

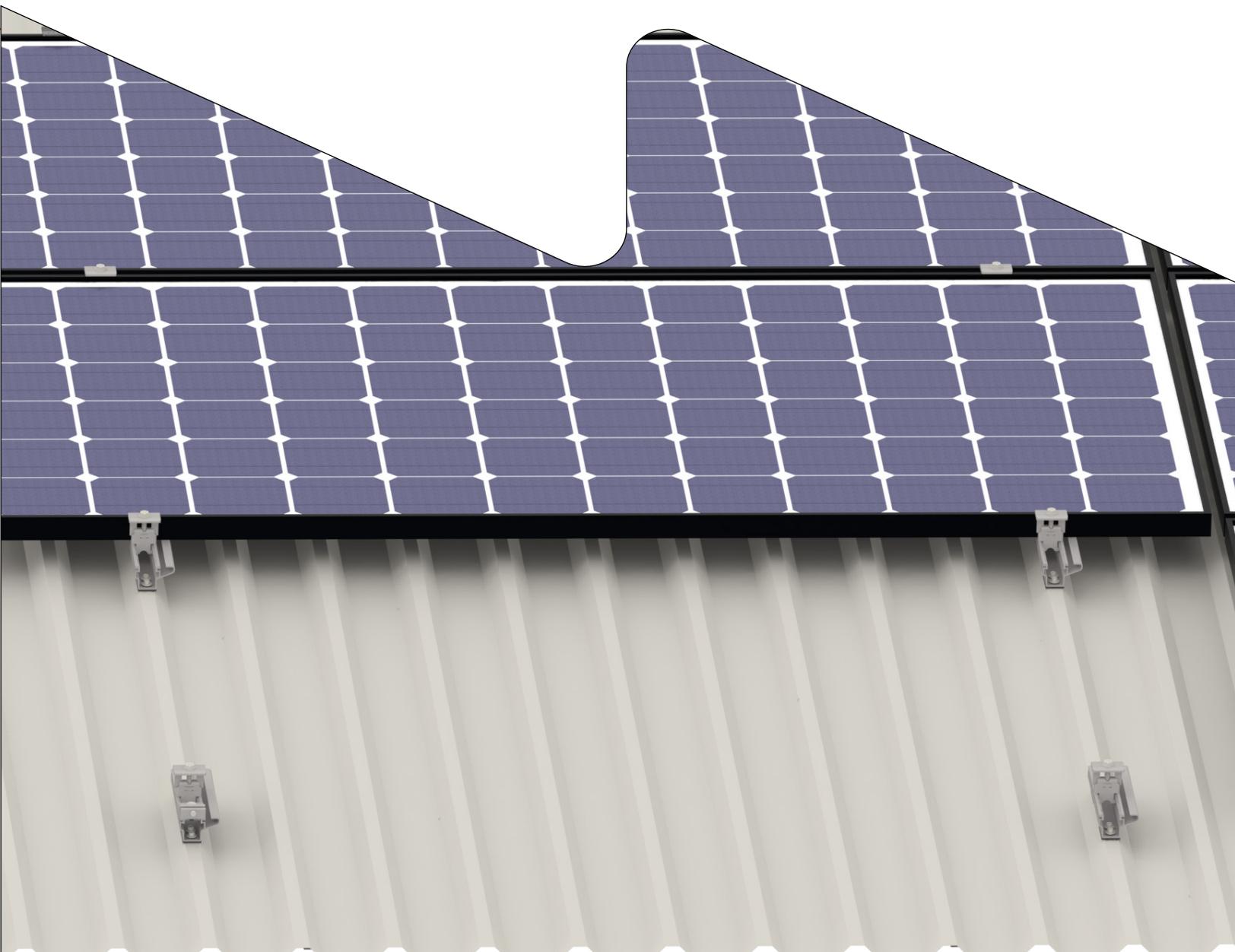


**Connecting Strength**

# MicroRail TR



**ASSEMBLY INSTRUCTIONS**





# Content

<b>/About Us</b>	<b>3</b>
<b>/General Safety Information</b>	<b>4</b>
/ Roof requirements	5
/ Structural requirements	5
/ Important mounting instructions	5
<b>/Bonding and Grounding</b>	<b>6</b>
<b>/Fire Rating</b>	<b>7</b>
<b>/Compatible Modules</b>	<b>8</b>
<b>/Tools Overview</b>	<b>11</b>
<b>/Components</b>	<b>12</b>
/Trapezoidal	10
<b>/Assembly</b>	<b>18</b>
<b>/Notes</b>	<b>19</b>

## 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:  
<https://k2-systems.com/en-us/company/quality-management/>

# Engineering strength is at our core



With sophisticated product innovations and a deep customer focus, K2 Systems is the engineering leader for all your mounting system needs. We are a market leader with more than 29 GW installed worldwide.

We offer proven product solutions and innovative designs. Wind tunnel testing along with advanced structural and electrical validation to facilitate permitting, design and installation. Our designs result in cost competitive racking systems with dedicated support that will position you to win more projects.

We partner with our customers and suppliers for the long-term. High quality materials and cutting edge designs provide a durable, yet functional system. Our product line is comprised of a few, coordinated components that lower the cost of materials, and simplify installation, saving you time and money. All backed by German engineering, a long track record of quality and a company that is here to stay.

Thank you for choosing K2 Systems for your Solar PV Project.

# General Safety Information



Please note that our general mounting instructions must be followed at all times and can be viewed online at <https://k2-systems.com/en-us/resource-center-2/>

- /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 are required.
  - /Protective equipment such as safety helmet, boots and gloves must be worn.
  - /Roofing works must be in accordance with roofing regulations utilizing 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:  
<https://k2-systems.com/en-us/resource-center-2/> 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.
- /If all safety instructions are adhered to and the system is correctly installed, there is a product warranty entitlement of 25 years! We strongly recommend reviewing our terms of guarantee, which can be viewed at <https://k2-systems.com/en-us/resource-center-2/>  
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 MicroRail TR 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.



## Roof requirements

- /The structural integrity of the roof must be checked on site and approved by a licensed structural engineer.
- /Compatible sheets with the system: TR-72 and TR-101
- /Minimum metal roof deck thickness: 26 gauge
- /Maximum ceiling height: 20ft
- /Roof slope:  $> 7^{\circ}$ - $45^{\circ}$

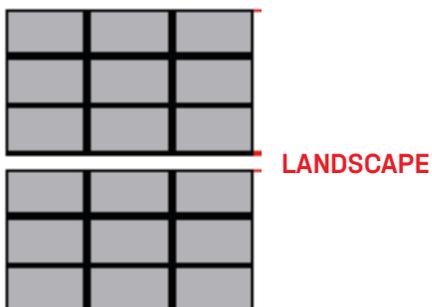
## Structural requirements

- /Wind Speed: up to 150mph
- /Snow Load: 70 psf



## Important mounting instructions

- /This system is suitable for landscape arrangements
- /Dimension of the crest of the sheet must be at least 21mm



# Bonding and Grounding



Appropriate means of bonding and grounding are required by regulation. The information provided in this manual shall always be verified with local and national building codes.

K2 Systems has obtained a UL 2703 system listing from Underwriter's Laboratories (UL).

A sample bonding path diagram is shown in Figure 1 below. Your specific installation may vary, based upon site conditions and your AHJ's requirements.

Each electrical connection has been evaluated to a maximum fuse rating of 30A. At least one ground lug per row of modules must be used to ground all strings within each sub-array, although additional may be used for redundancy. When installed per these installation instructions, all connections meet the requirements of NEC 690.43.

This racking system may be used to ground and/or mount a PV module complying with UL 1703 only when the specific module has been evaluated for grounding and/or mounting in compliance with the included instructions.

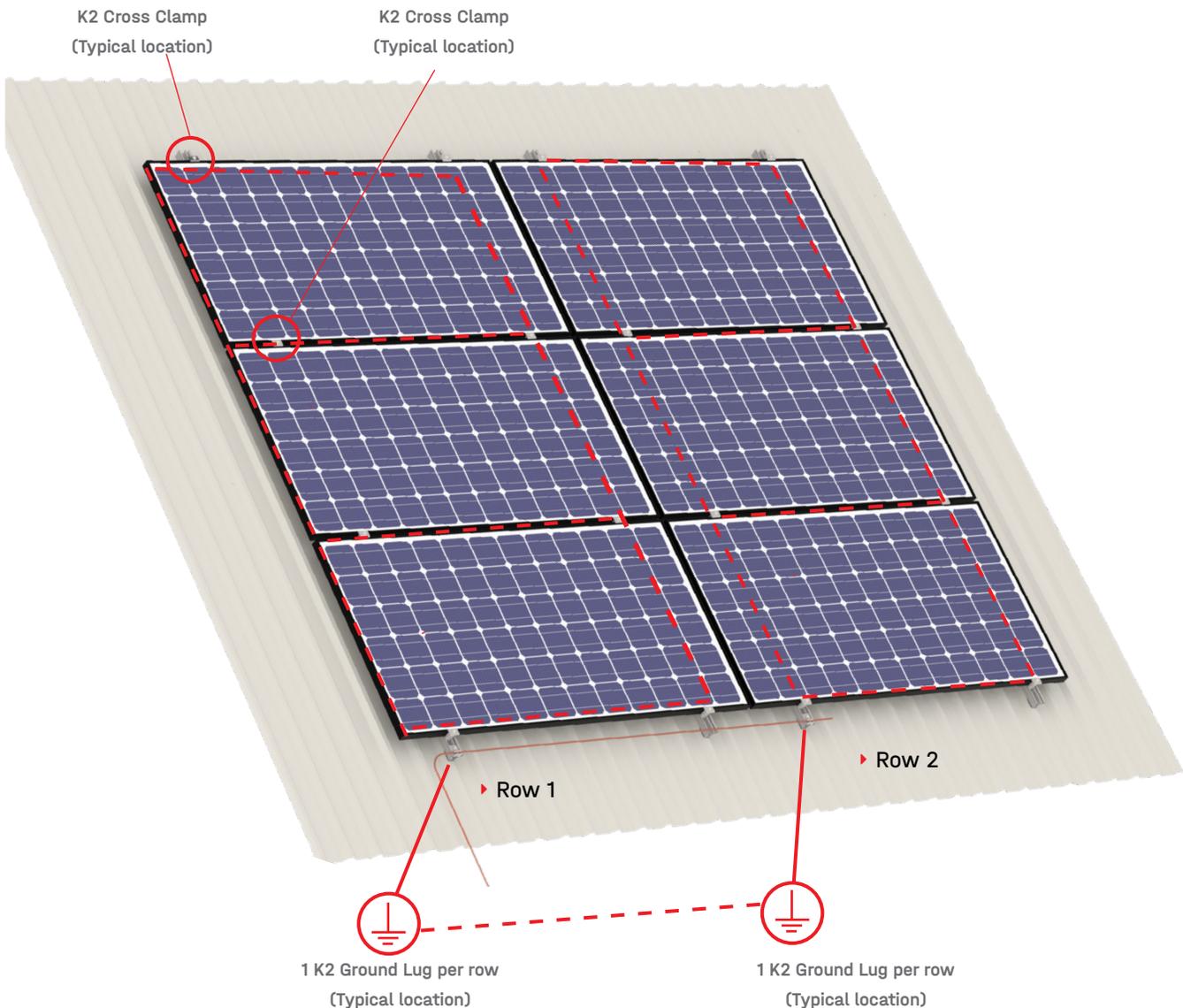


Figure 1: Ground connection through a K2 Ground Lug shown in red. For certain local regulations, bond and ground connections are identified in typical locations.



# Fire Rating

The MicroRail TR System has undergone fire performance testing in accordance with UL 2703, Fire Performance. A System Class A fire rating is achieved when using the MicroRail TR under the following conditions:

/Roof slope greater than 1.40% (for each meter there are 1.4cm of increase)

/Used in combination with a UL 1703 Listed module with a fire performance rating of Type 1, Type 2, or Type 3. Consult the module manufacturer for specific fire performance rating information.

/MicroRail TR may be mounted using any stand-off height to maintain the Class A fire rating. Always consult the module manufacturer's installation instructions to ensure your installation is in compliance with their UL 1703 Listing.

/The results of the racking system do not improve a roof covering Class rating.

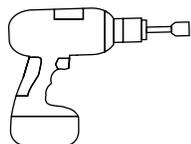
All documentation can be found on UL's Online Database as well as K2 Systems' website.

## Approved Modules

To view our list of compatible modules, please click this link or scan the QR code: <https://k2-systems.com/wp-content/uploads/2023/10/Approved-Modules-EN-US.pdf>



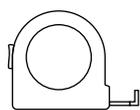
# Required Tools



Drill



Torque Wrench  
10-50 ft-lb  
(6 - 35 Nm)



≥ 5mts



Allen Wrench de 6mm  
(M8 bolt)



Deep Socket of 8mm or 5/16" (Drill Bit)

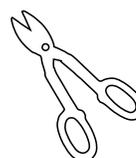


Drill Bit 7/16"



Chalk Line

## Optional



# Torque

/ IIsco Lug 6.3 ft-lb (8.5 Nm)

/ K2 Cross Clamp: Hex Head M8×50mm 12 ft-lb (16.3 Nm)

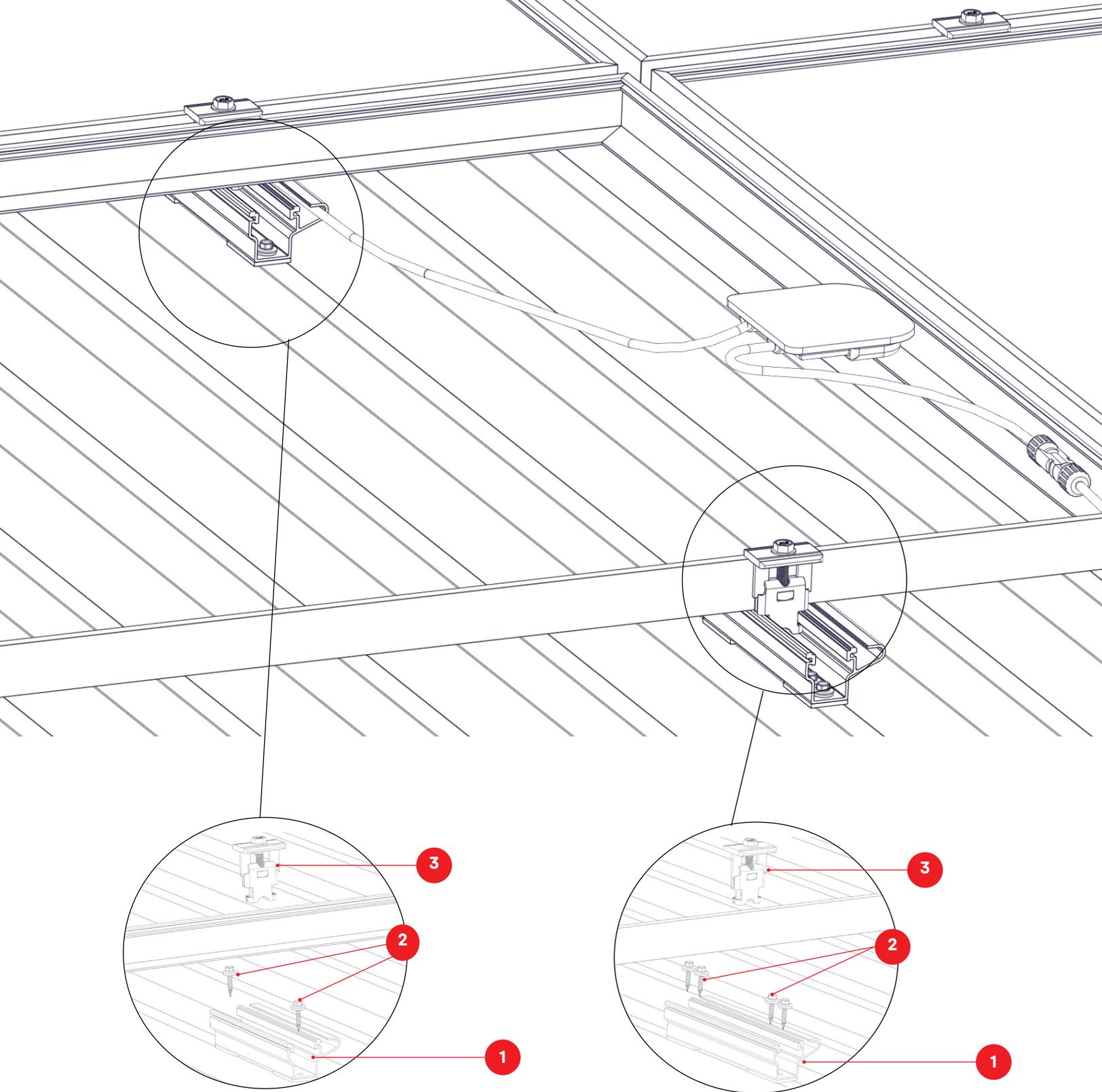
/ All other components: M8 Hex Bolts: 10.3 ft-lb (14 Nm)

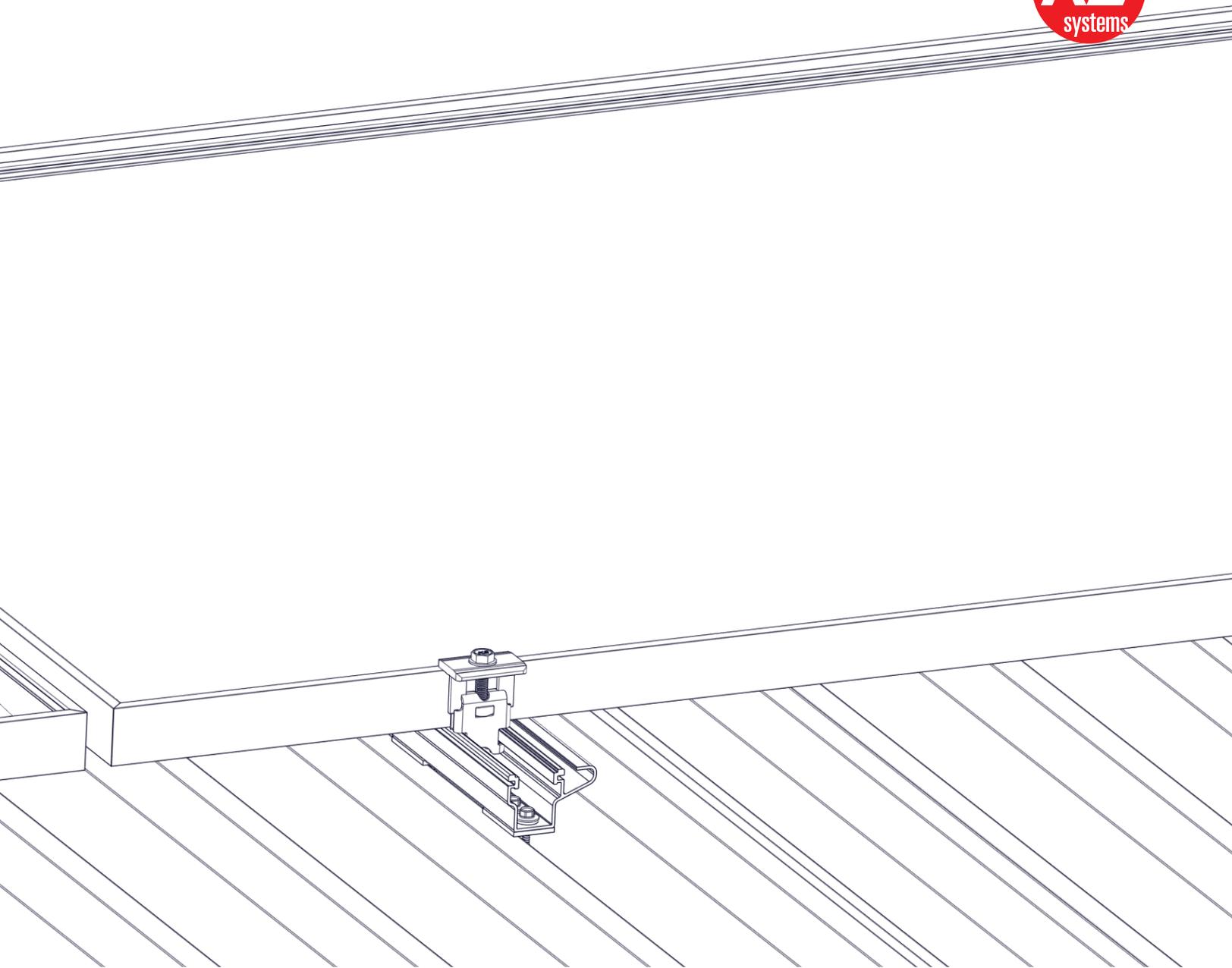
/ Tighten the MiniRL Screws until the EPDM washer is compressed flush with the edge of the MiniRail.

# Components

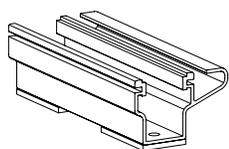


## Trapezoidal sheet assembly



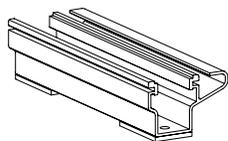


**1** 4000185



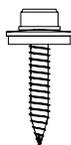
K2 MicroRail Base,  
2 Holes

4000184



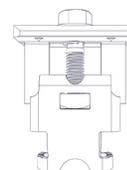
K2 MicroRail Base,  
4 Holes

**2** 4000672



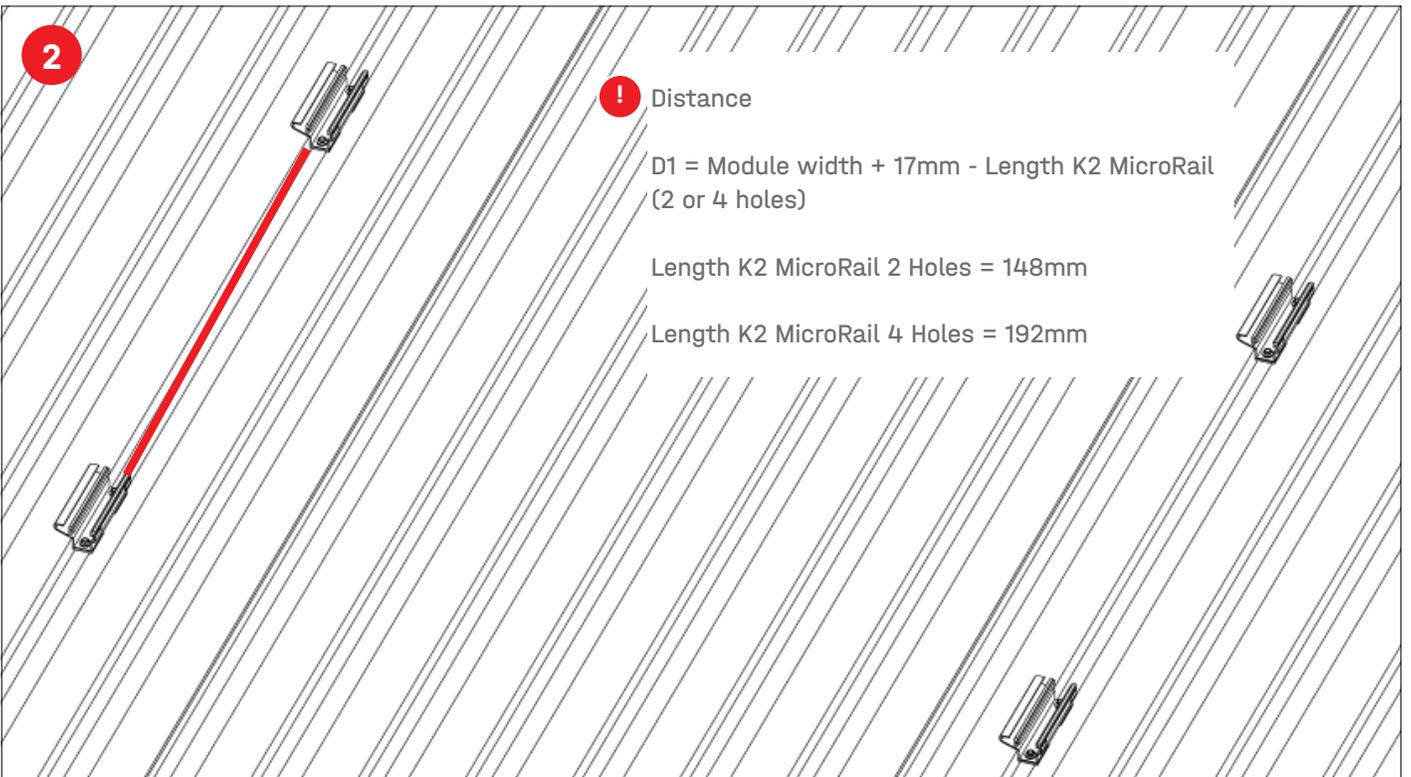
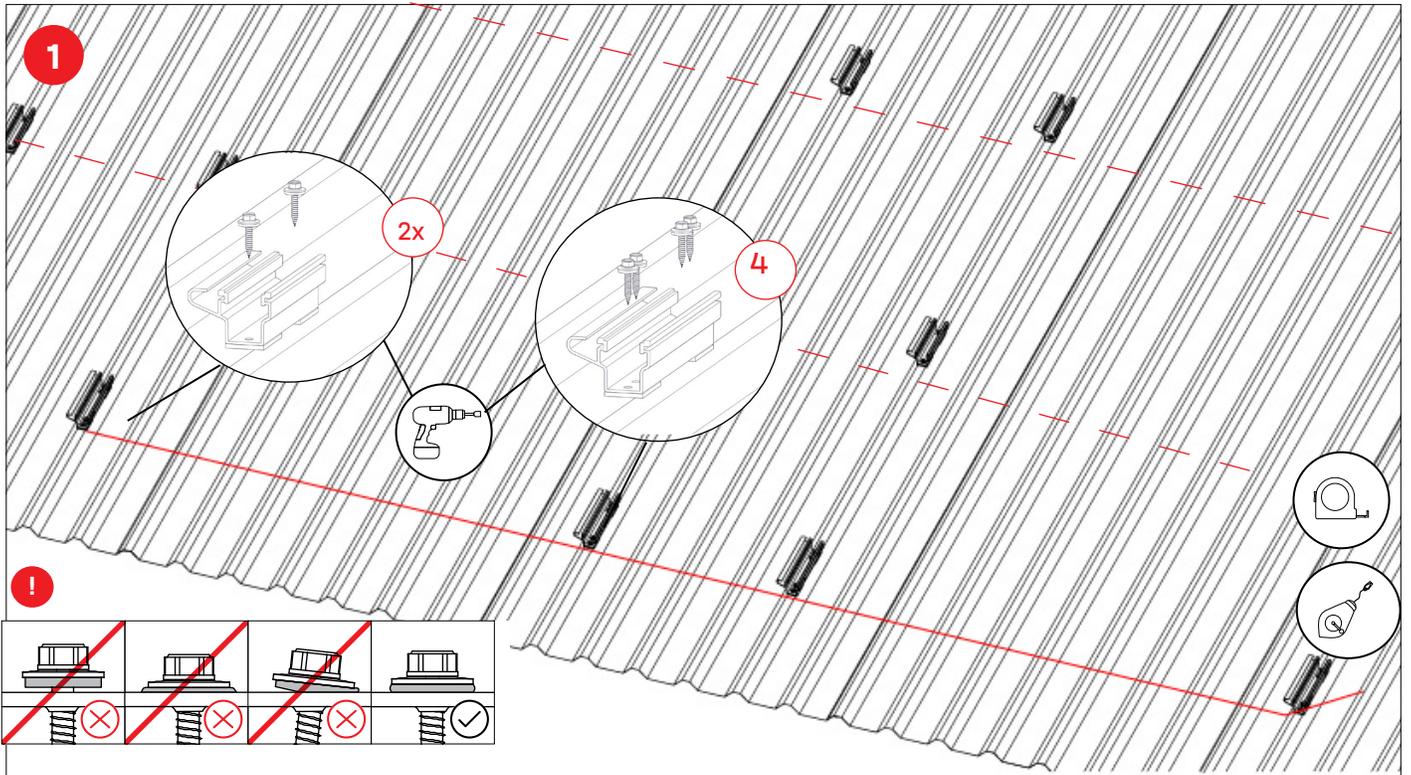
Self-tapping screw with  
sealing washer

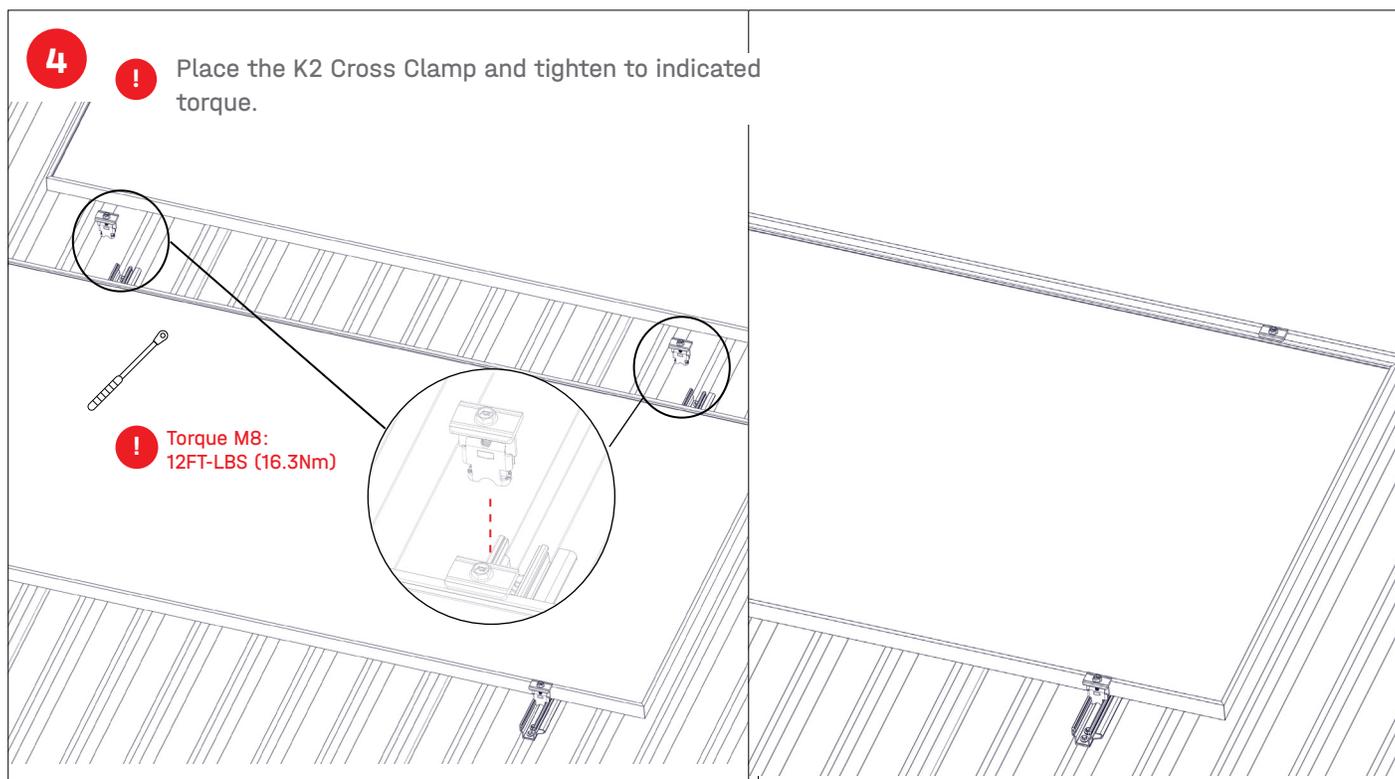
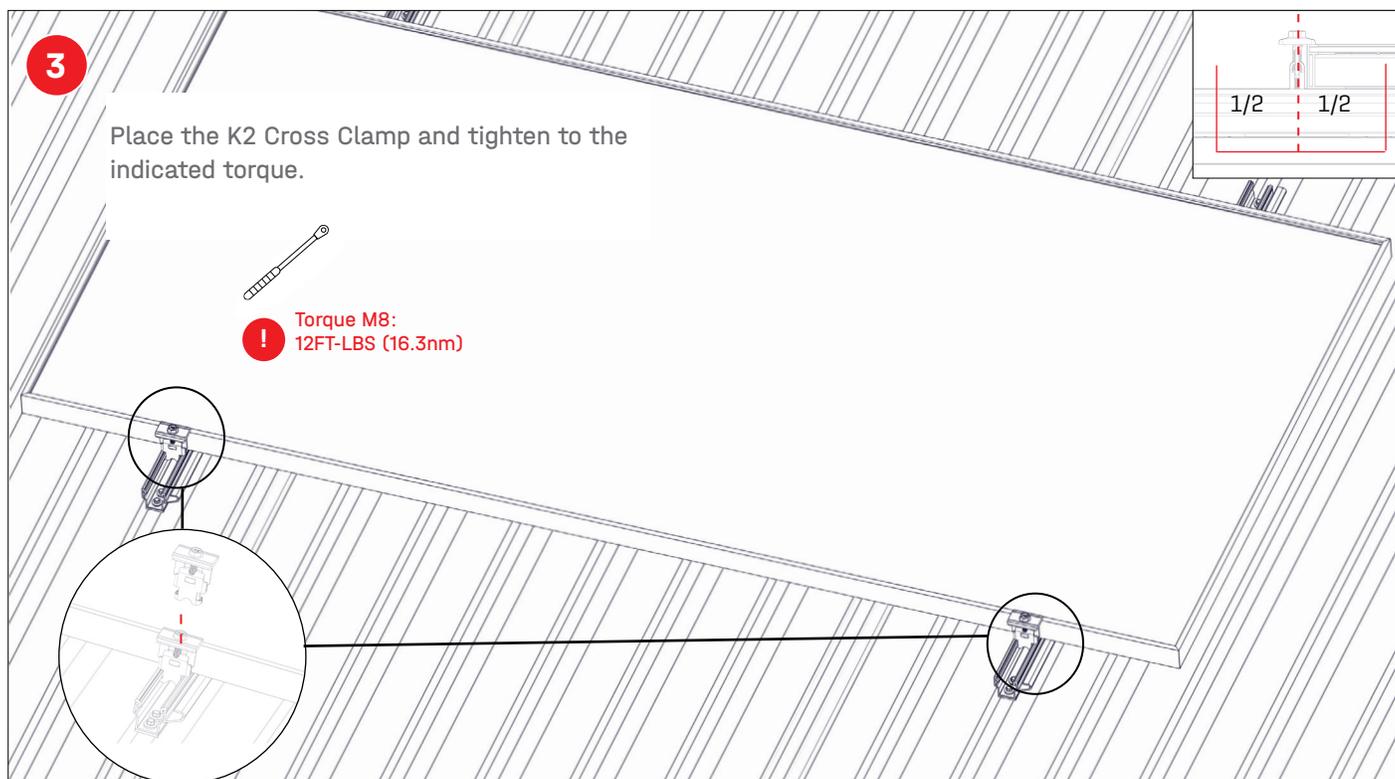
**3** 4000135/4000145



K2 Cross Clamp Set  
Mill/Dark

# Assembly

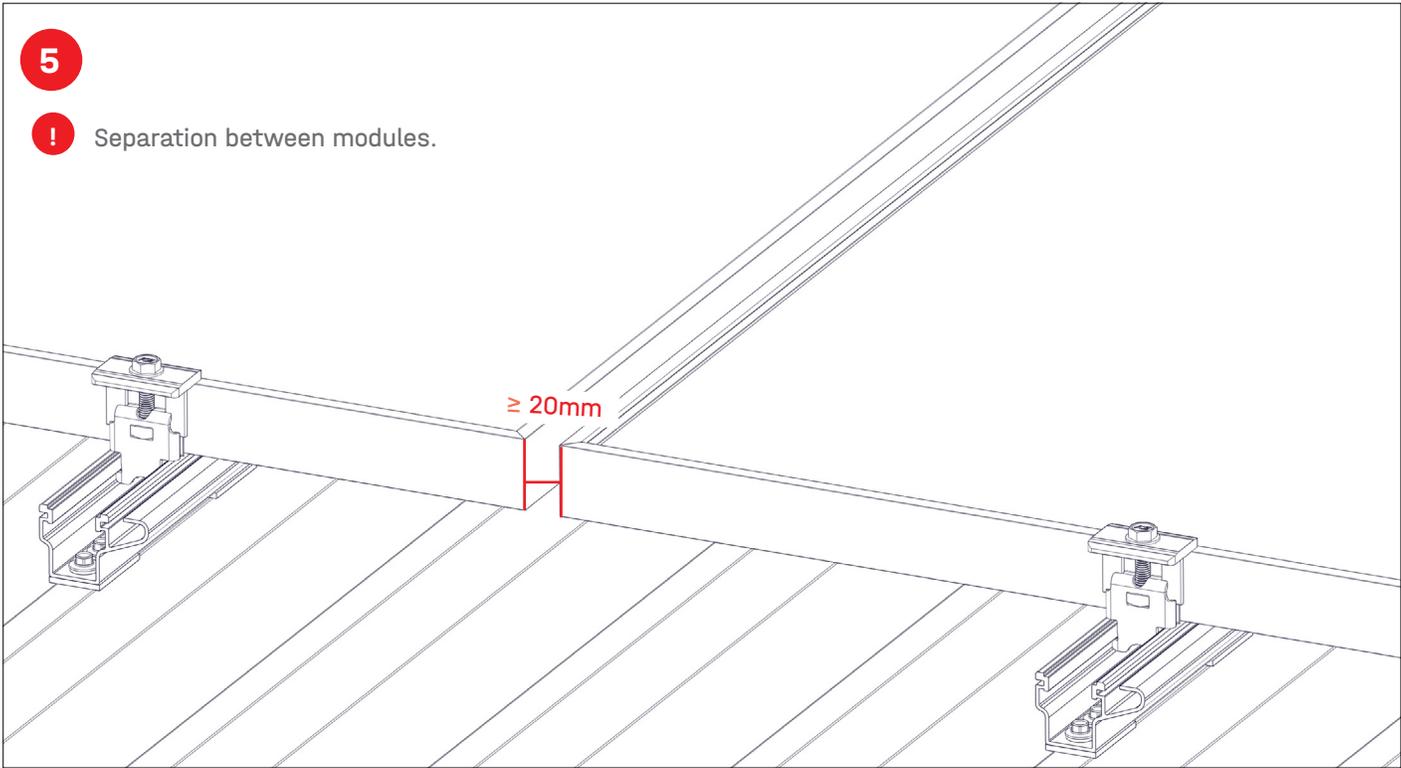




5



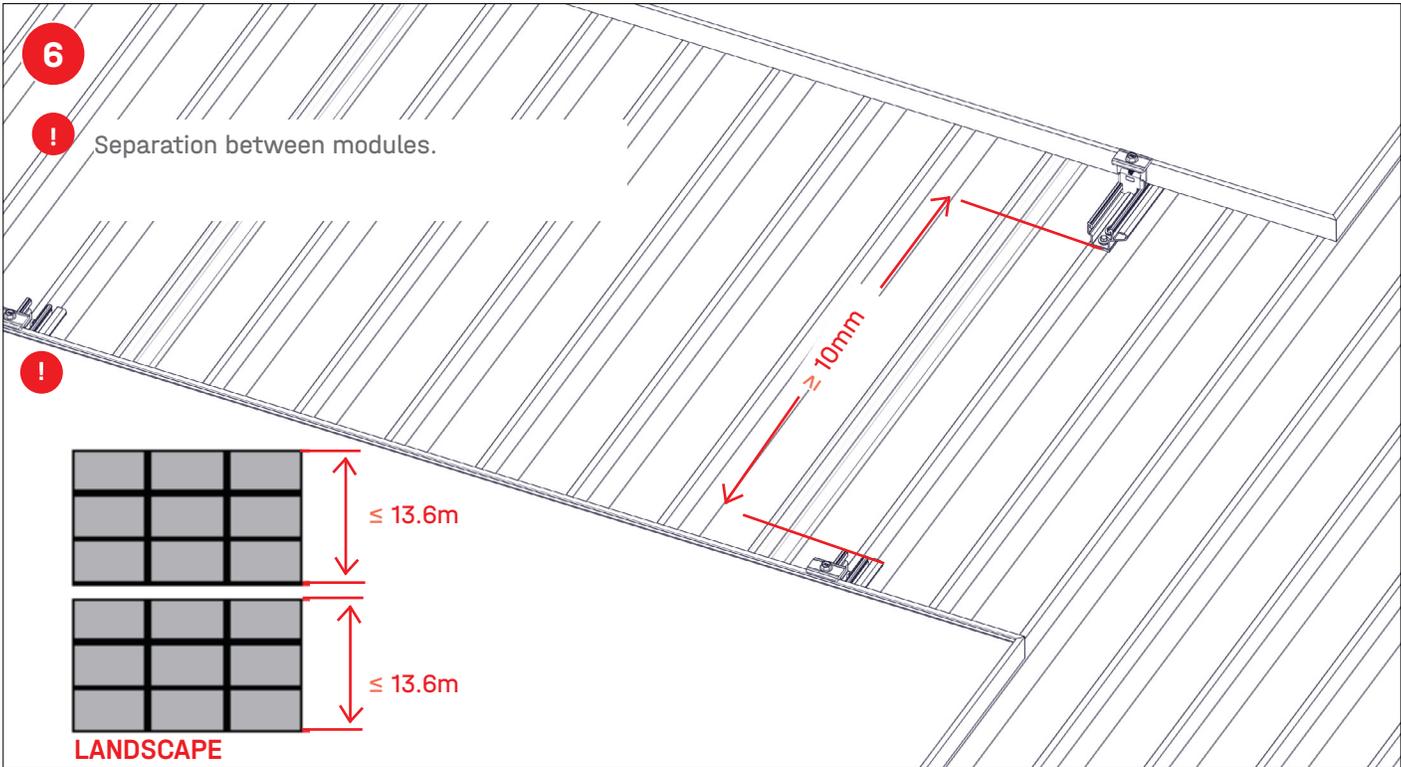
Separation between modules.



6



Separation between modules.

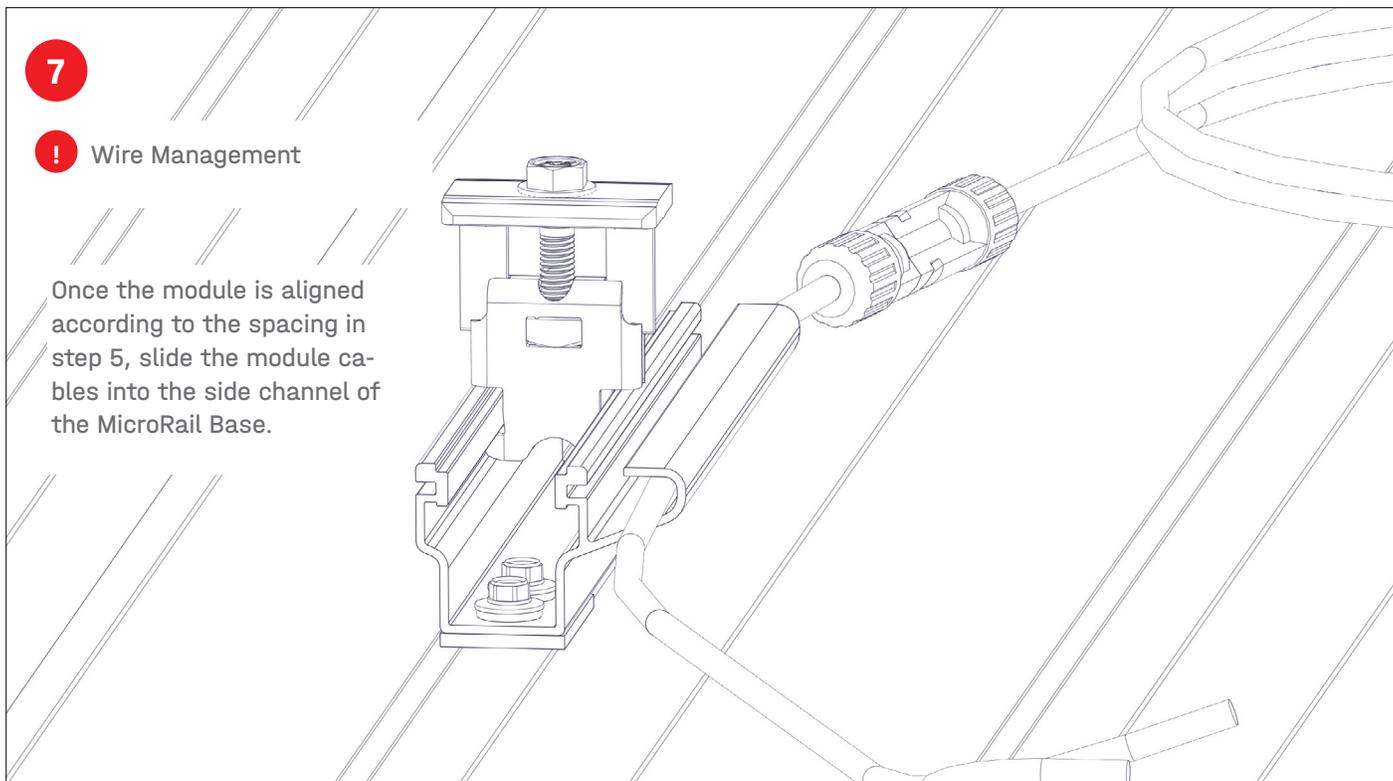


LANDSCAPE

7

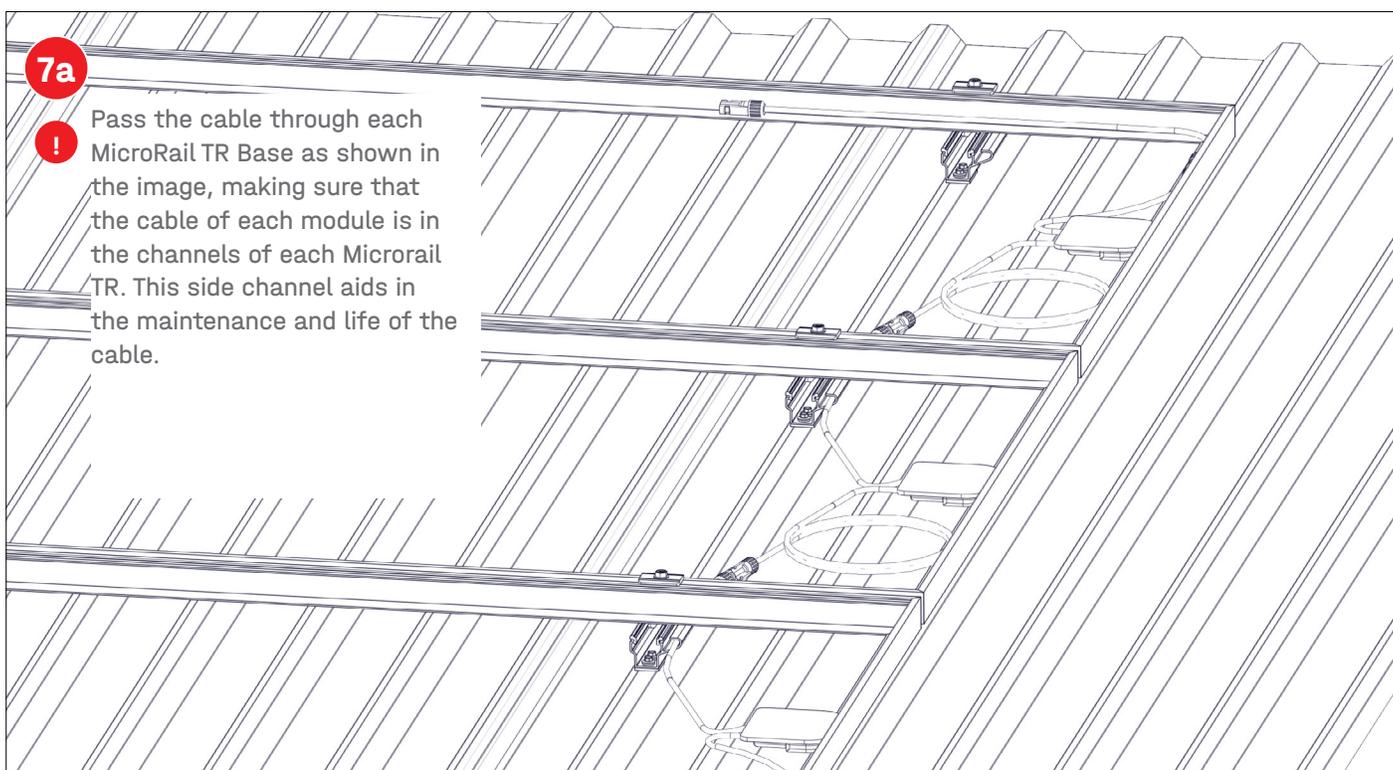
! Wire Management

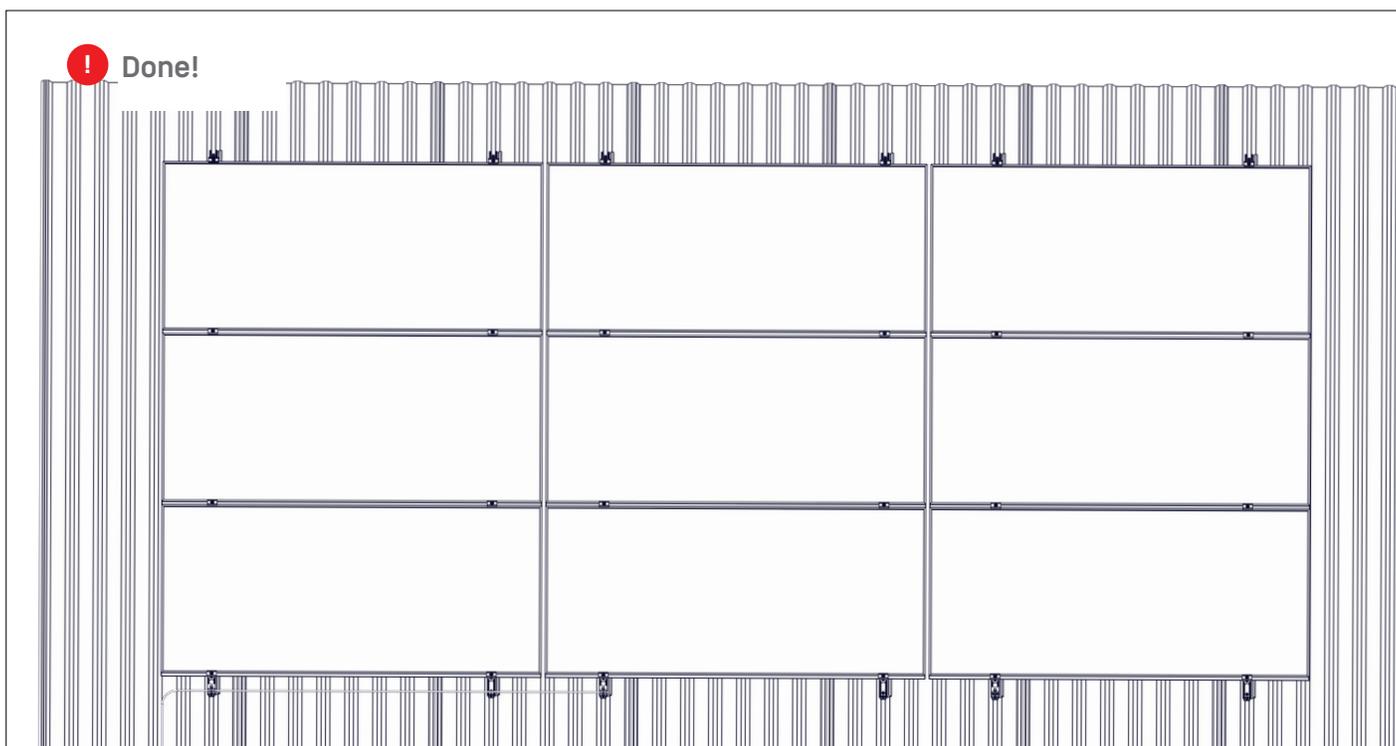
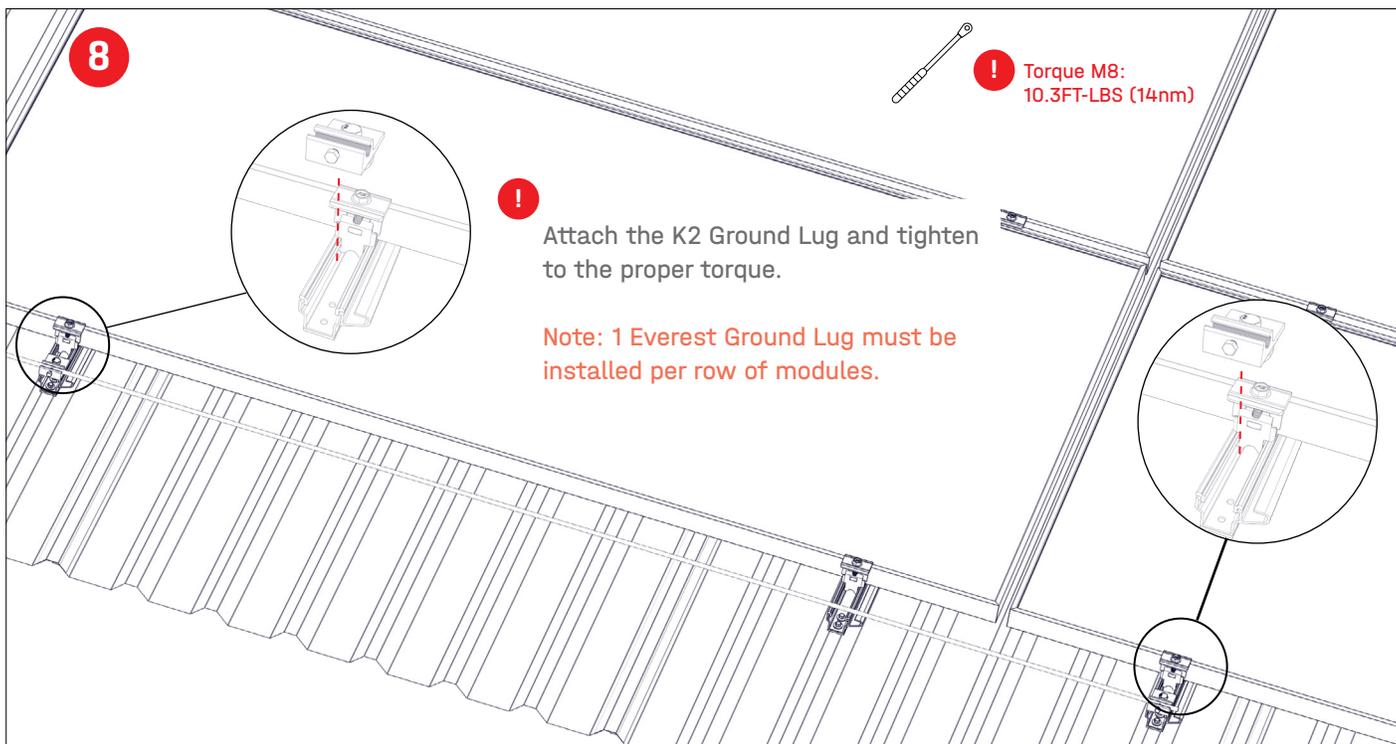
Once the module is aligned according to the spacing in step 5, slide the module cables into the side channel of the MicroRail Base.



7a

! Pass the cable through each MicroRail TR Base as shown in the image, making sure that the cable of each module is in the channels of each MicroRail TR. This side channel aids in the maintenance and life of the cable.



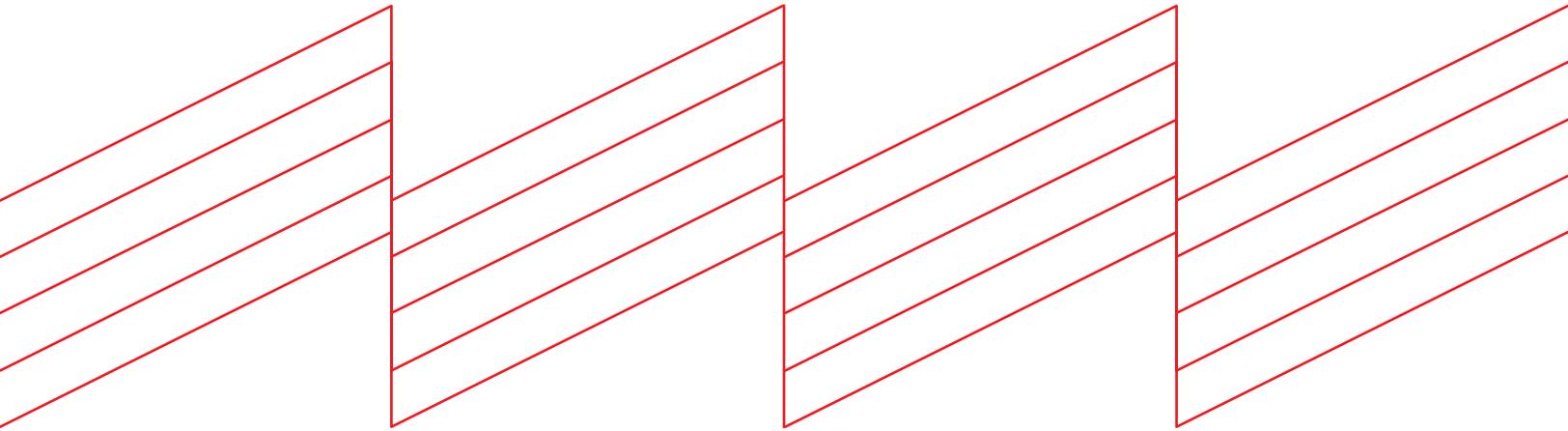








# Connecting Strength



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MicroRail TR Assembly V1 | 1023 • Subject to change  
Product illustrations are exemplary and may differ from the original.