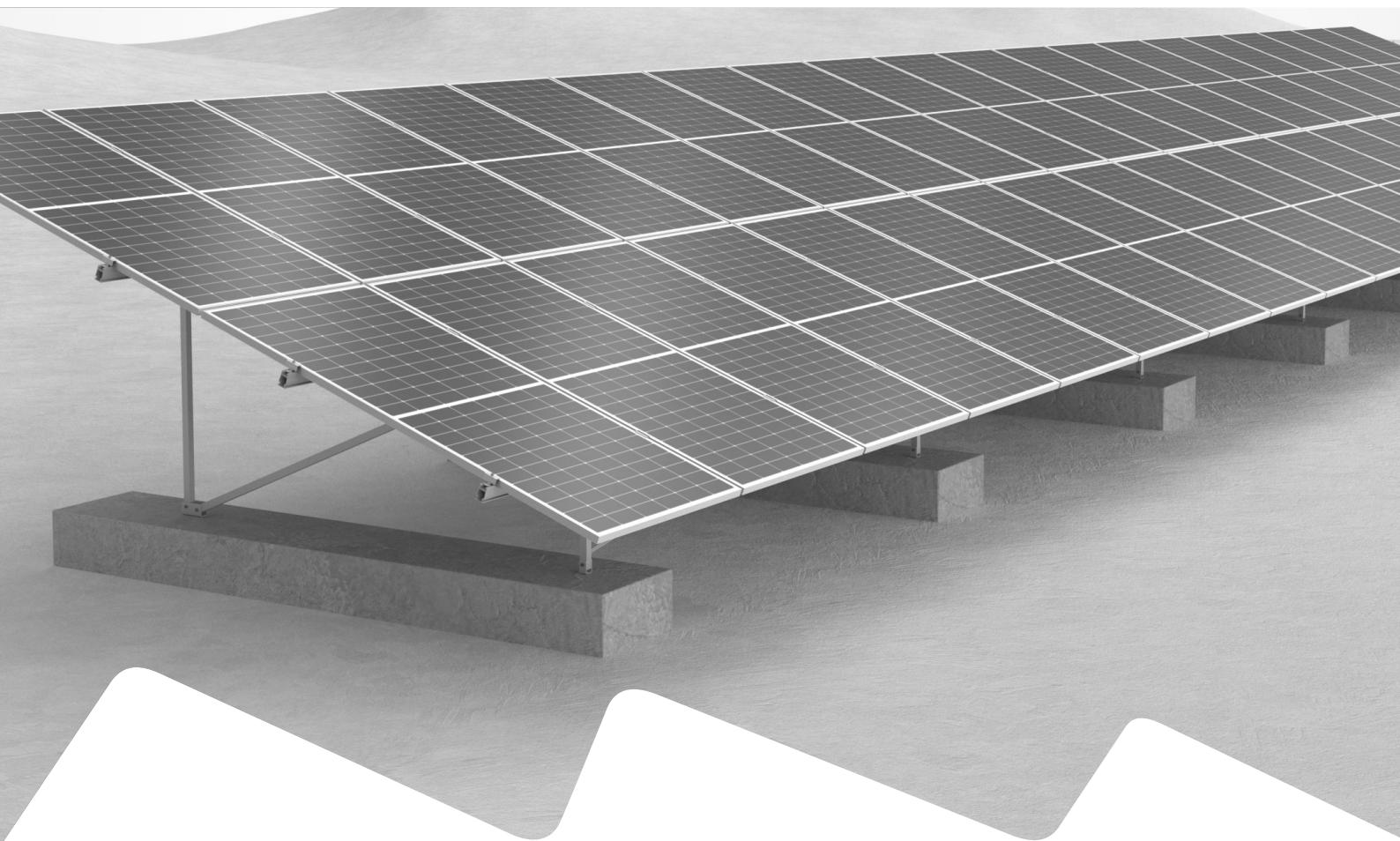




Connecting Strength



Assembly Manual

N-Rack System

Concrete foundations

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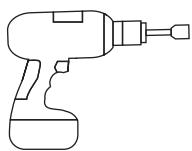
Quality tested - several certifications

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

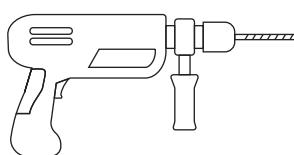
Tools overview



6 mm



8 mm



10 mm



6 - 30 Nm
(4,5 - 22,2 lb·ft)



6 mm



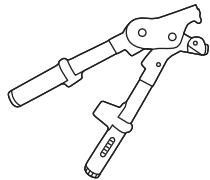
17 mm



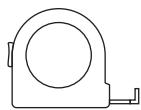
6 mm



17 mm



Gripple Torq Tool 400 · 2004456



≥ 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.
 - 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 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.
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 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.



Soil requirements

The calculation of the foundations is based on standard soil conditions (German soil classes 3 to 5 according to EN ISO 14688, EN ISO 14689-1 and EN ISO 22475-1).

The ground conditions must be checked on site.

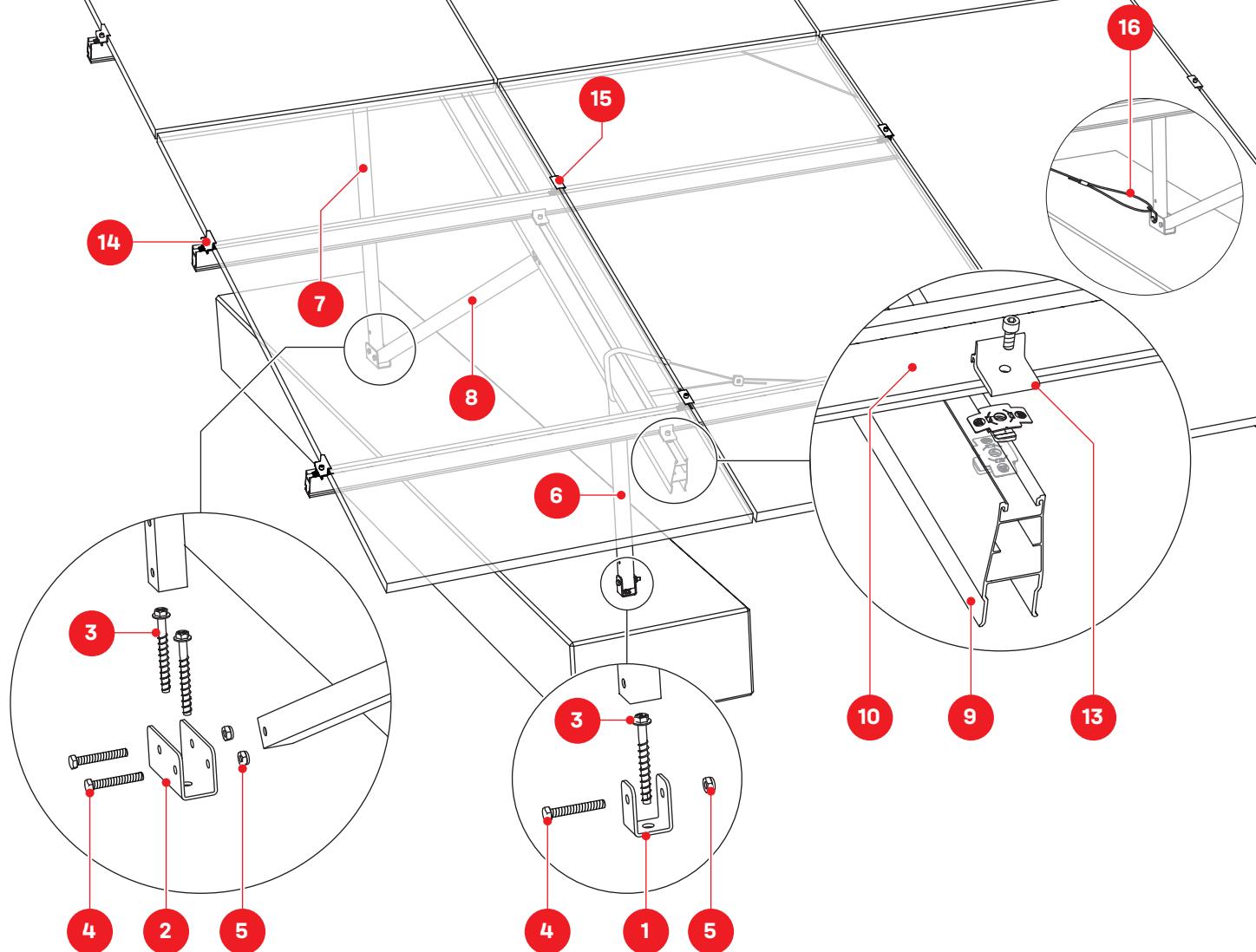


Important mounting instructions

- 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.
- Adhere to module manufacturer recommendations for clamping area and module installation (see module manufacturer instructions).
- Module frame heights: 25 - 40 mm (other module clamps available)

Components

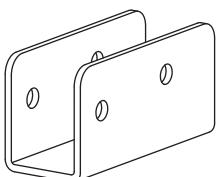
Base components



4 2004408
Hexagon head screw
with shank M10 × 70



1 2004391
N-Rack Concrete
Foot Front



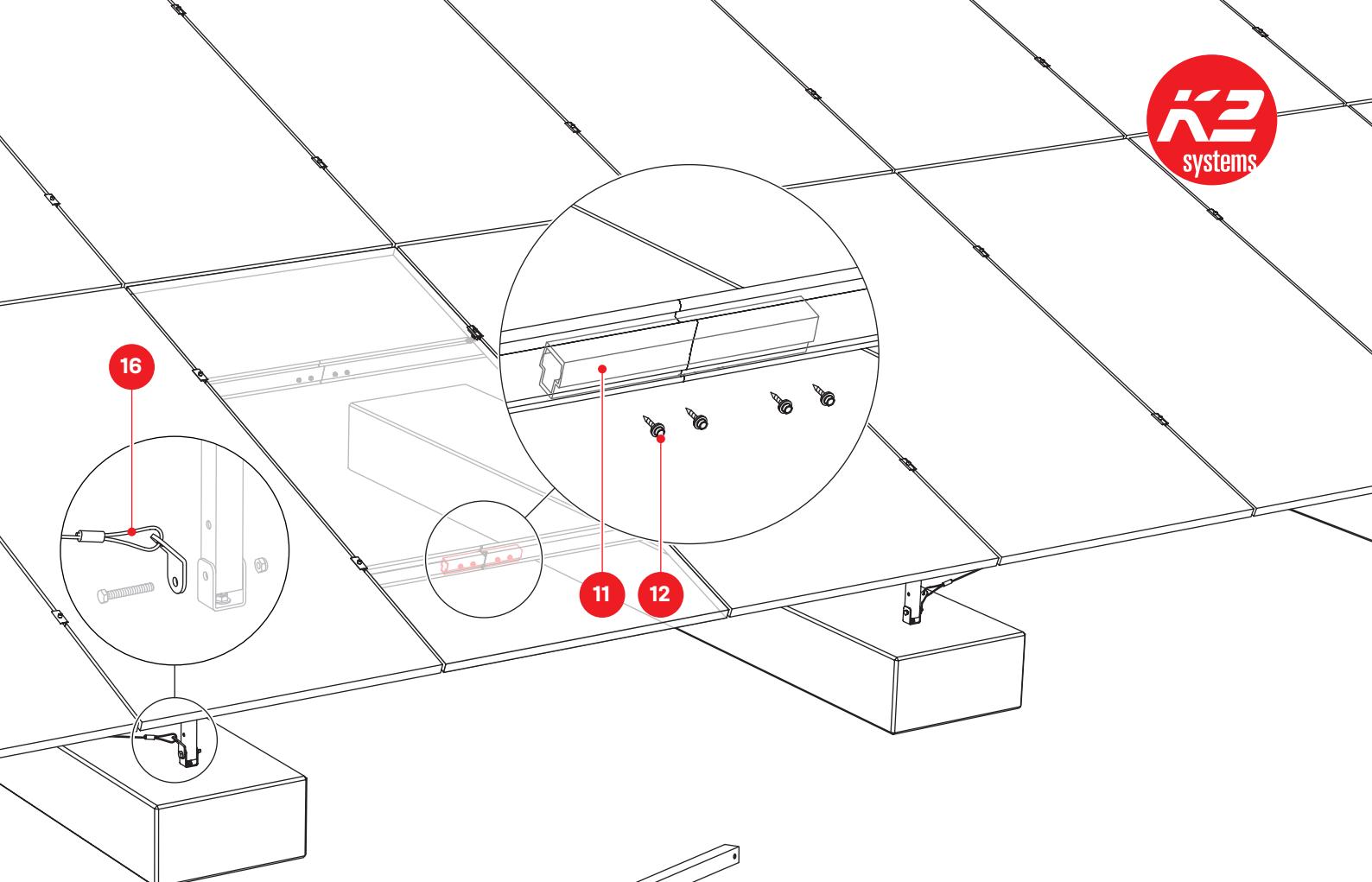
2 2004392
N-Rack Concrete
Foot Back



3 2004407
Heco Multi-Monti
12 × 105



5 1002849
Hexagon lock nut
M10



6 Item number project specific,
see page 8/9
N-Rack Brace

9 Item number
project specific,
see page 8/9
N-Rack Beam

10 Item number
project specific,
CrossRail 73

11 2004409
CrossRail 73
Connector

12 1001051
Self-drilling screw
5,5 × 25



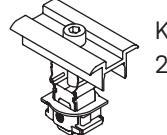
13 2003145
Climber 36/50 set



**K2 Clamp EC
25-40**



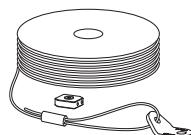
**XS Clamp EC
30 / 33 / 35**



**K2 Clamp MC
25-40**

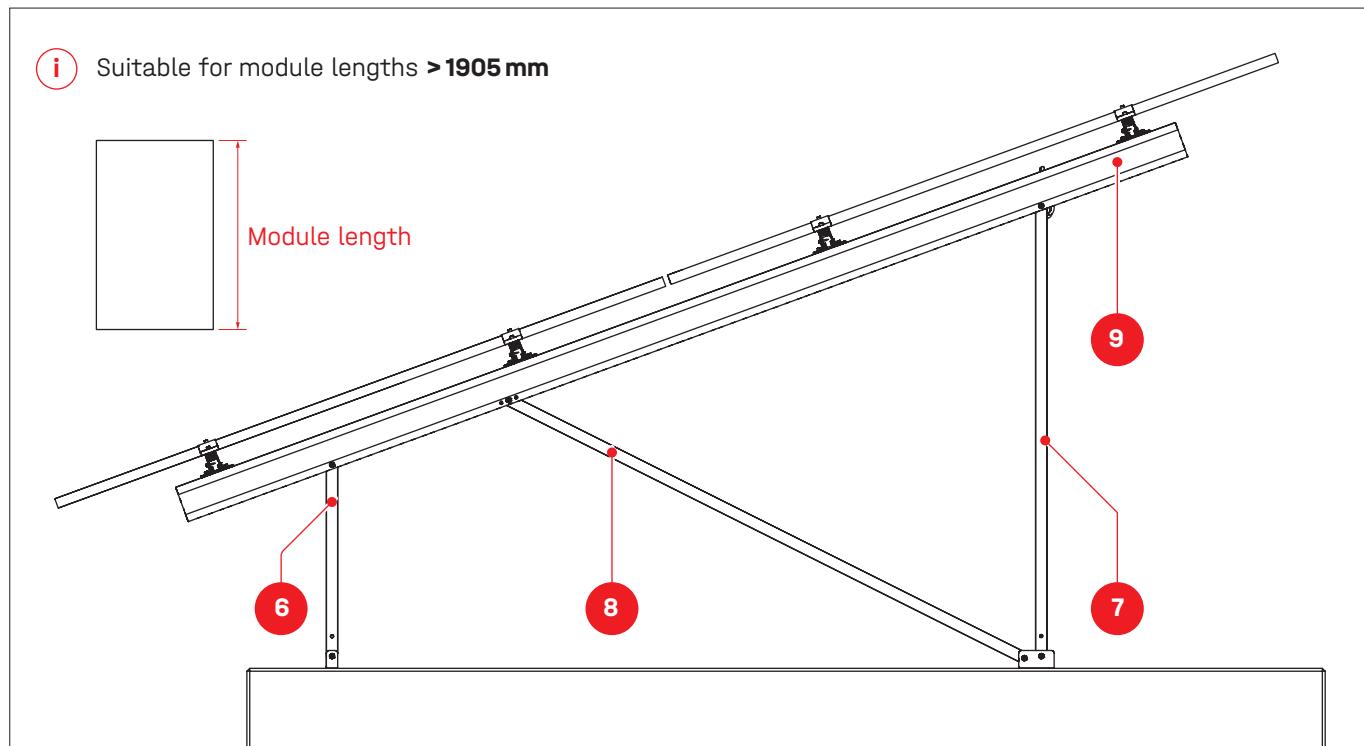


**XS Clamp MC
30 / 33-35**

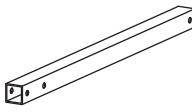


16 2004410
Wind bracing set

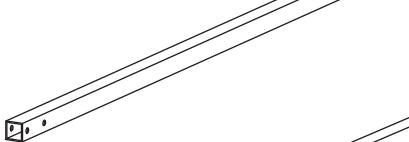
Brace/Beam components N-Rack 2.20 C



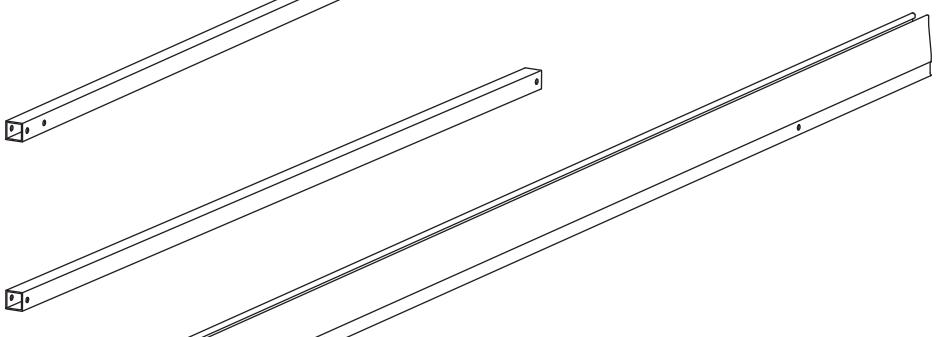
6 2004401
3-Hole Brace N-Rack 715



7 2004403
3-Hole Brace N-Rack 1625



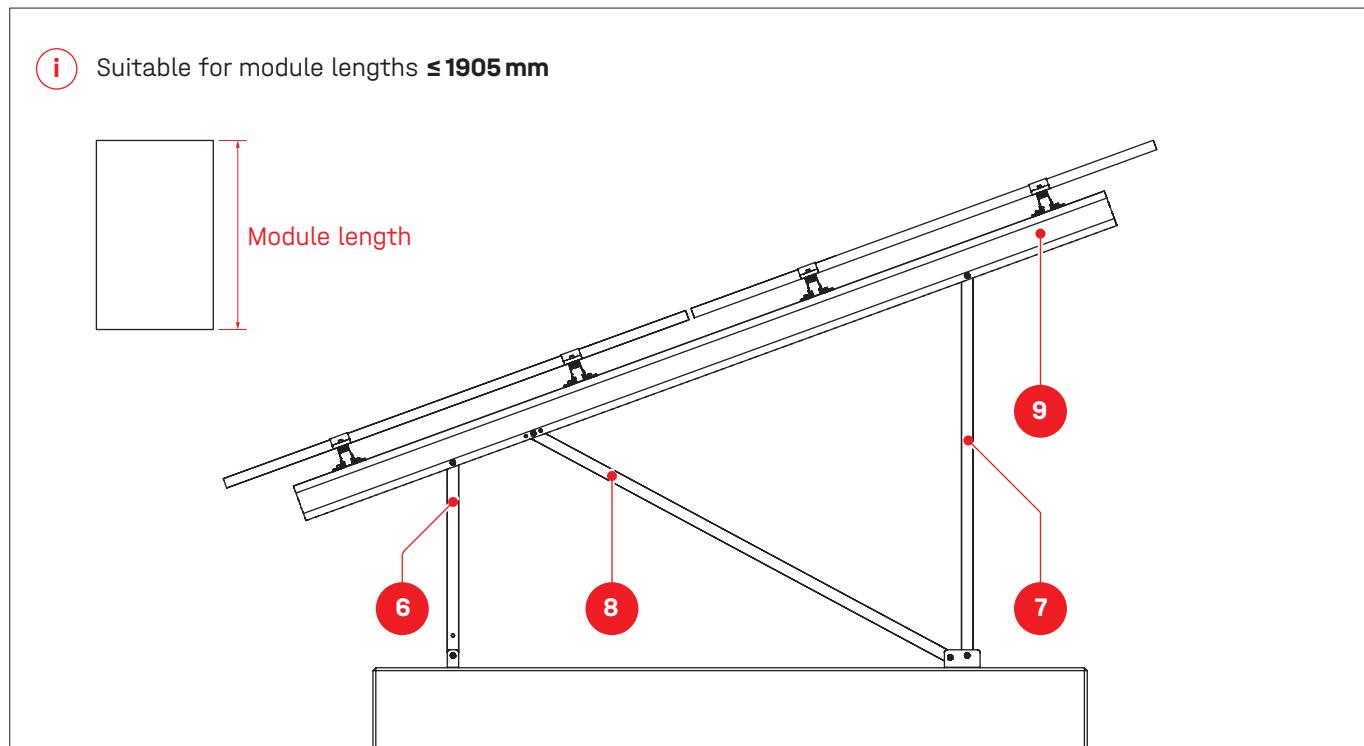
8 2004411
2-Hole Brace N-Rack 2072



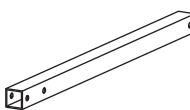
9 2004399
Beam N-Rack 3750



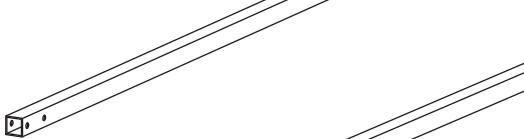
Brace/Beam components N-Rack 2.20 CS



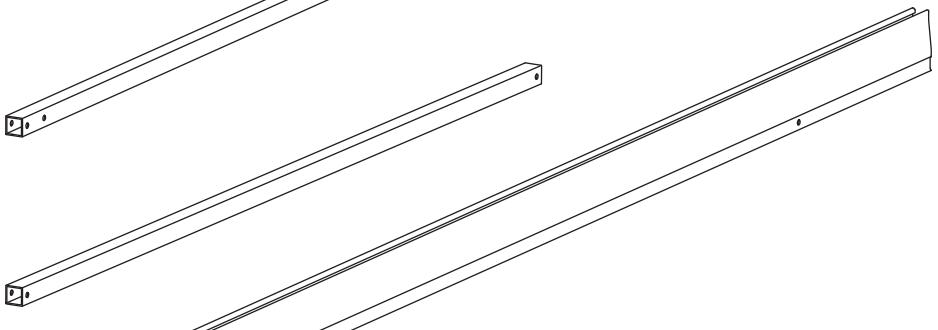
6 2004401
3-Hole Brace N-Rack 715



7 2004402
3-Hole Brace N-Rack 1370



8 2004404
2-Hole Brace N-Rack 1696



9 2004400
Beam N-Rack 3020

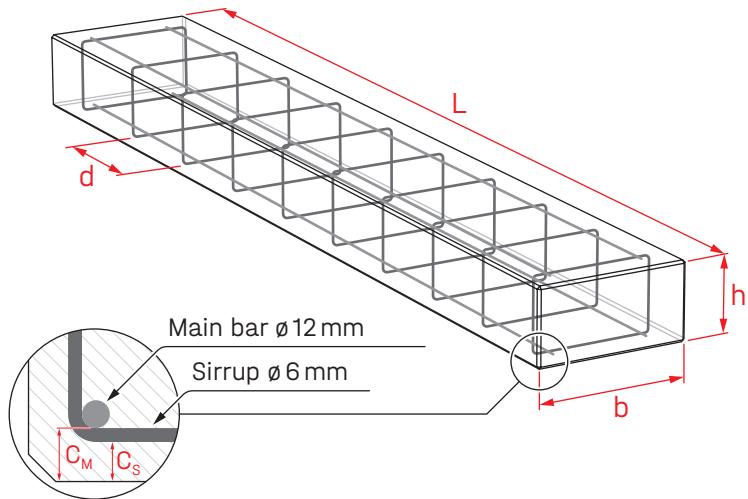


Assembly

Pre-dimensioning of the concrete foundations

i

The concrete foundations must be procured on site or constructed by the owner.



Reinforcing steel: B500
Concrete strength: min. C25/30
Concrete cover of the reinforcement: $C_M/C_S \geq 0,04 \text{ m}$

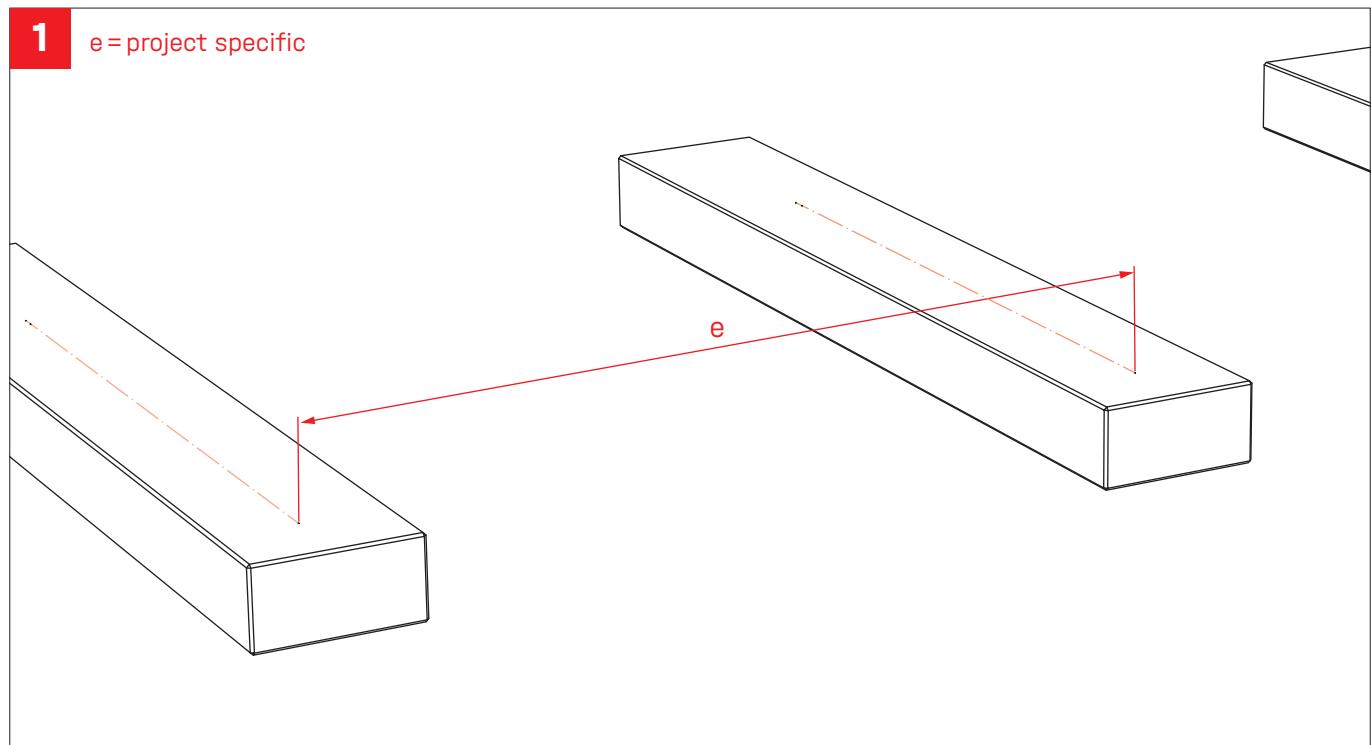
N-Rack	2.20 C	2.20 CS
L [m]	3.40	2.80
b [m]	0.72	0.78
h [m]	0.40	0.40
V [m^3]	0.98	0.87
d [m]	0.30	0.30
Number of stirrups	12 ×	10 ×

These concrete foundations are pre-dimensioned to prevent lifting and tilting due to wind suction loads. The foundations must be reinforced as shown in the schematic diagram. The determination of the final dimensions of the concrete foundations and their reinforcement plan must be checked on site.

Concrete foundation spacing

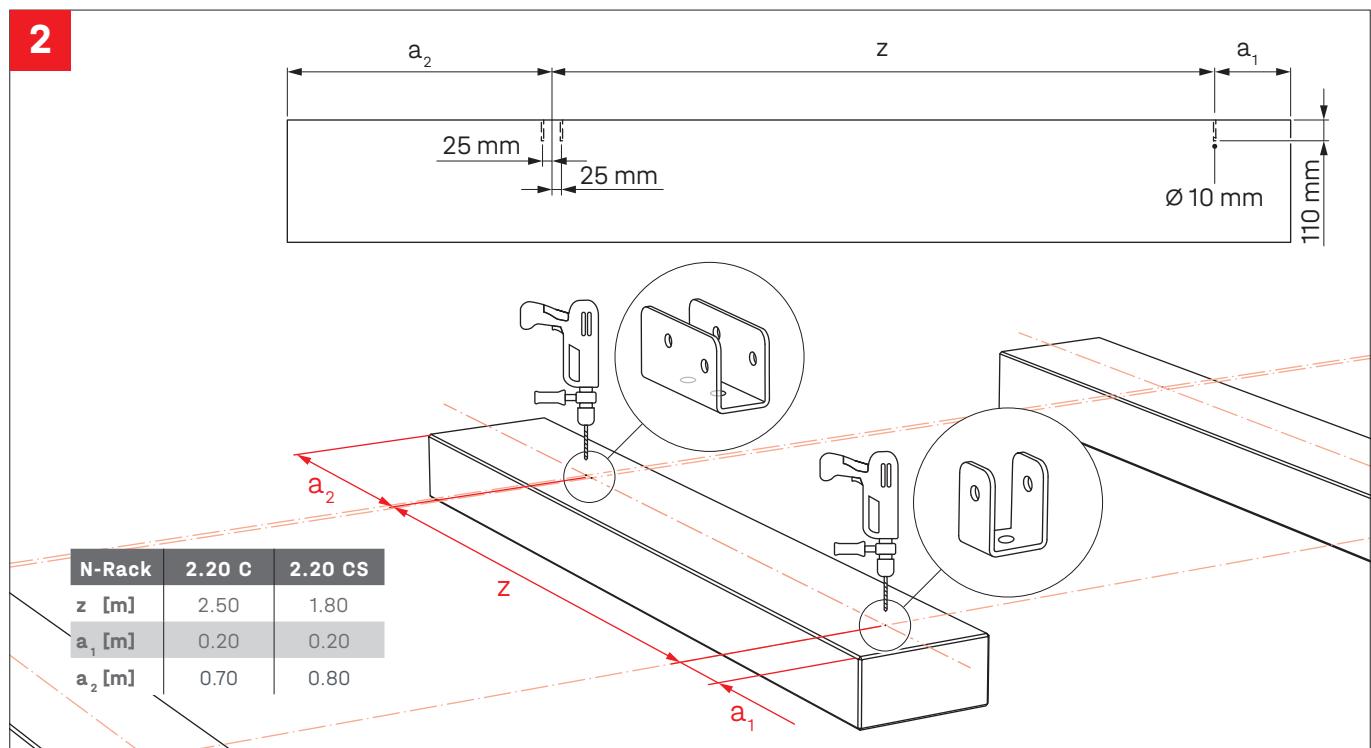
1

e = project specific



Anchor pre-drilling

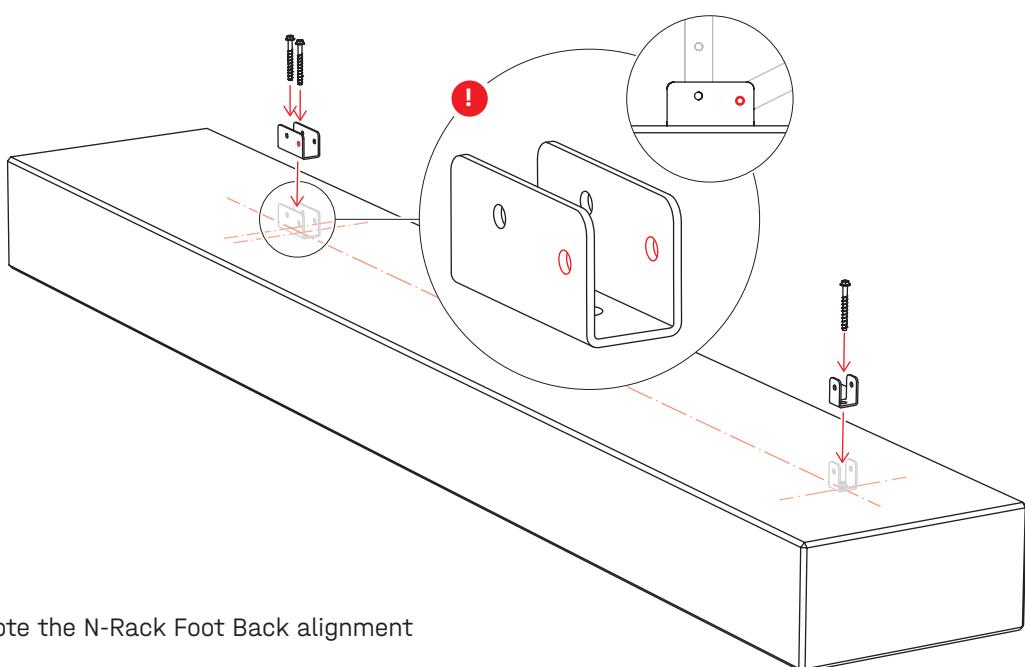
2



Concrete anchor (Heco Multi-Monti) - N-Rack Foot Front / Back

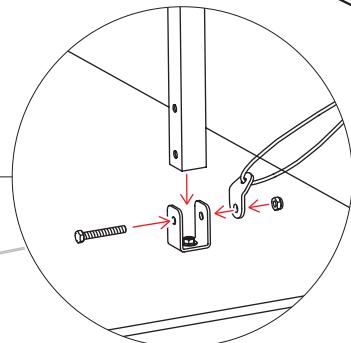
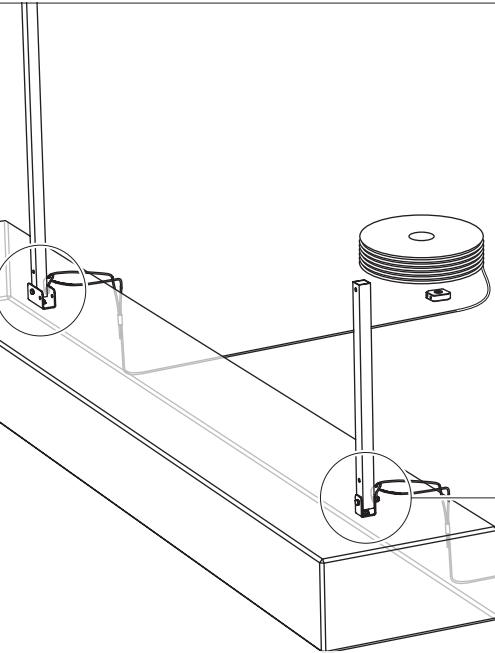
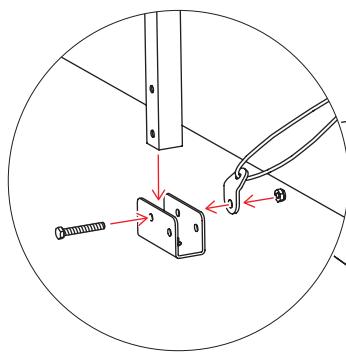
3

! 90 Nm



Fixation Braces

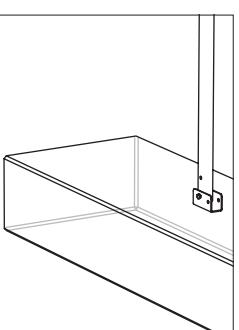
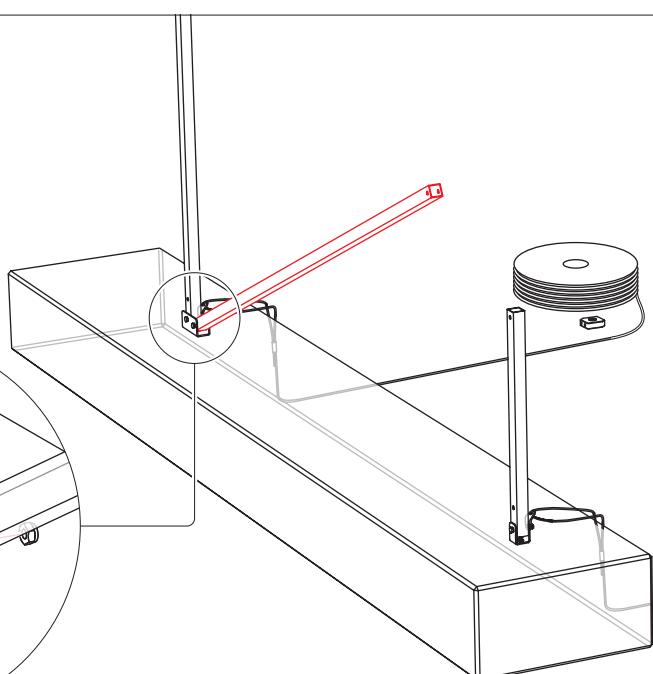
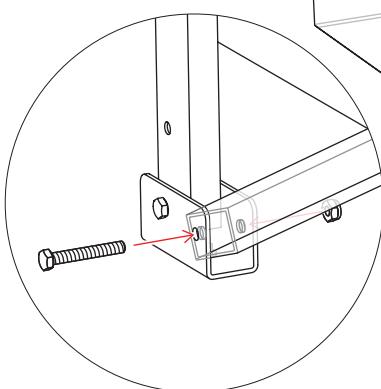
4 ! 30 Nm



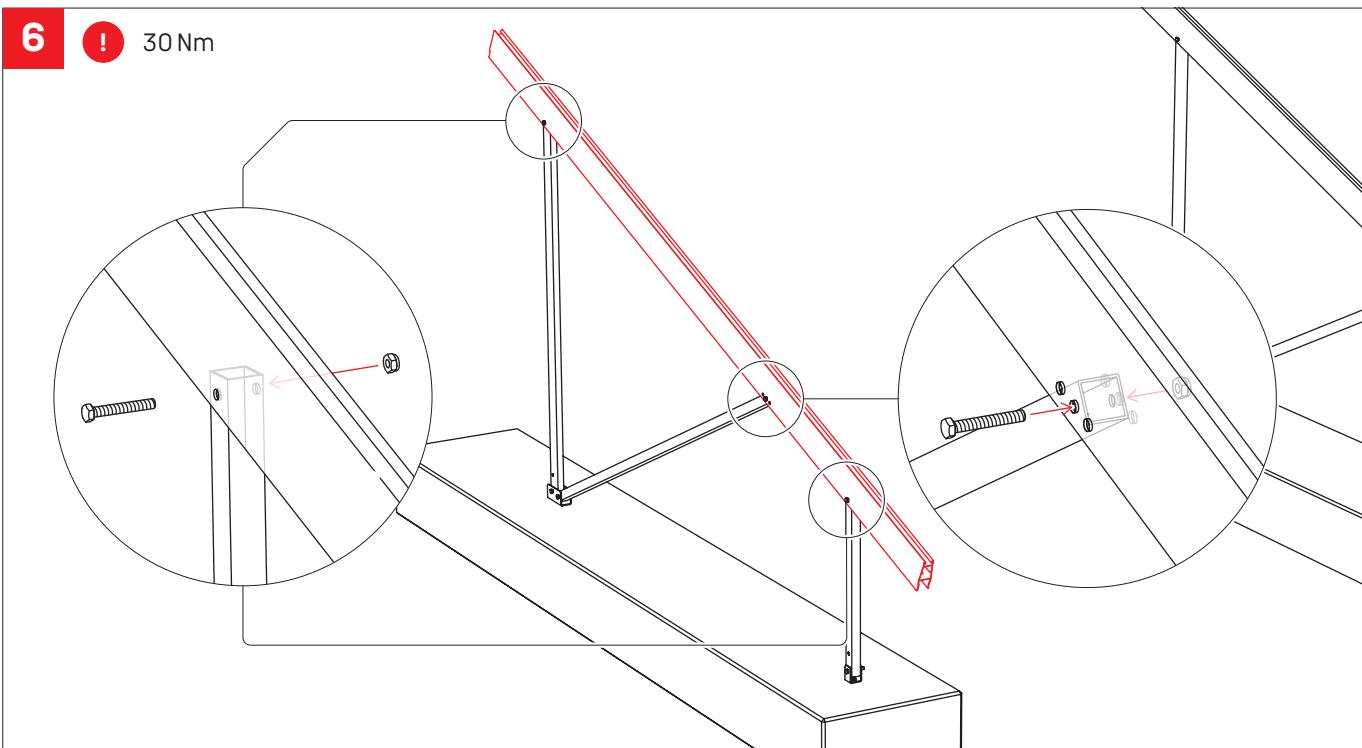
- i** Attach the wind band to the outer concrete foundations.
Observe step 10 "Manufacture of the wind bracing" on page 15.

Bracing

5 ! 30 Nm

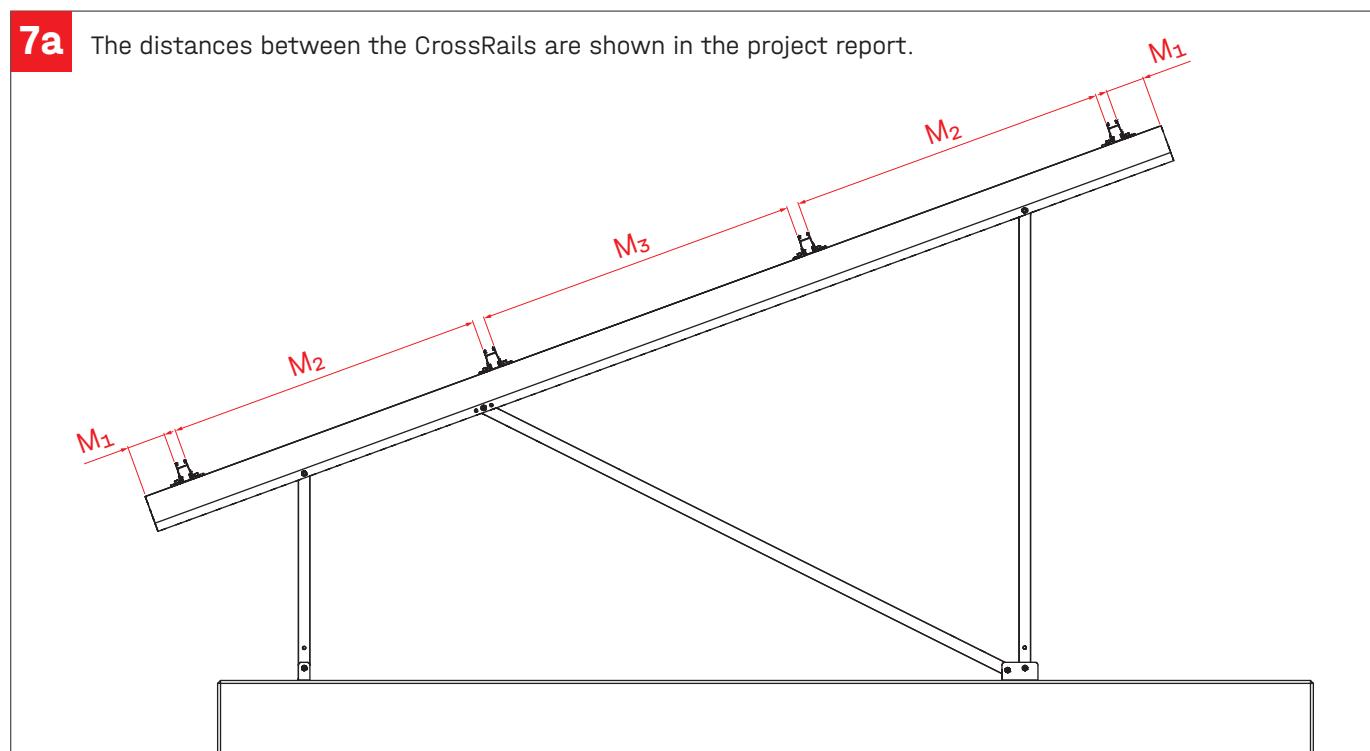


Fixation Beam

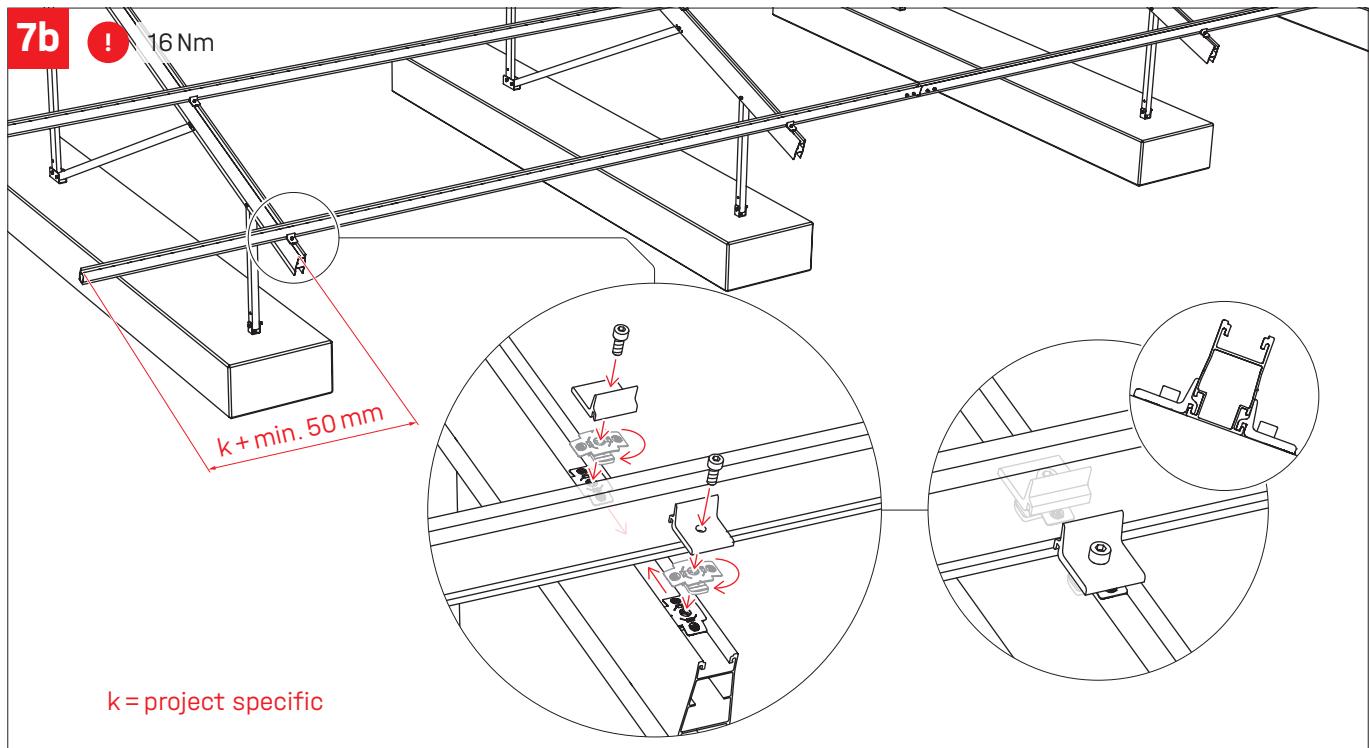


Distances CrossRails

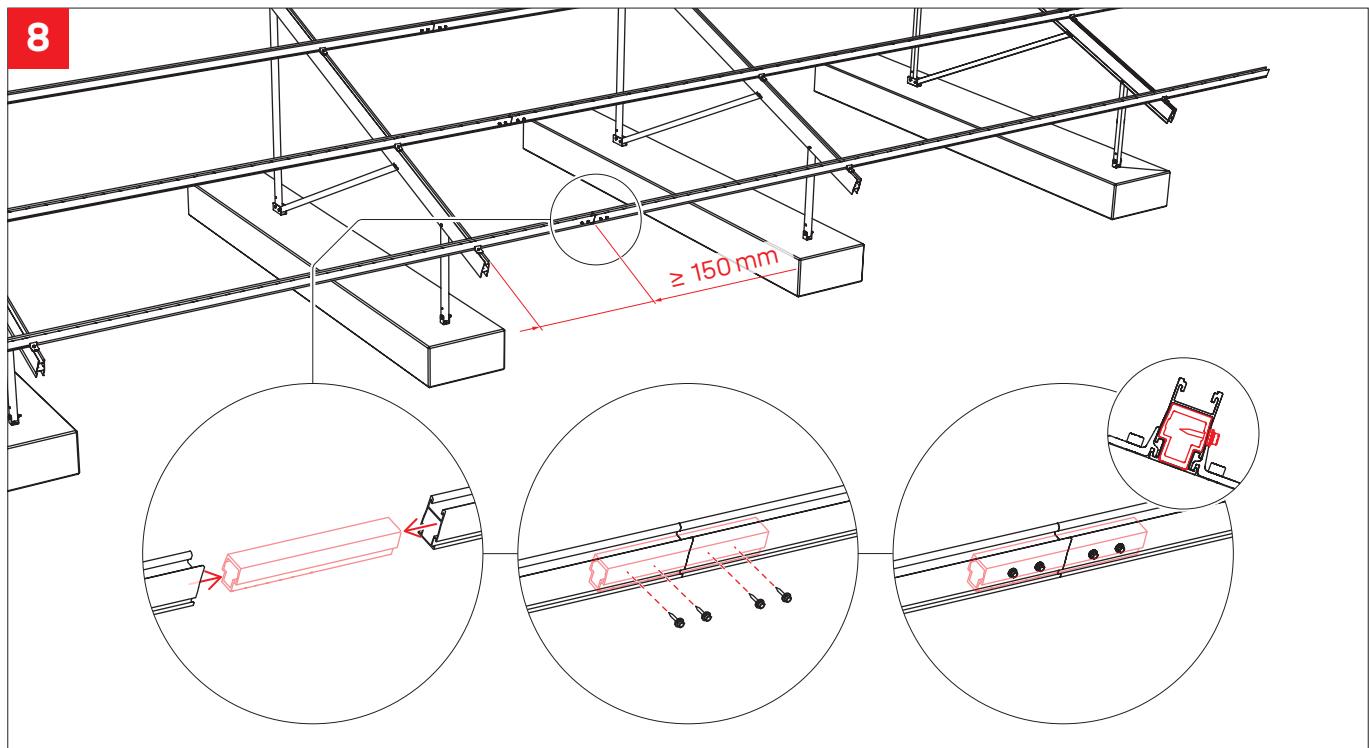
7a The distances between the CrossRails are shown in the project report.



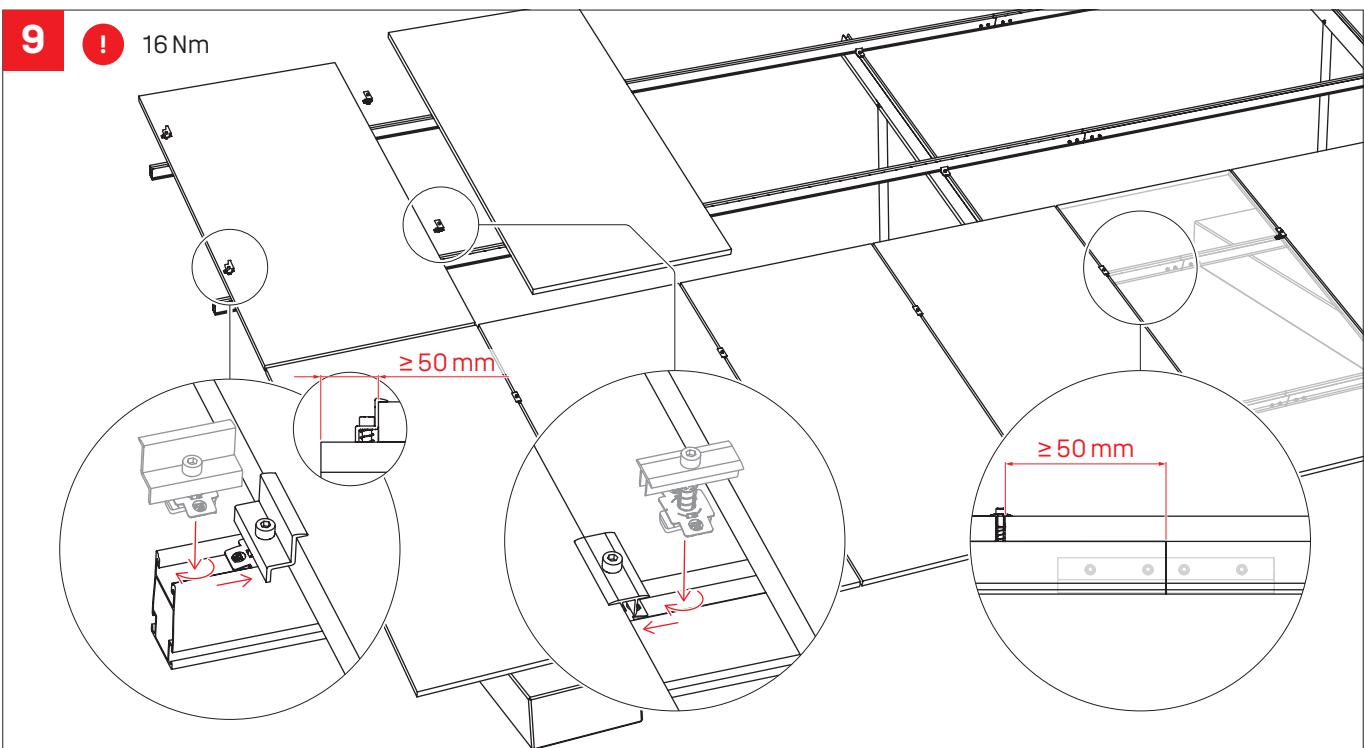
Fixation CrossRail 73 + Climber



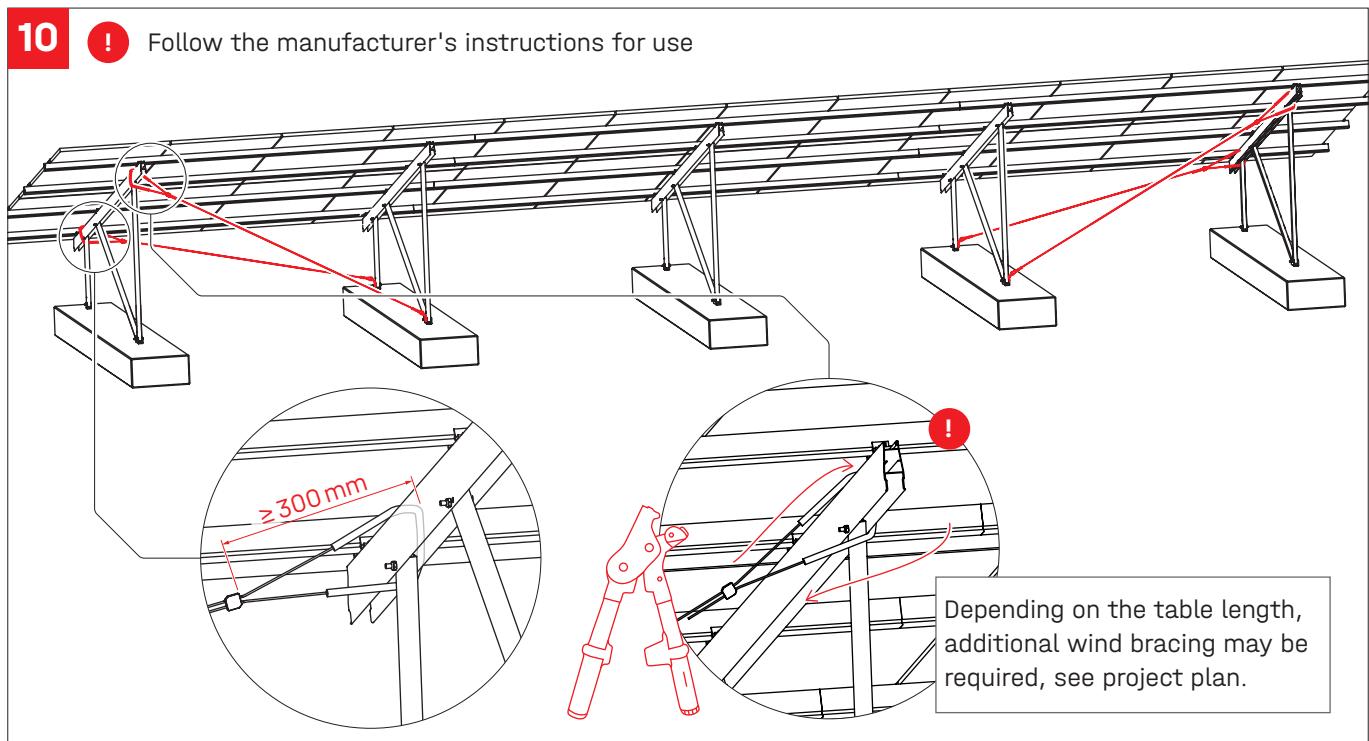
CrossRail 73 Connector



Module assembly (End clamp / Middle clamp)



Manufacture of the wind bracing





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 (0)7159 42059-0

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

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N-Rack Concrete Foundation Assembly EN V1 | 0226 · Subject to change
Product illustrations are exemplary and may differ from the original.