Connecting Strength



Assembly instructions

D-Dome 6.07

Classic Portrait

Content

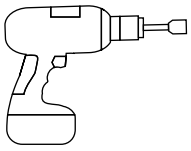
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Quality tested - several certifications

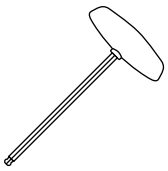
K2 Systems stands for secure connections, highest quality and precision. Our customers and business partners have known that for a long time. Independent institutes have tested, confirmed and certified our capabilities and components.

Please find our quality and product certificates under:
k2-systems.com/en/technical-information

Tools overview



6 mm

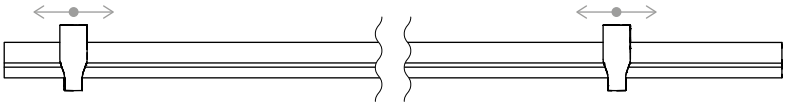


6 mm

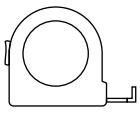


6 - 30 Nm
(4.5 - 22.2 lb-ft)

6 mm



Dome Speed Spacer Large · 2004129
Distance template for module lengths



≥ 3.0 m



≥ 6.0 m

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 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
  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

- This system can be installed on all common flat roofs with a pressure-resistant substrate and a roof pitch of ≤ 3° without a fixed connection.
- Fixed connection > 3° to ≤ 10°
  - Up to ≤ 5° combinations with ballast possible
  - > 5° to ≤ 10° only without ballast
- The roof surface must be clean and dry. Roof irregularities must be corrected or removed where appropriate.
- In the case of bitumen roofing, the roof waterproofing must be professionally inspected and additional protective measures must be taken if necessary.
- The coefficient of friction of the roof must be determined on-site. See video
  k2-systems.com/en/friction-coefficient

Static 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.
- Suitable for framed modules with a frame height 30 - 50 mm
- Permissible module dimensions:
  length 1700 – 2500 mm, width 900 – 1400 mm

Important mounting instructions

Mounting system

- The mounting angle is always 7°.
- A minimum distance to the roof edge of 600 mm must be maintained. For building heights below 5 m, the minimum distance can be reduced.
- The compatibility of the roof covering and the Mat S support pad must be checked.
- At least two double modules must be mounted next to one another in order to use this system.
- Ensure a thermal separation (distance between module blocks) in the direction of the base rail and module rows must be maintained:
  · Base Rail: 12.0 m
  · Module row: 16.0 m
- In the event of exceptional circumstances (such as storms, heavy rain, earthquakes, etc.), the system should be checked by a specialist. Should an inspection find damage or plastic deformation (such as in the module clamp area) the components must be replaced.

Modules and clamping

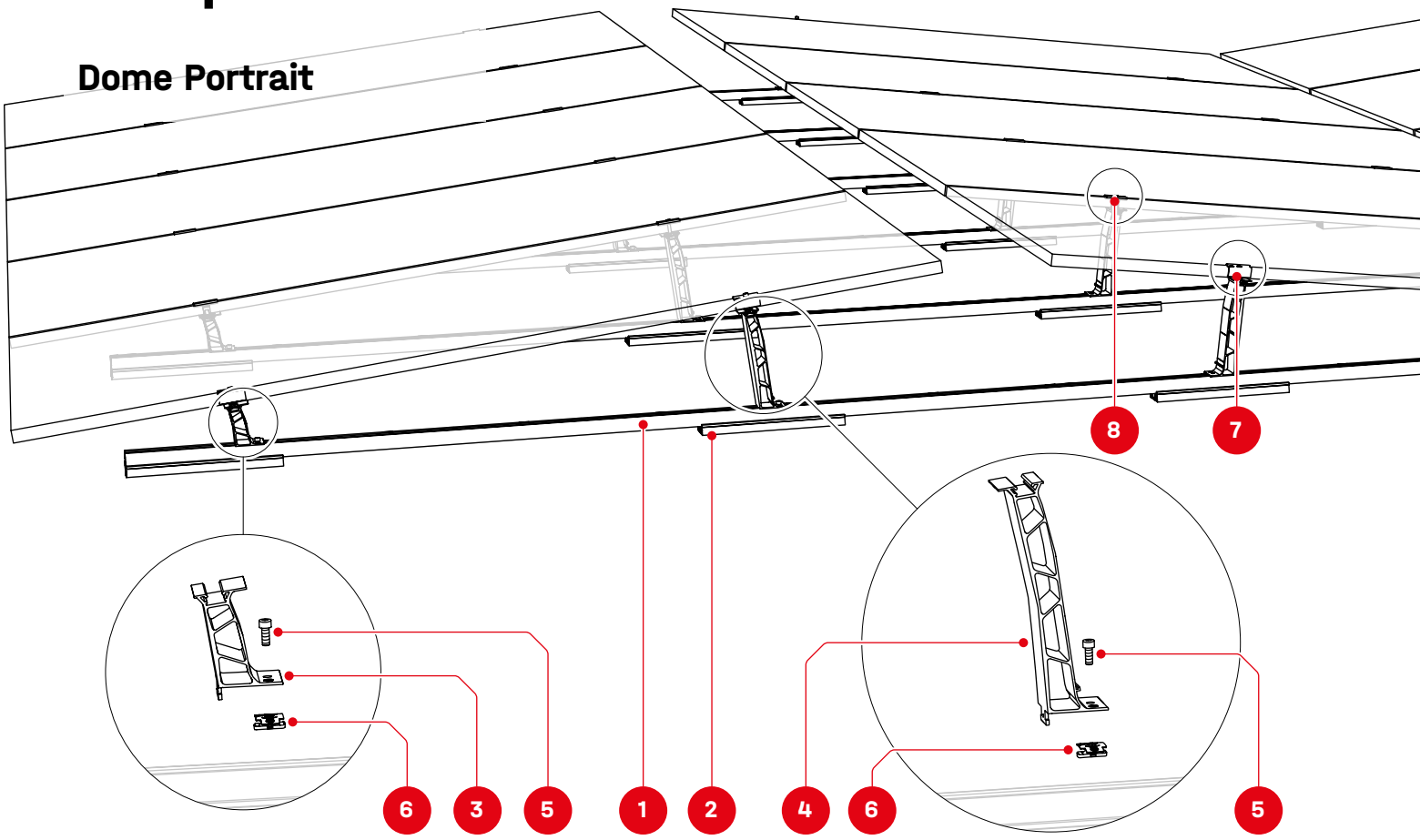
- Tightening torque of 16 Nm for all module clamps.
- Adhere to module manufacturer recommendations for clamping area and module installation (see module manufacturer instructions).

General information

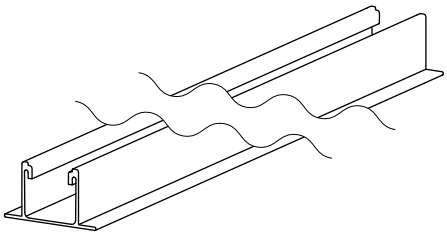
- External influences that act on this system are only reflected in the design of the ballast to a limited degree. For instance, unevenness, thermal elongation, moss, water accumulation and ageing of the sheeting cannot be considered, although these factors might also precipitate system displacement under certain circumstances. We therefore recommend regular maintenance of the system or to check whether additional mechanical fastening is necessary.
- It is important to ensure that the rain water flow is not hindered.
- Because of the different orientation of the solar modules, the string and inverter connection must be appropriately observed. It is recommended that the inverters and strings are connected separately.
- 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).

Components

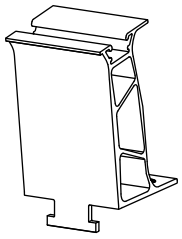
Dome Portrait



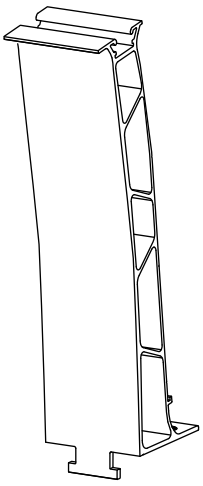
1 2005242
K2 BasicRail 36



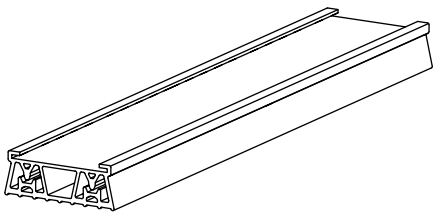
3 2005193
Dome 6.07 SD



4 2005194
Dome 6.07 Peak



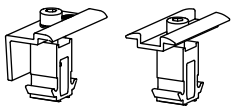
2 2003126
Dome Mat S 380

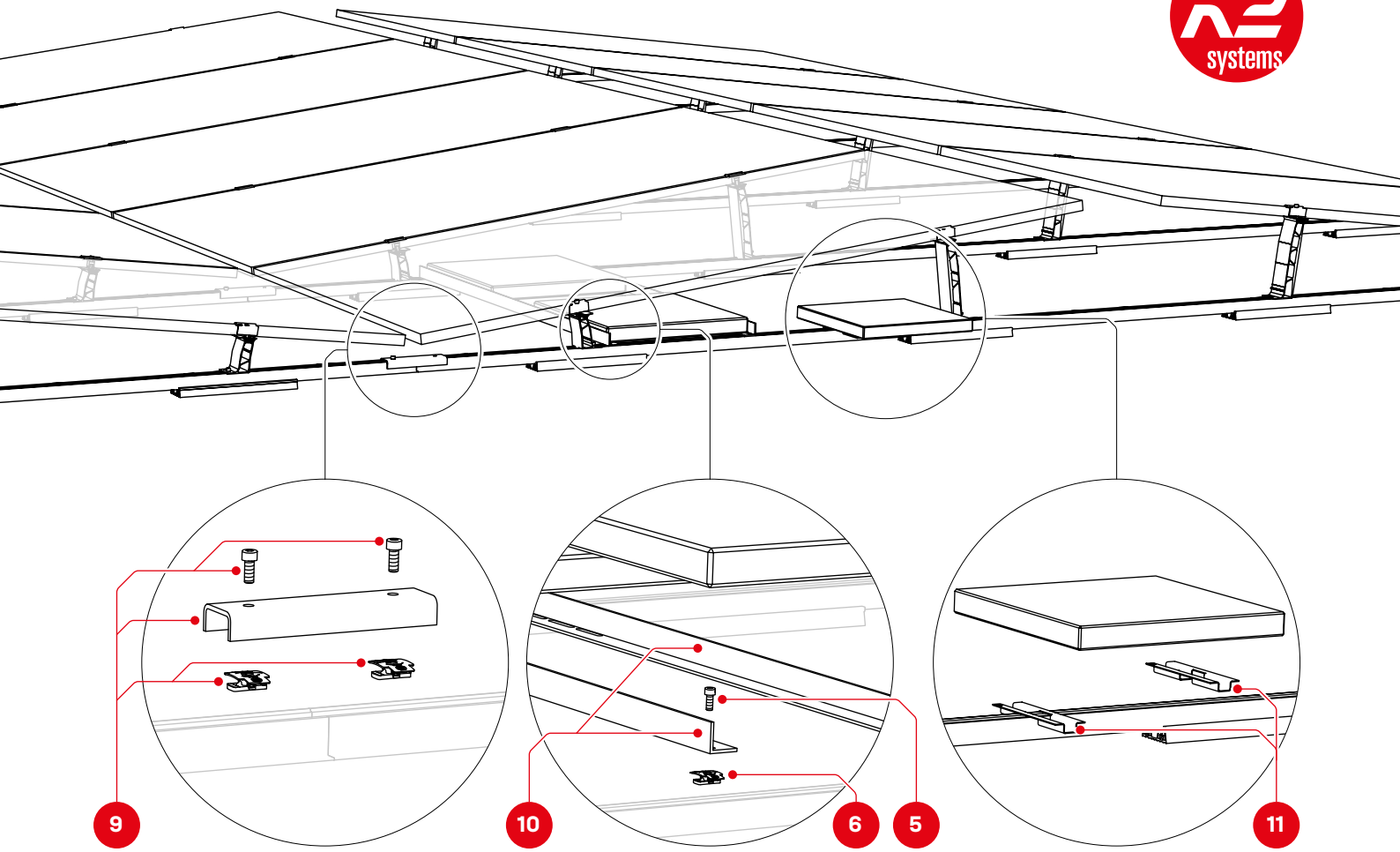


5 2001729 + 1001643
6 **Hexagonal socket head cap screw M8×20 + MK2 insertion nut with clip**



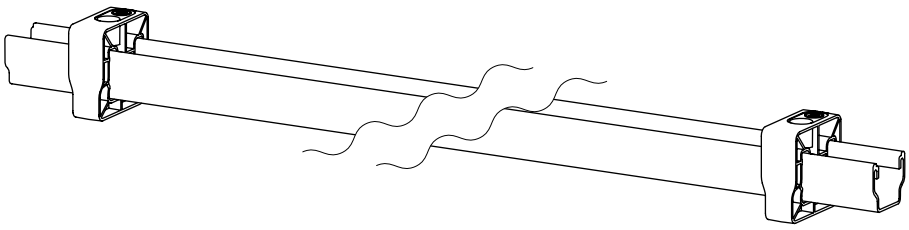
7 2004561/2004564
8 **DomeClamp EC silver/black**
2004555/2004558
DomeClamp MC silver/black



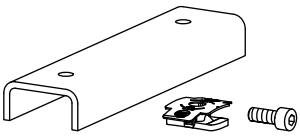


Optional

2004129 **Dome Speed Spacer Large**, more informationen on page 10



9 2005290/1006039
Dome FlatConnector Set Steel/Aluminium



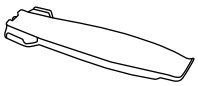
2003542
TerraGrif K2MI Duo 18



2005041
Alpha PV-Clip

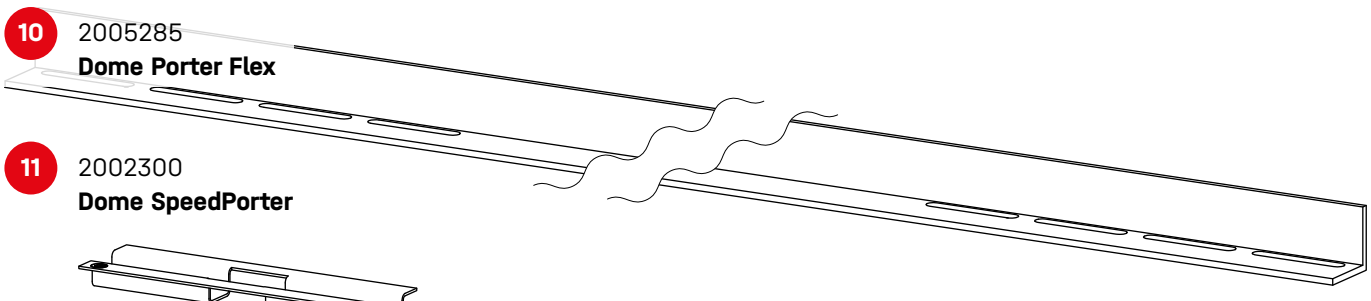


2004141
Mat S Tool



Ballasting

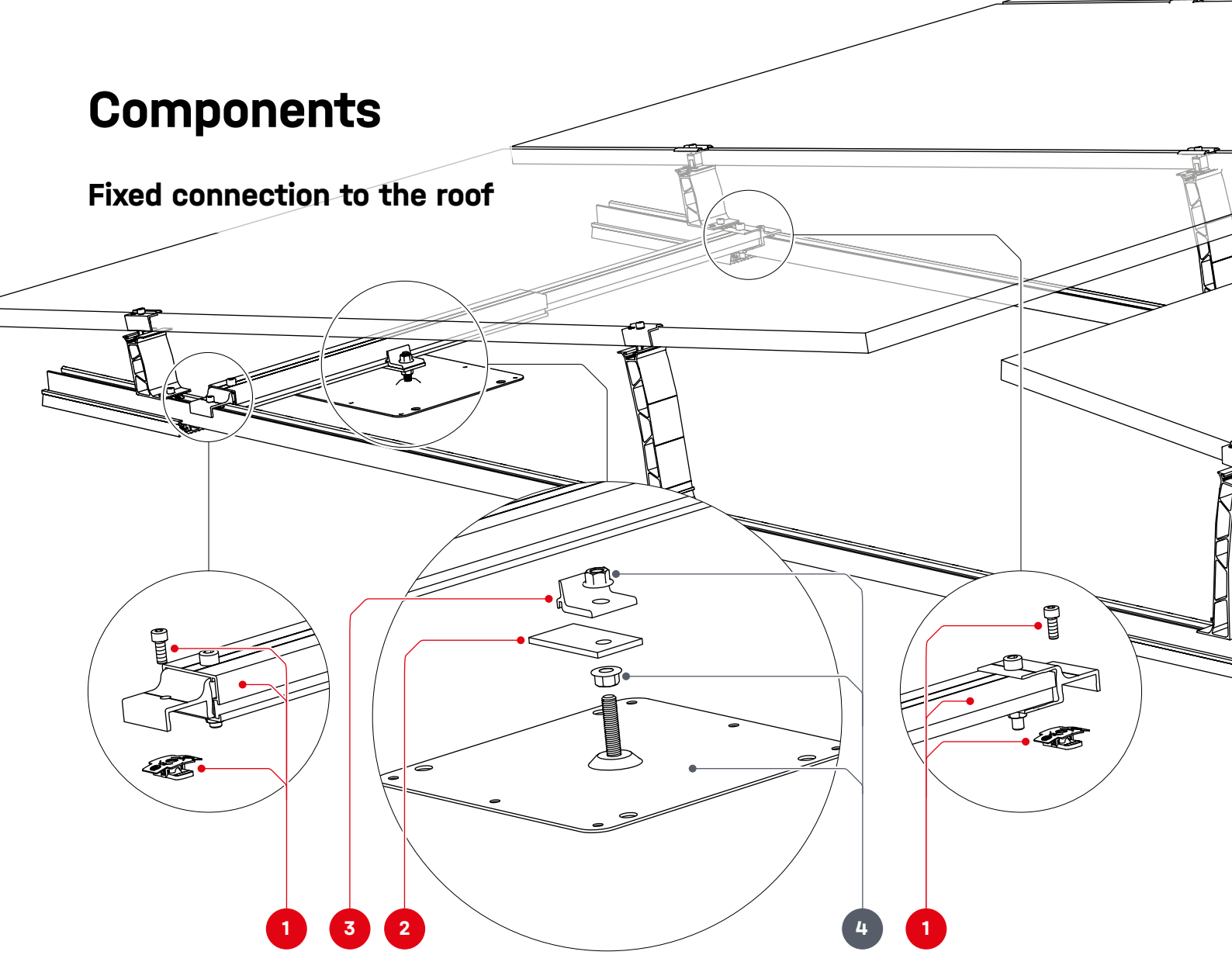
10 2005285
Dome Porter Flex

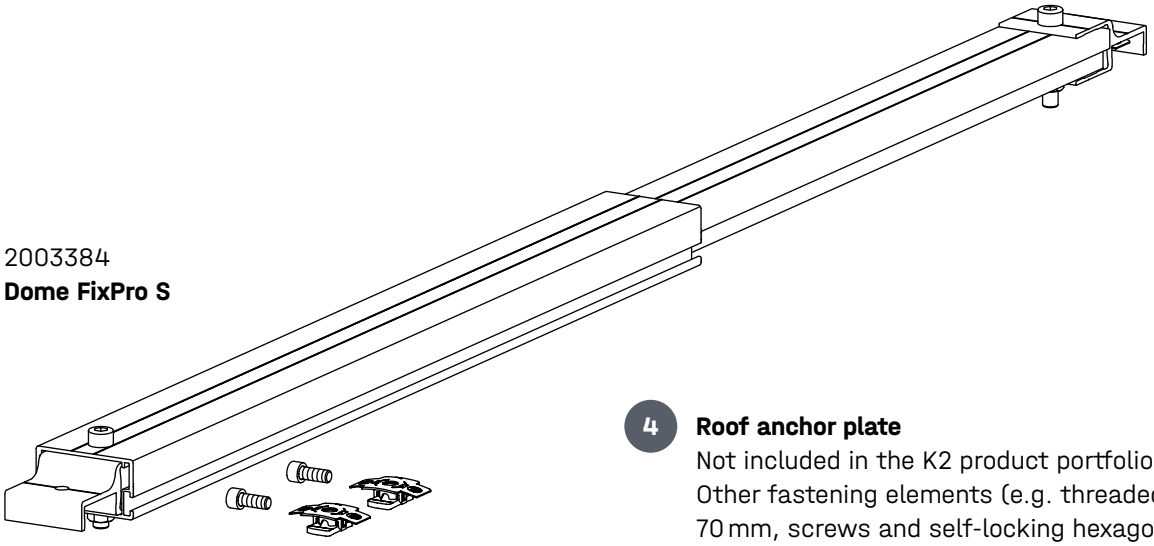


11 2002300
Dome SpeedPorter

Components

Fixed connection to the roof



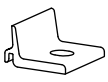


1 2003384
Dome FixPro S

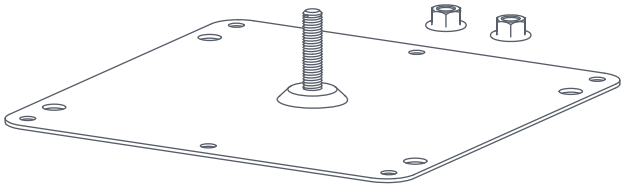
2 2002546 / 2002547
Adapter plate M10/12



3 2003146 / 2003147
Climber M10/12



4 **Roof anchor plate**
Not included in the K2 product portfolio.
Other fastening elements (e.g. threaded rod - min 70 mm, screws and self-locking hexagon nuts) for fixing to the roof anchor plate must be provided by the customer.

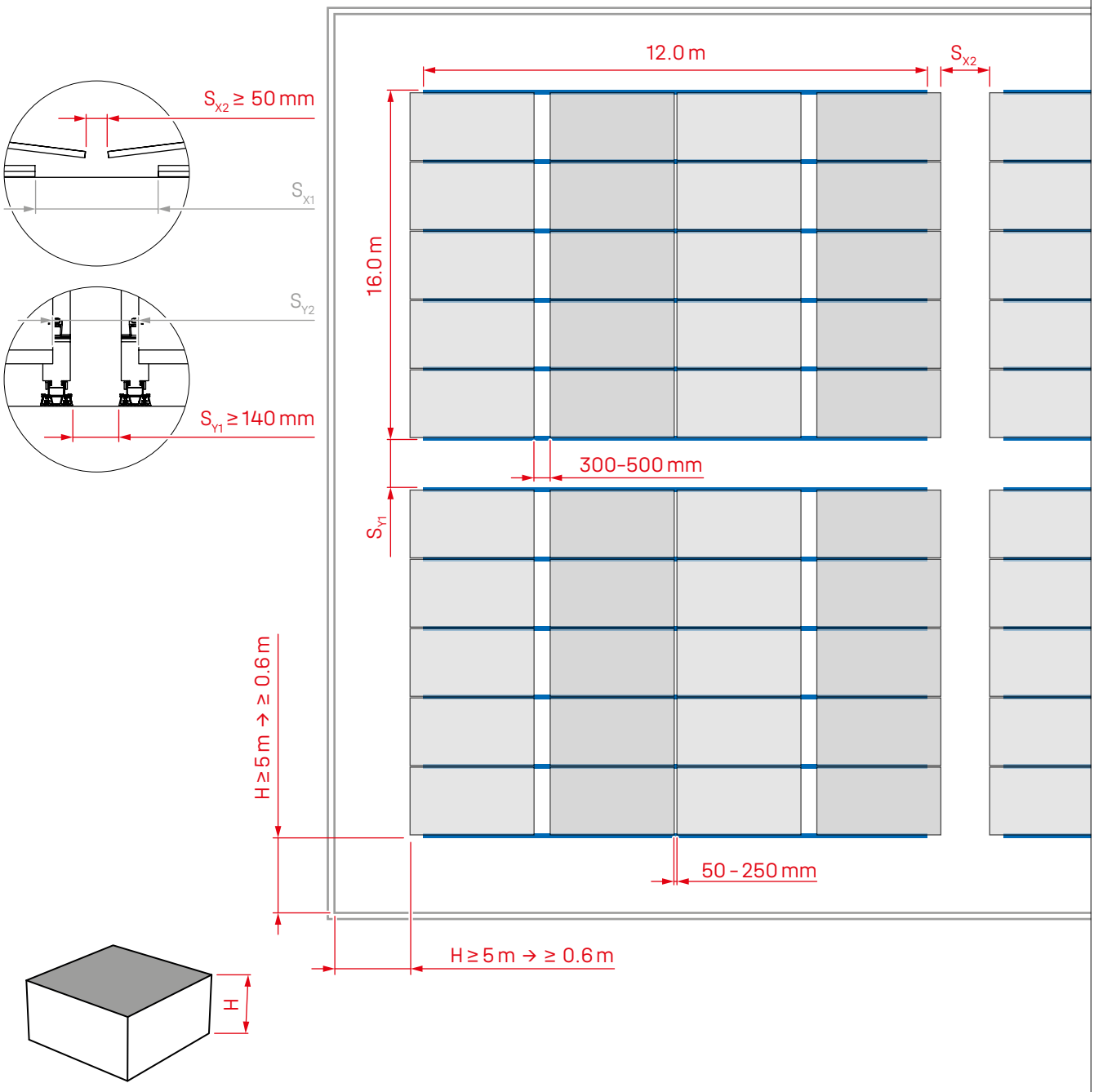


Assembly

Installation of module field and thermal separations

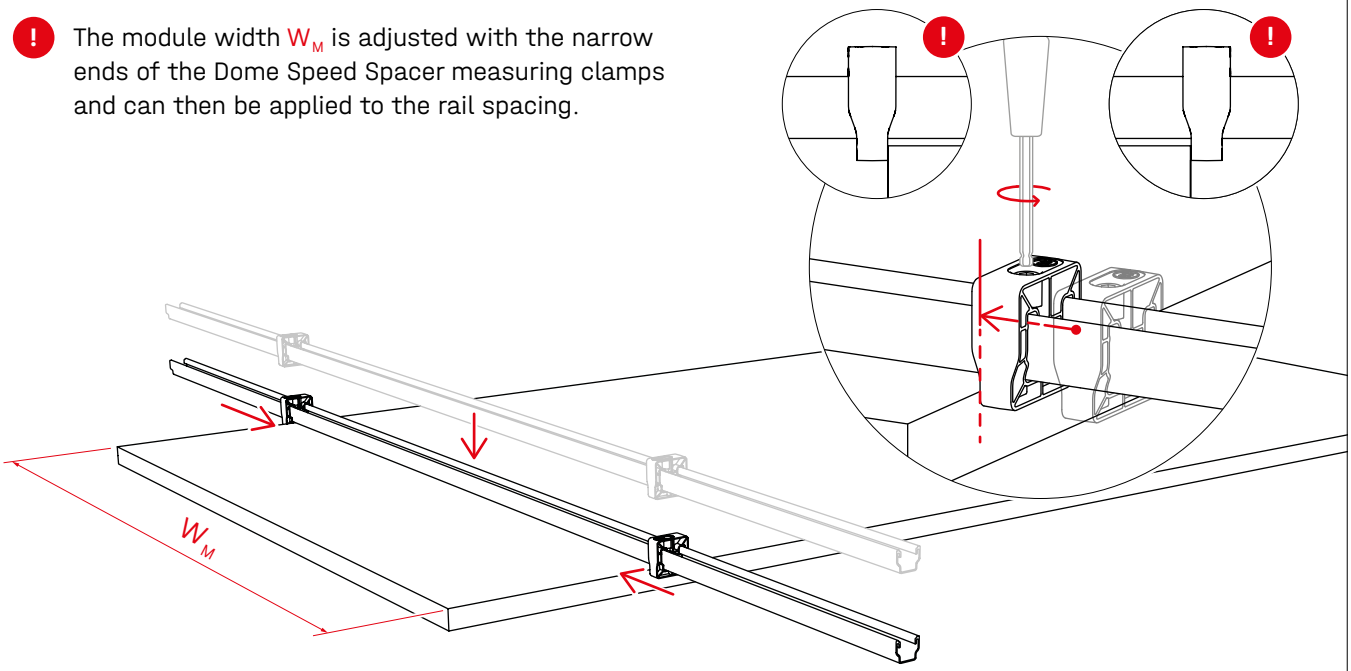
The minimum assembly values (S_{X2}/S_{Y1}) for the thermal separations of module blocks must not be undercut.

The distances betwen the module edges (S_{X2}/S_{Y2}) are determined during the planning process in K2 Base. S_{X1}/S_{Y1} are relevant for installation and are shown in the "Assembly Plan" section of the K2 Base Report.



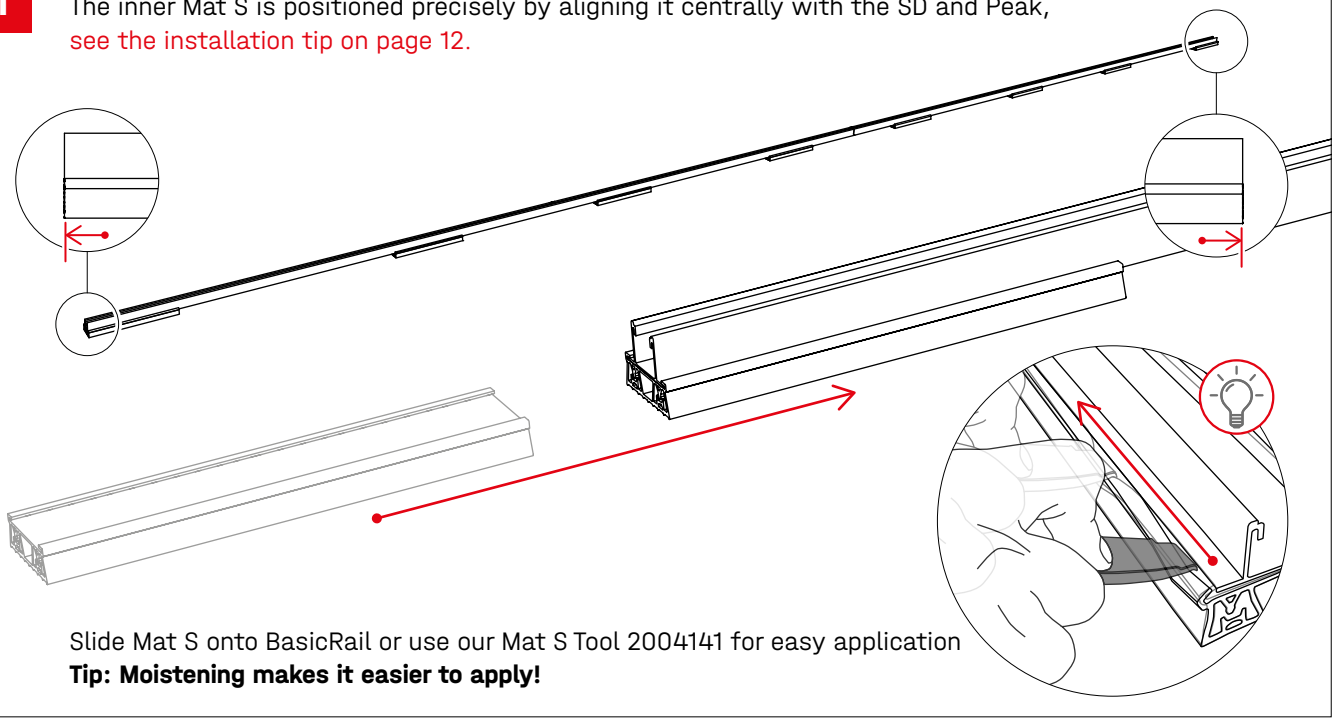
Measuring rail spacing

The module width W_M is adjusted with the narrow ends of the Dome Speed Spacer measuring clamps and can then be applied to the rail spacing.



Mat S installation on BasicRail

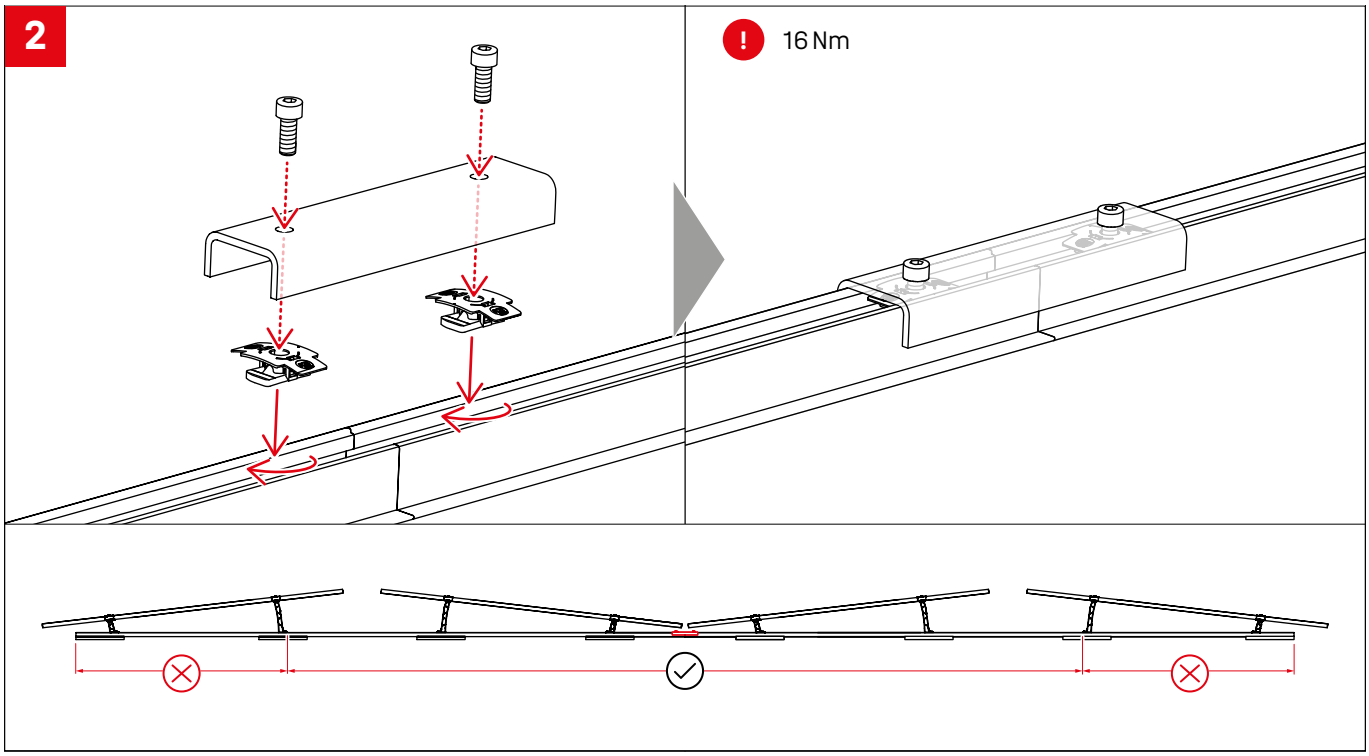
1 The inner Mat S is positioned precisely by aligning it centrally with the SD and Peak, see the installation tip on page 12.



Slide Mat S onto BasicRail or use our Mat S Tool 2004141 for easy application
Tip: Moistening makes it easier to apply!

Connecting rails

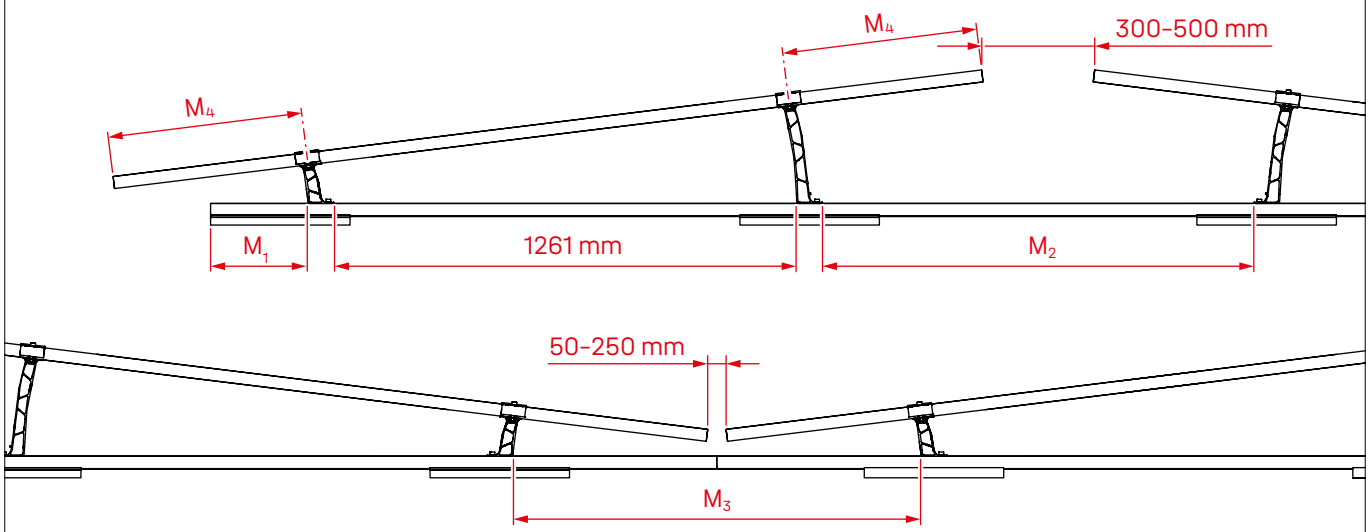
2



Pre-assembly dimensions

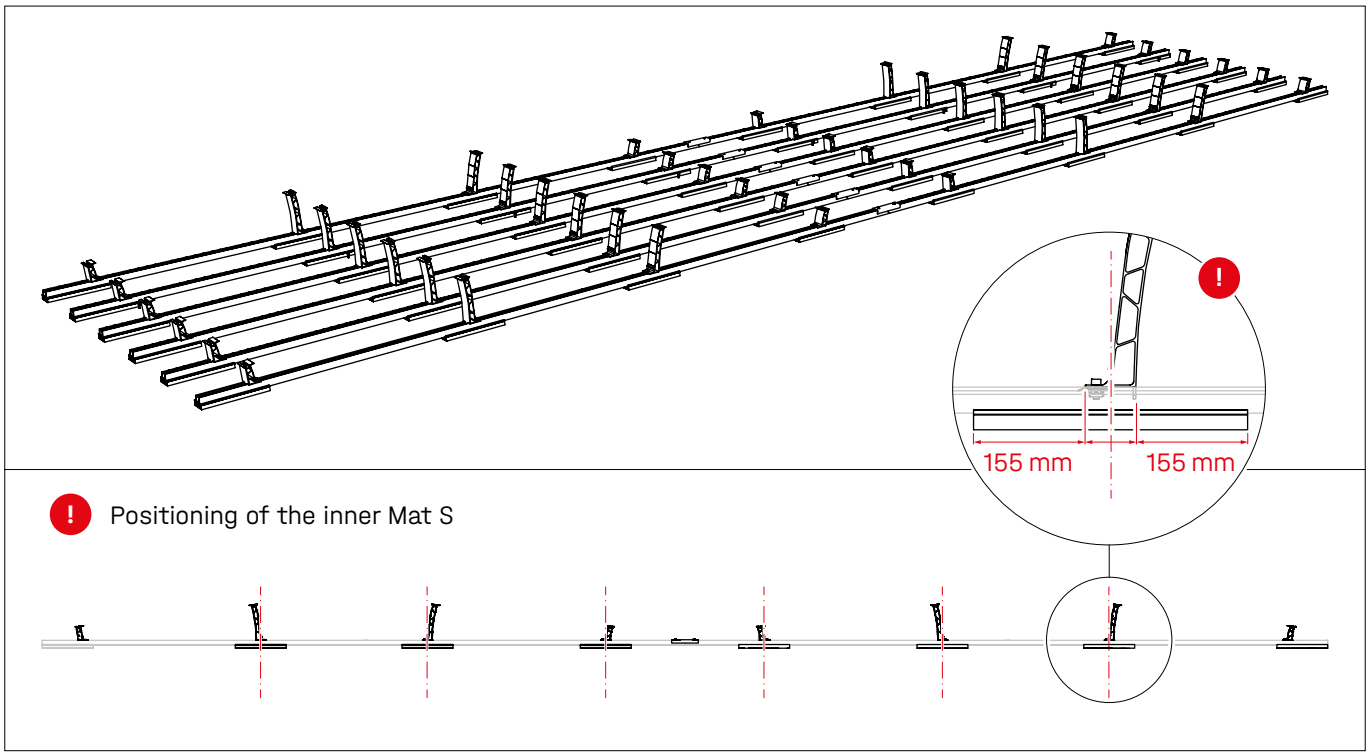
3a

K2 Base automatically calculates the pre-assembly dimensions M_1 / M_2 / M_3 and M_4 and outputs them in the assembly plan. These must be adhered to during assembly.

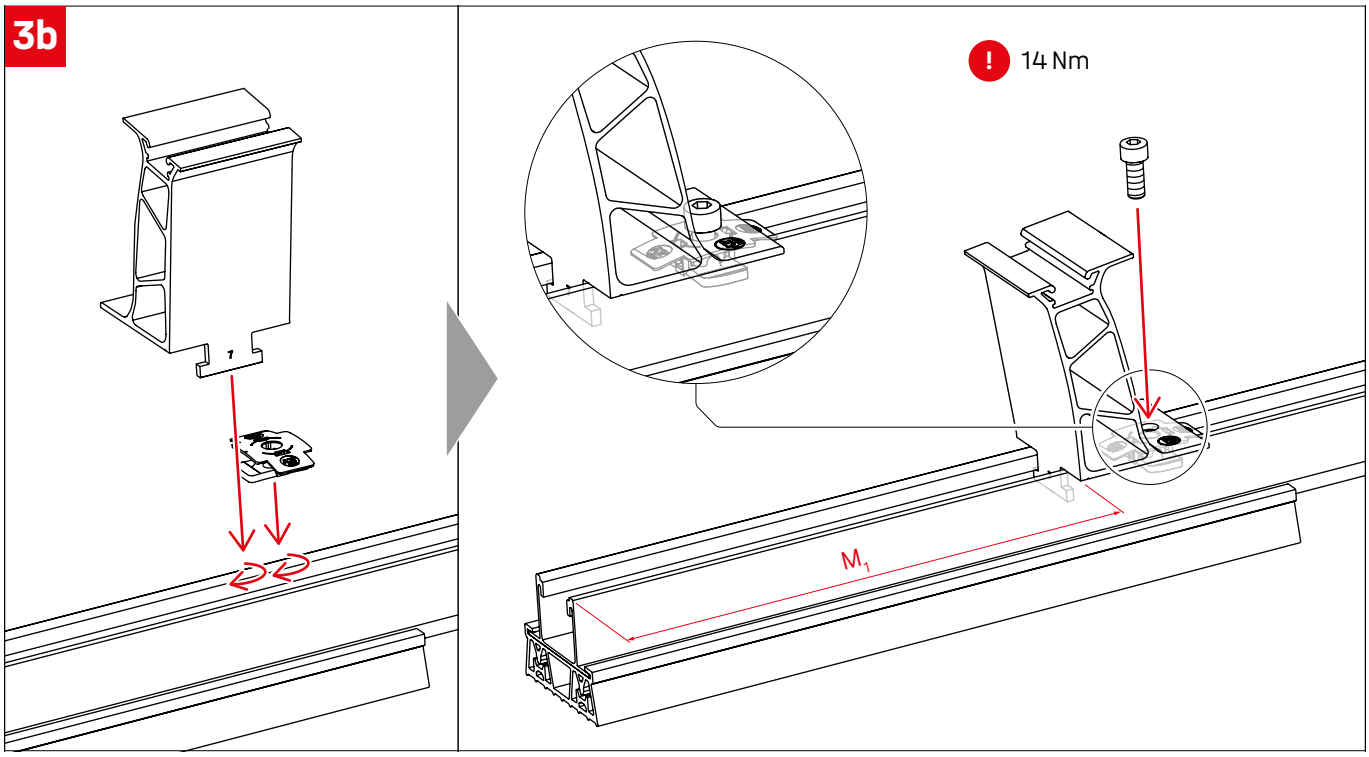


We recommend using an assembly jig to ensure the correct spacing during installation.

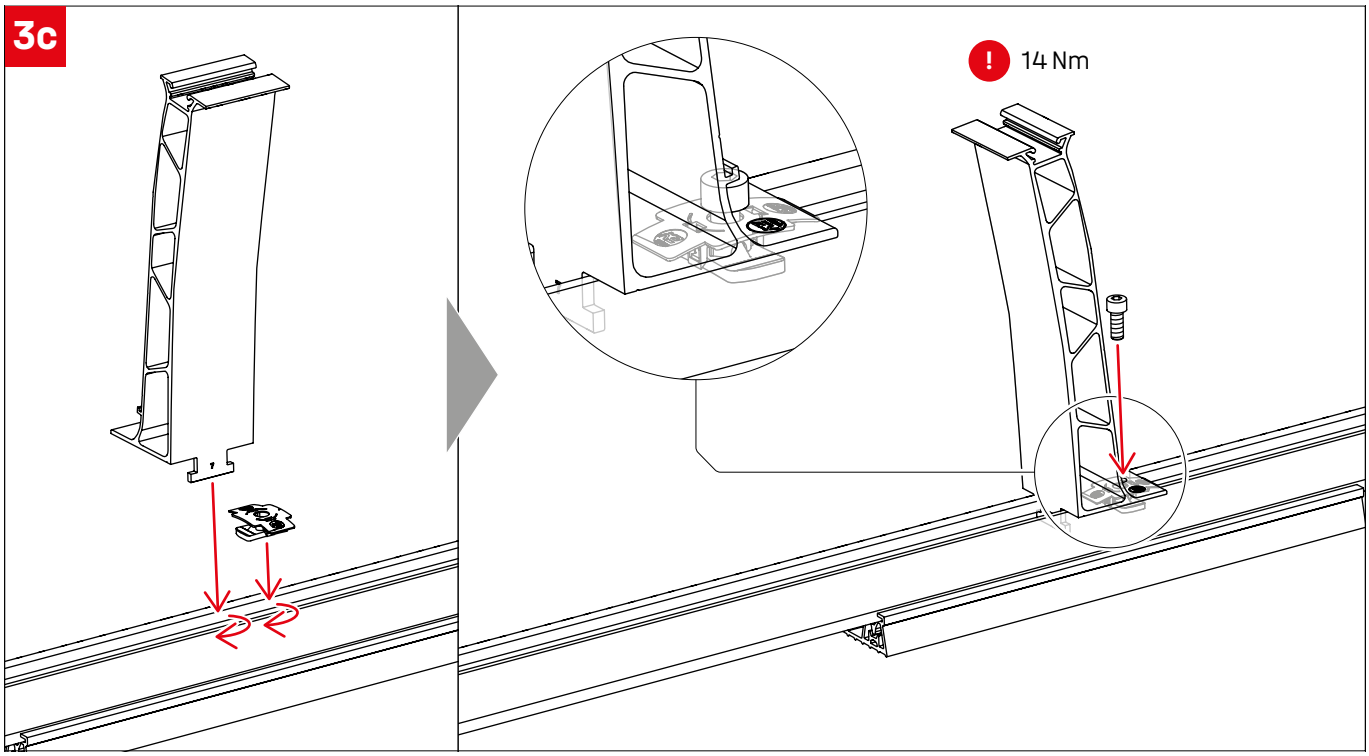
Tip: Pre-assembly rails



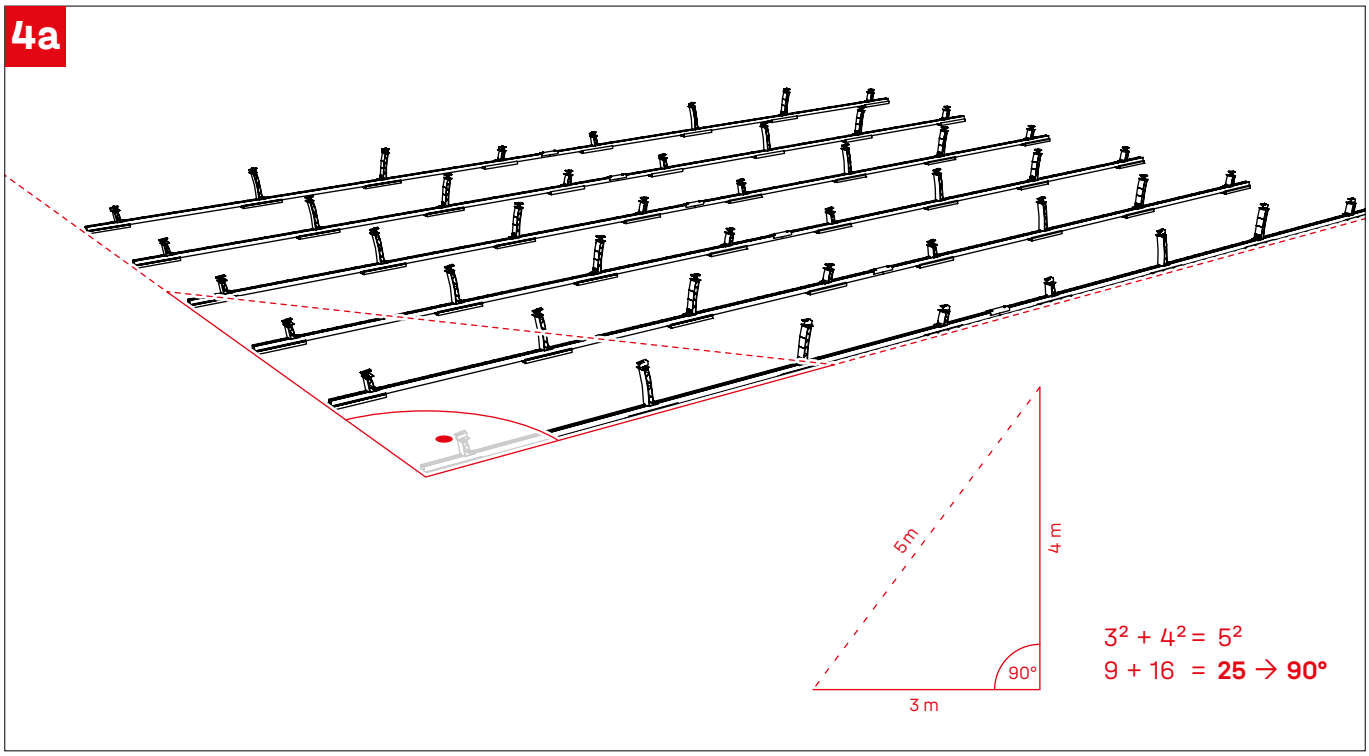
Assembly SD



Assembly Peak



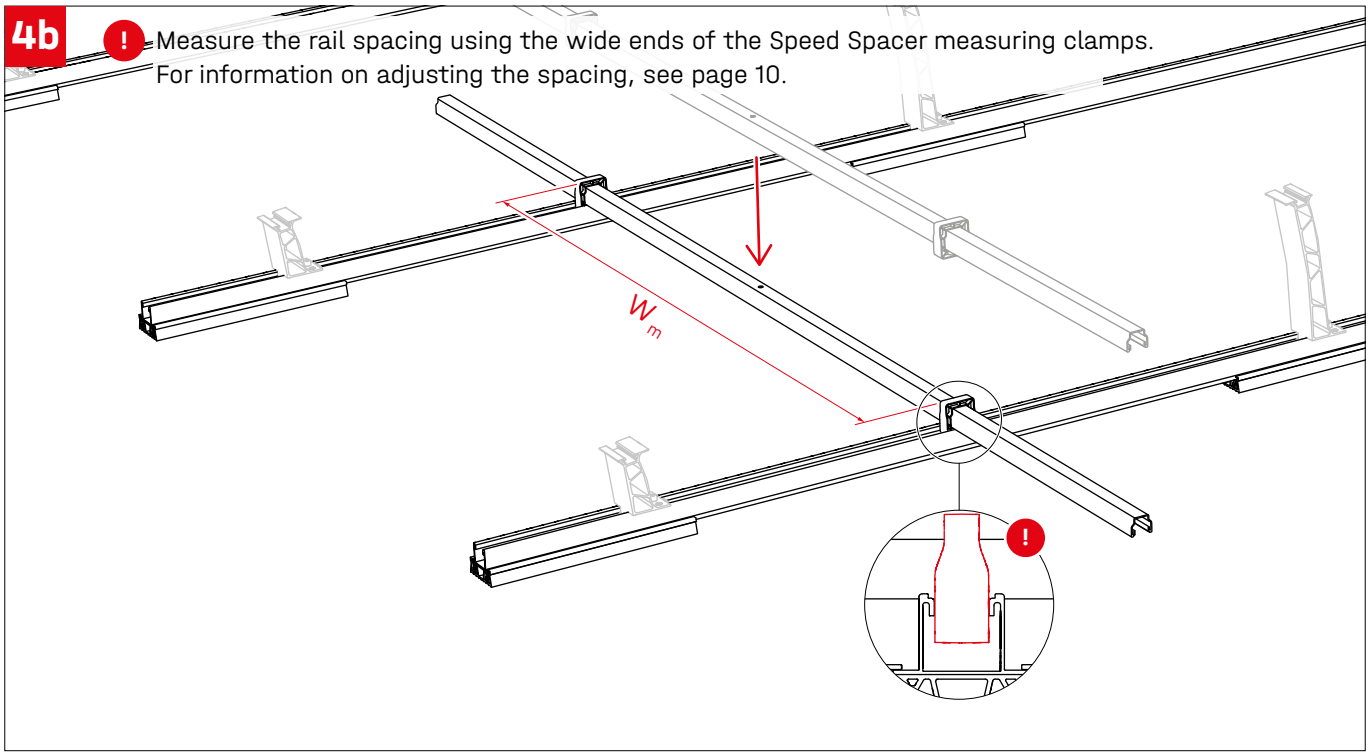
Setting up the rails



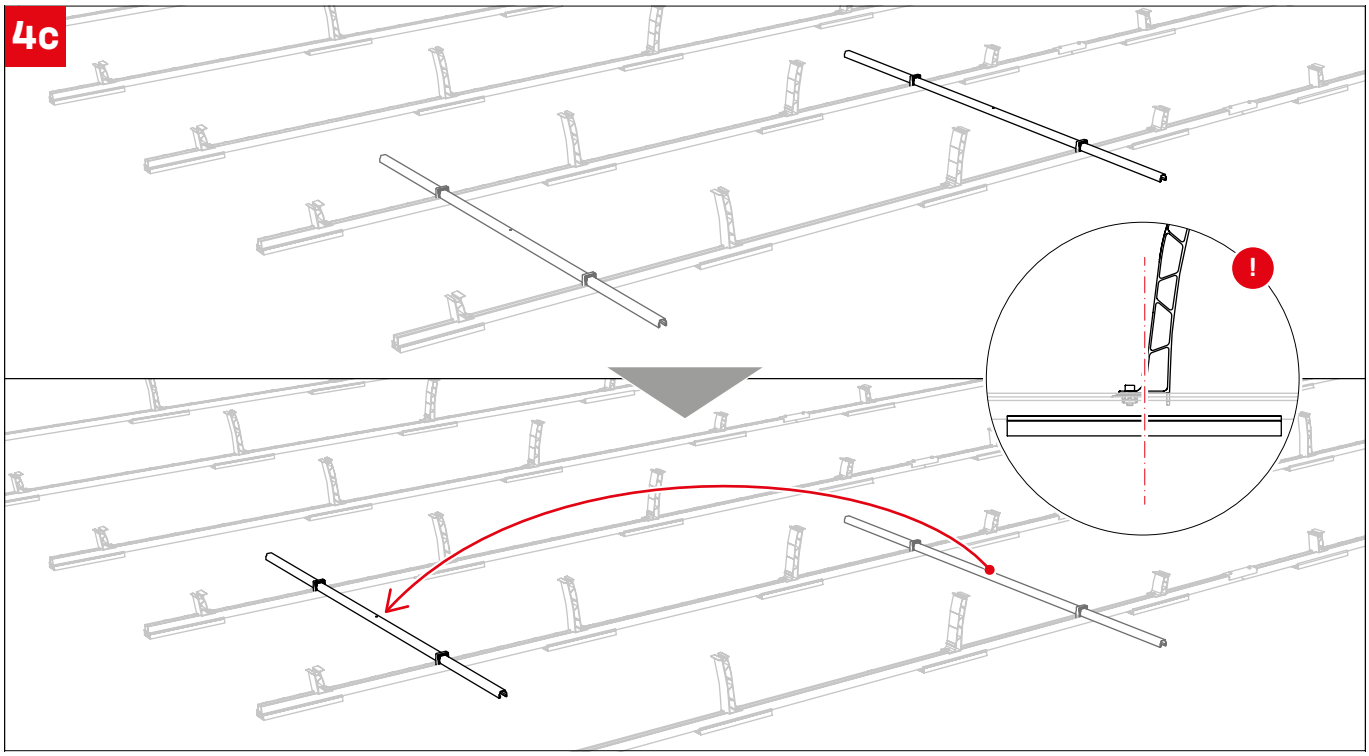
Measuring rail spacing

4b

! Measure the rail spacing using the wide ends of the Speed Spacer measuring clamps.
For information on adjusting the spacing, see page 10.



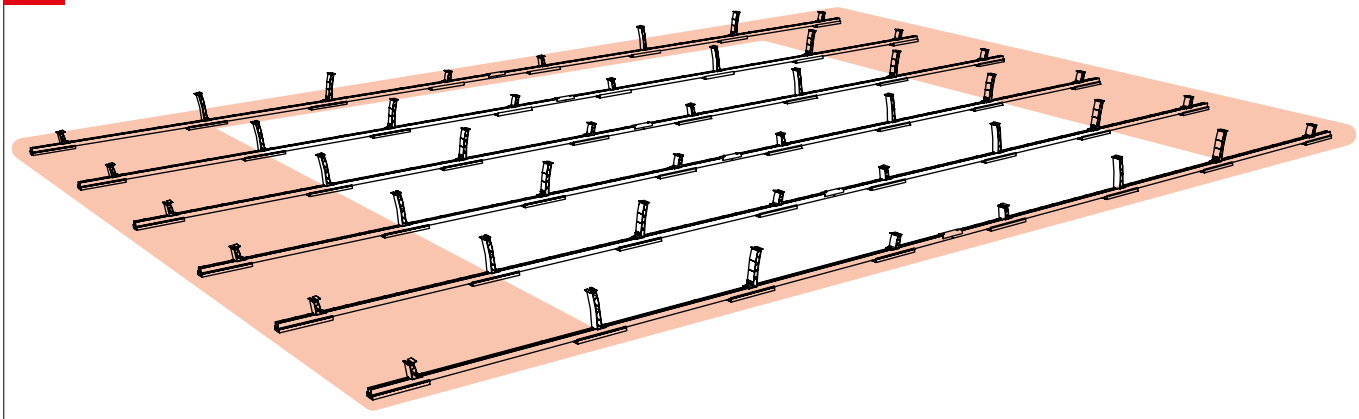
4c

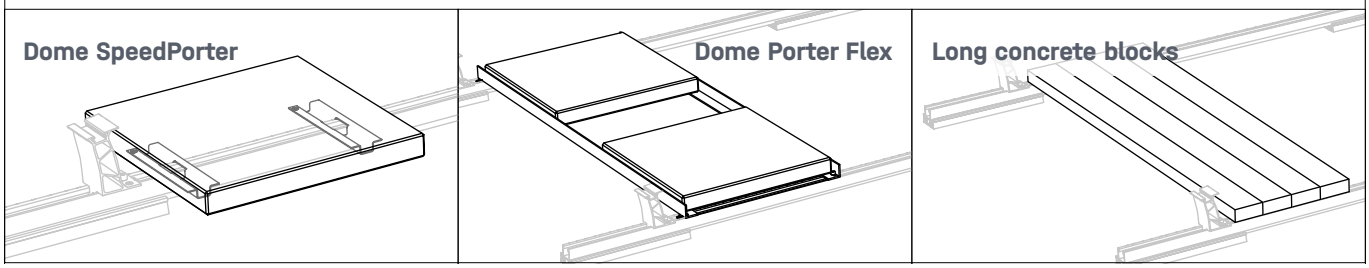


Basic ballast edge area

5

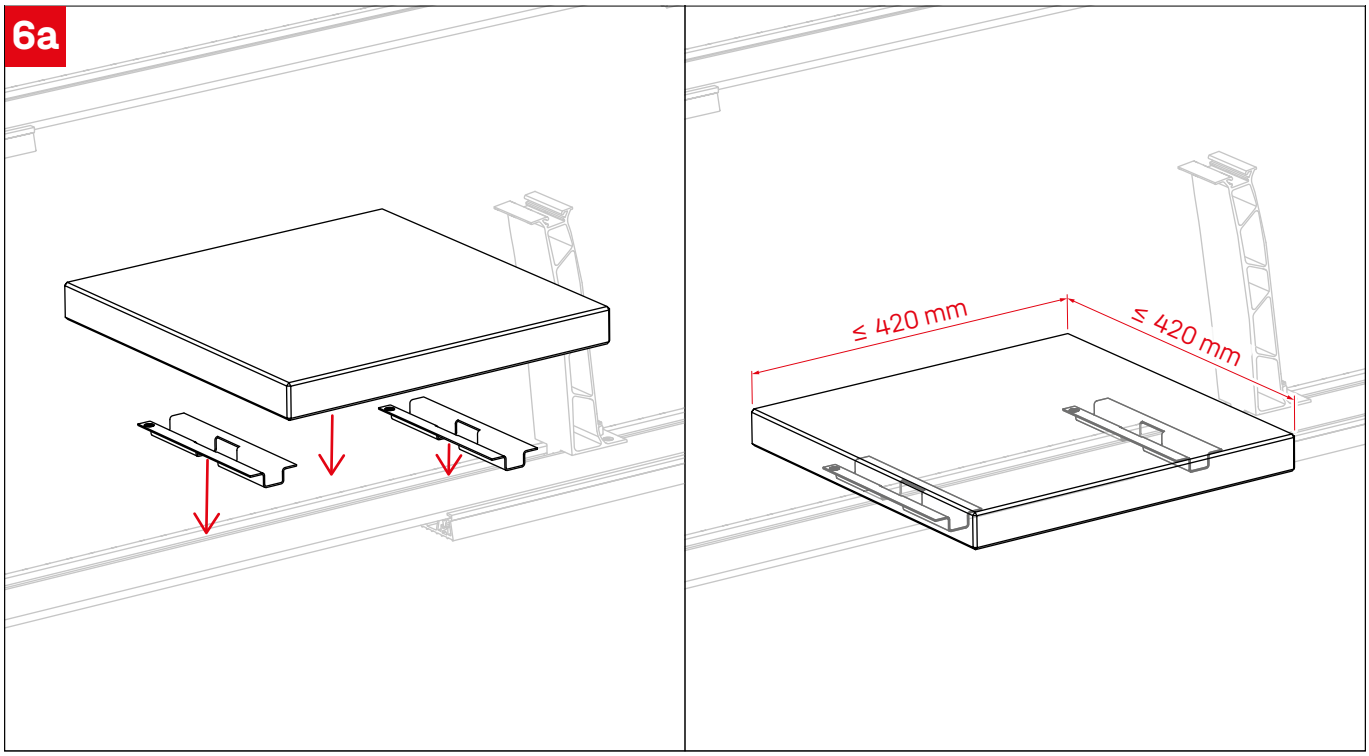
! ≥ 3 kg per double module

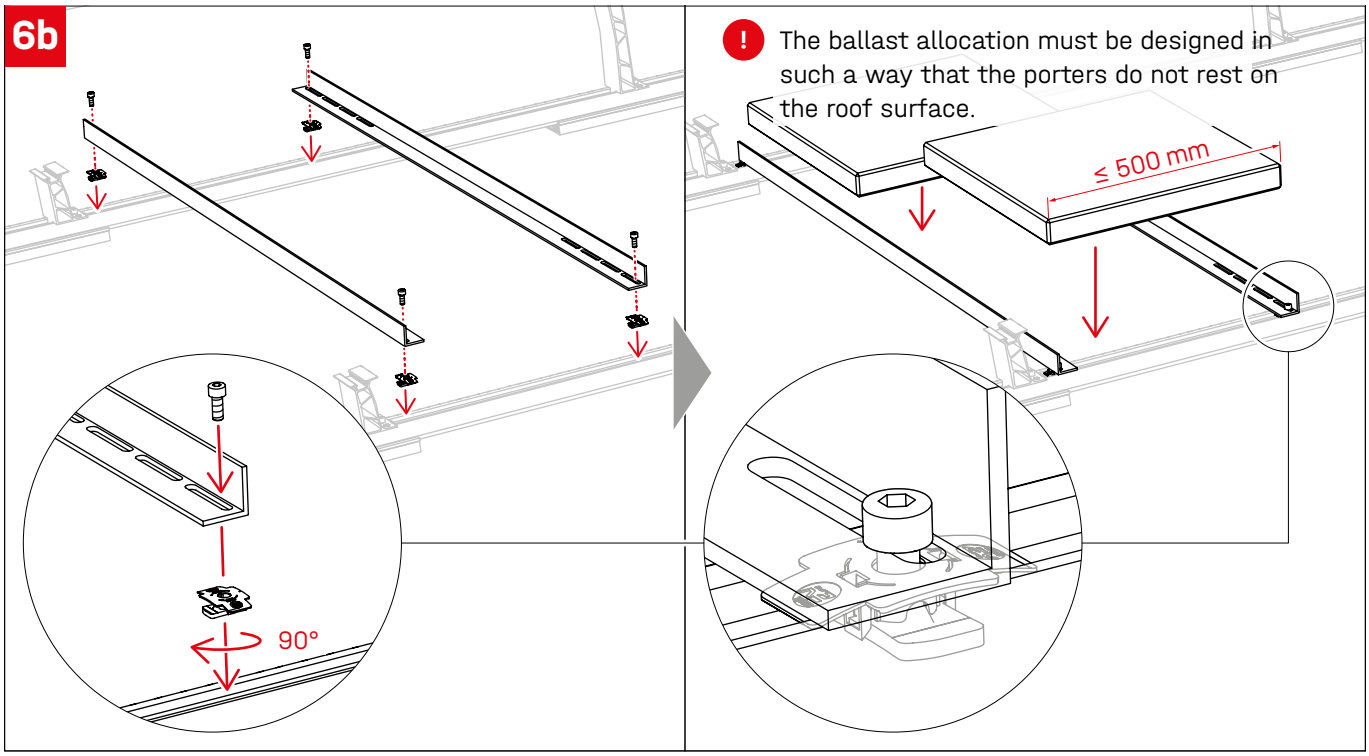


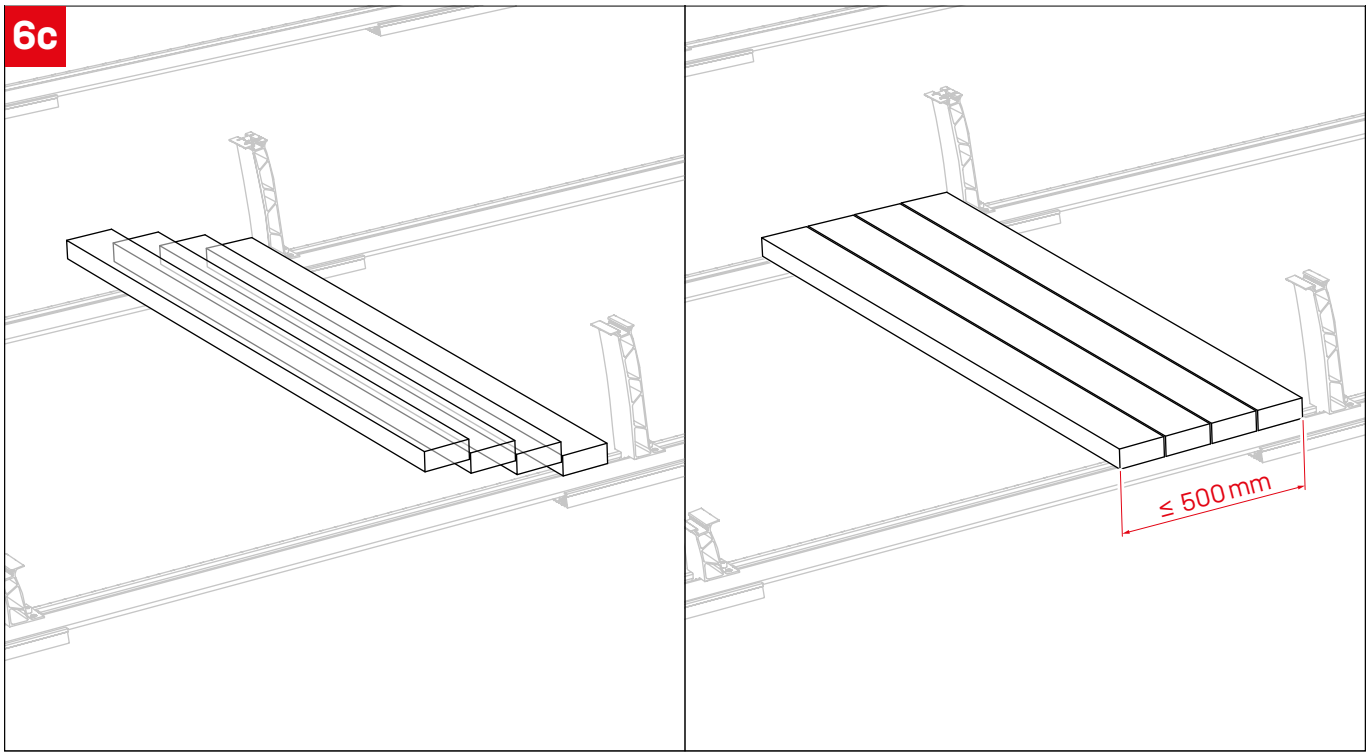


Installation of ballast

6a



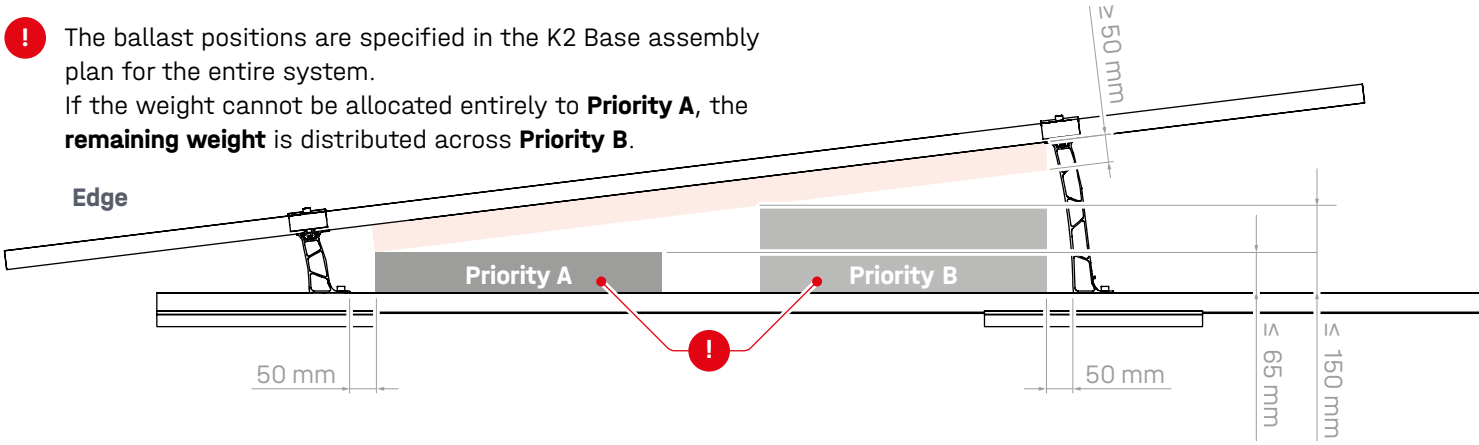

6b
The ballast allocation must be designed in such a way that the porters do not rest on the roof surface.
≤ 500 mm
90°


6c
≤ 500 mm

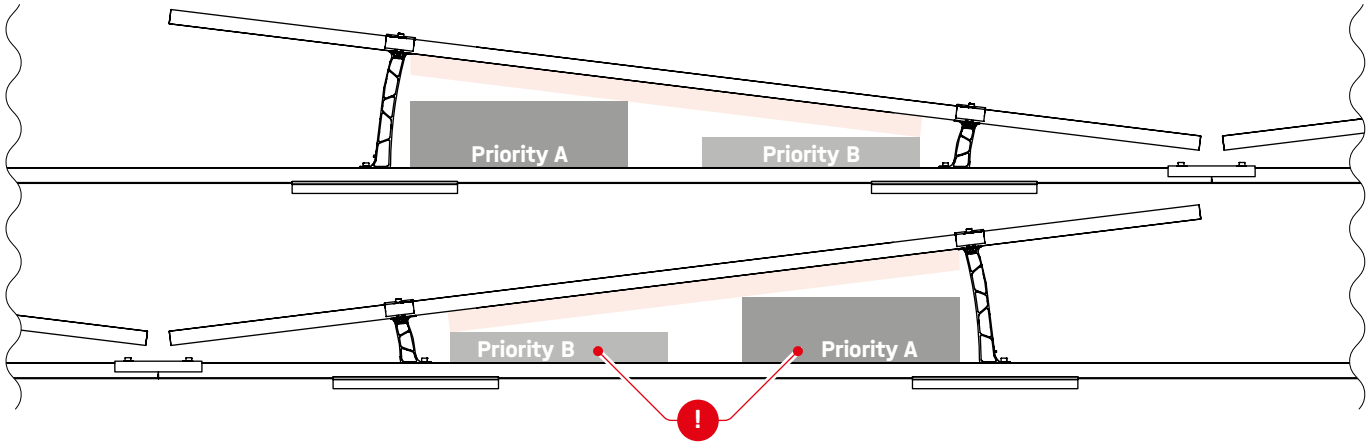
Ballast requirements for placement

The ballast positions are specified in the K2 Base assembly plan for the entire system.
If the weight cannot be allocated entirely to **Priority A**, the **remaining weight** is distributed across **Priority B**.

Edge

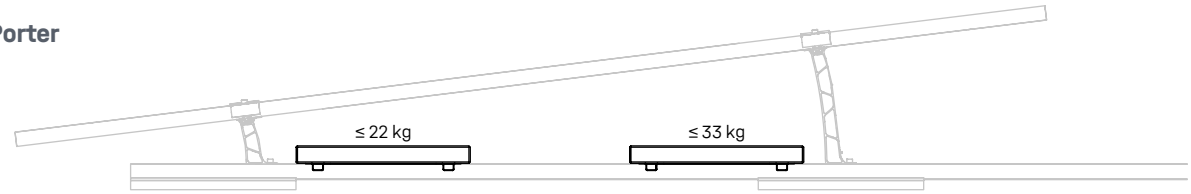


Centre

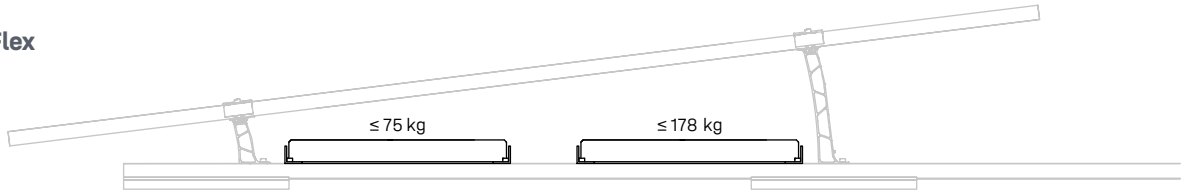


Ballast: options and capacities

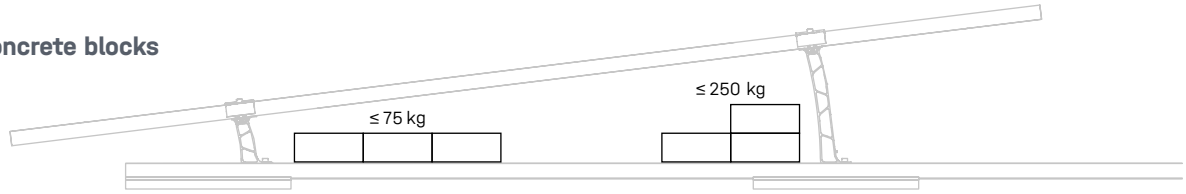
SpeedPorter



Porter Flex

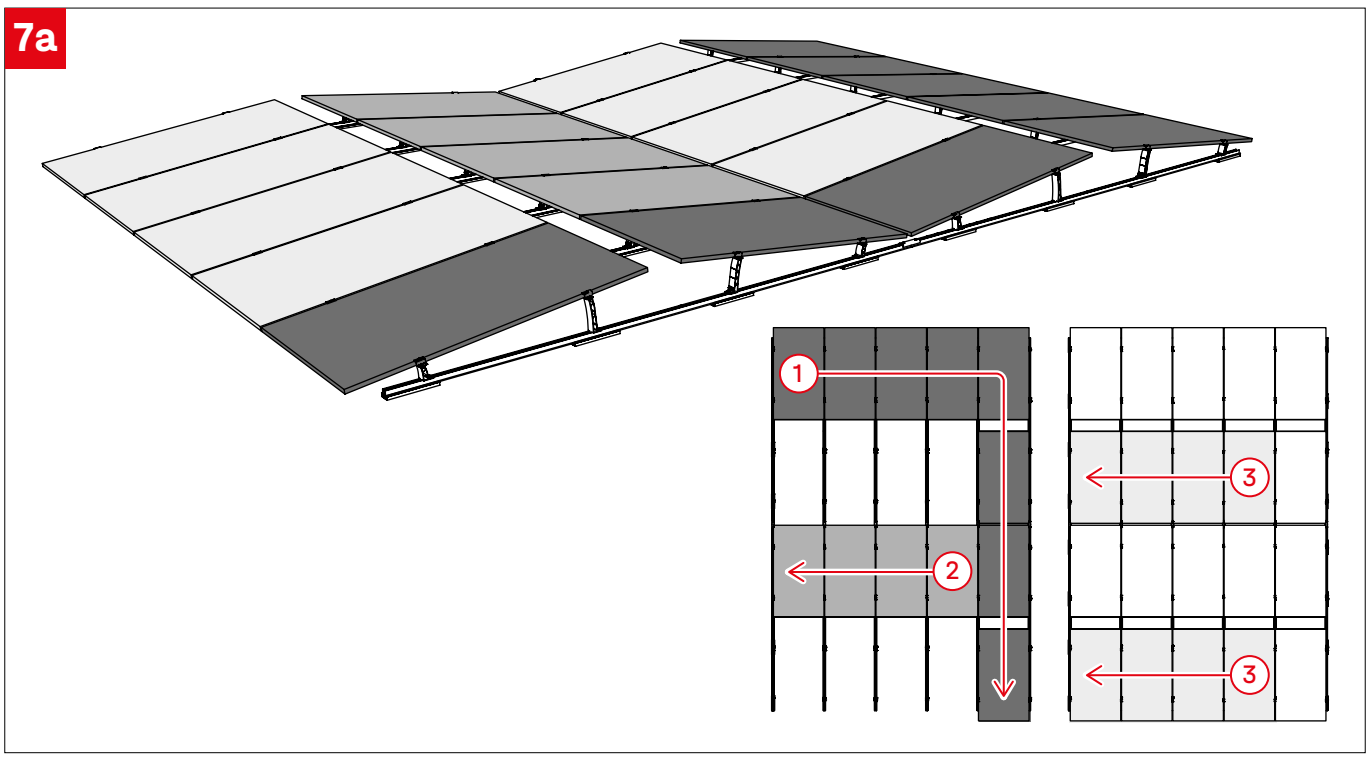


Long concrete blocks



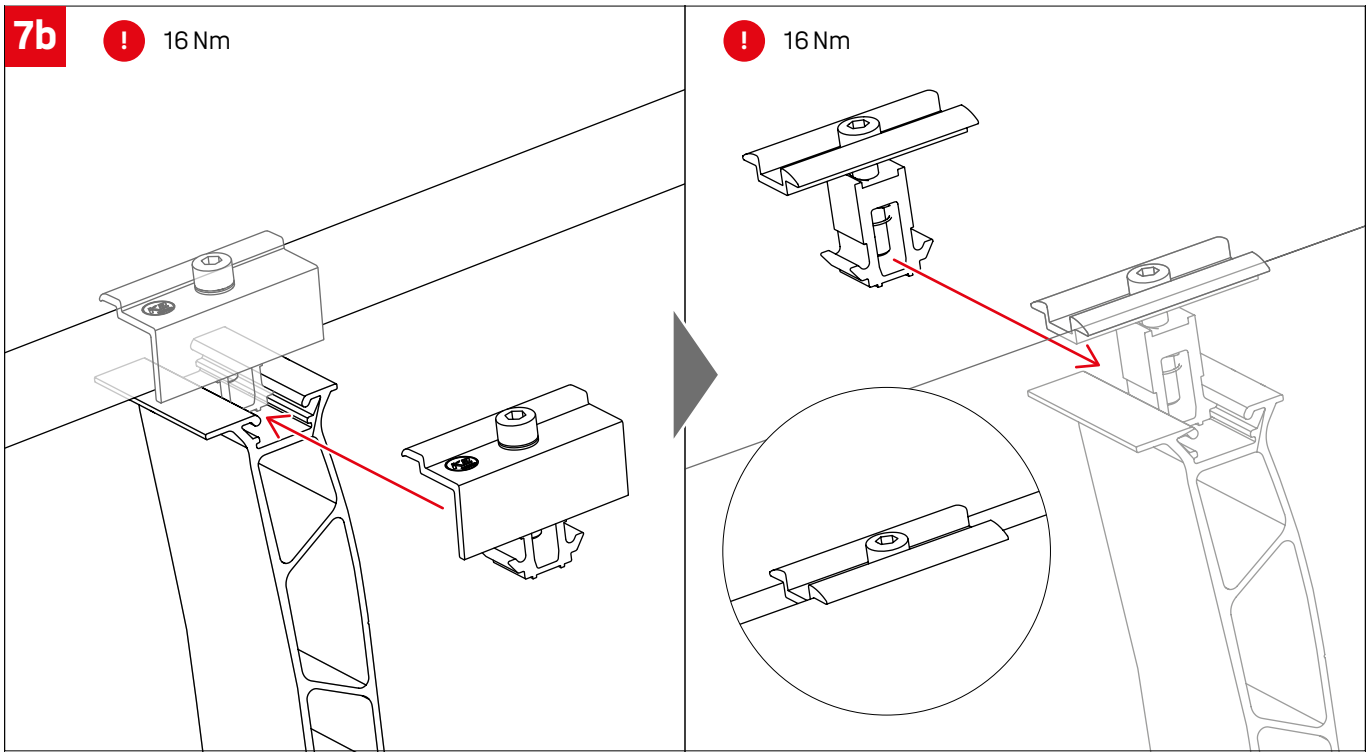
Order of module assembly

7a



Module assembly

7b

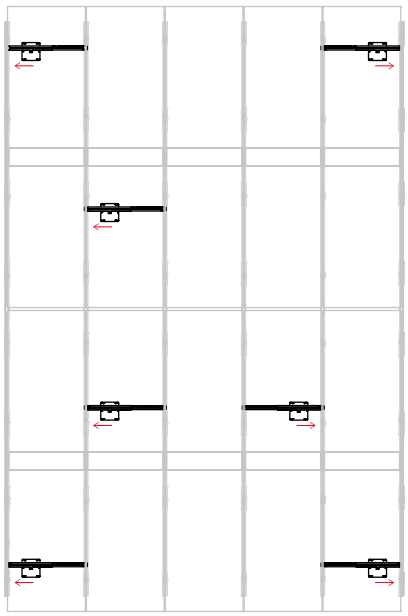


Optional assembly steps

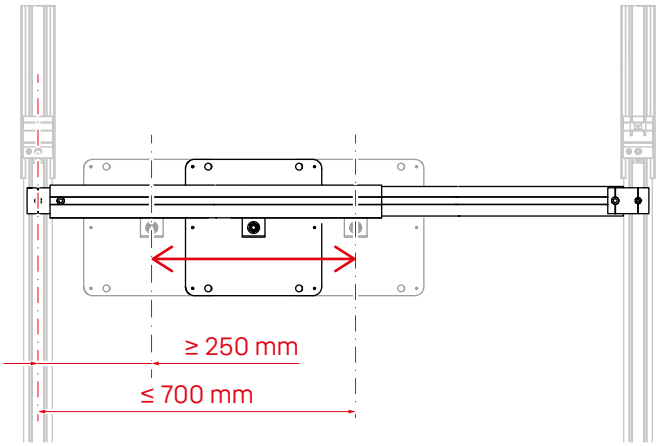
Fixed connection with Dome FixPro

A

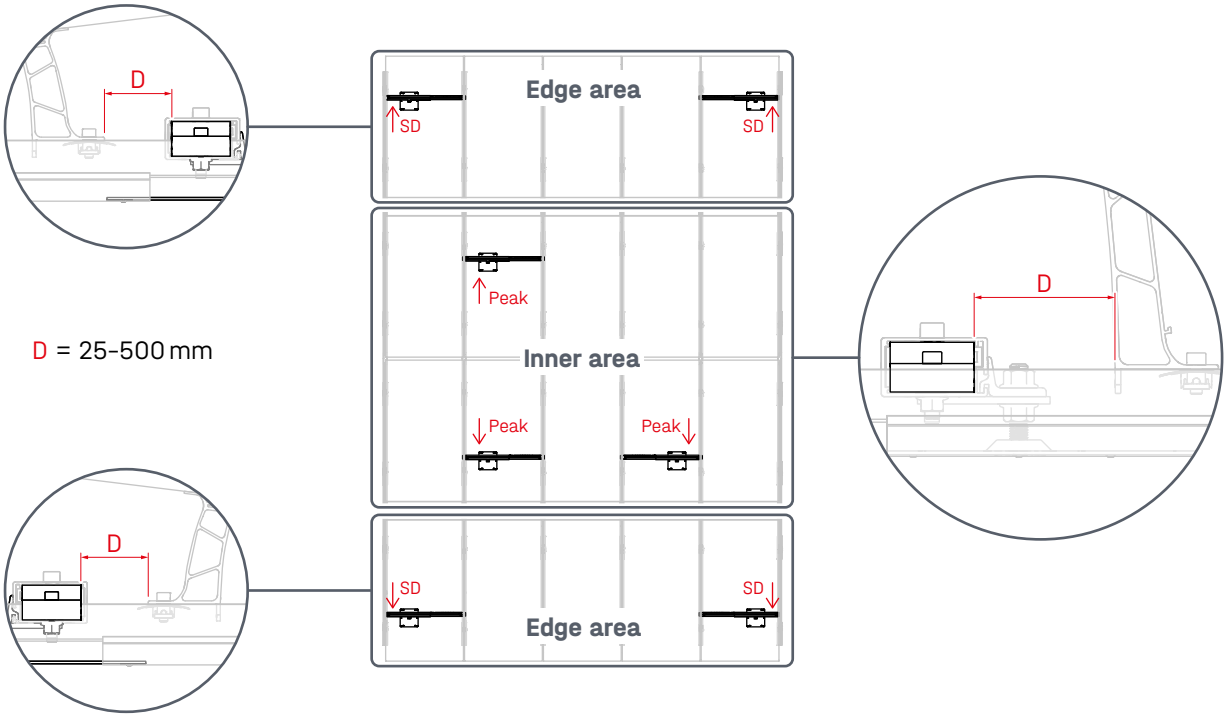
The distance of the anchor is always defined in relation to the edge rail. Internal anchors are aligned with the nearest edge of the module block. Position them in accordance with the design drawings!

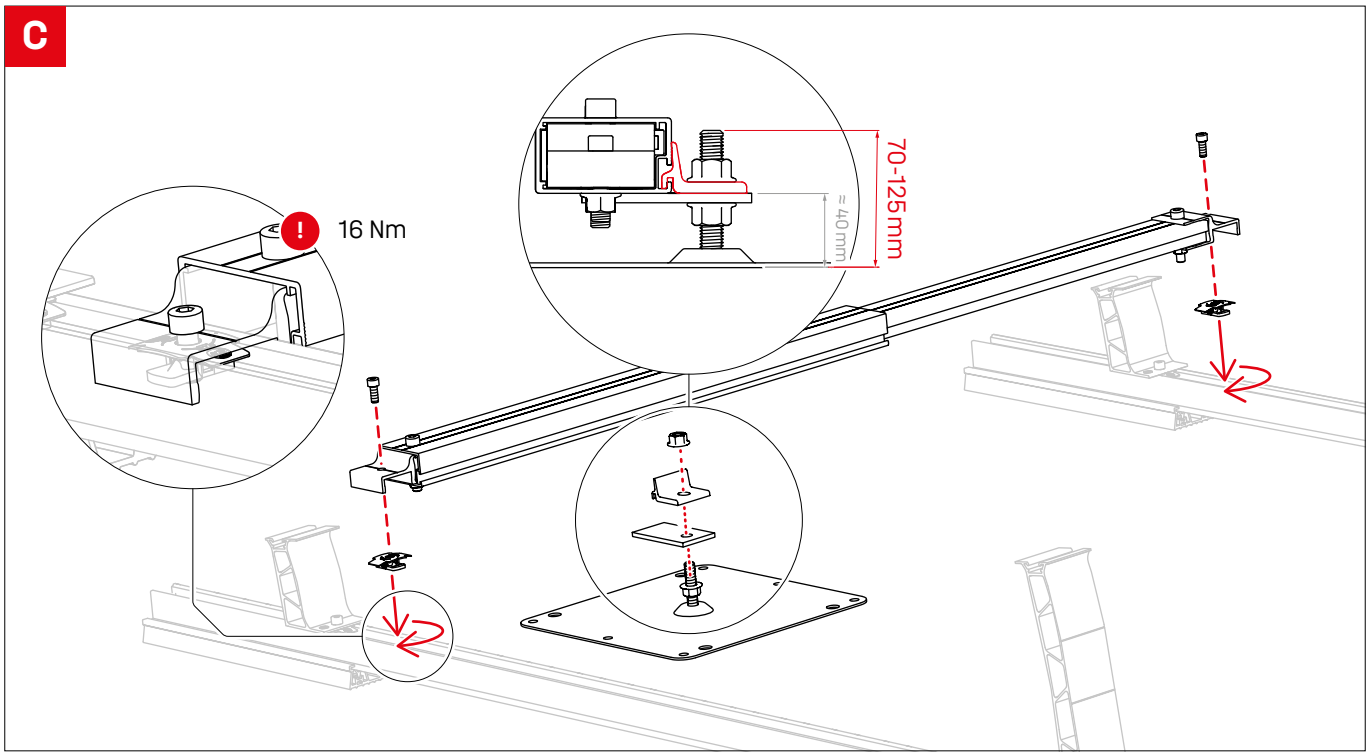


Example Solmont mounting base



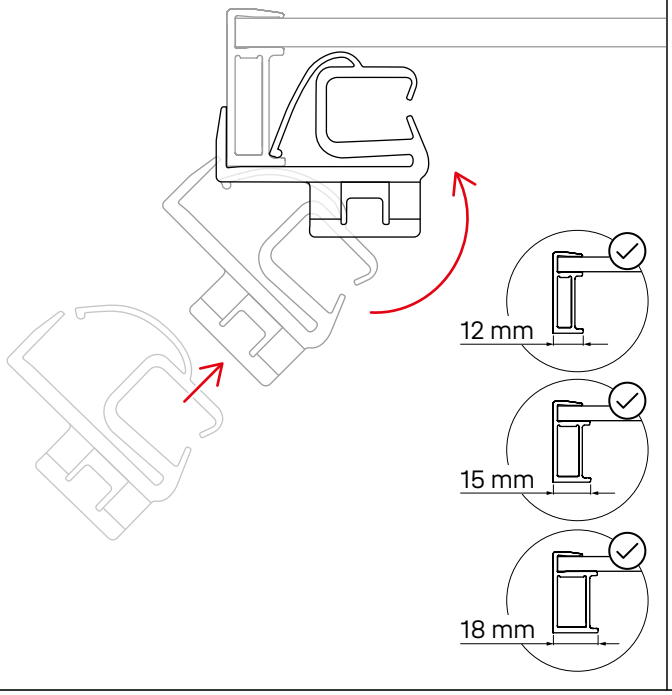
B



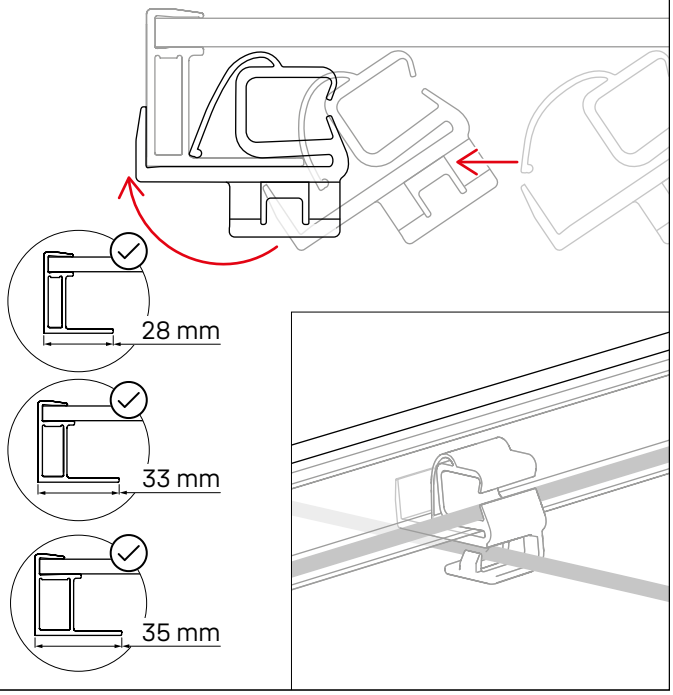


Cable management with Alpha PV Clip

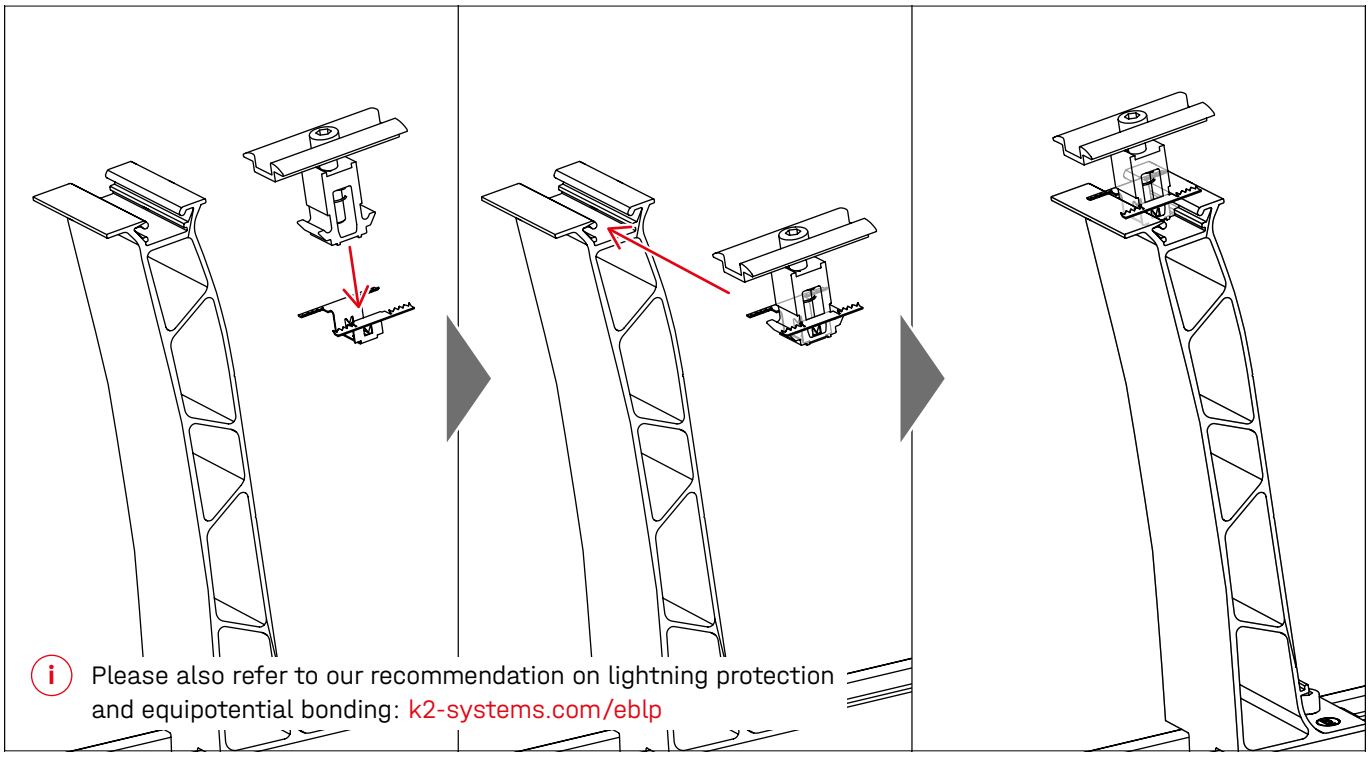
Installation on the short side of the PV modules



Installation on the long side of the PV modules

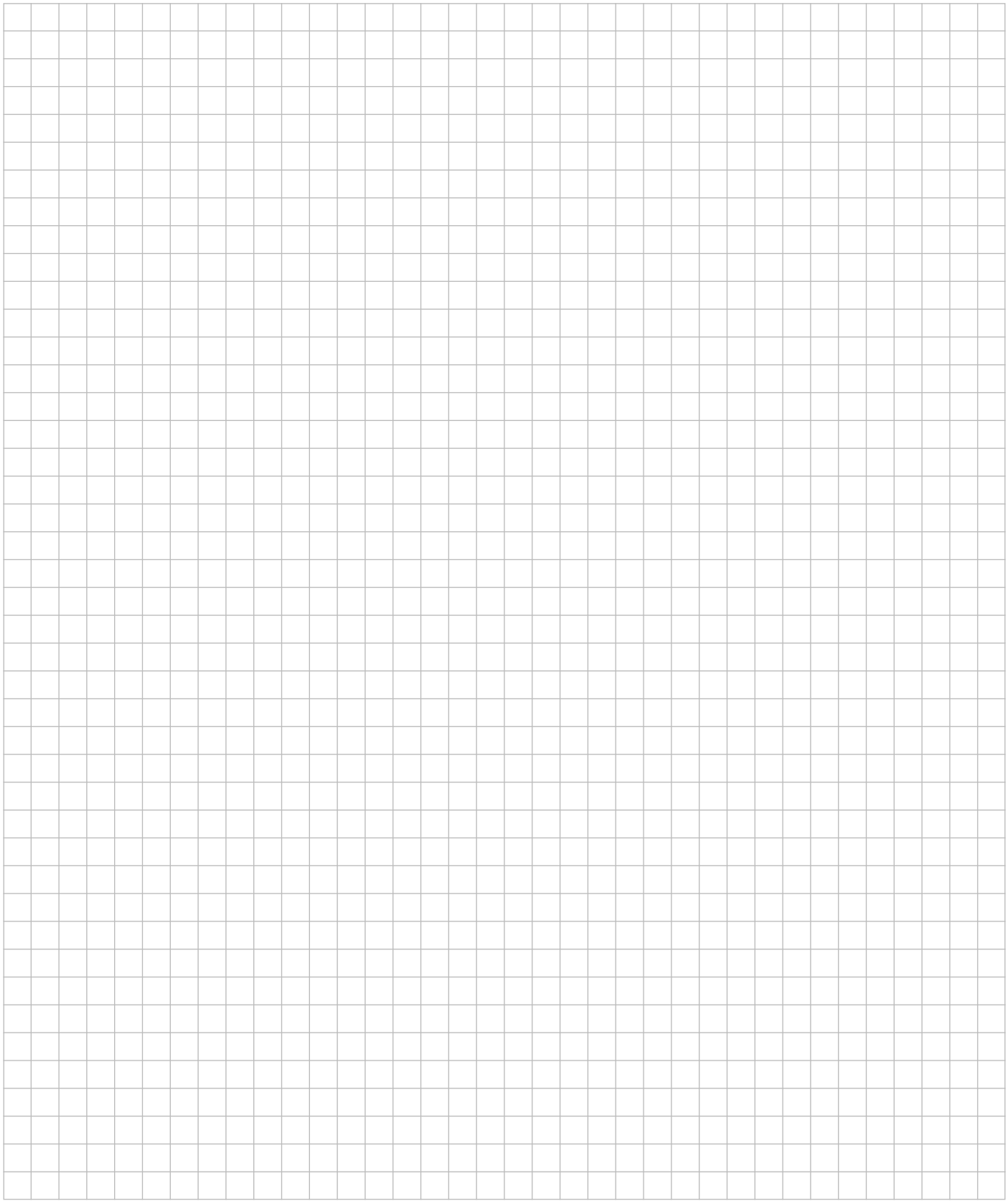


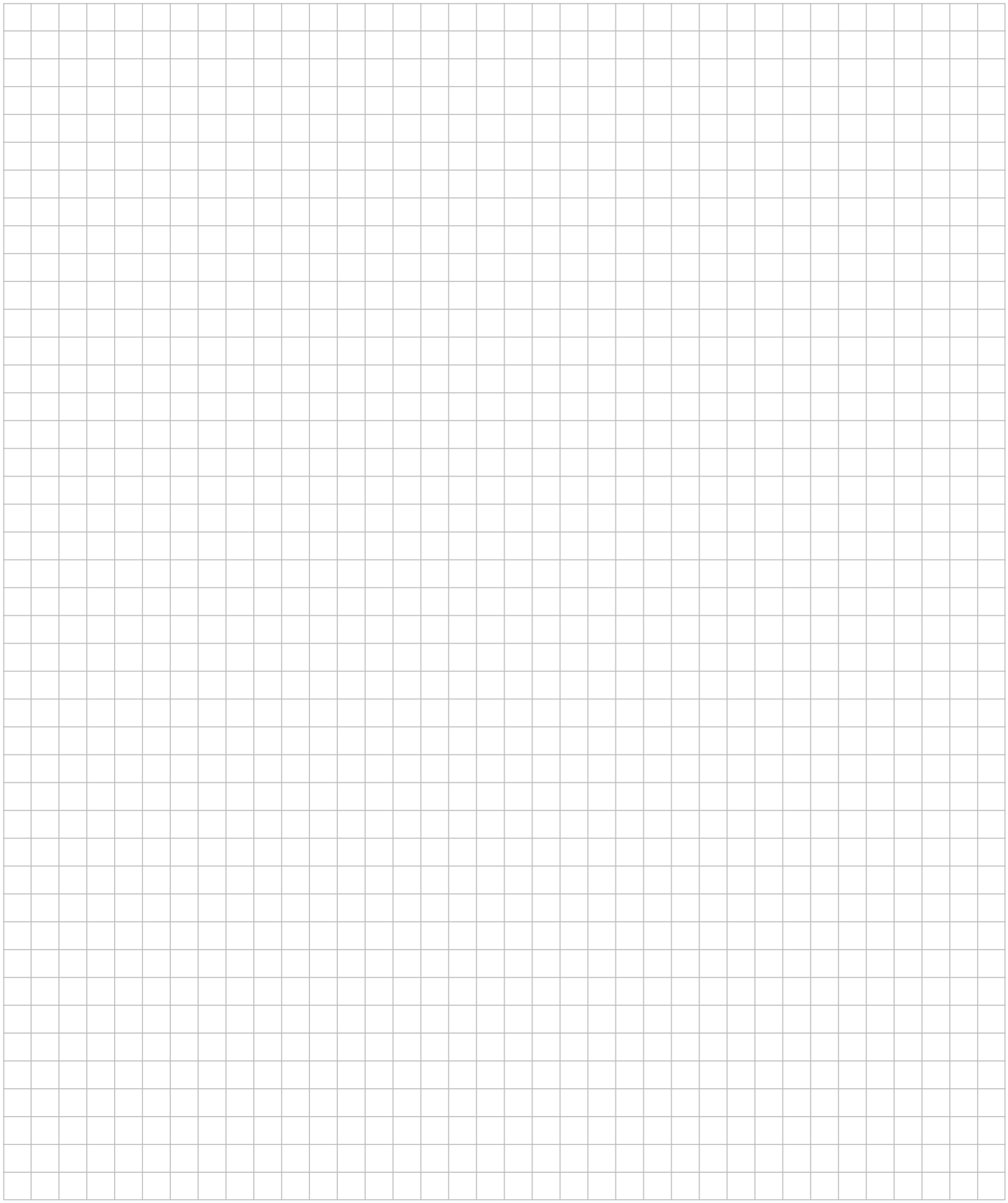
Module frame earthing with TerraGrif K2MI



Please also refer to our recommendation on lightning protection and equipotential bonding: k2-systems.com/eblp

Notes





Connecting Strength

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

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