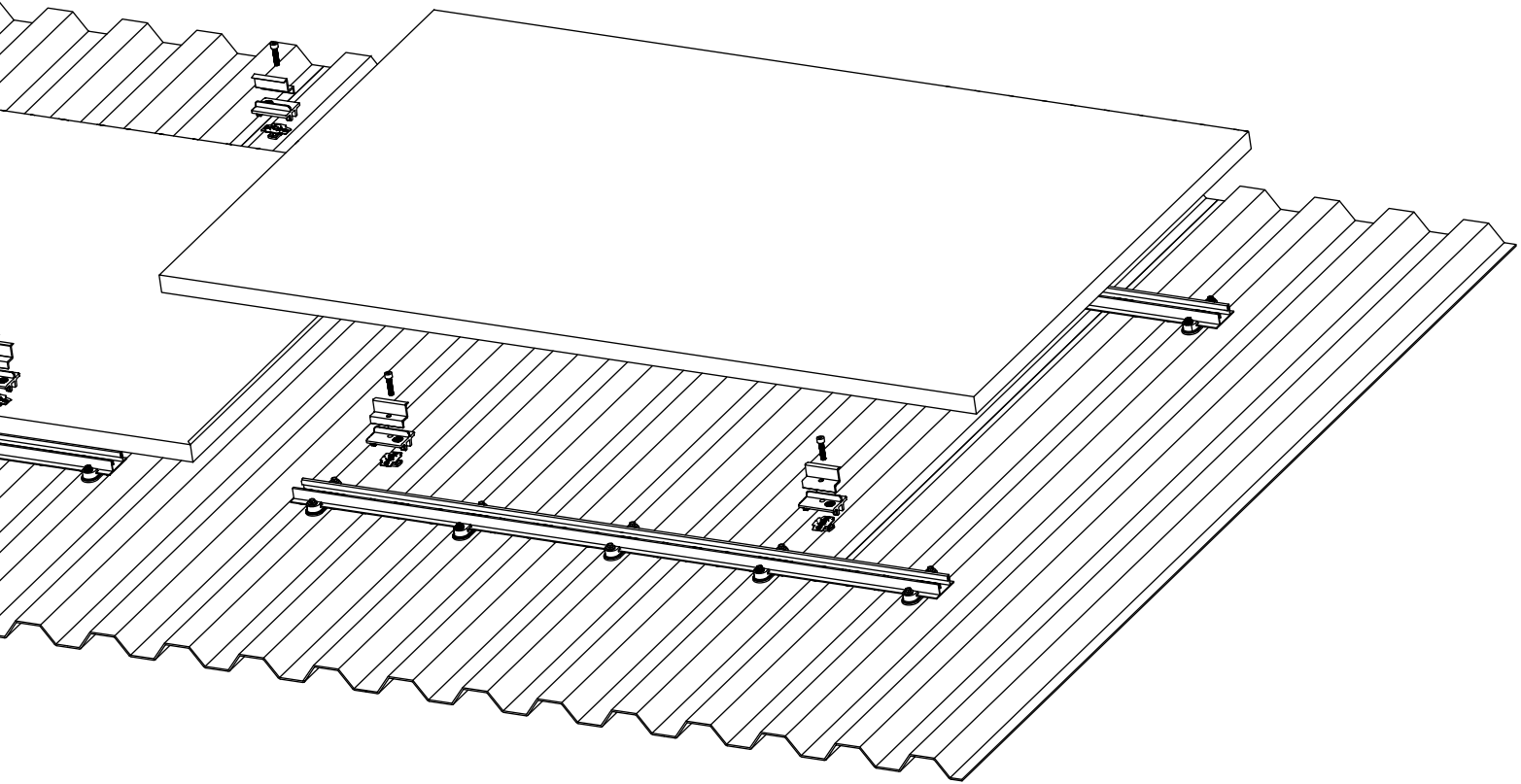
2000055



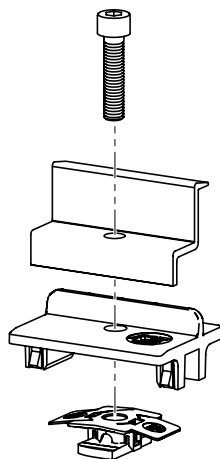
**TerraGrif K2PA**

# Components

## Landscape assembly with AddOn

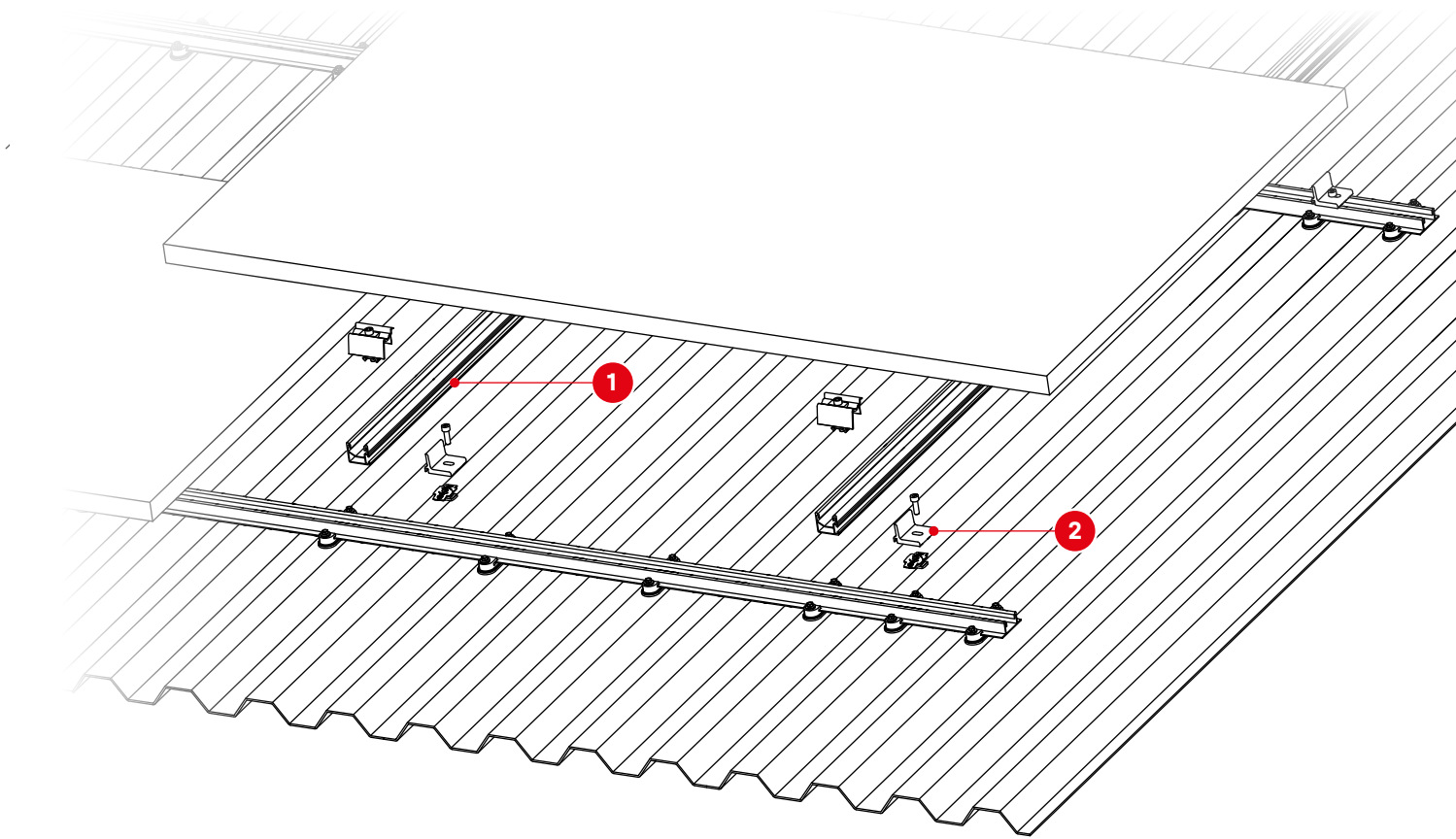


- 1 Screw length  
module frame specific  
**socket head cap screw M8**
- 2 1005131 **middle clamp**  
module frame specific **end clamp**
- 3 module frame specific  
**AddOn 22/25 or 30**
- 4 1001643  
**MK2 insertion nut**

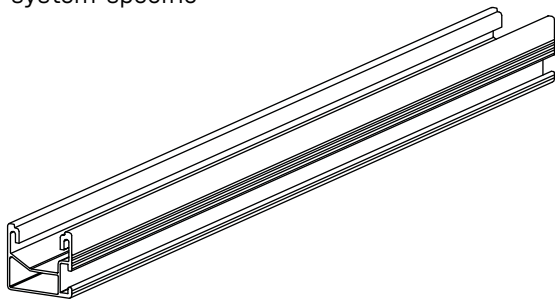




## Landscape assembly with two layers of rails

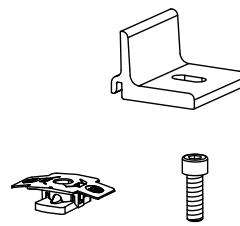


**1** Item number system-specific



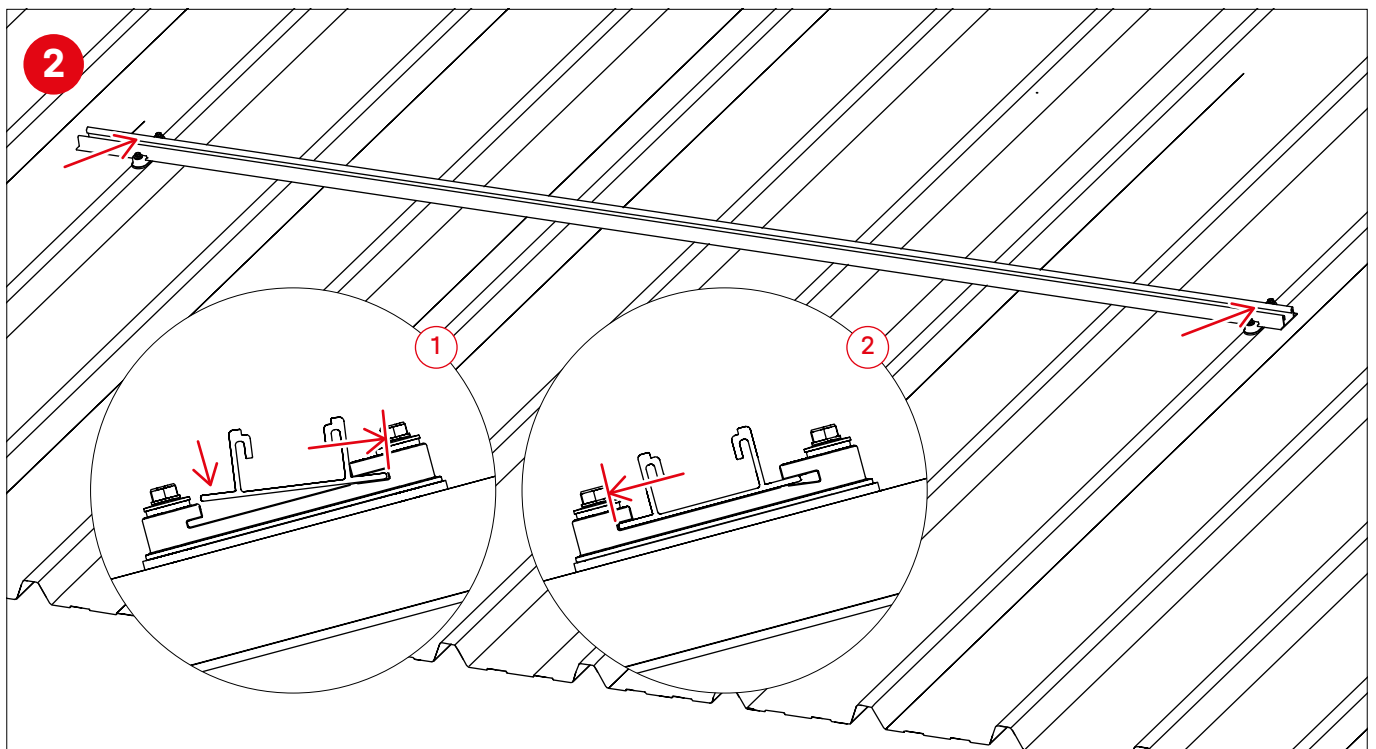
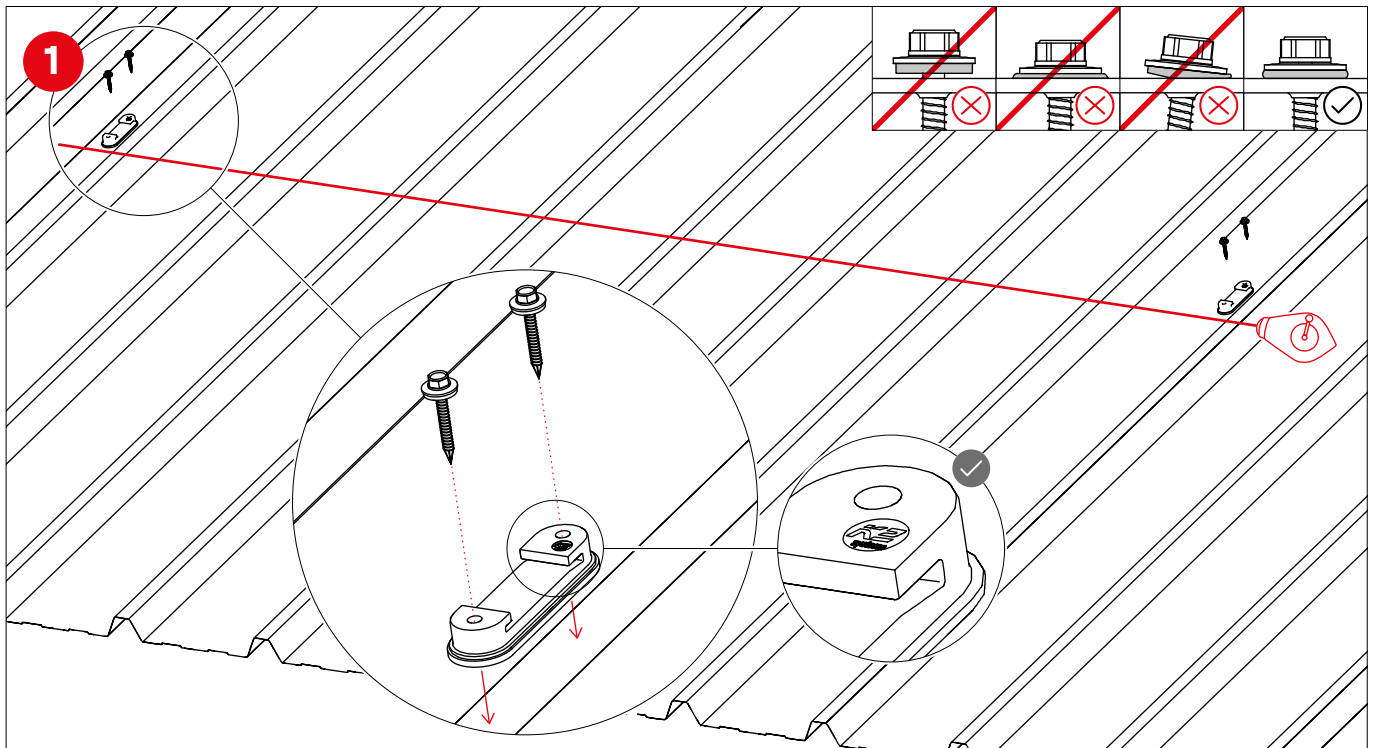
SingleRail

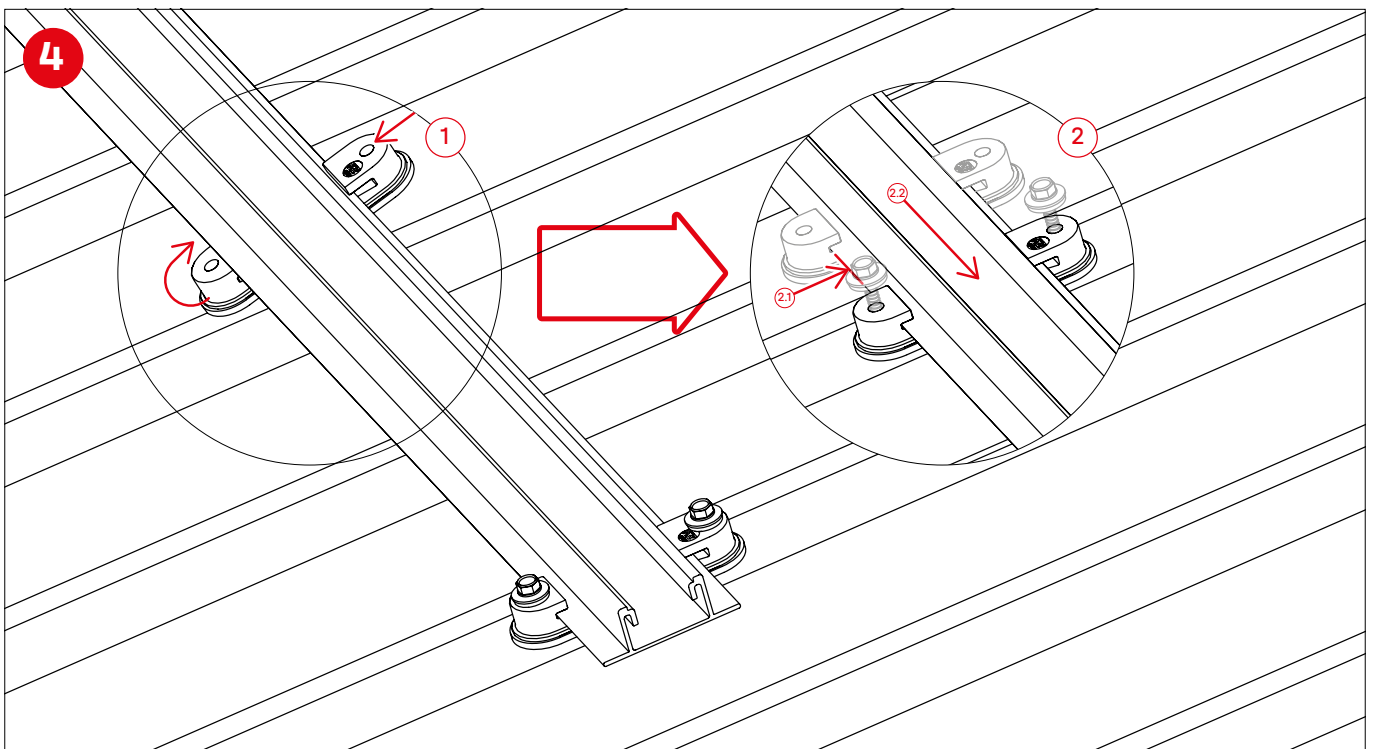
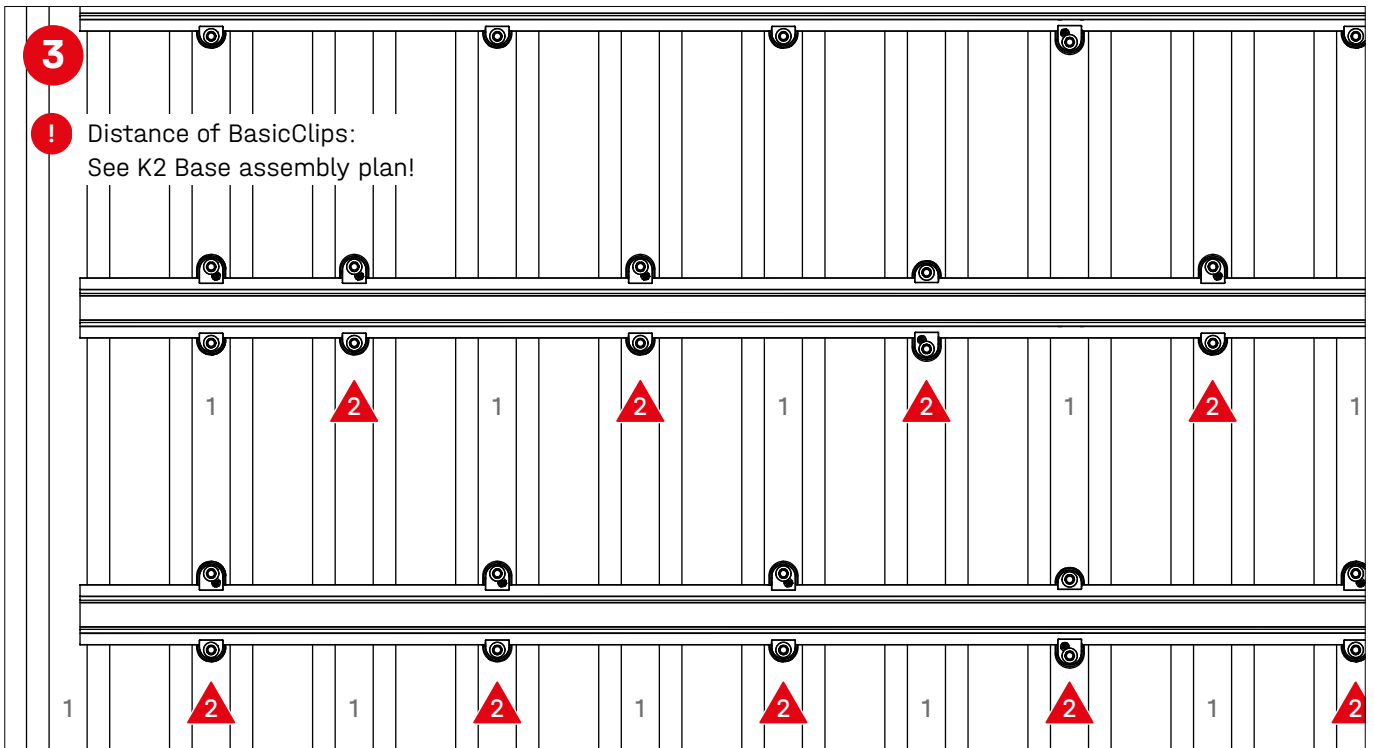
**2** 2003145



Climber Set

# Assembly

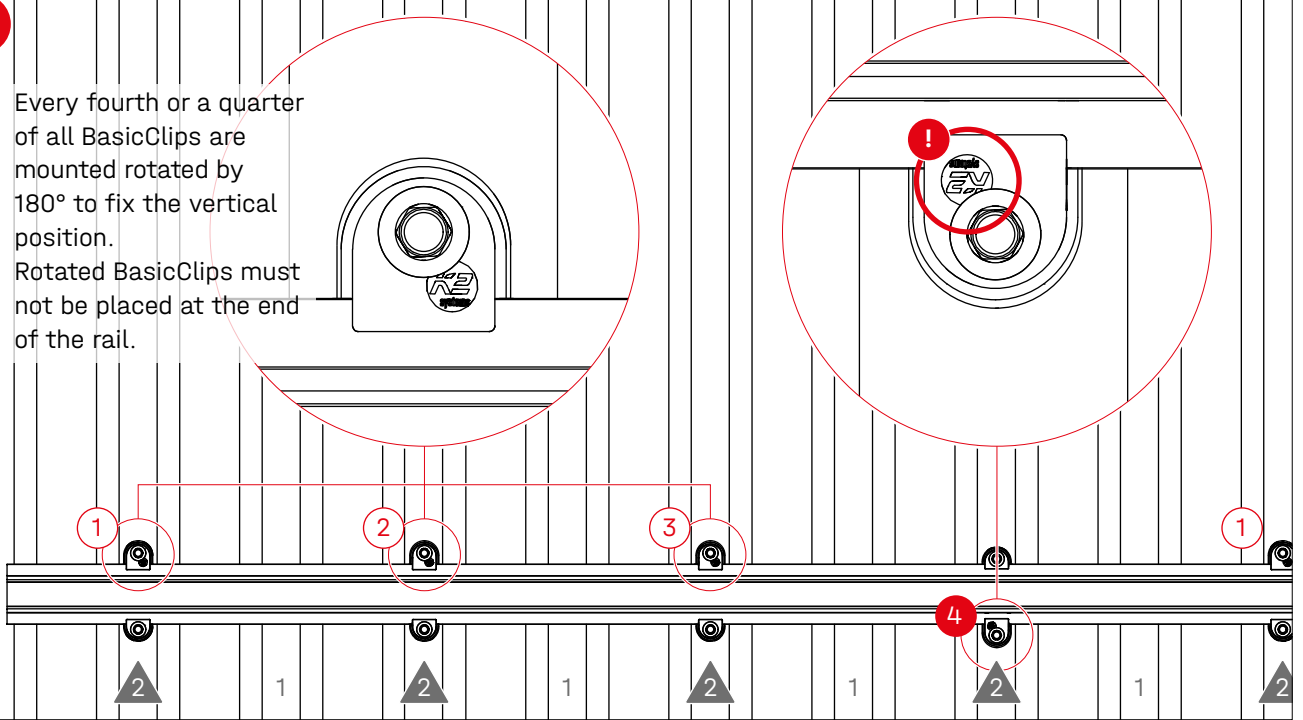




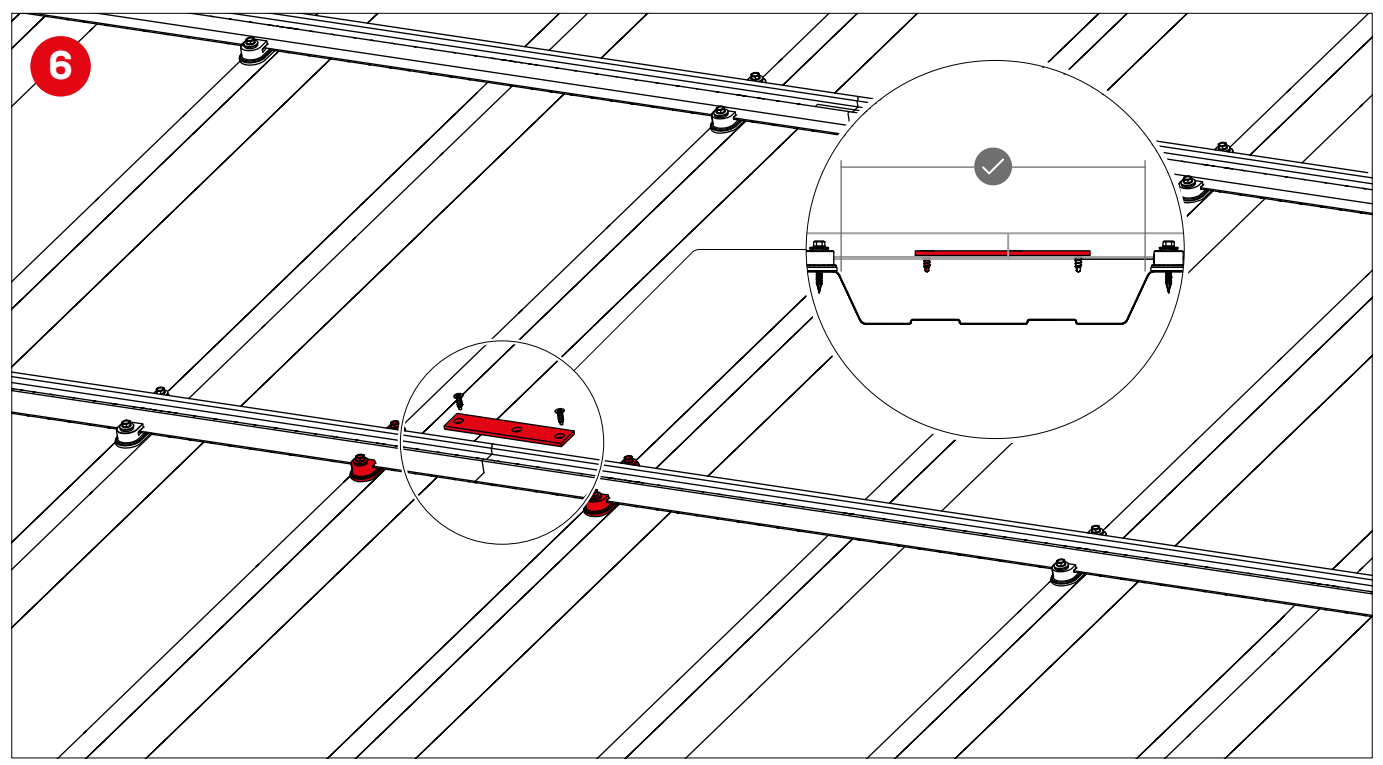
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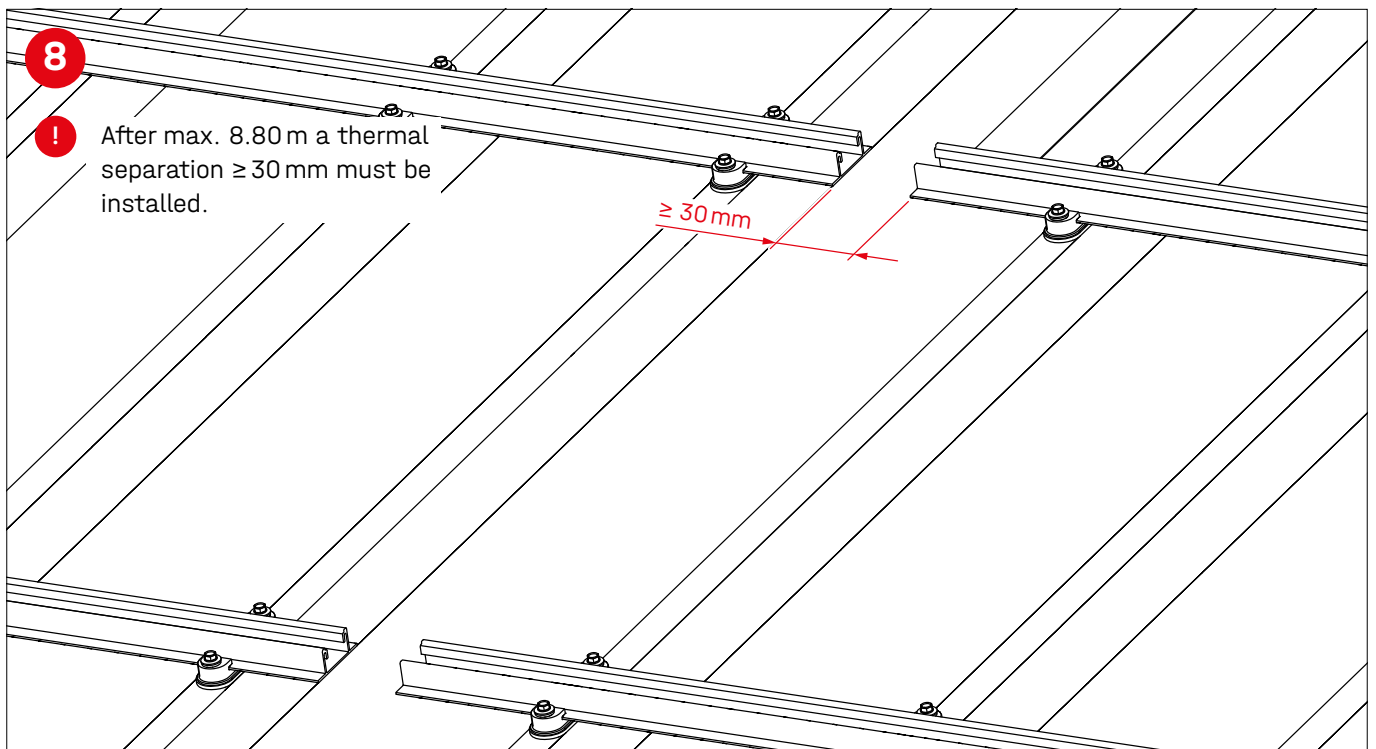
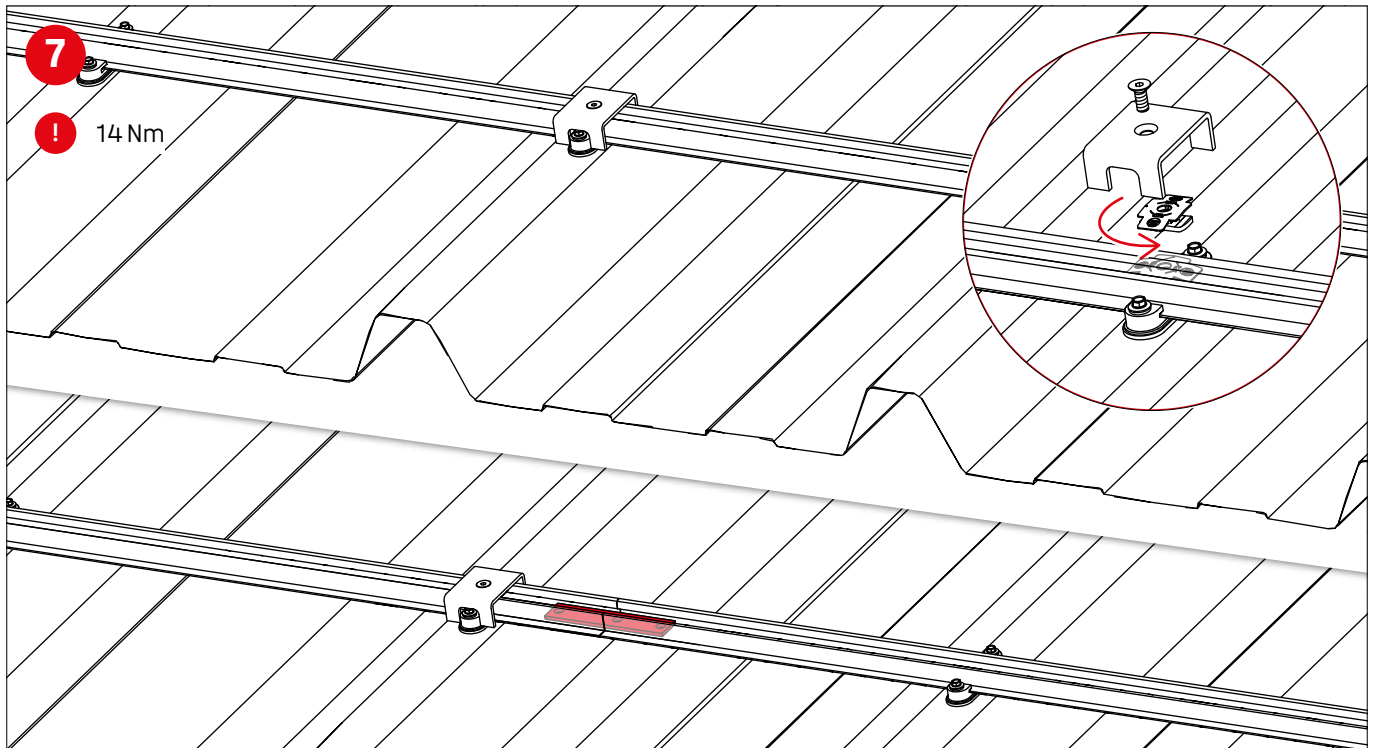


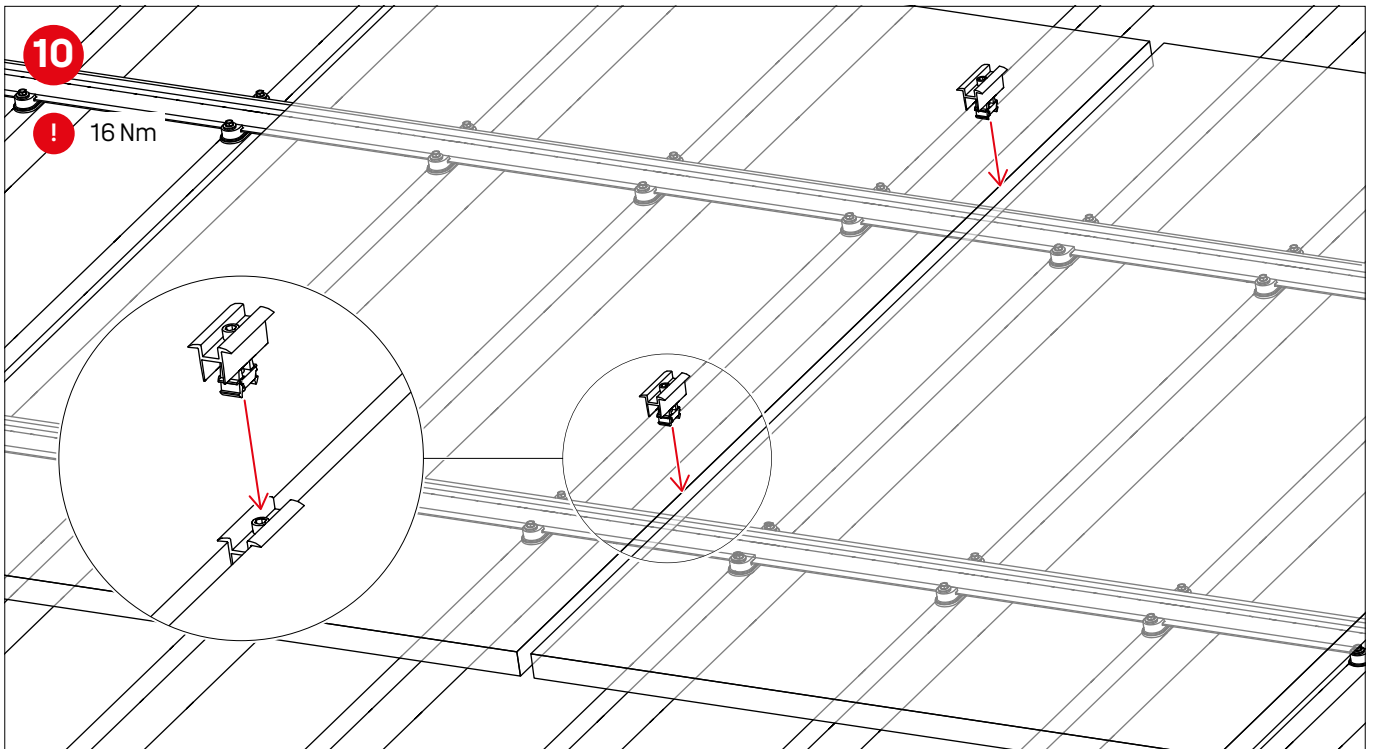
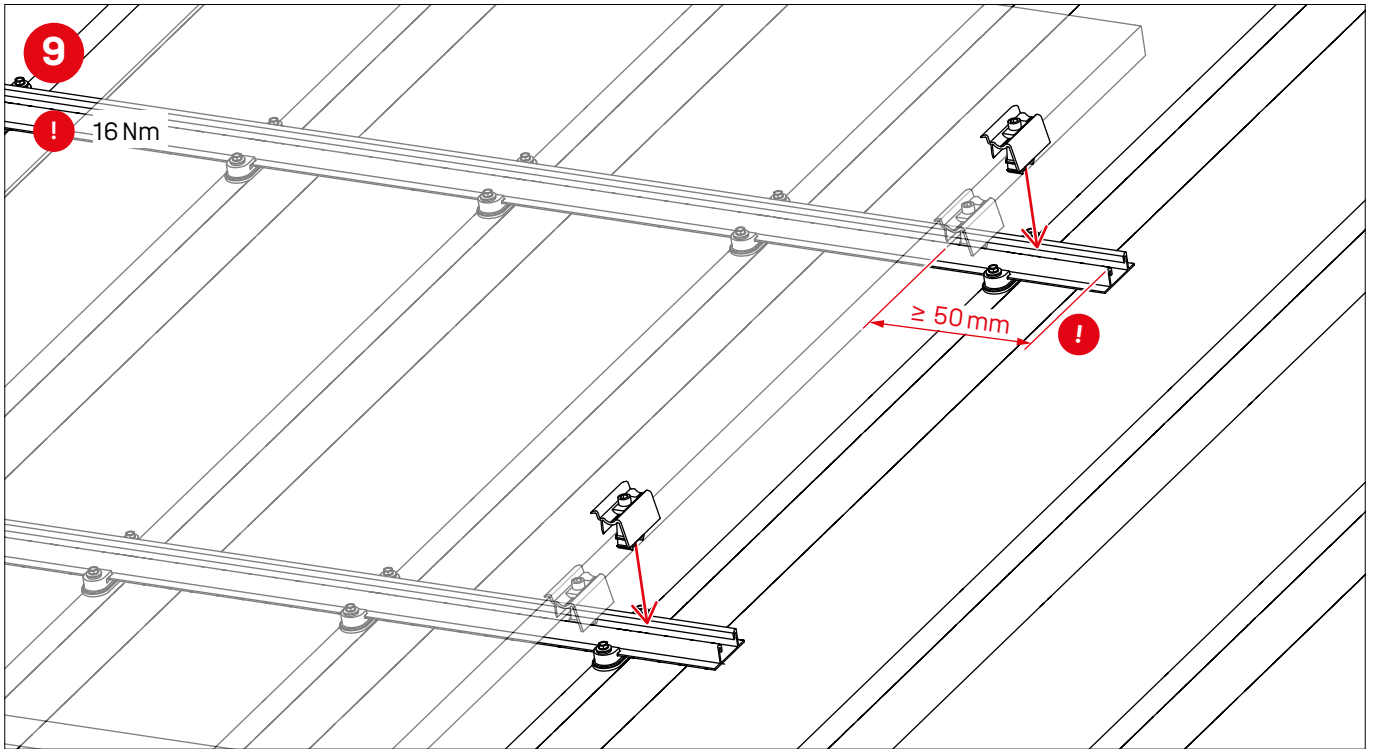
Every fourth or a quarter of all BasicClips are mounted rotated by 180° to fix the vertical position. Rotated BasicClips must not be placed at the end of the rail.



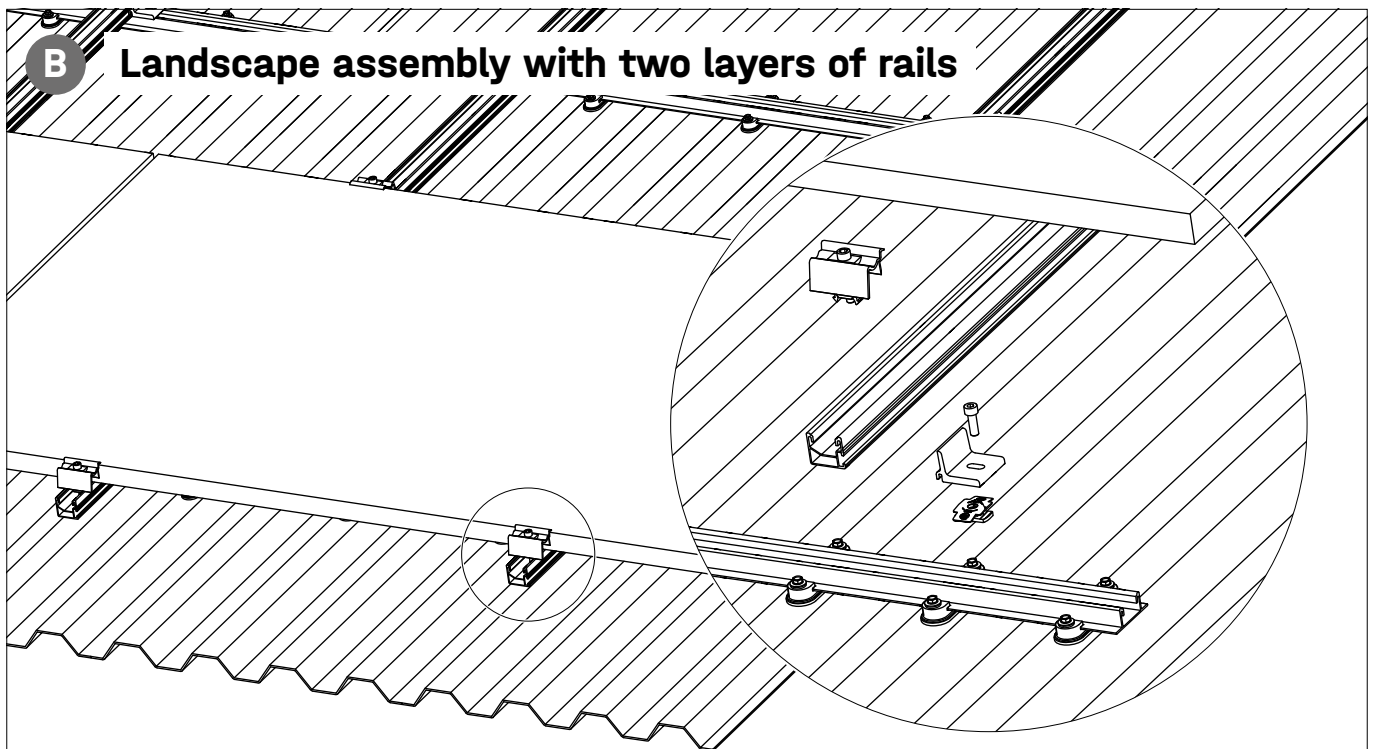
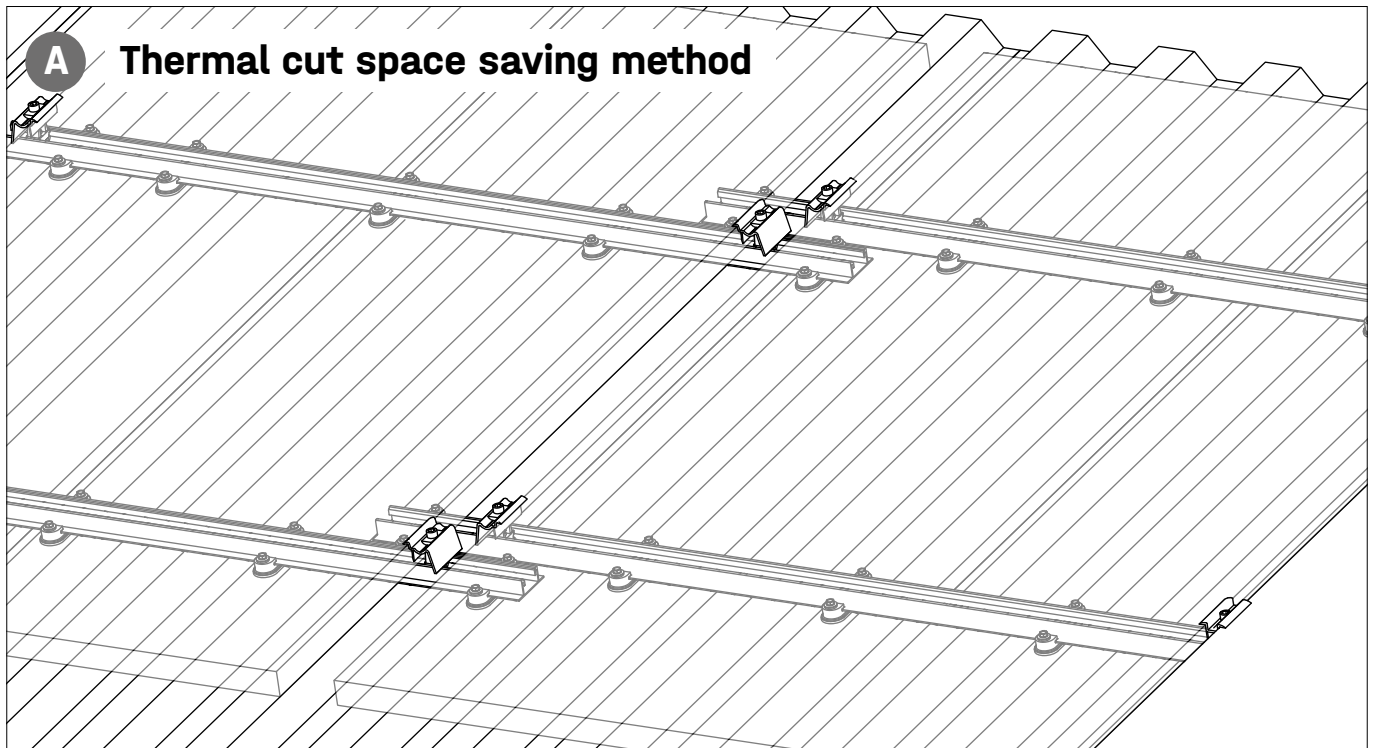
6



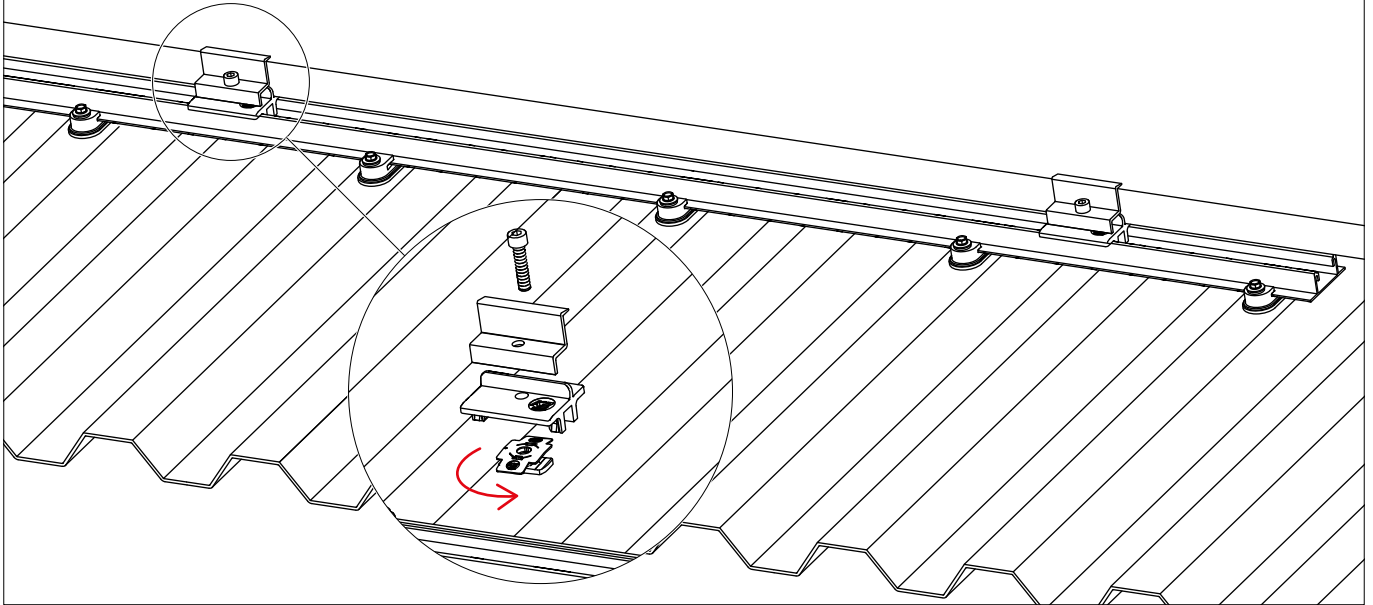




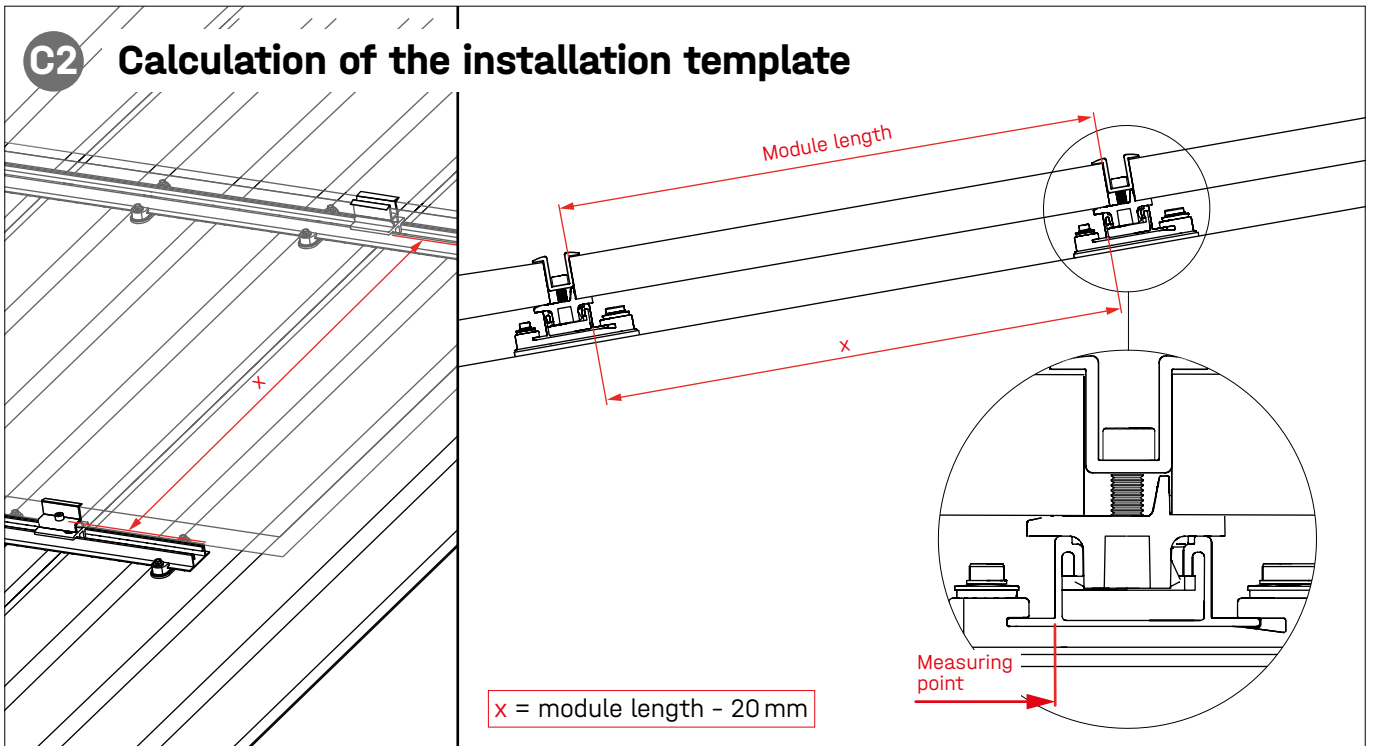
# Alternative system assemblies



## C1 Landscape assembly with AddOn



## C2 Calculation of the installation template

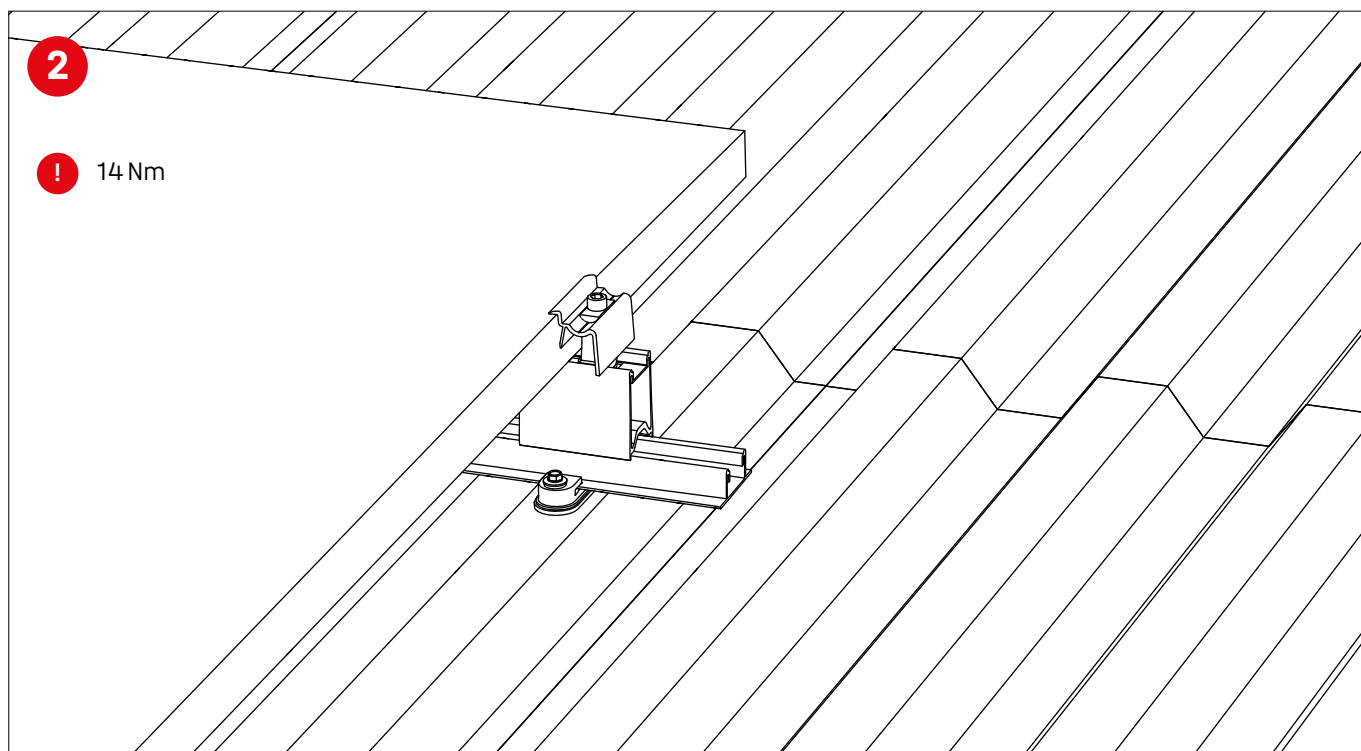
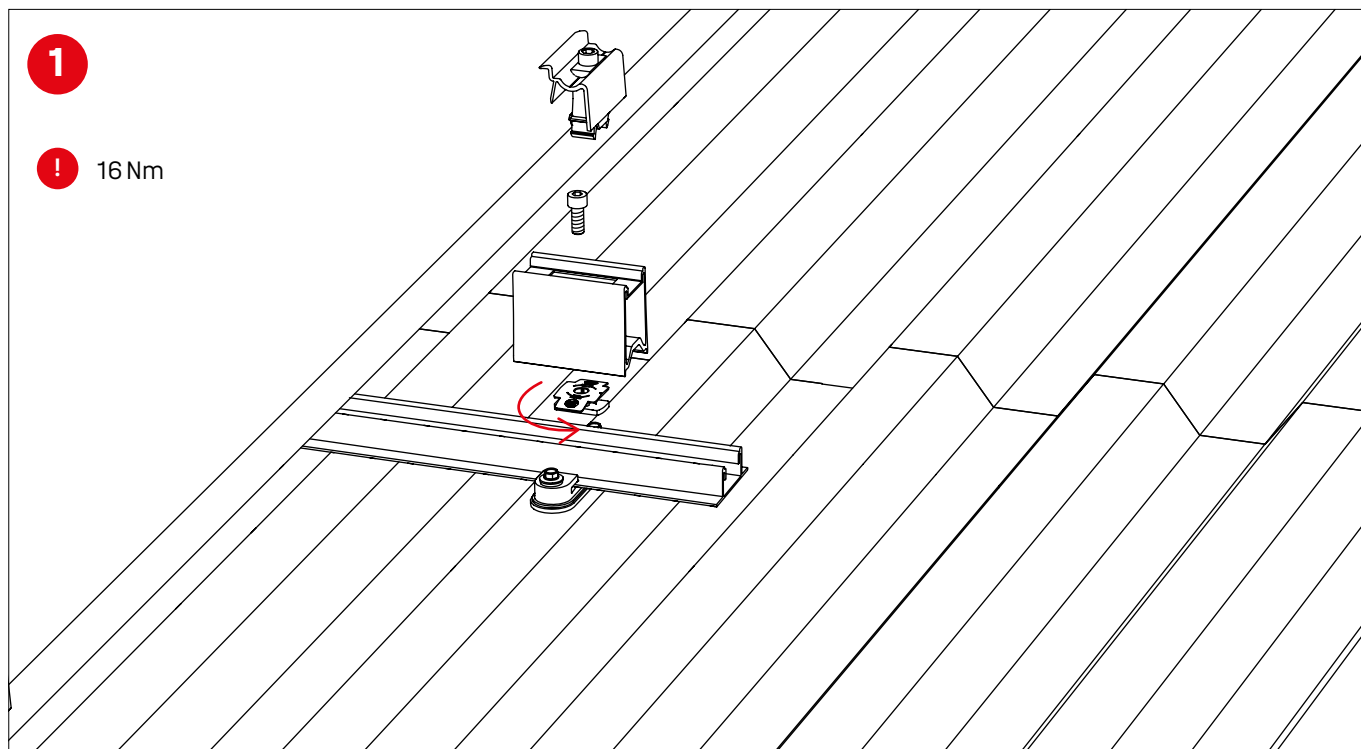




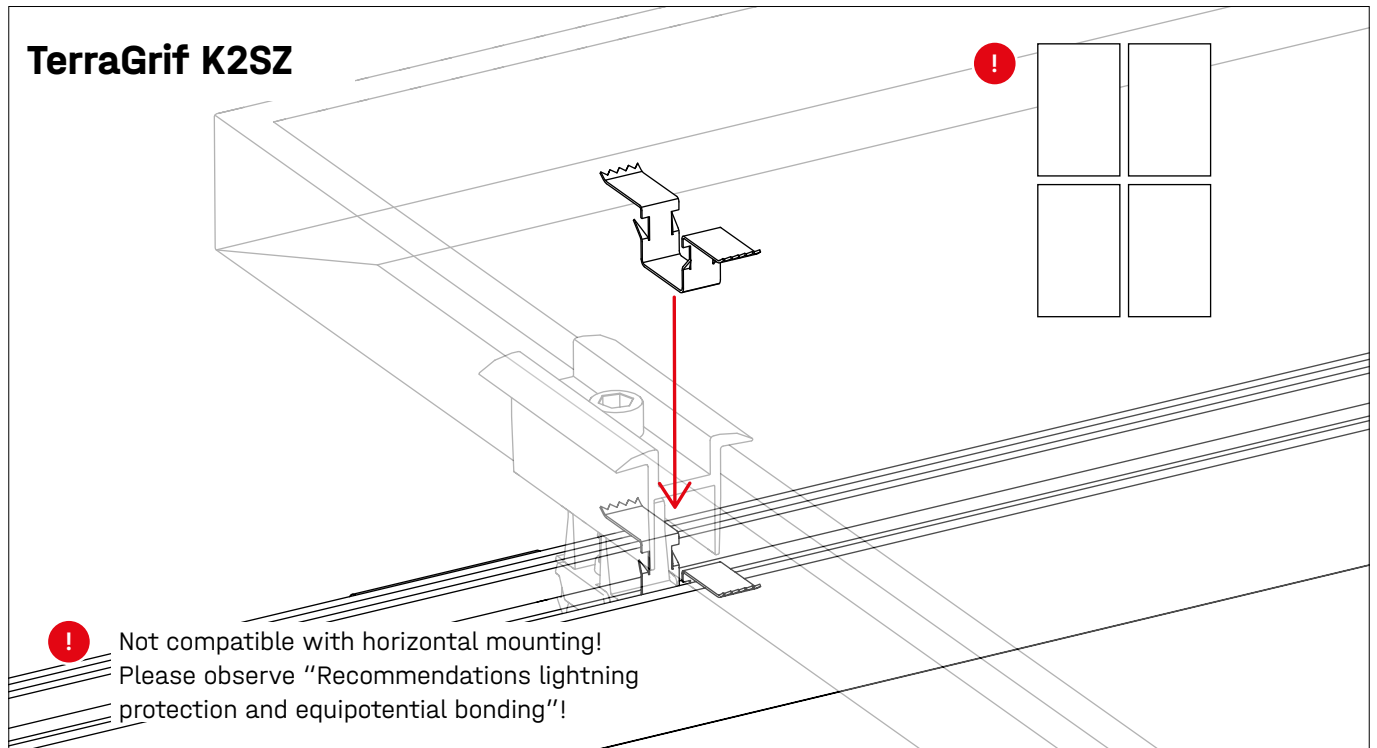
# Optional installation steps



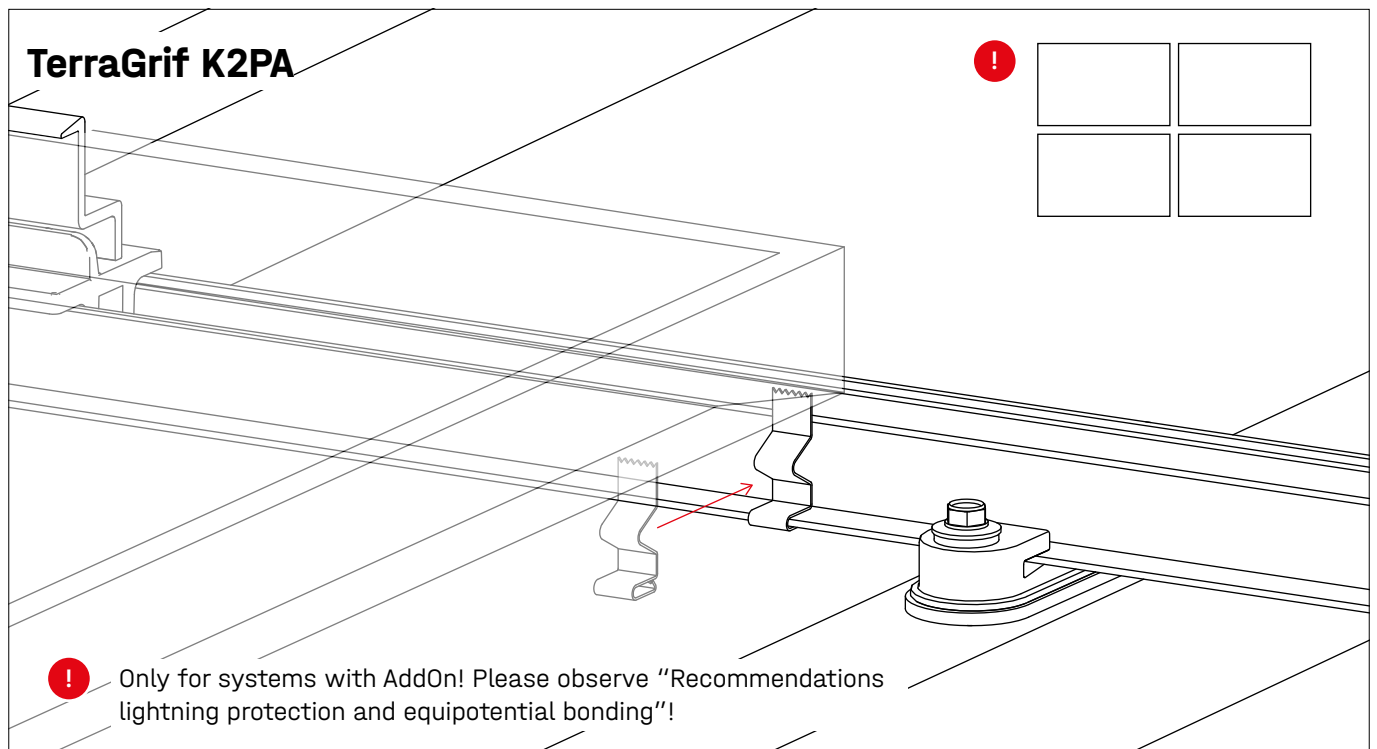
## Roof-parallel elevation with RailUp



## TerraGrif K2SZ



## TerraGrif K2PA





## 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 (0)7159 42059-0**

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

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BasicRail Assembly EN V20 | 0323 · Subject to change  
Product illustrations are exemplary and may differ from the original.



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