

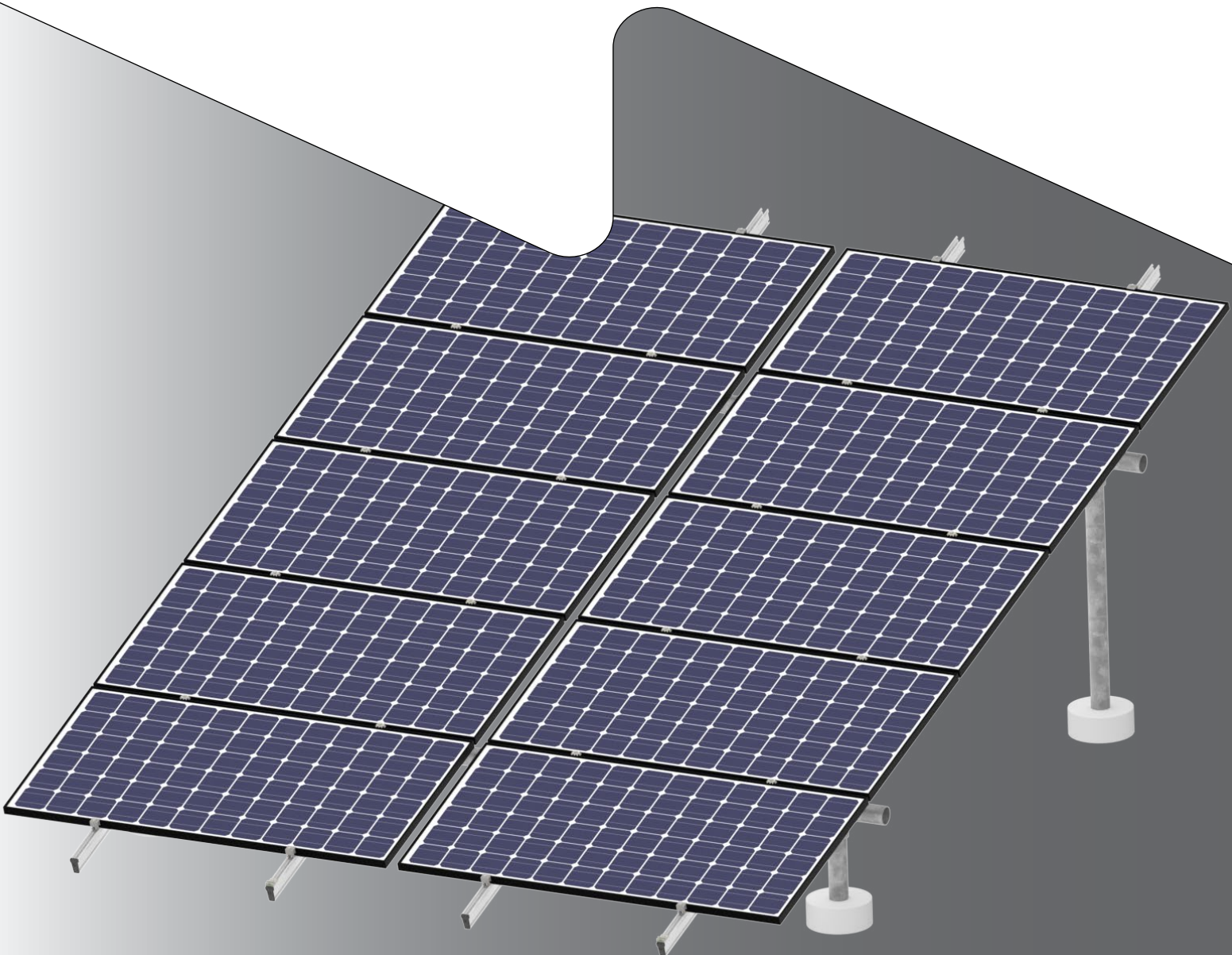


Connecting Strength

# CrossRail Ground Mount System



**ASSEMBLY INSTRUCTIONS**



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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:

<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 32 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/download-library/>

- /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/download-library/> 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/download-library/>  
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 CrossRail Ground Mount System 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.



## Structural requirements

- / Wind speed 100-130 mph
- / Snow load: 0-50 lbs
- / Four or five rows landscape
- / 5-25° tilt

## Tools Overview



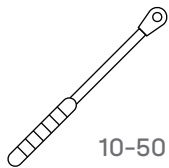
Drill



13 mm deep socket



Hollaender set screw



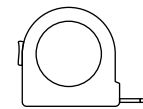
10-50 ft-lb  
(6 - 35 Nm)



3/8" hex head wrench



Excavation equipment



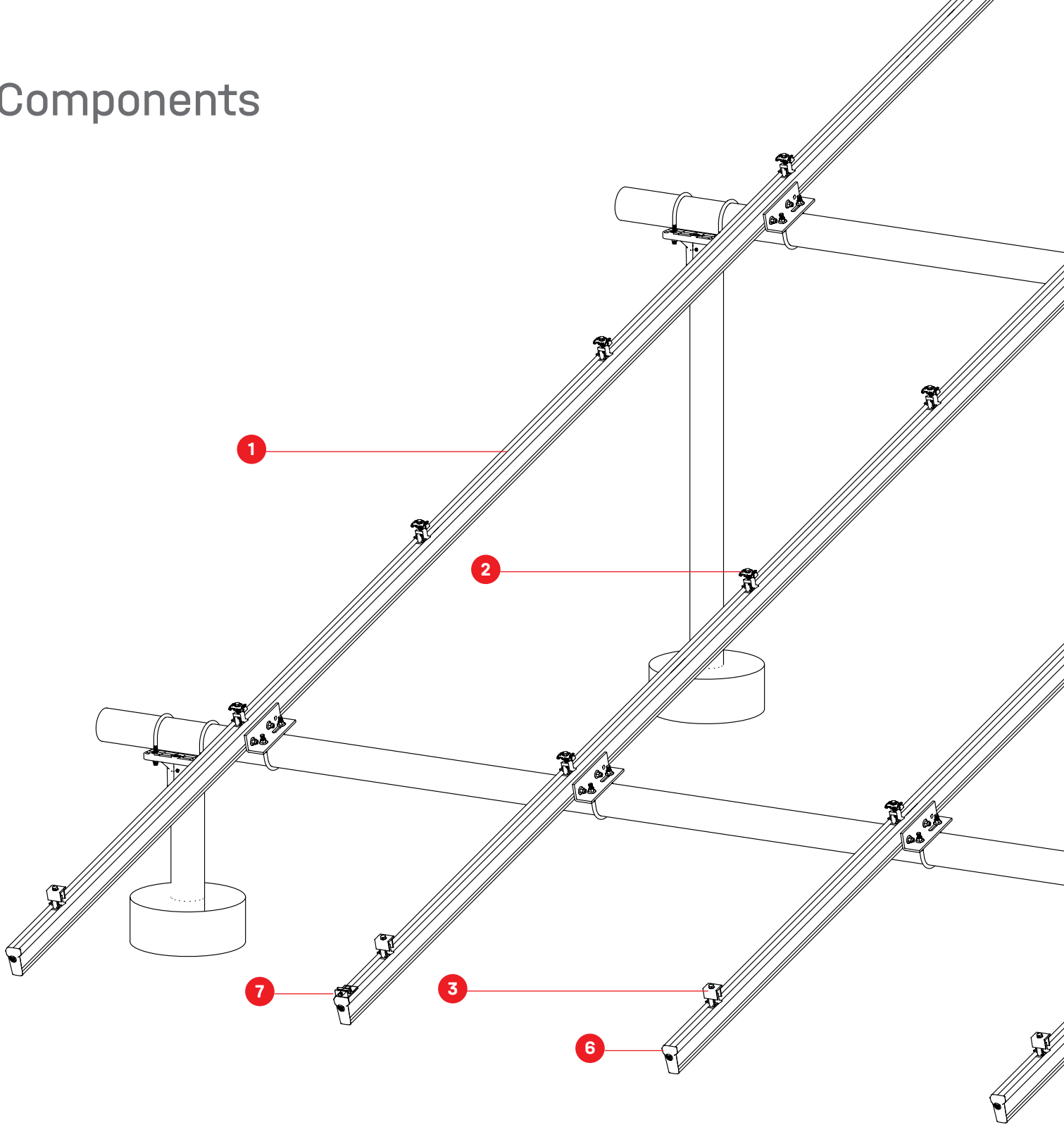
≥ 10 ft

## Torque Overview

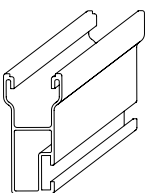
- / M10 T-Bolts: 25.8 ft-lb (35 Nm)
- / M8 Hex Bolts: 10.3 ft-lb (14 Nm)

Tools and materials for the installation of third party items such as roof attachment products, roof covering and sealing products or items used for bonding and grounding are not listed here. Please refer to the instructions of those third party products.

# Components

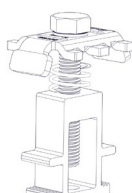


1 4000708/4001370



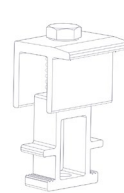
**CrossRail 80, Mill**

2 4000229/4000230

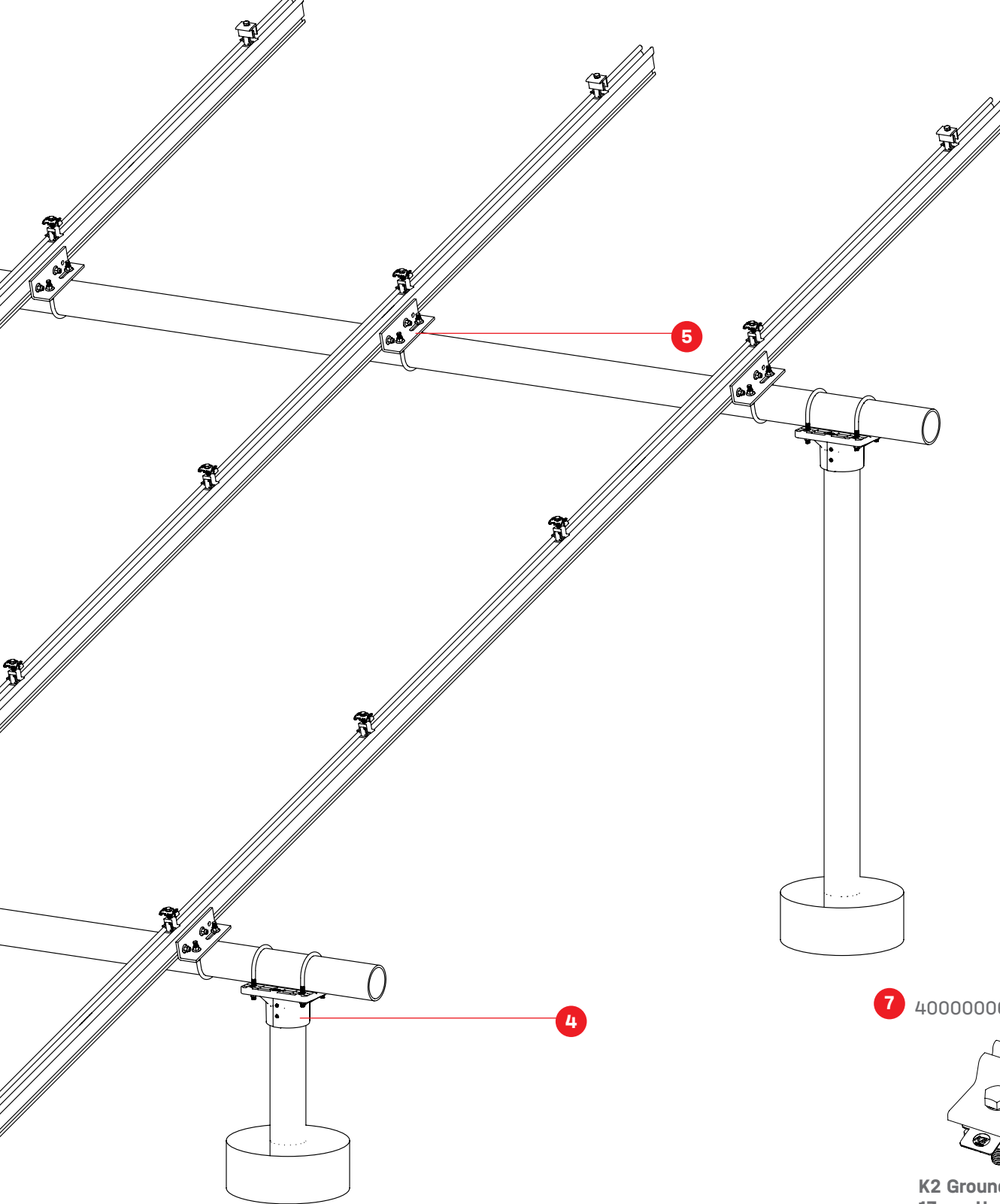


**K2 Mid Clamp M8x40**  
30 - 47 mm module frame height

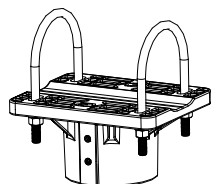
3 4000197/4000233



**K2 End Clamp**  
30 - 47 mm module frame height

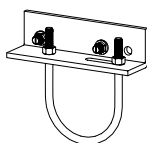


**4** 4000198



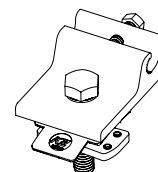
**GM Residential Top Cap 3"**

**5** 4000100/4000330/4000175



**K2 Pipe Bracket Kit  
1.5", 2" or 3"**

**7** 40000006-H



**K2 Ground Lug,  
13mm Hex Set**

**6** 4001221



**EndCap, Black, CR80**

# Assembly

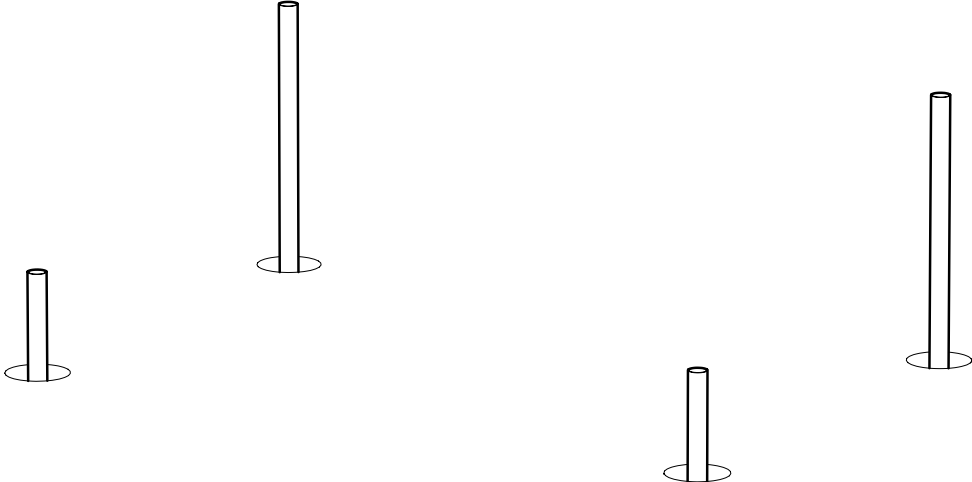
1

! Locate and excavate footings.



2

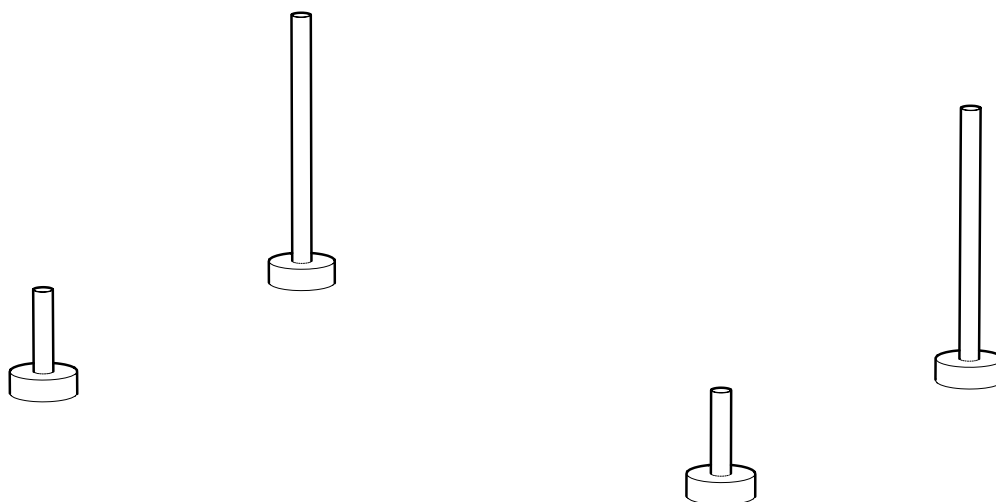
! Place vertical galvanized pipe at the elevations required to achieve specified tilt.



3



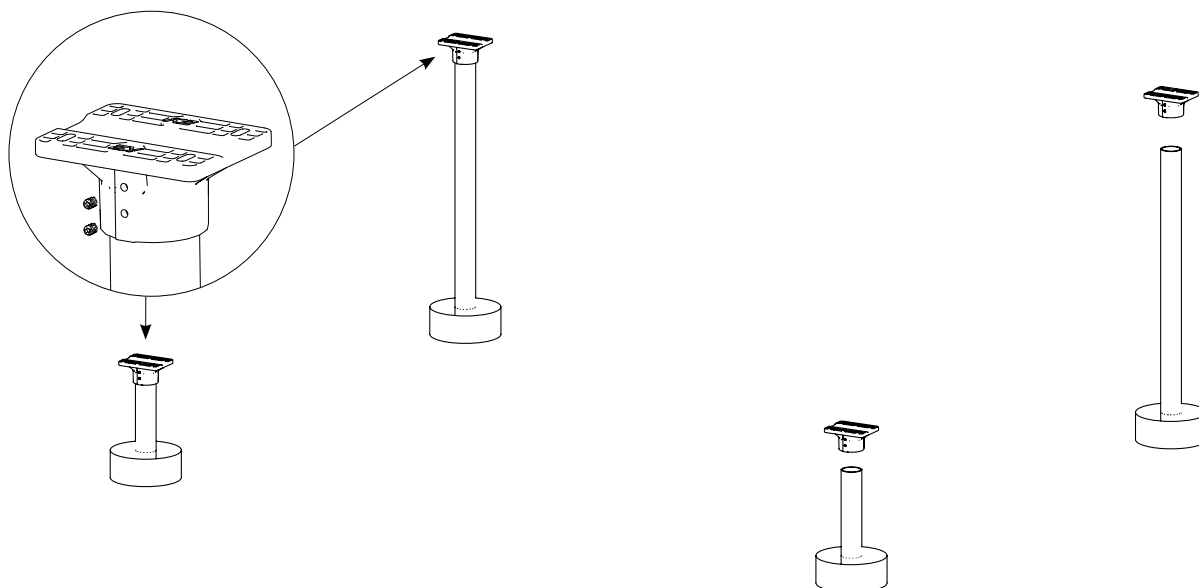
Ensure vertical pipe posts are plumb and located in foundation excavations per the spacing requirements shown in the layout plan, layout elevation, and installation schedule. Pour or pump mixed concrete into excavated footings and allow time for curing.



4



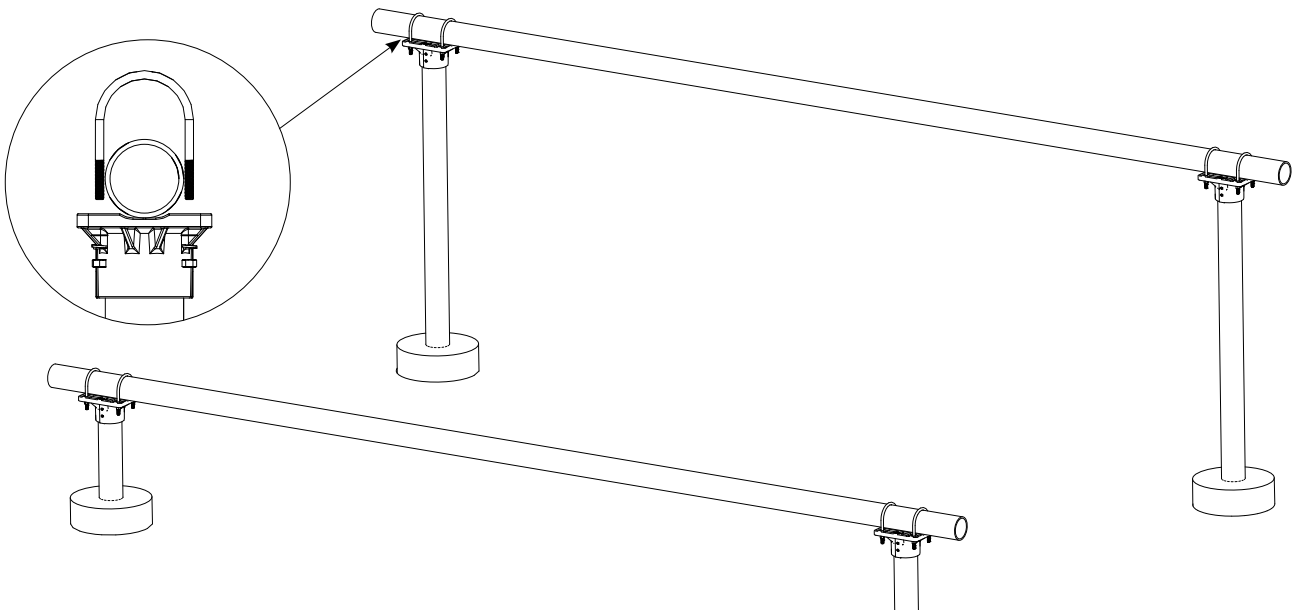
Place GM Residential Top Cap 3" on each corresponding post and torque Cone-Point Set Screw 3/8" x 16UNC x 5/8" at 7 ft-lbs each.



5



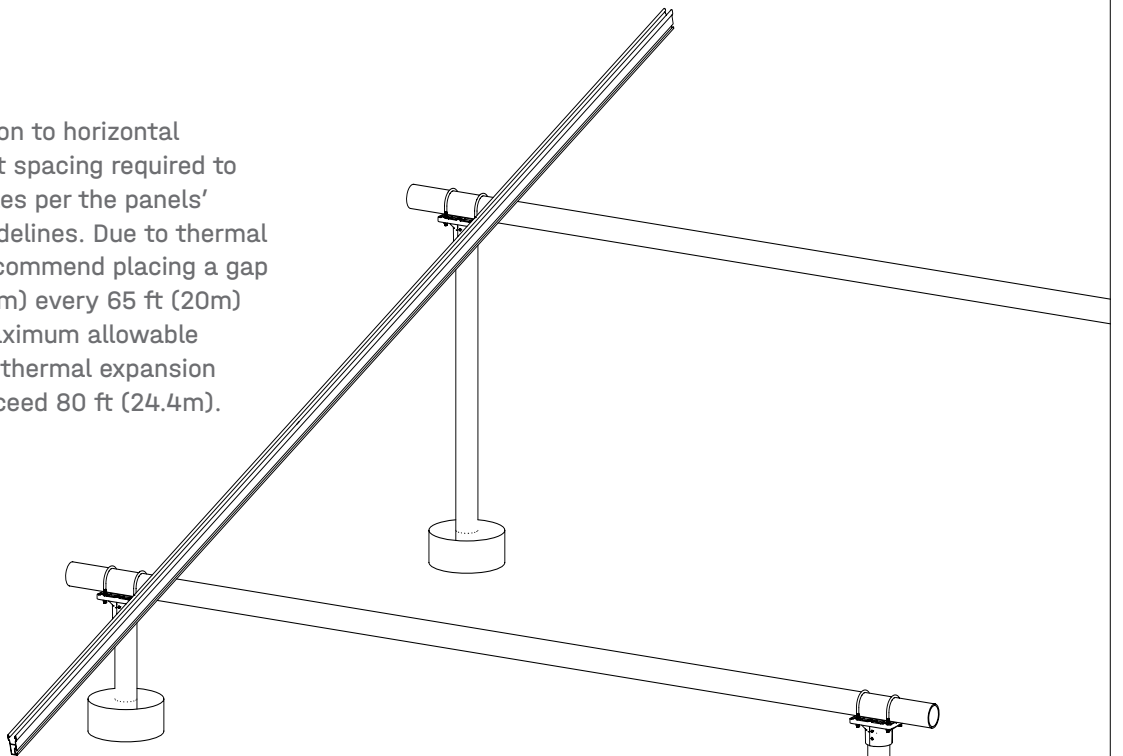
Place the E-W pipe over the GM Residential Top Cap 3" and secure the pipe using the U-Bolt 3/8". Torque each nut at 15 ft-lbs (20.34 Nm)



6

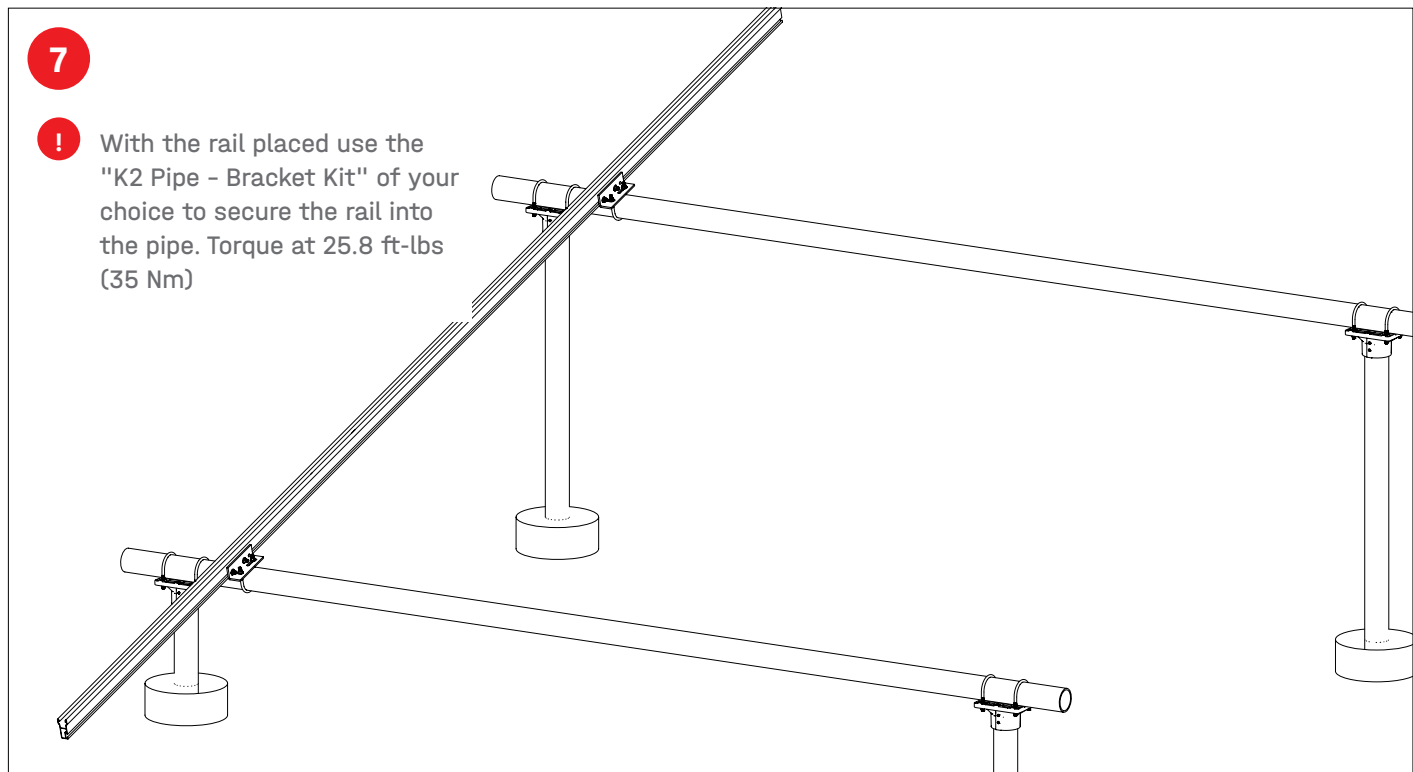


Set CrossRail 80 on to horizontal galvanized pipe at spacing required to support PV modules per the panels' manufacturer guidelines. Due to thermal expansion, we recommend placing a gap of 1.25"-2" (3-5cm) every 65 ft (20m) between rails. Maximum allowable spacing between thermal expansion gaps shall not exceed 80 ft (24.4m).



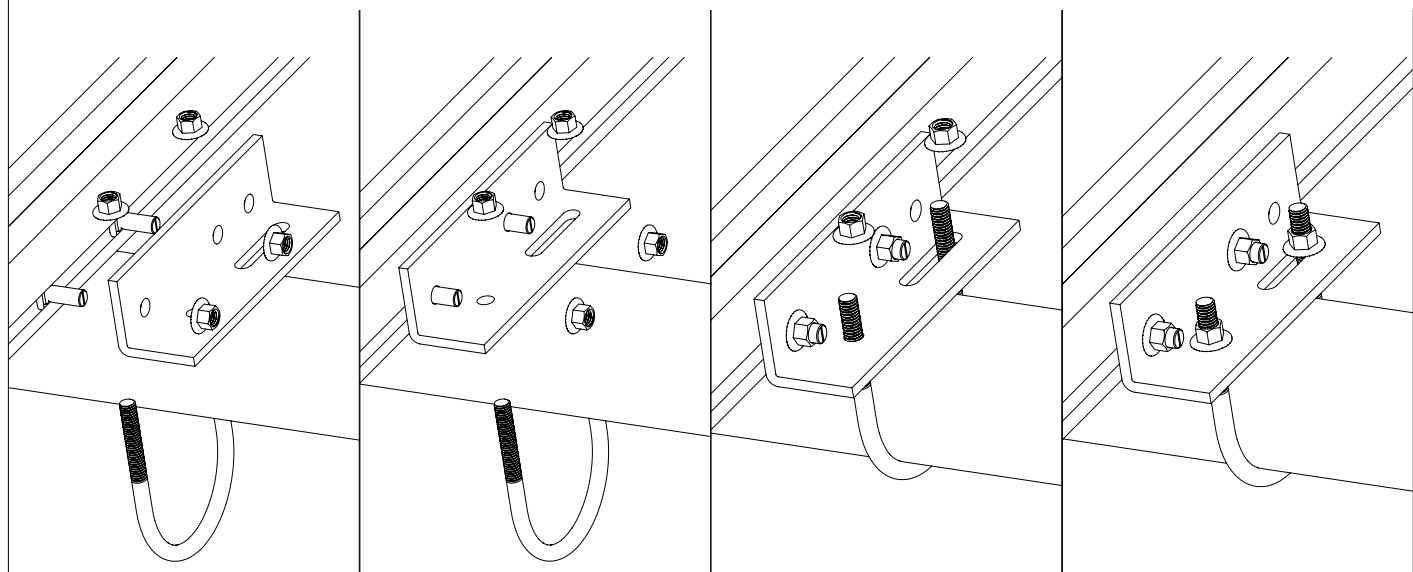
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! With the rail placed use the "K2 Pipe - Bracket Kit" of your choice to secure the rail into the pipe. Torque at 25.8 ft-lbs (35 Nm)



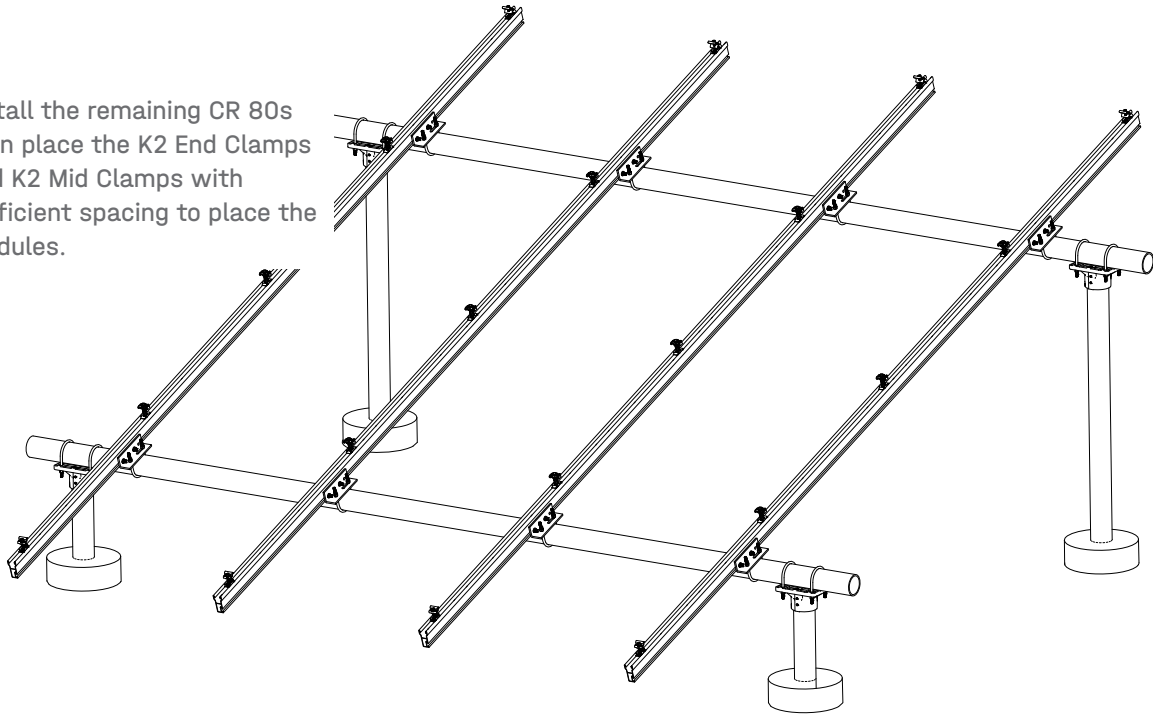
8

! K2 Pipe - Bracket Kit installation. Install the T-Bolts into the rail channel, and turn clockise so that the mark at the end of the shaft is perpendicular with the rail, indicating proper engagement. Slide the Pipe Bracket over the bolt and tighten with a hex bolt. Torque to 25.8ft-lbs (35 Nm). Place the U-Bolt around the pipe and through the bracket. Tighten with hex nuts and torque to 15 ft-lbs (20.34 Nm).



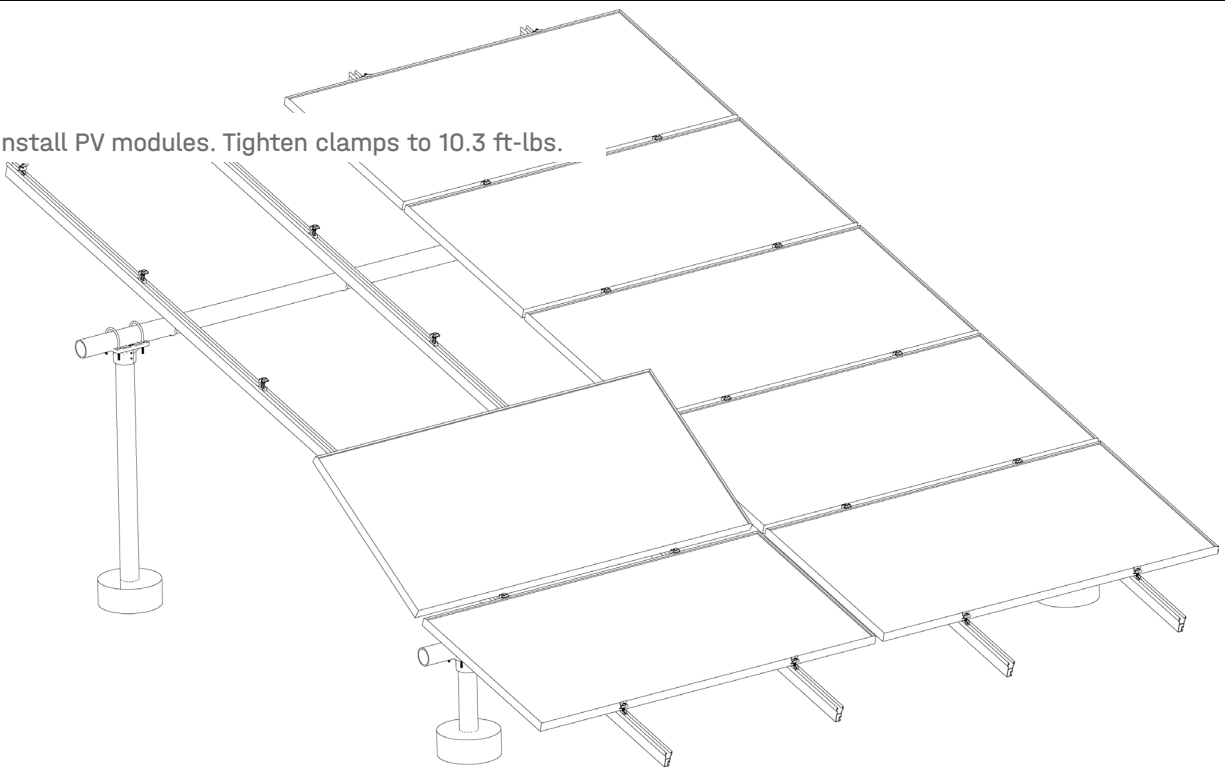
9

! Install the remaining CR 80s then place the K2 End Clamps and K2 Mid Clamps with sufficient spacing to place the modules.



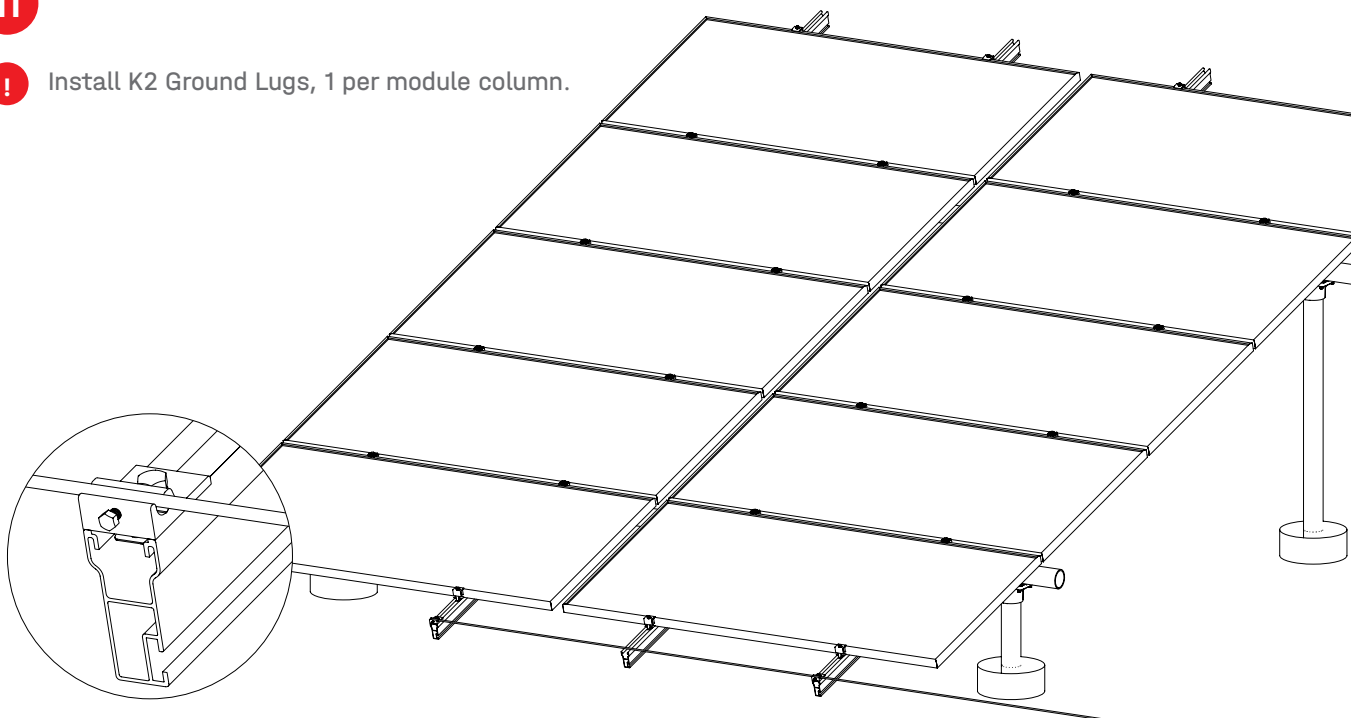
10

! Install PV modules. Tighten clamps to 10.3 ft-lbs.



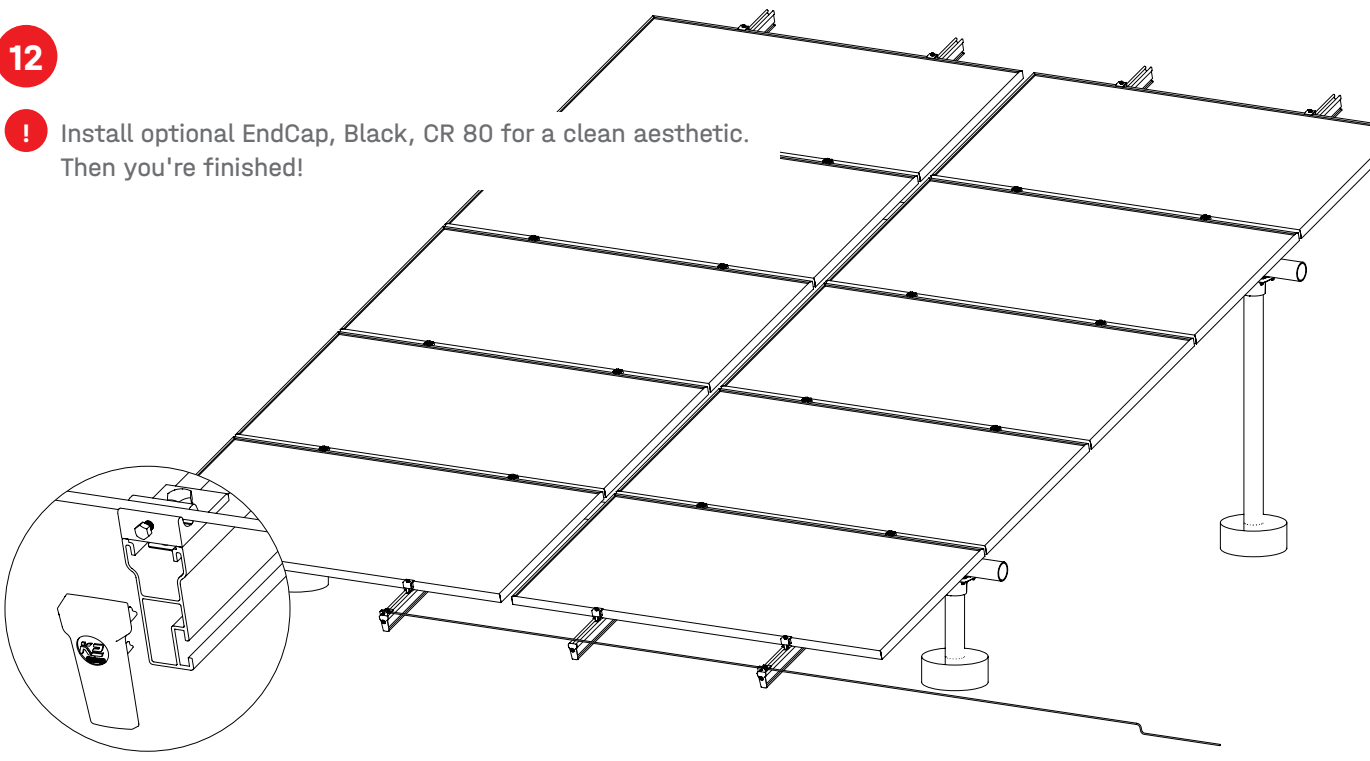
11

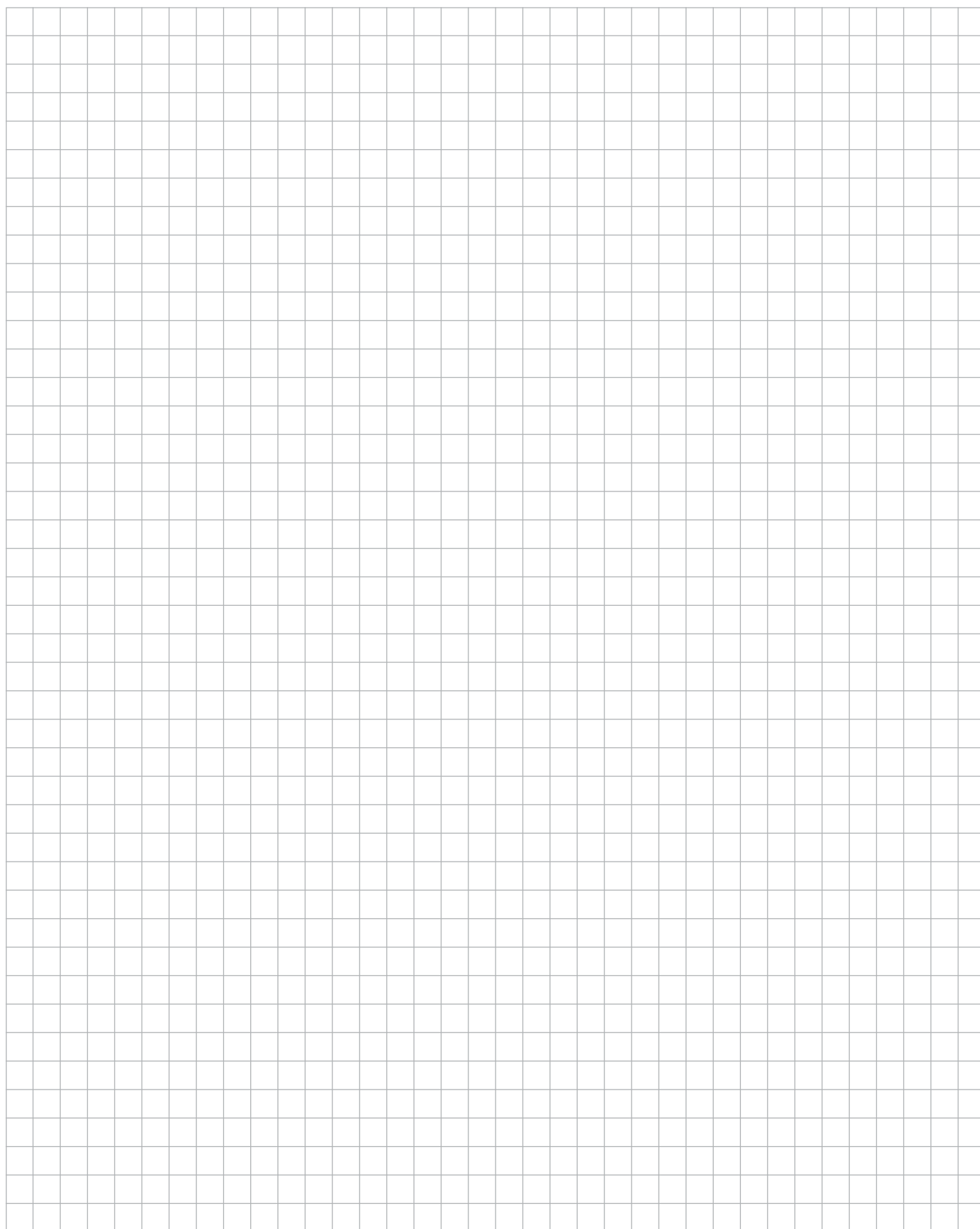
! Install K2 Ground Lugs, 1 per module column.

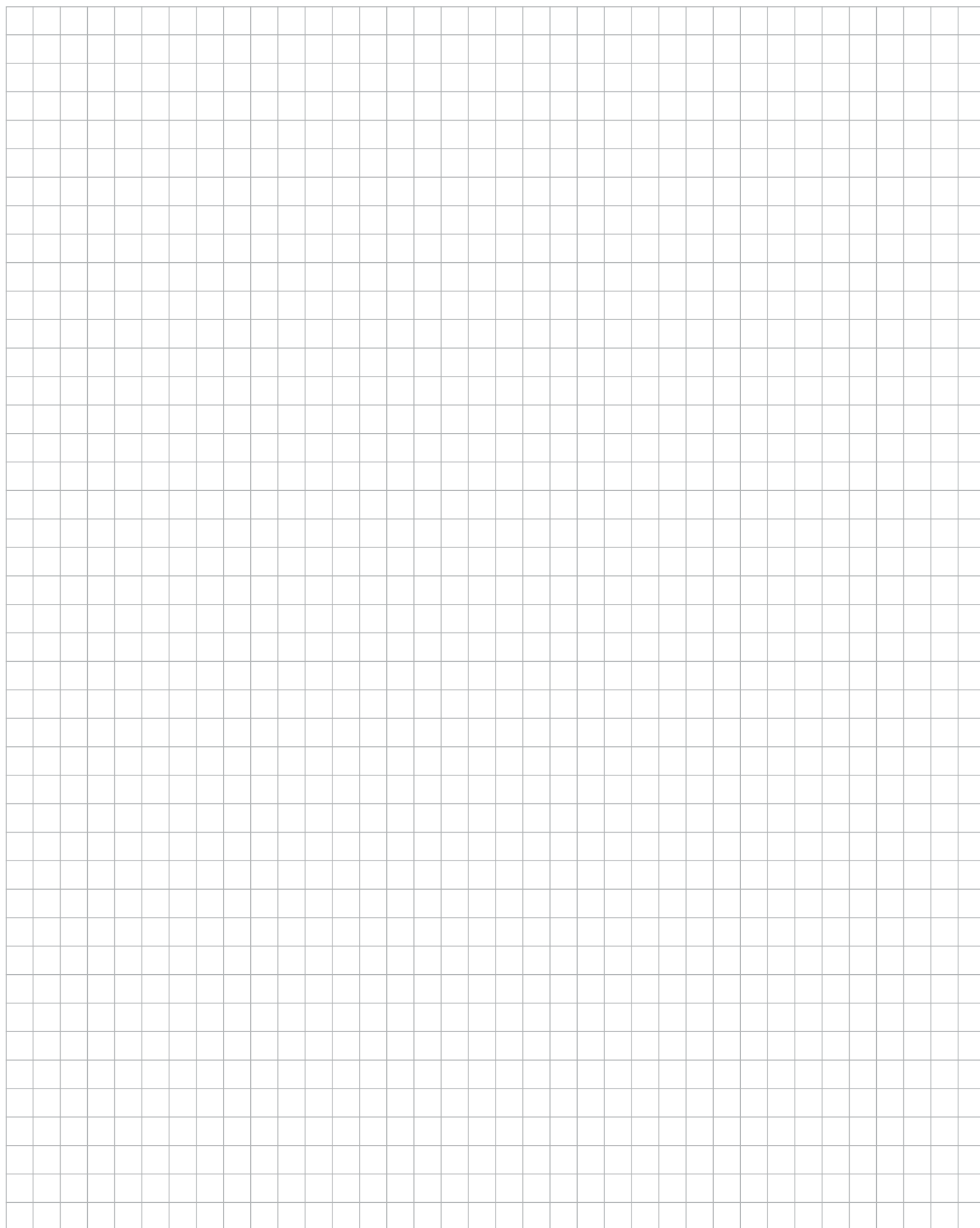


12

! Install optional EndCap, Black, CR 80 for a clean aesthetic.  
Then you're finished!

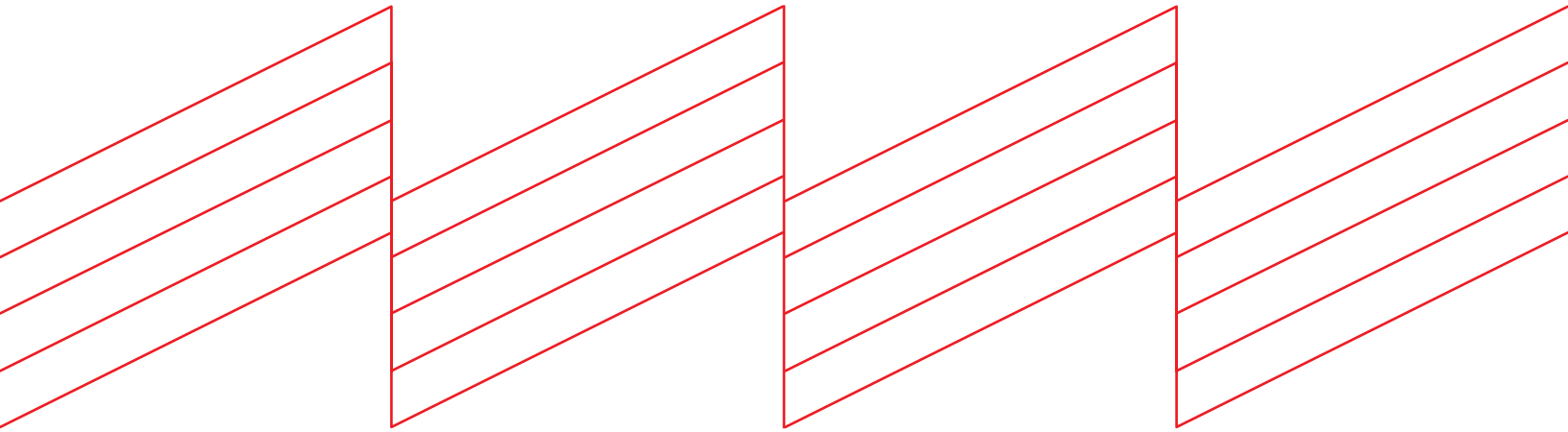








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CrossRail Ground Mount System Assembly V3 | 0324 • Subject to change  
Product illustrations are exemplary and may differ from the original.