

Assembly Manual

S-Dome 6 System

Xpress



Connecting Strength

k2-systems.com

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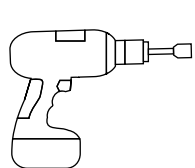
Quality tested - several certifications

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.

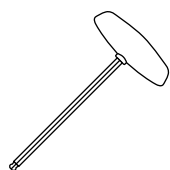
Please find our quality and product certificates under:

k2-systems.com

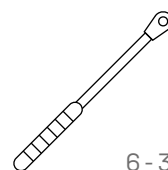
Tools overview



6 mm



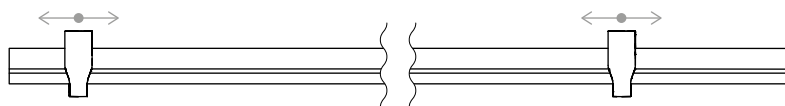
6 mm



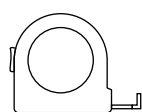
6 - 30 Nm
(4.5 - 22.2 lb-ft)



6 mm



Dome Speed Spacer Large · 2004129
Distance template for module lengths

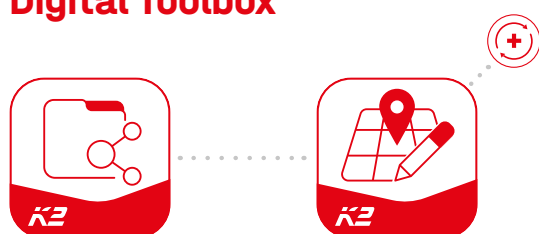


≥ 3.0 m



≥ 6.0 m

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 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 $\leq 3^\circ$ without a fixed connection.
- Fixed connection $> 3^\circ$ to $< 10^\circ$
 - Up to $\leq 5^\circ$ combinations with ballast possible
 - $> 5^\circ$ to $< 10^\circ$ only without ballast
- The roof surface must be clean and dry. Roof irregularities must be corrected or removed where appropriate.
- 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 1448 - 2390 mm,
width 960 - 1170 mm



Important mounting instructions

Mounting system

- A minimum distance to the roof edge of 600 mm must be observed. 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.
- A module block must consist of at least two elevations must for this mounting system to be properly utilized.
- Ensure a thermal separation (distance between module blocks) after a maximum of 15 m in the module row direction and in the direction of the base rail.

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

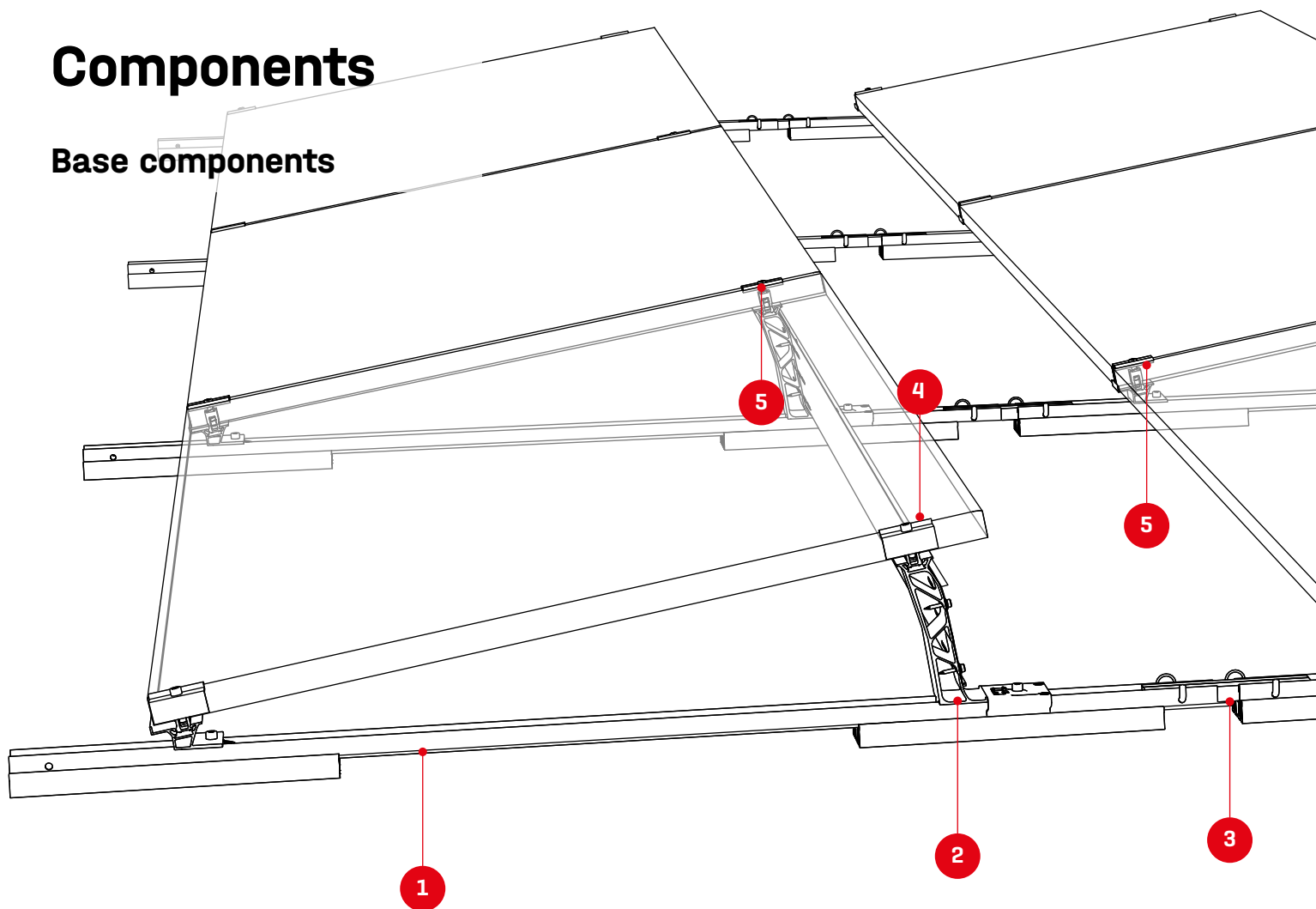
- Tightening torque of 14 Nm for all module clamps.
- Adhere to module manufacturer recommendations for clamping area and module installation (see module manufacturer instructions). Check whether manufacturer approval is available for clamping on the short module side. See k2-systems.com/en/approved-modules-dome-6

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.
- 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).

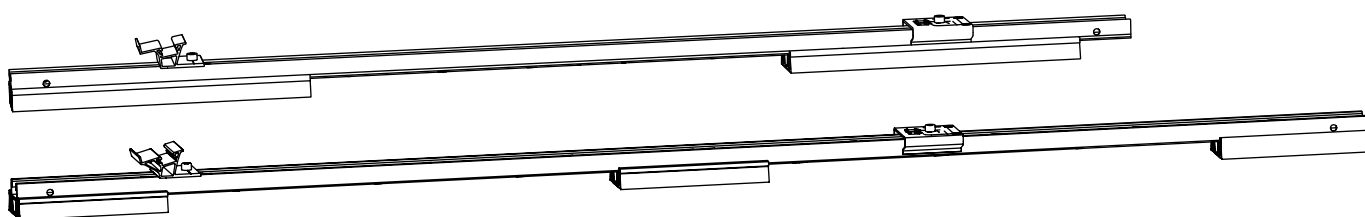
Components

Base components

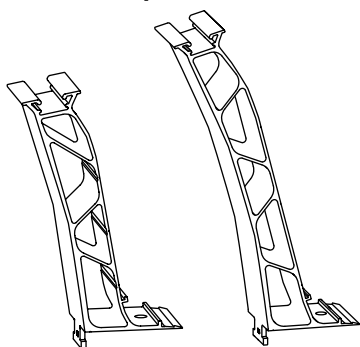


- 1** Article number see table!
S-Dome 6 Base Sets

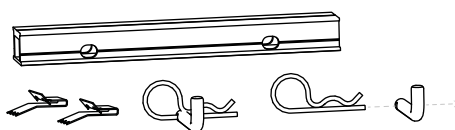
Type	Length [mm]	Article number
S-Dome 6.10 Base Set	1500	2003621
S-Dome 6.15 Base Set	1820	2004501



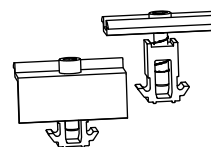
- 2** 2004125 / 2004174
Dome 6.10 / 6.15 Peak

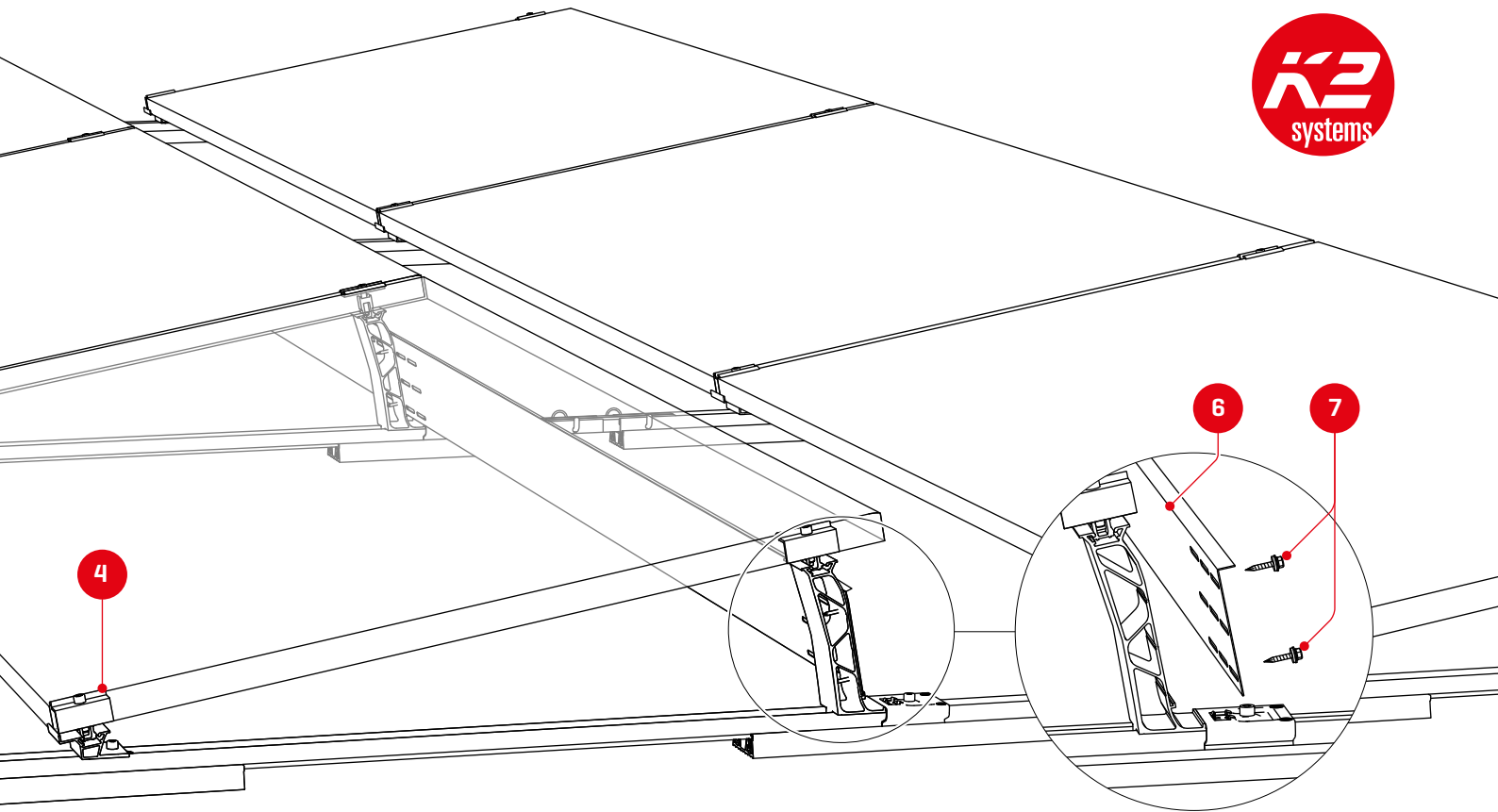


- 3** 2004123 / 2004178
**Dome 6 Connector
195 / 495 Set**



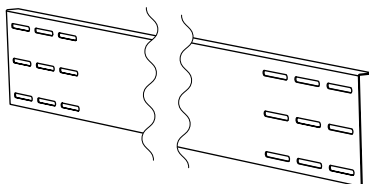
- 4 5** 2002559 / 2002558
DomeClamp EC / MC





6 S-Dome 6.10/6.15 Windbreaker

Type (Modulbreite)	10°	15°
Short (1448 - 1799 mm)	2003249	2004179
Long (1799 - 2150 mm)	2003250	2004180
X-tra Long (2045 - 2398 mm)	2004103	2004181

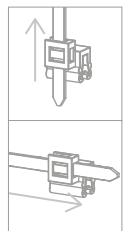
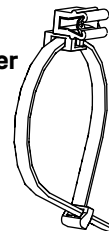


7 Article number system-specific Thread-forming tapping screw with sealing, 6 × 25



Optional

2002870
Cable-Manager

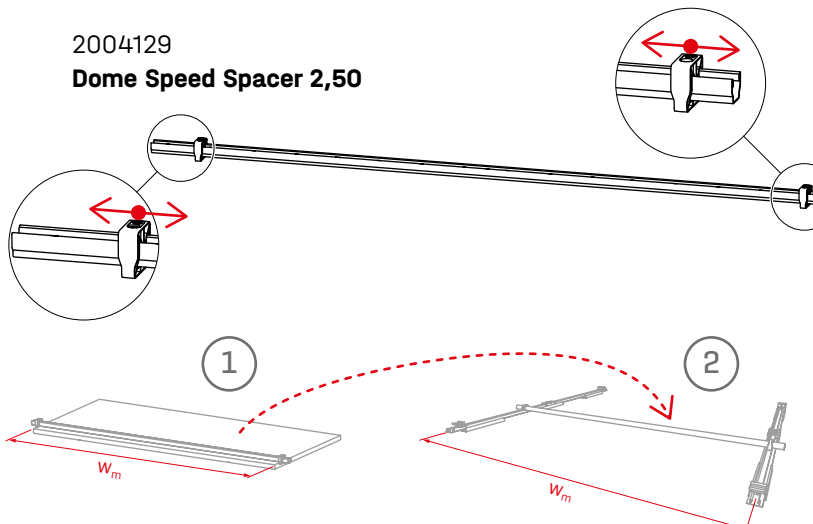


2003542
TerraGrif K2MI
Duo 18

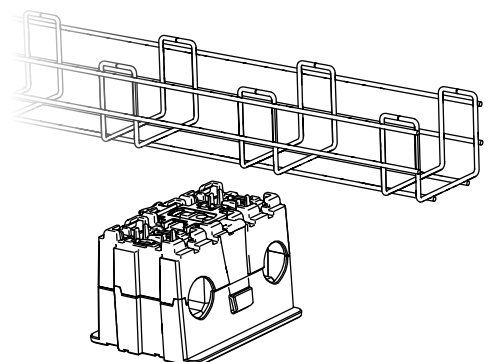


Dome 6 distance template

2004129
Dome Speed Spacer 2,50

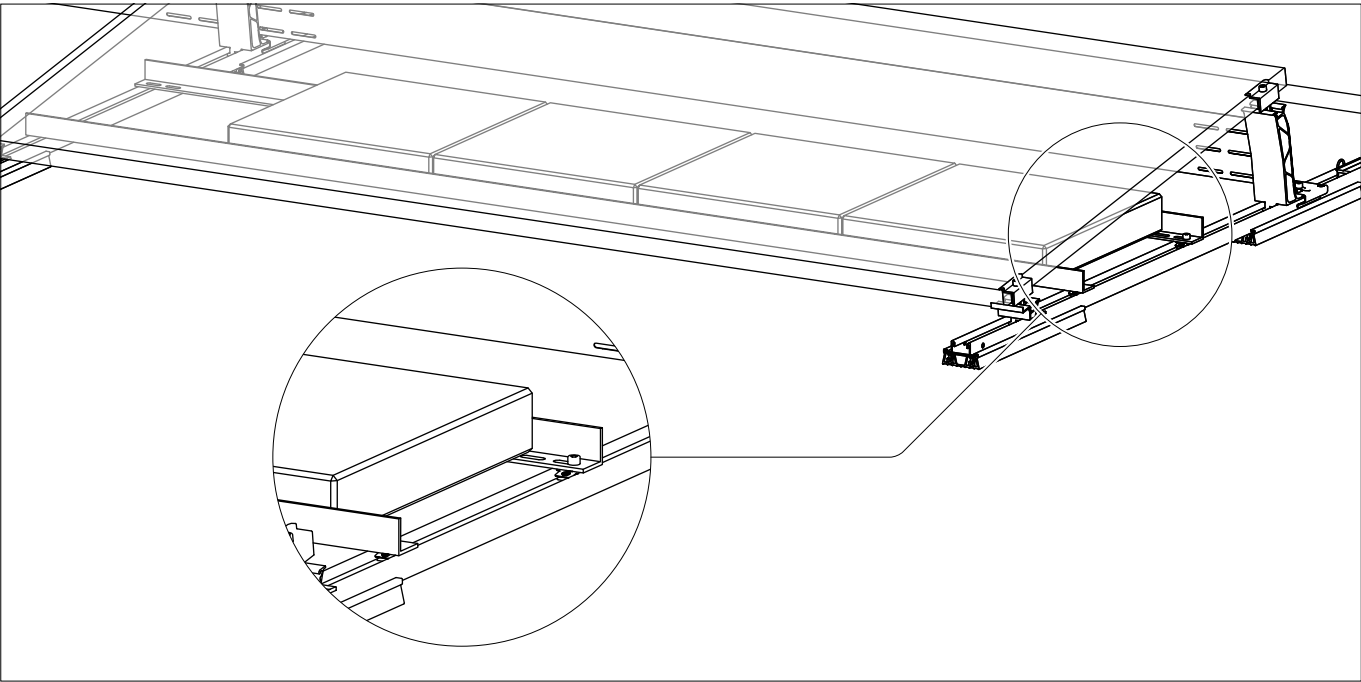
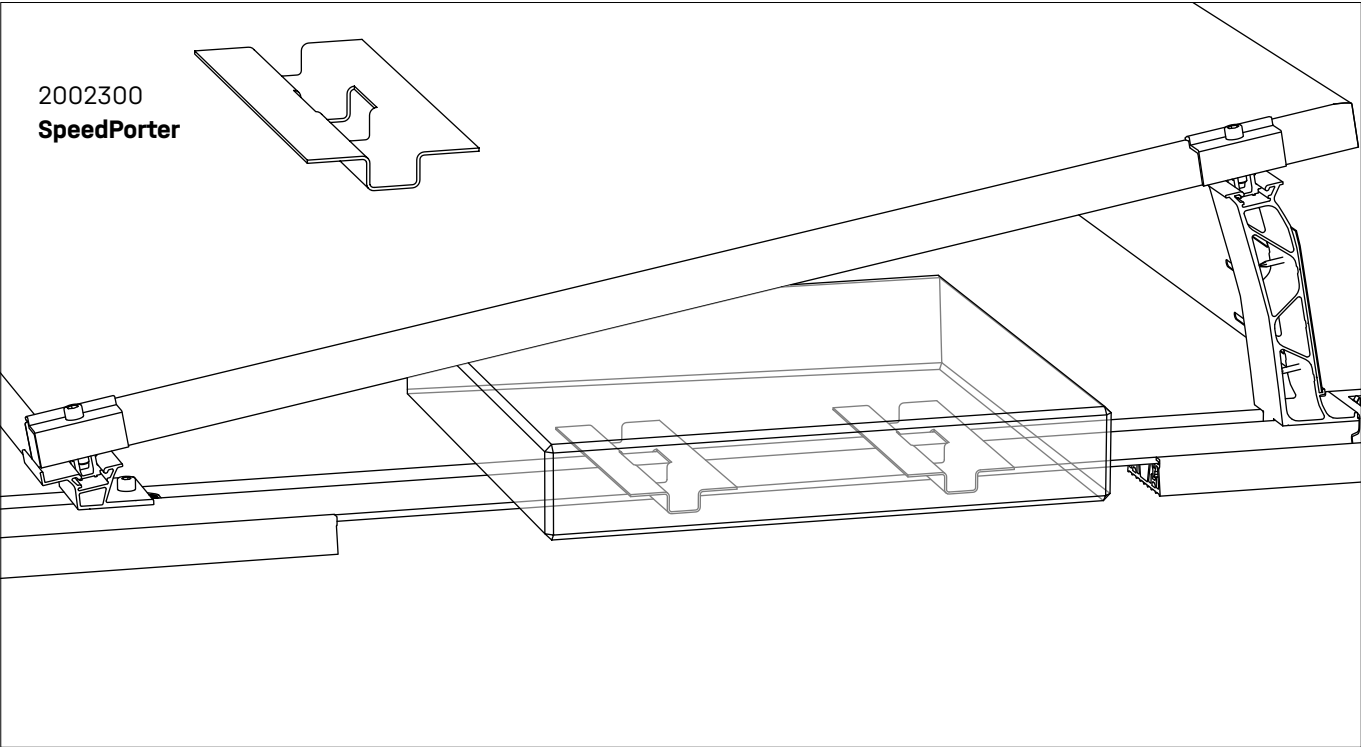


2004054 + 2003137
Performa Mesh Tray und
PVX Multimount

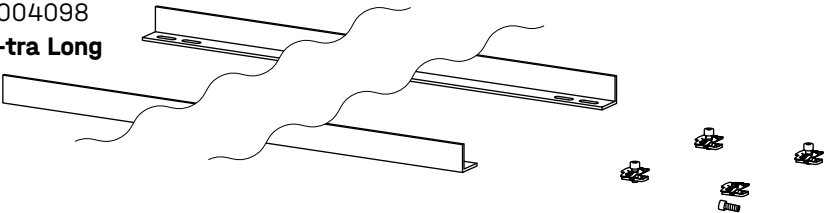


Components

Ballast

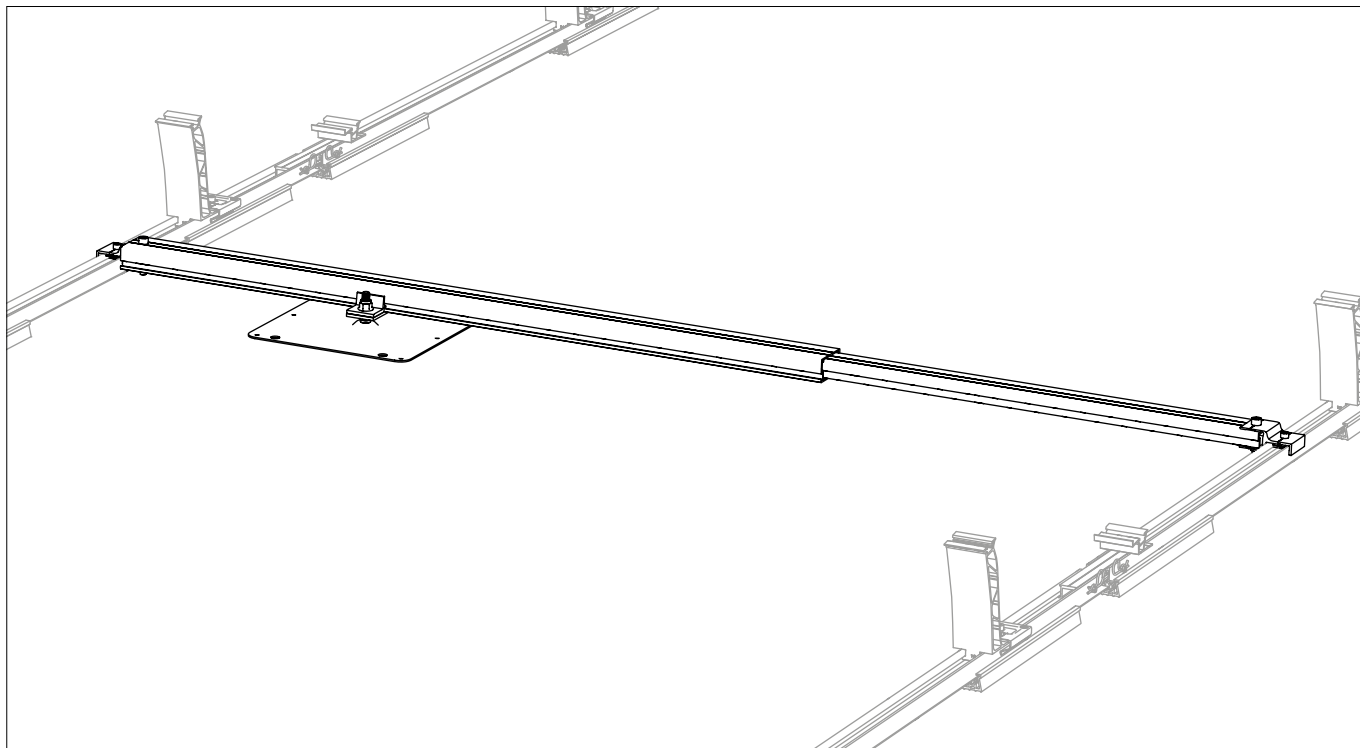


2003150 / 2003151 / 2004098
Porter Short / Long / X-tra Long



1001643 + 2001729
MK2 Slot nut with clip
+ Allen bolt M8x20

Fixed connection to the roof

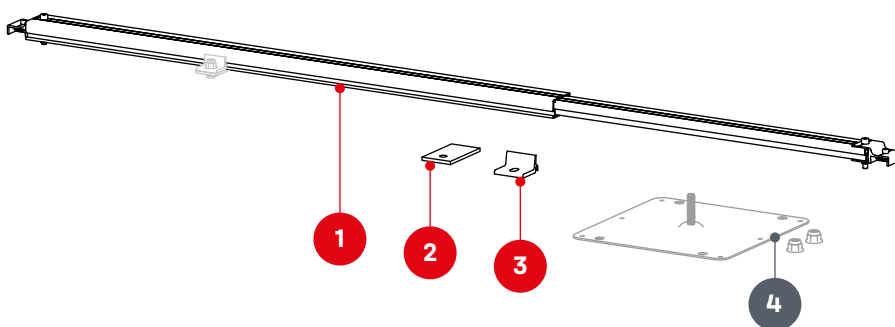


1 2004144
Dome FixPro L

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. screws and nuts) for fixing to the fastener must be provided by the customer.



Assembly

Installation of module field and thermal separations

! The minimum assembly values (S_{x1}/S_{y1}) for the thermal separations of module blocks must not be undercut. In K2 Base, you set the distances between the module edges (S_{x2}/S_{y2}) for planning. The K2 Base mounting plan outputs the automatically calculated mounting values depending on S_{x2}/S_{y2} .

The diagram illustrates the layout of module blocks in a field. The maximum width and height of the module field are both indicated as **max. 15.0 m**. The spacing between module edges is defined by S_{x2} (horizontal) and S_{y2} (vertical). The minimum thermal separation between module blocks is specified as $S_{y1} \geq 140 \text{ mm}$ and $S_{x1} \geq 140 \text{ mm}$. The diagram shows a grid of modules with these dimensions and separations.

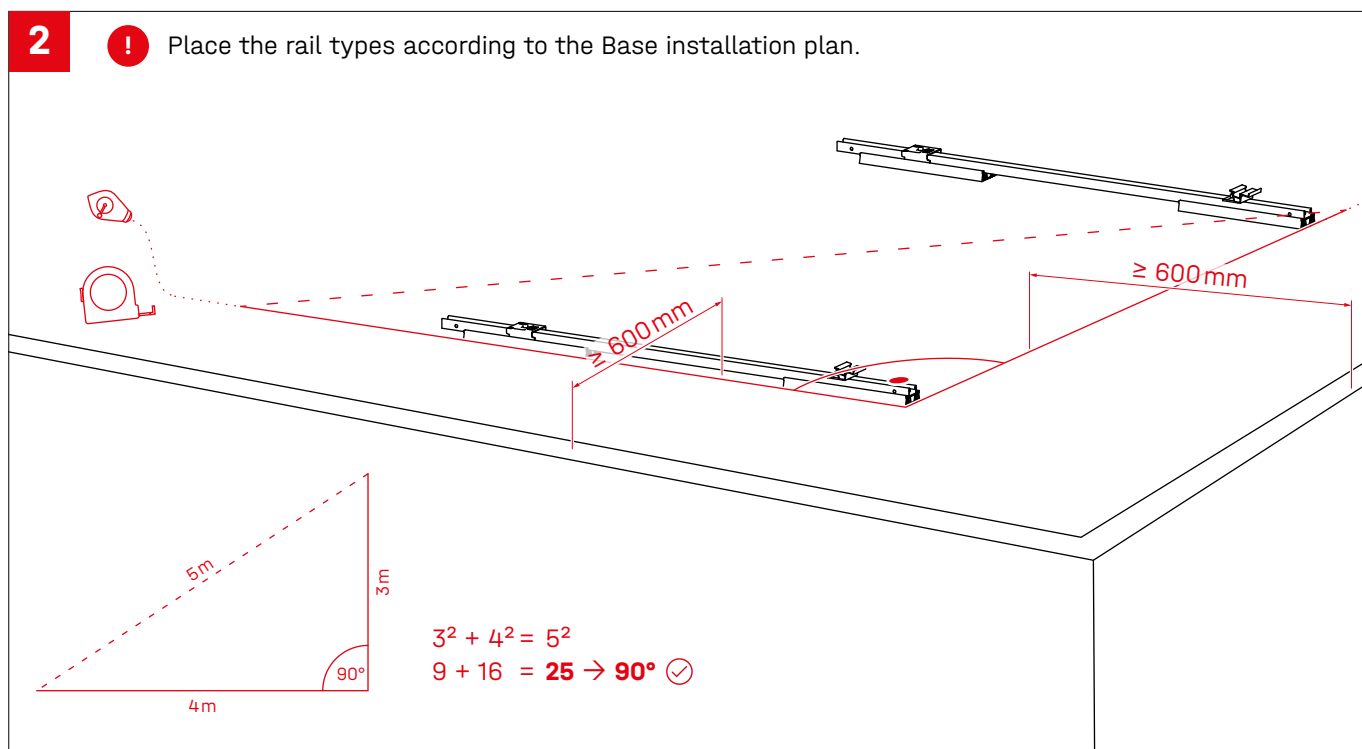
1 **!** The module width w_m is adjusted with the narrow ends of the Dome Speed Spacer measuring clamps.

The diagram shows how to adjust the module width w_m using Dome Speed Spacer measuring clamps. The perspective view shows the module with clamps at the narrow ends, and the width w_m is indicated. The cross-sectional view shows the clamp being adjusted to the correct width. The diagram includes a warning icon and a red arrow pointing to the narrow end of the clamp.

Module blocks

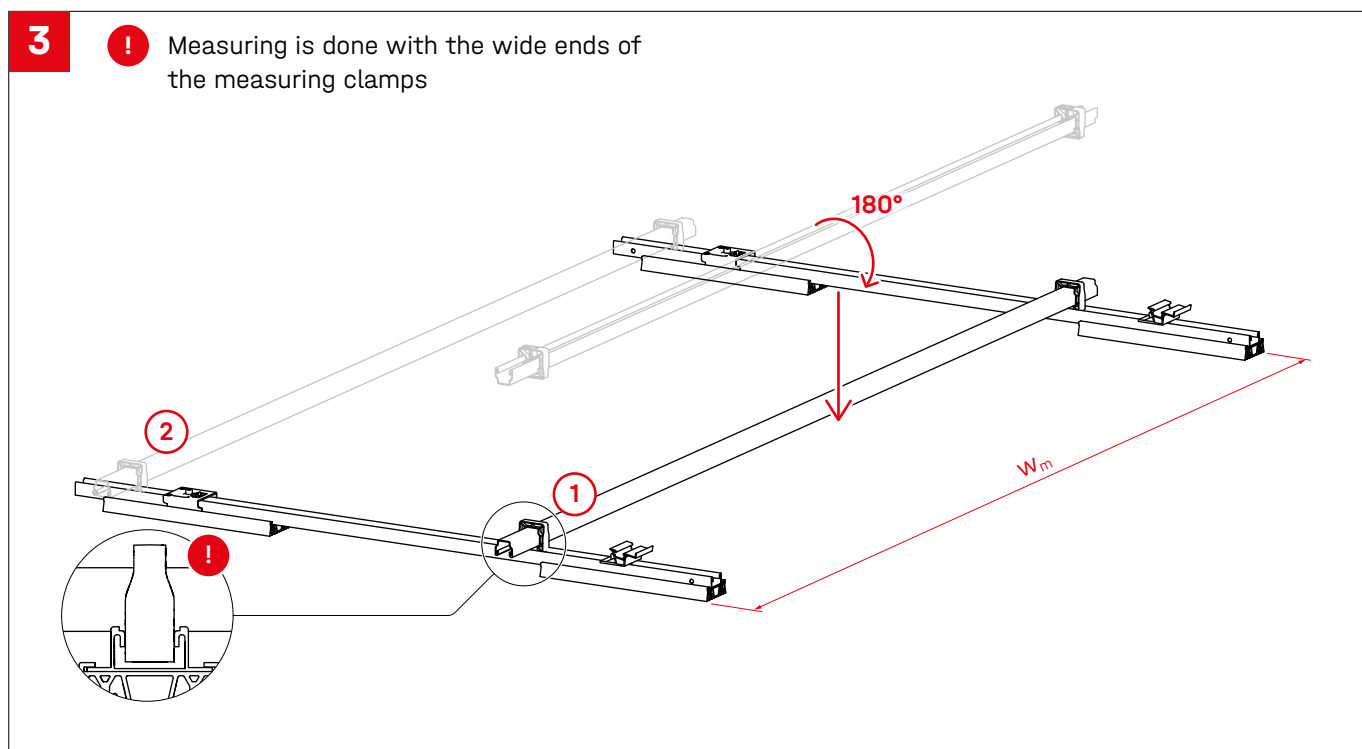
2

! Place the rail types according to the Base installation plan.




3

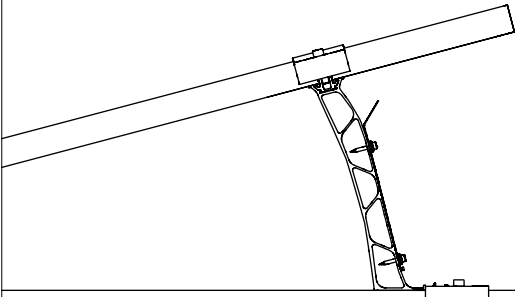
! Measuring is done with the wide ends of the measuring clamps




Row spacing settings




With Connector Sets 2004123 and 2004178, different row spacings are possible. These are listed in the following table and the default for your project can be found in the K2 Base report.






2004123 (195 mm)

a




2004178 (495 mm)

b

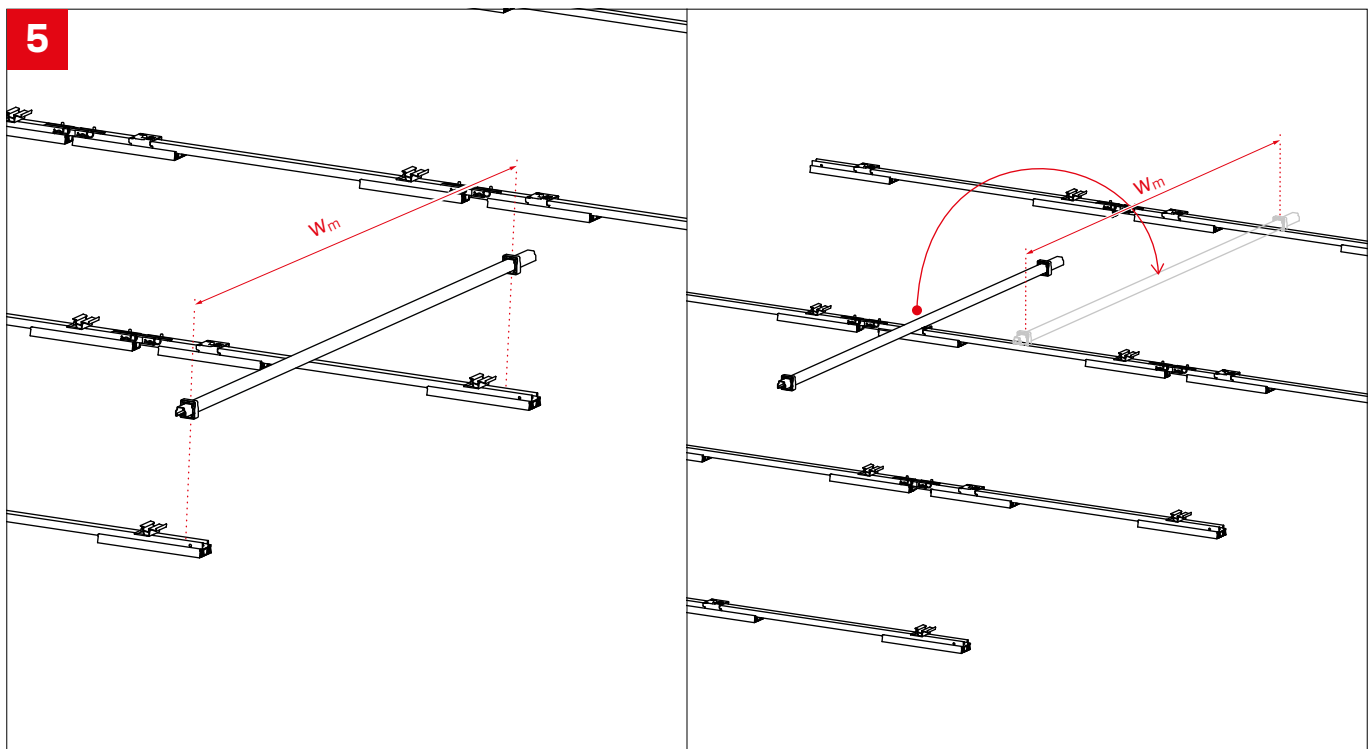
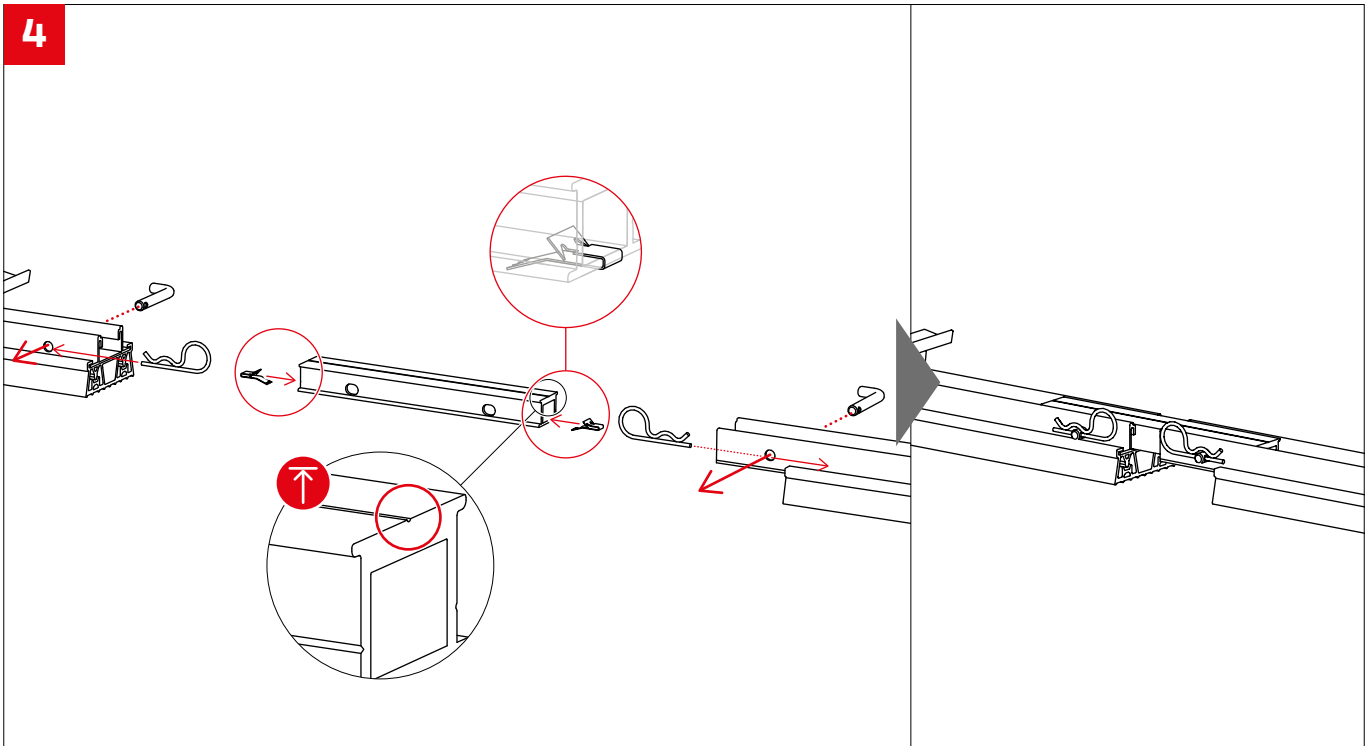


c



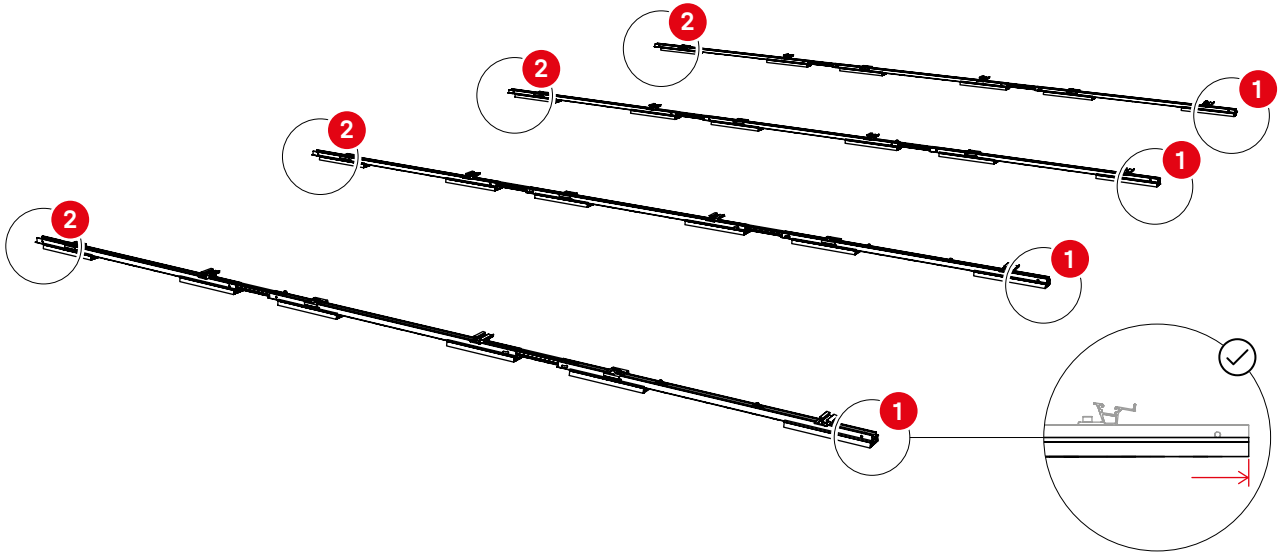
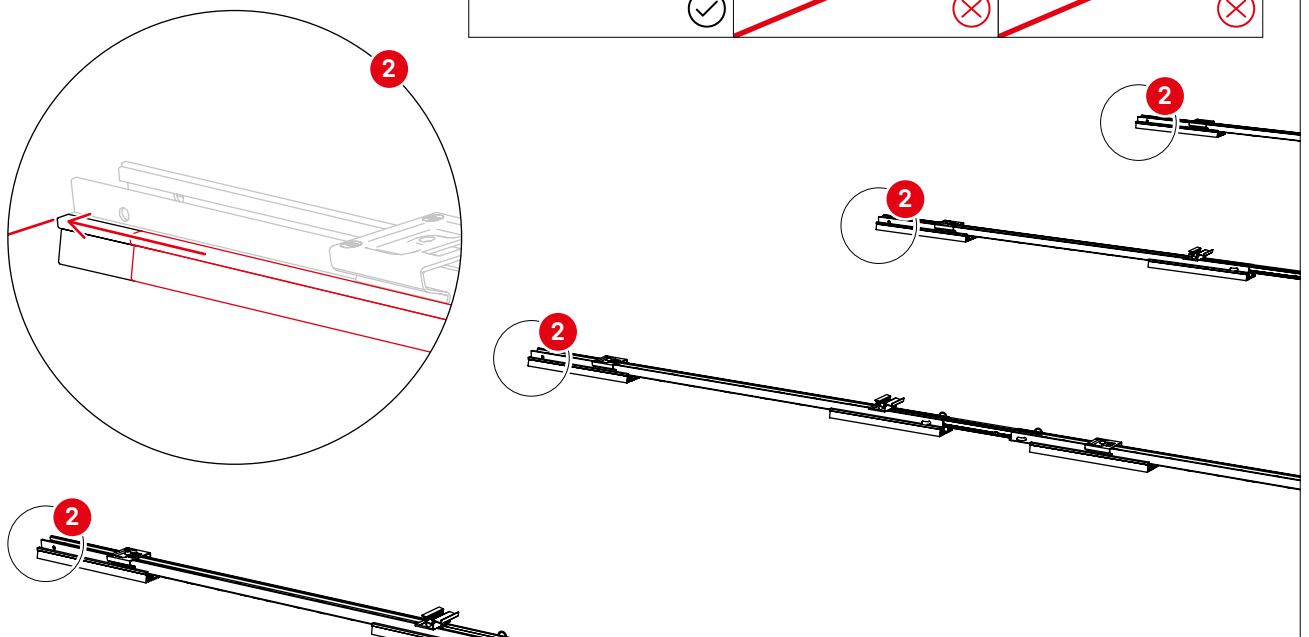
Row spacing in relation to Connector Set

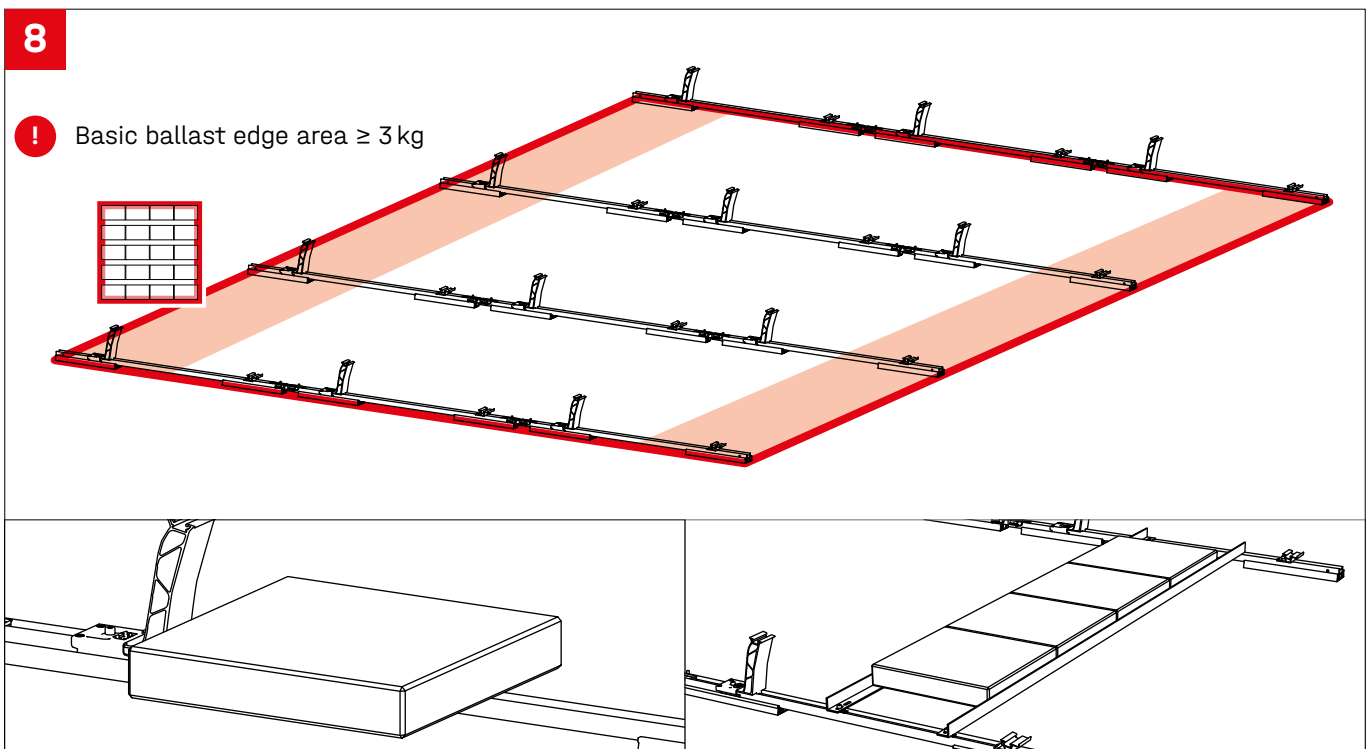
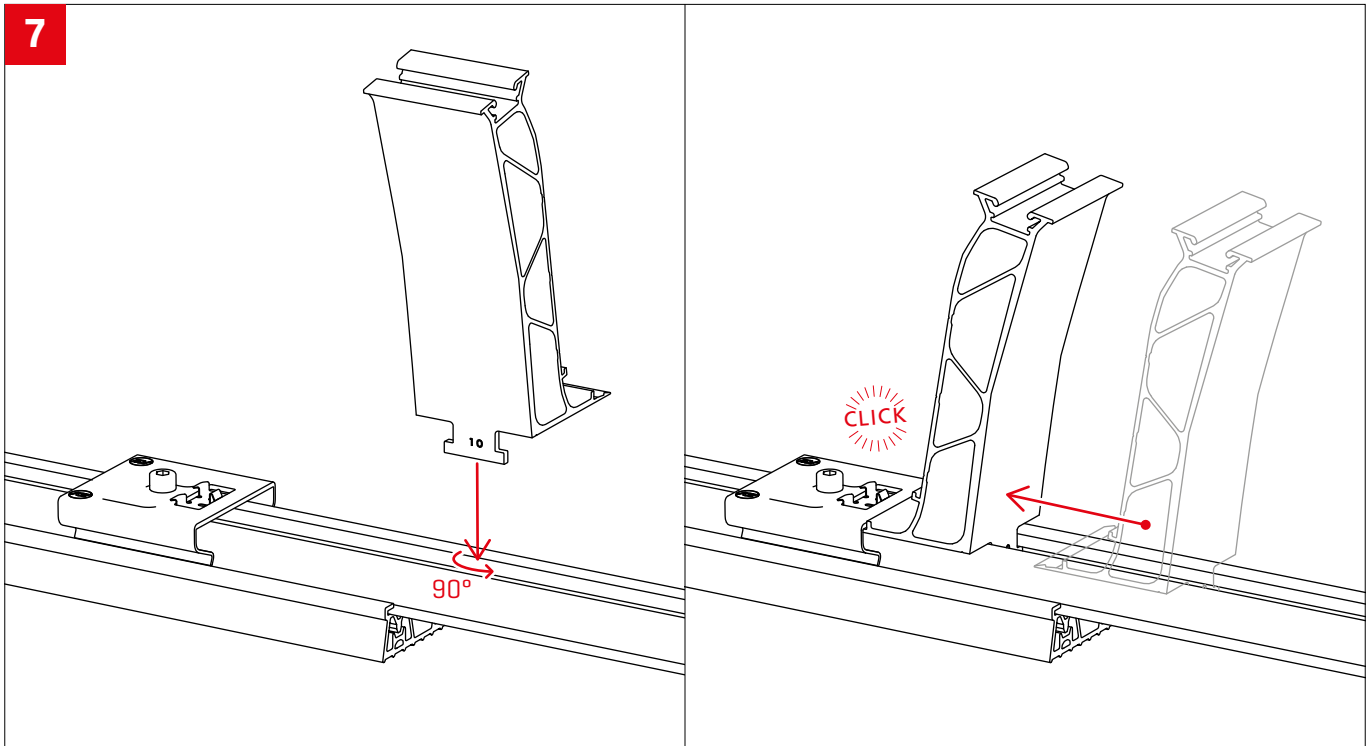
Rail Set		Permissible module widths [mm]	Row spacing with Connector Set [mm]			
			2004123	2004178 a	2004178 b	2004178 c
S-Dome 6.10 Base Set	2003621	960 - 1170	1480	1580	1680	1780
S-Dome 6.15 Base Set	2004501	1061 - 1170	1850	1950	2050	2150



6a

- ! **S-Dome 6.10 Base Set:** (1) Check position
(2) Moving required, step 6b

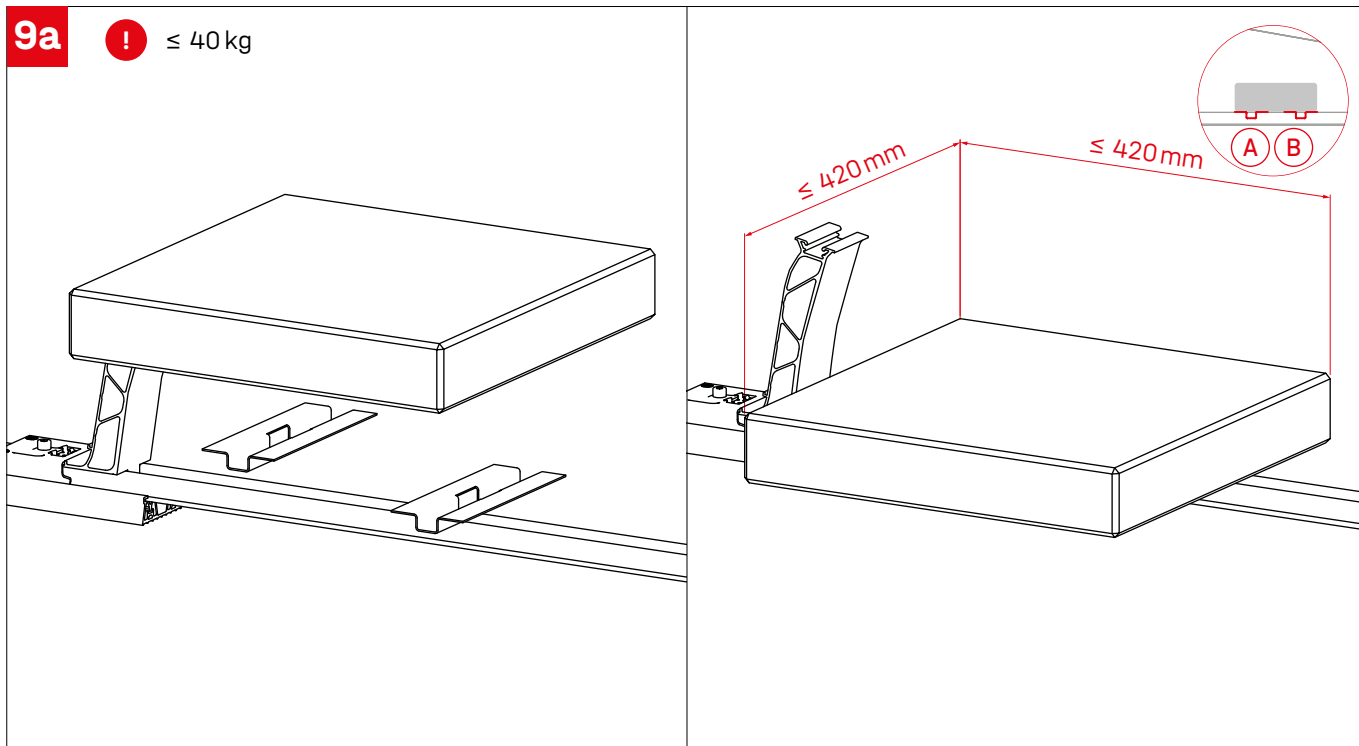
**6b****End of rail**



Ballasting options and specifications

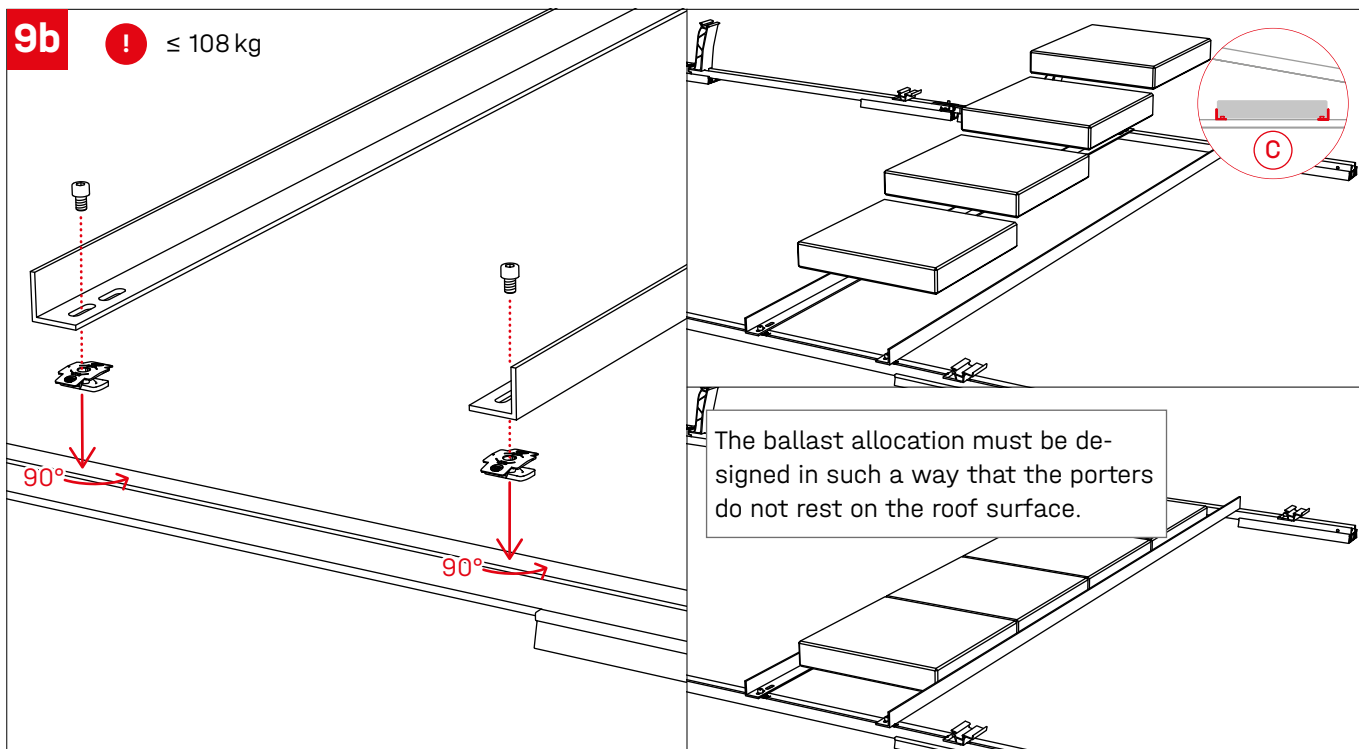
9a

! ≤ 40 kg

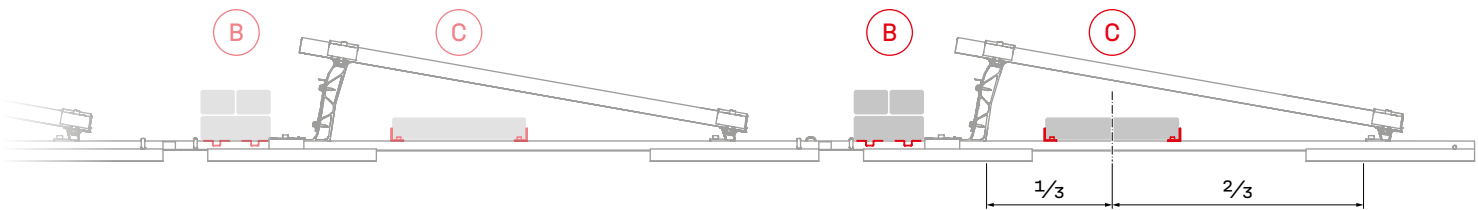
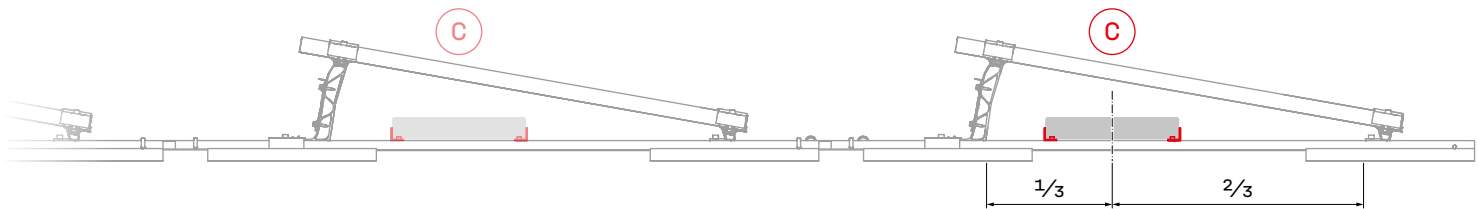
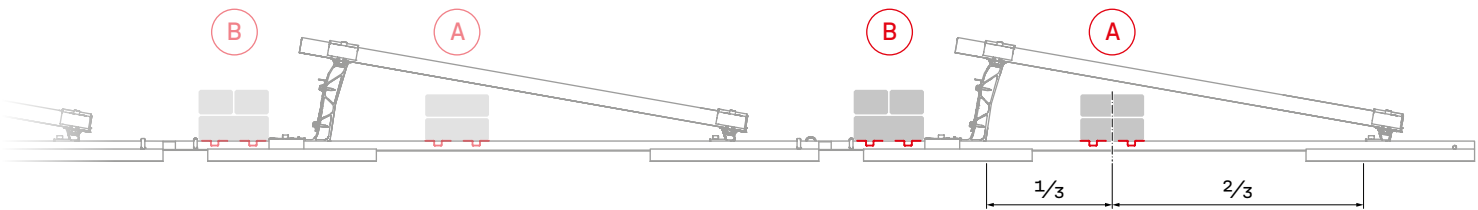
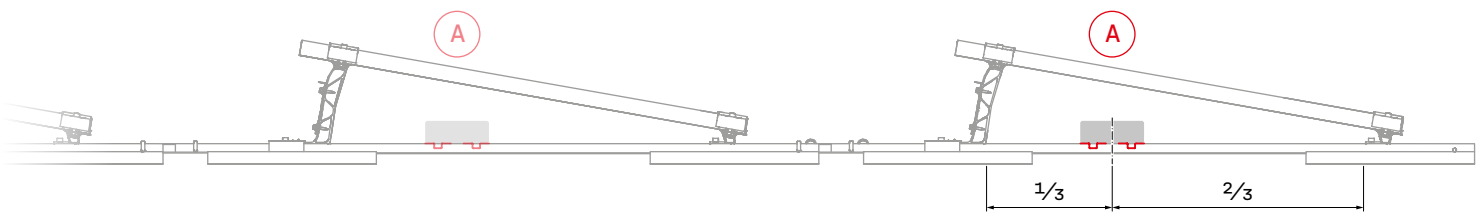
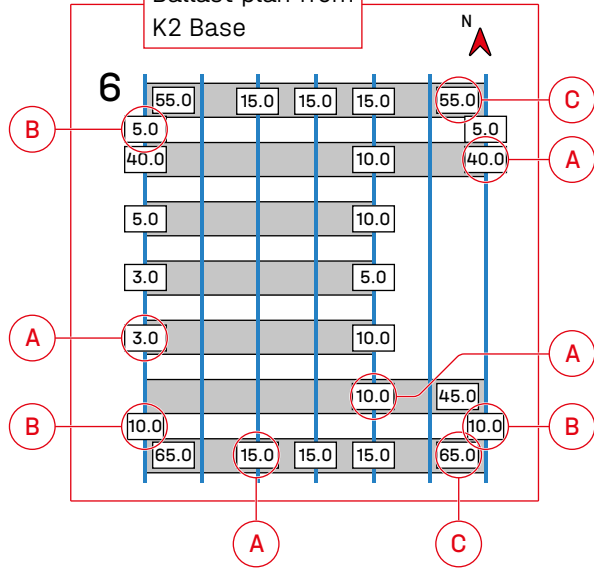


9b

! ≤ 108 kg



Ballast plan from
K2 Base

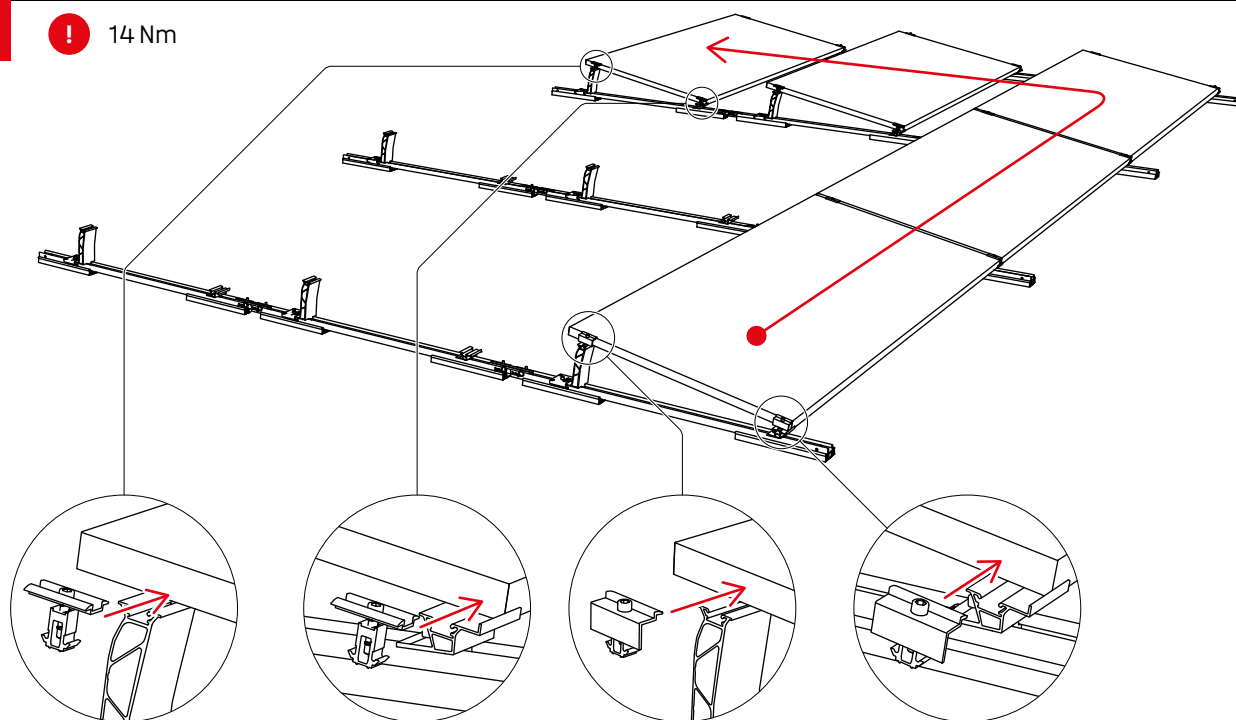


Module assembly

10



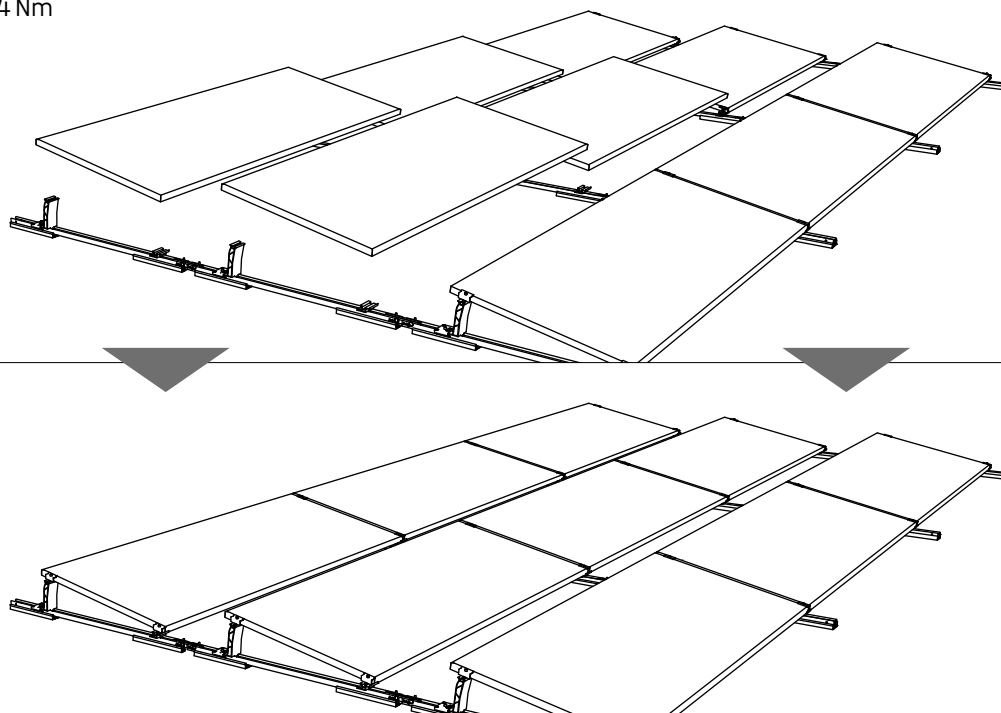
14 Nm



11

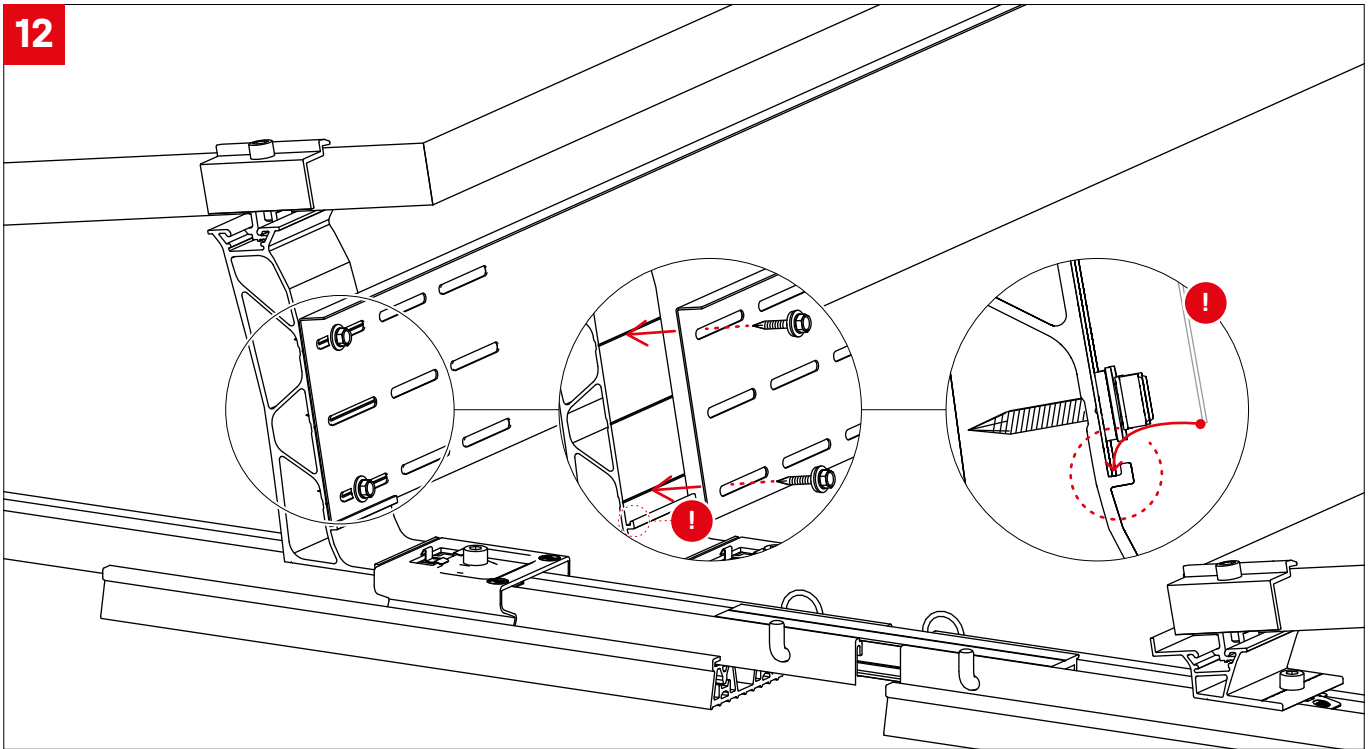


14 Nm

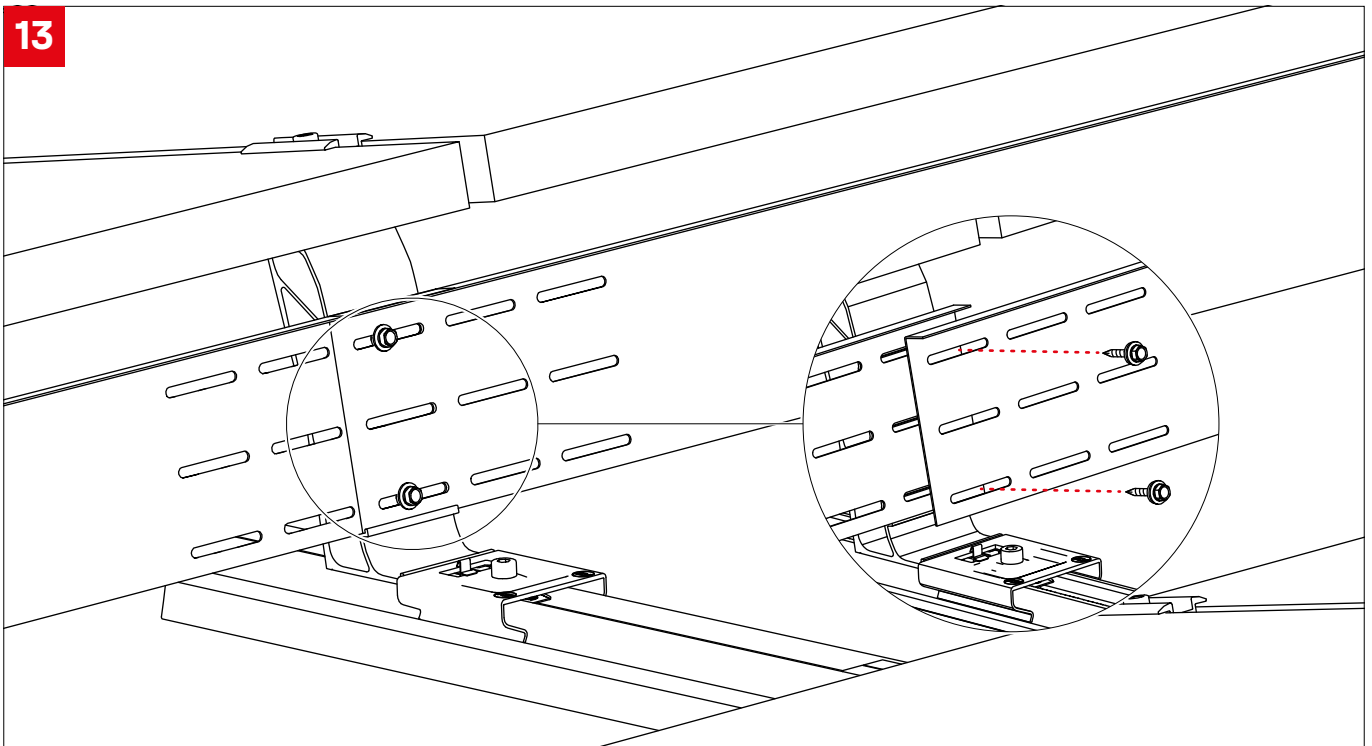


Assembly Windbreaker

12

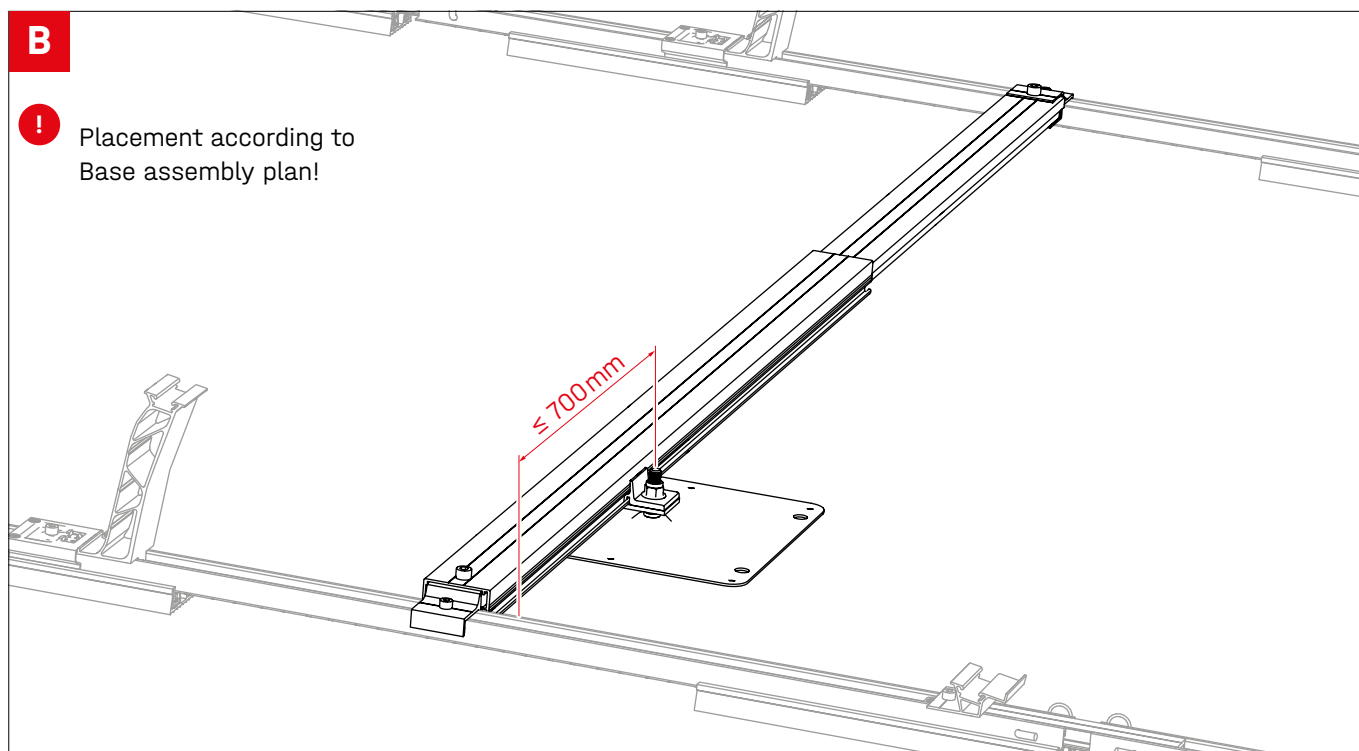
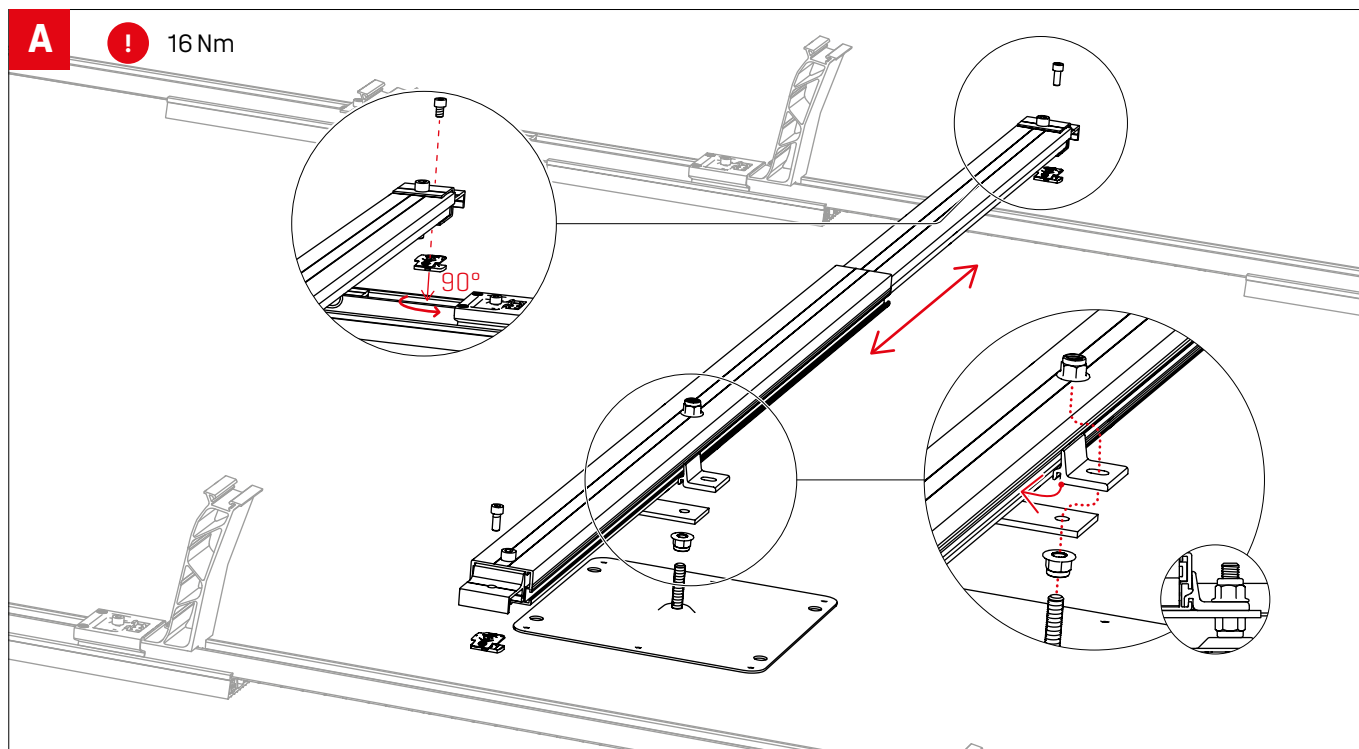


13

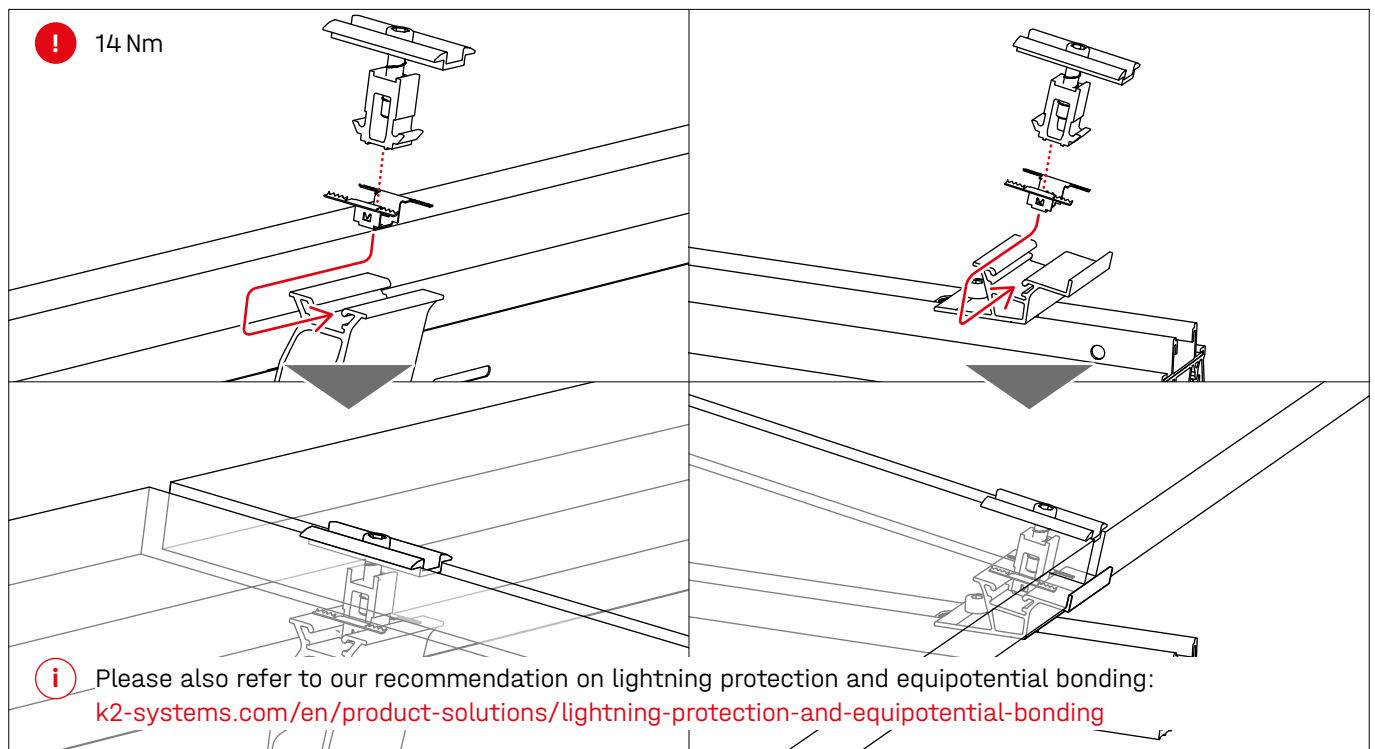


Optional assembly steps

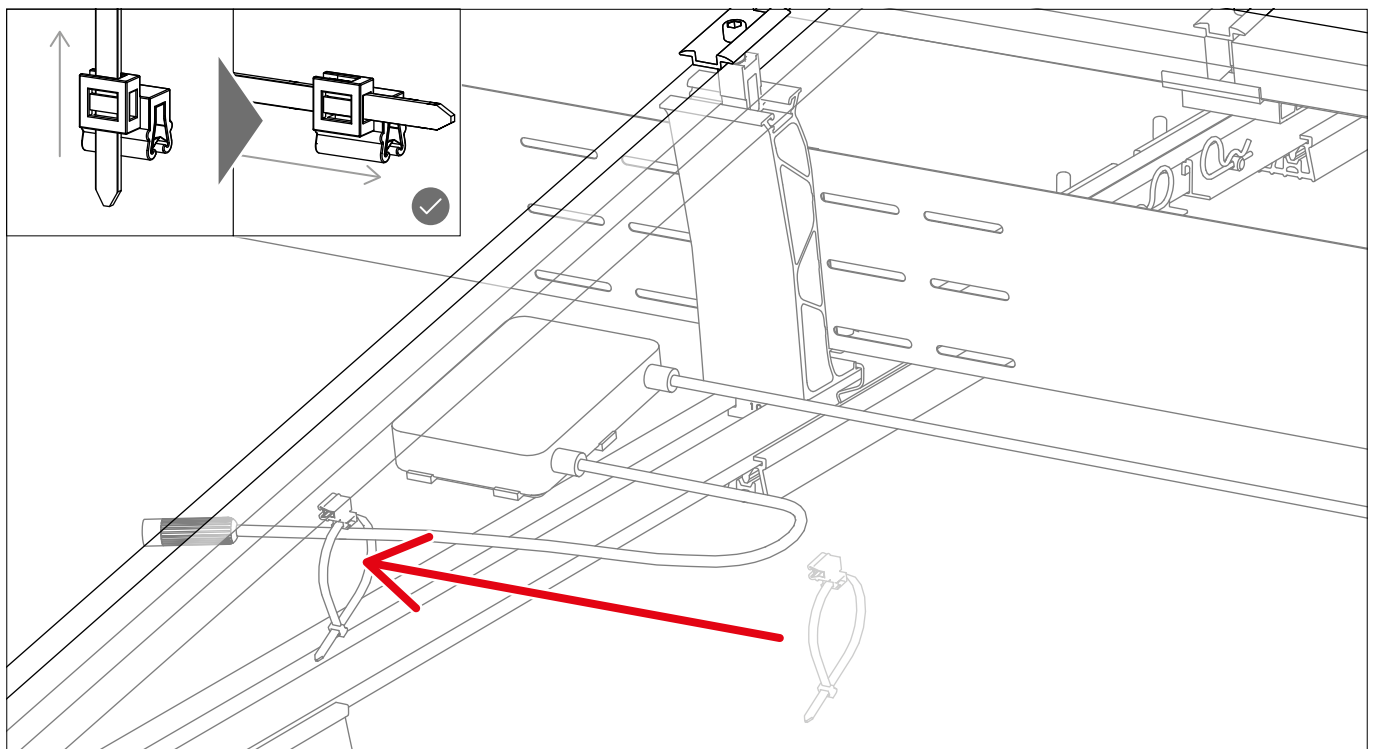
Fixed connection with Dome FixPro using Solmont mounting base



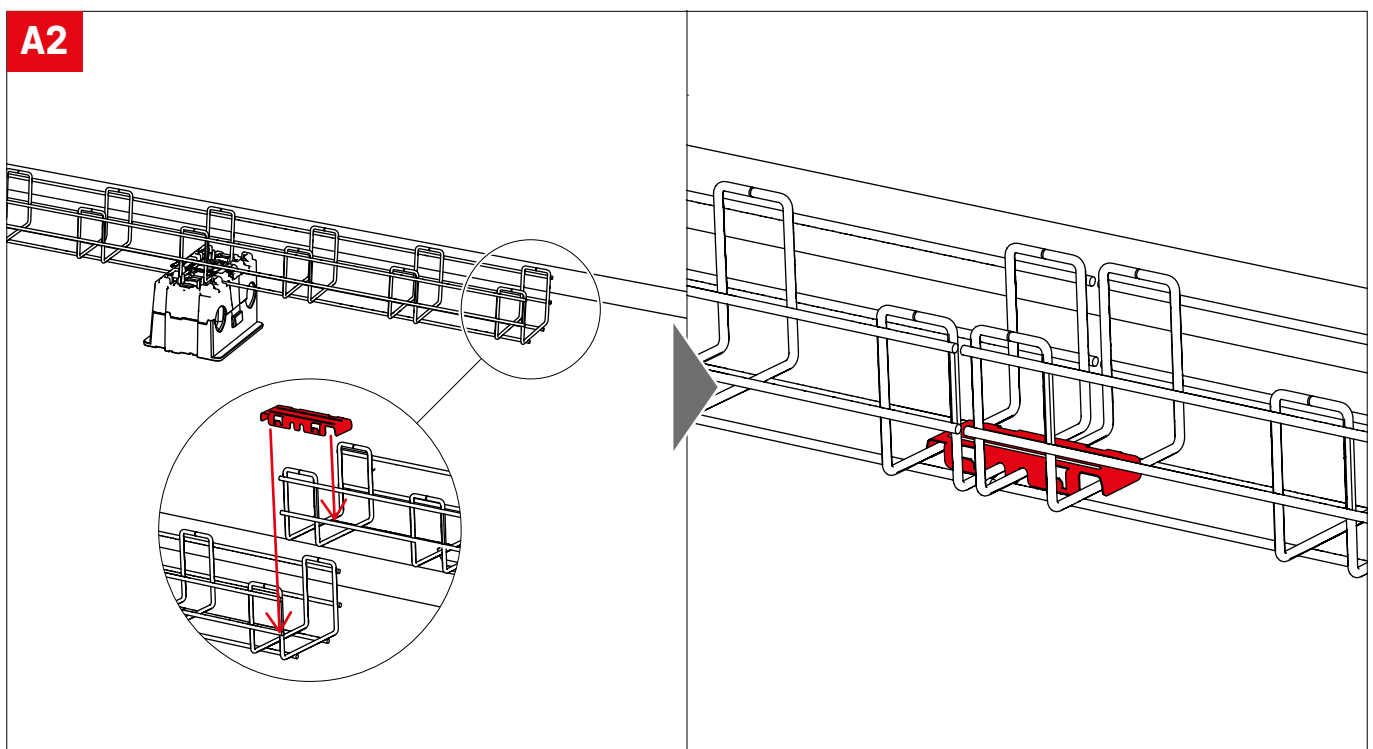
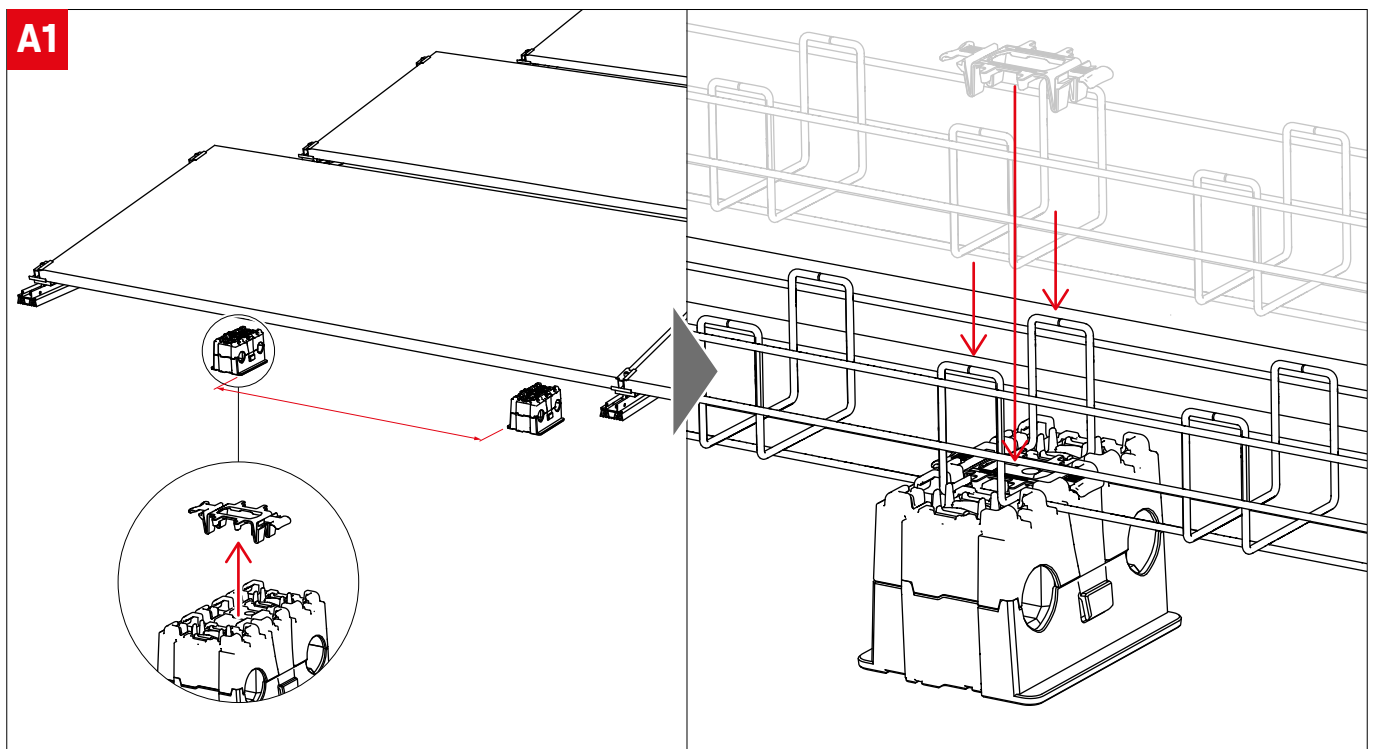
Module frame earthing with TerraGrif

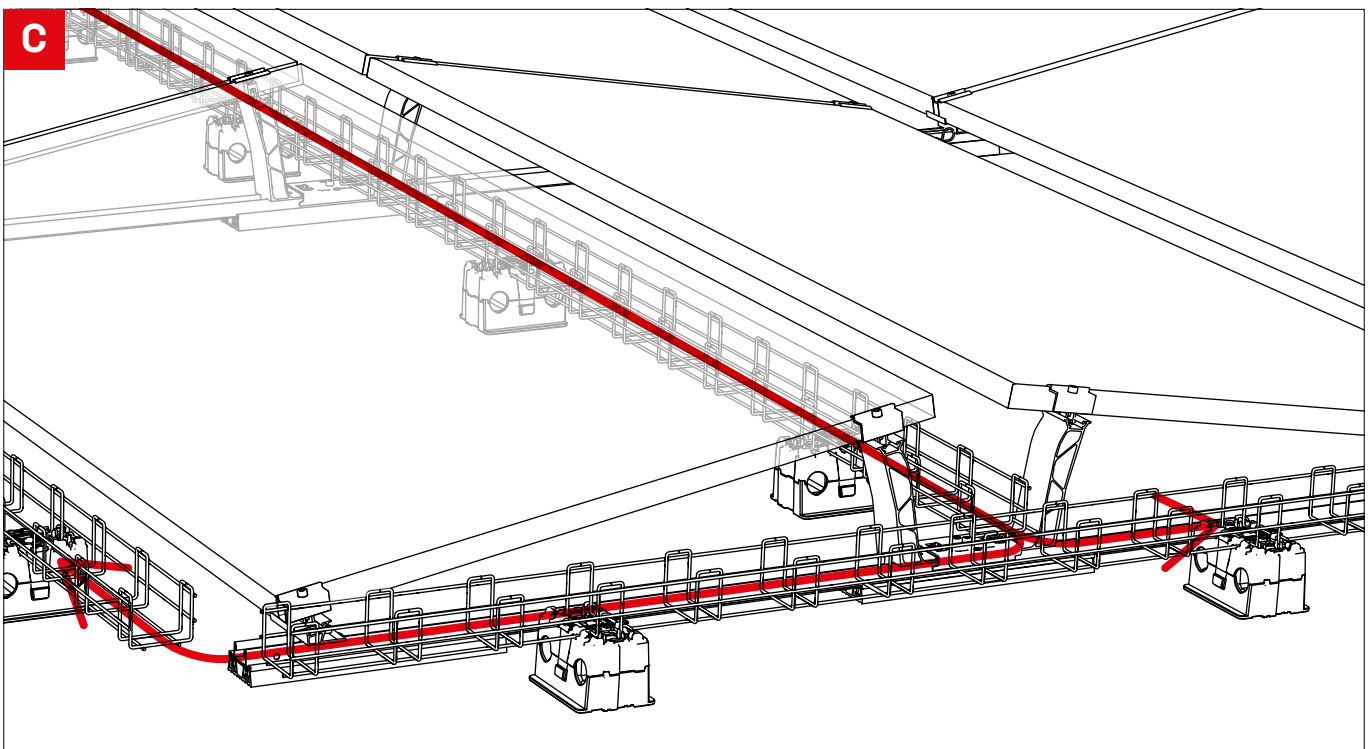
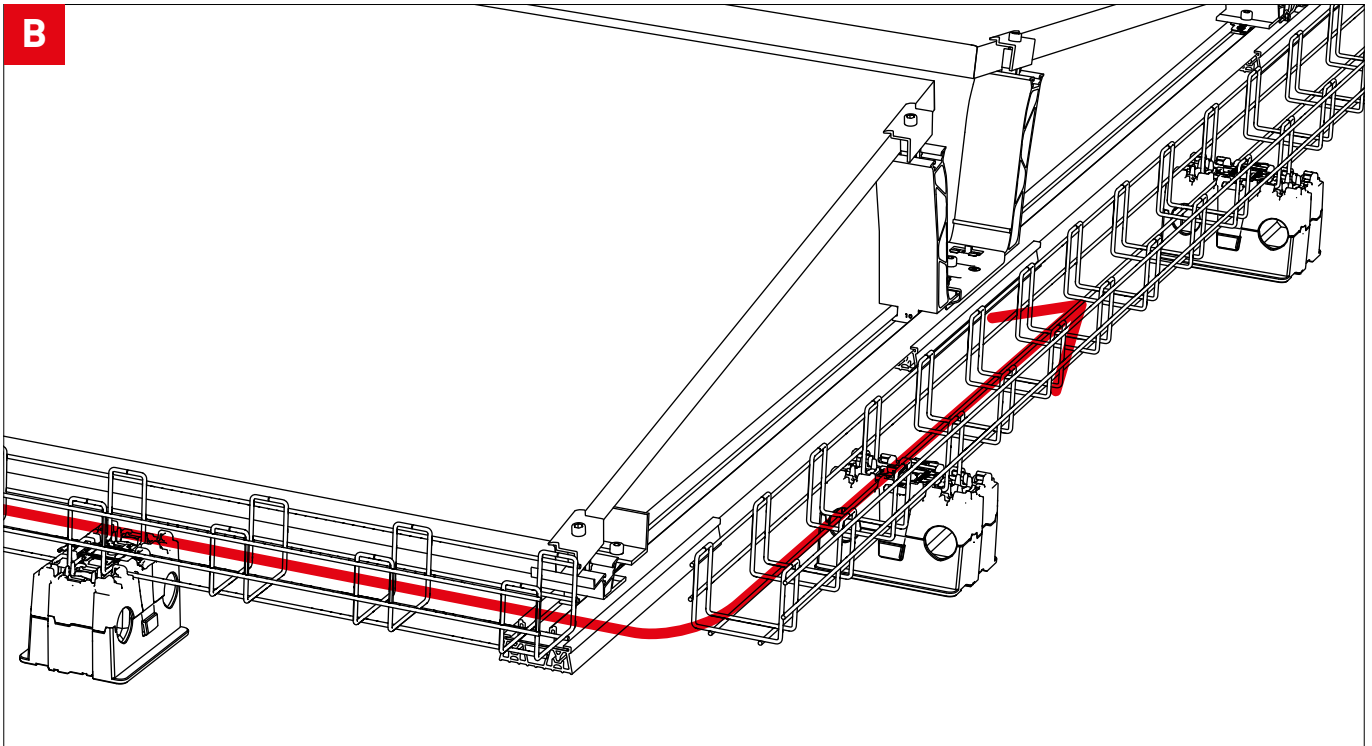


Cable management with Cable-Manager



Cable management with PVX MultiMount







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

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S-Dome 6 Xpress Assembly EN V2 | 0725 · Subject to change
Product illustrations are exemplary and may differ from the original.



Connecting Strength

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