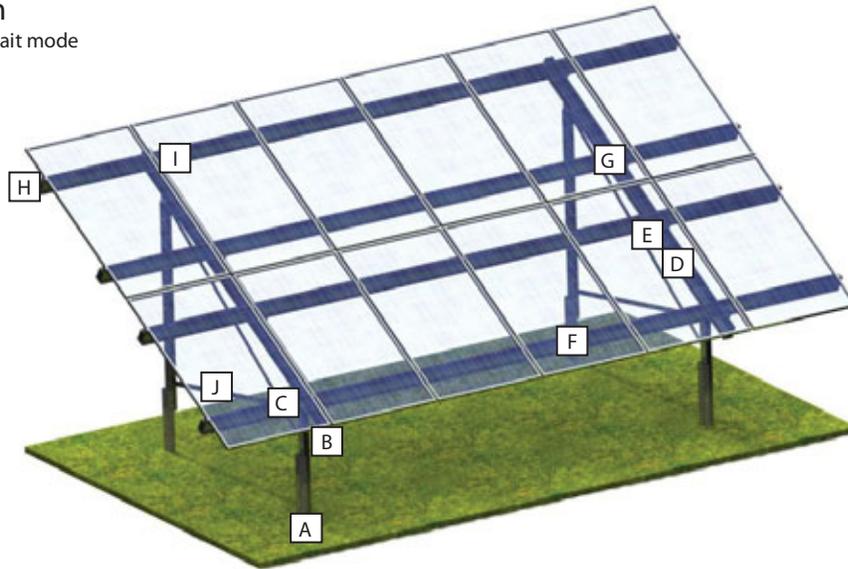


Installation Instructions :

Ground Mount System

*For framed PV-modules in portrait mode



System Component List:

A Sigma Post
System foundation



B Vertical Post
For connecting racking to sigma post



C Bearing Block
For connecting bottom rail



D 182/120 bottom rail
For supporting top rail



E Cross Adapter
For connecting top rail to bottom rail



F 120/90 Top Rail
For clamping module to rail
*19/66 Rails may be used, depending on site conditions



G 120/90 Splice
For connecting top rail
*19/66 Splices may be used, depending on site conditions



H End Clamp
For clamping module to rail



I Mid Clamp
For clamping module to rail



J Diagonal Strap
For cross-bracing of system



Hardware:

M 10 x 120mm bolt and serrated flange nut
For fastening vertical post to sigma post



M 10 x 80mm bolt and serrated flange nut
For fastening diagonal straps and bearing block to vertical posts



WEEB (optional)
For electrical grounding of the system



Tool Requirements:

Open Ended Wrench

Size s: 13mm , 17 mm



Metric Allen Wrench

Size s: 5mm , 8 mm



Cordless Drill with 7 / 16" Bit



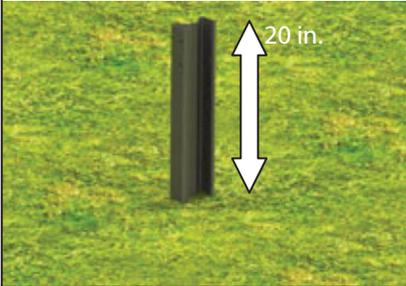
Other requirements:

-Galvanizing Spray
-Torque Wrench

These mounting instructions reflect the state of technology and our experience in how to install our systems on site. Due to the individual characteristics of each site, we highly recommend commissioning a professional assessment before beginning the installation.

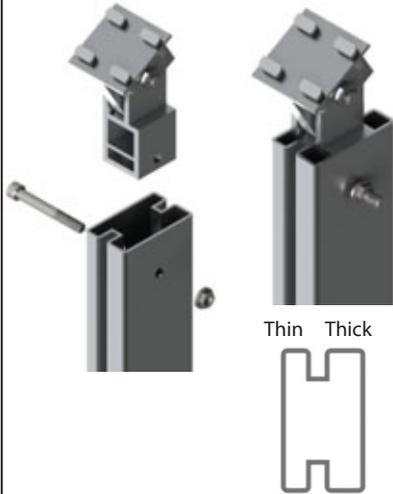
Step 1: Footings

Note: The Sigma Posts can work as rammed posts, cast and cure, or ballasted foundations. The Sigma Post length varies and is determined by the geotechnical engineer conducting the soil survey. The Sigma Post must protrude from the ground to a height of 20 in. (500mm). The holes on the Sigma Post must face the front and back of the PV array. All Sigma Posts must be facing the same direction. Galvanizing spray should be used on any part of the Sigma Post where the galvanizing has been disturbed from the installation process.



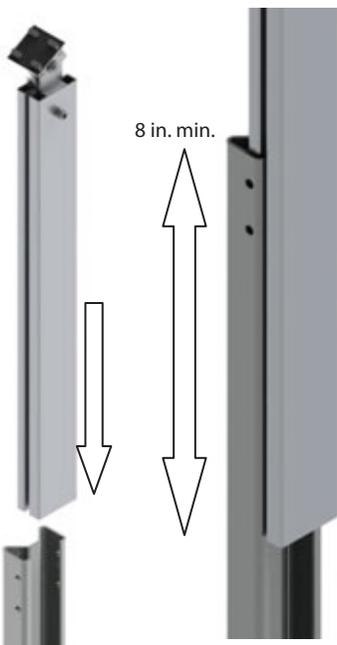
Fix the Sigma Posts **A** in the ground in accordance with local soil conditions and structural drawings.

Step 2: Attach Bearing Block to Vertical Post



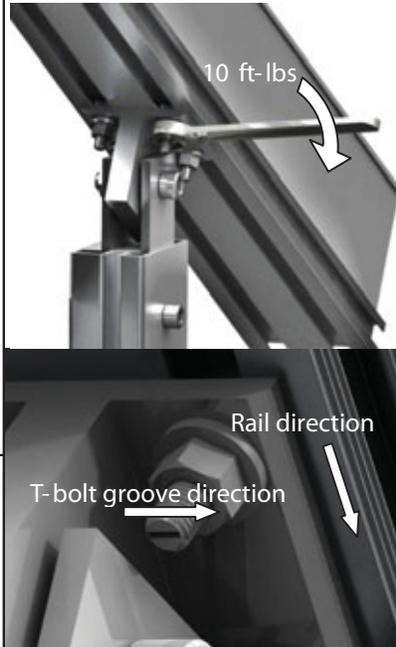
Note: The Bearing Block **C** and Vertical Post **B** must be oriented as shown. The flat side of the Bearing Block must face the thin side of the Vertical Post. Attach the Bearing Block to the Vertical Post using the M10 x 80mm bolt with serrated flange nut. Secure nut but do not torque at this time.

Step 3: Attach Vertical Posts to Sigma Posts



Note: An 8 in. (200 mm) minimum overlap is required between the Vertical Post **B** and Sigma Post **A**. The posts are aligned on site in accordance with the tilt angle of the rack. Insert the Vertical Post-Bearing Block assembly from Step 2 into the Sigma Post. Temporarily secure the post in place using method of installer's choice (clamp recommended).

Step 4: Attach Bottom Rail to Bearing Block

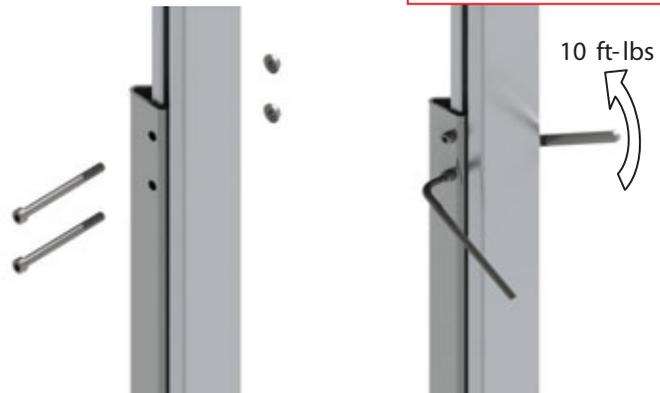


Secure the 120/90 Bottom Rail **D** to the Bearing Block **C**. Fasten using the T-Bolts that come as part of the Bearing Block assembly. Insert the T-bolts on the Bearing Block into the slots on the base of the Bottom Rail. Turn the T-bolt clockwise until it stops (approx. ¼ turn.) Properly align the T-bolt by ensuring the groove on the bottom of the T-bolt is perpendicular to the direction of the rail (see picture). Torque: 10 ft-lbs (14 N - m)

Step 5: Fix Vertical Posts to Sigma Posts



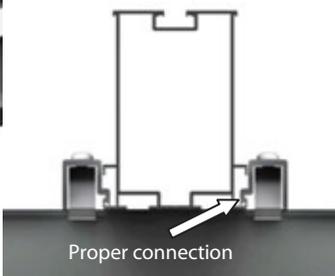
Once the frame is completed, the Vertical Posts are fastened to the Sigma Posts using the M10 x 120mm bolt and serrated flange nut. The vertical posts can be adjusted up and down to achieve the desired tilt angle. Once the desired tilt angle is achieved, holes must be drilled in the vertical posts for the M10 hardware. Use a 7/16" bit and the existing holes in the Sigma Post to drill through the Vertical Post. Once the holes are drilled, fasten the M10 hardware. Hardware can be inserted from either side of the post. Torque: 10 ft-lbs (14 N - m)



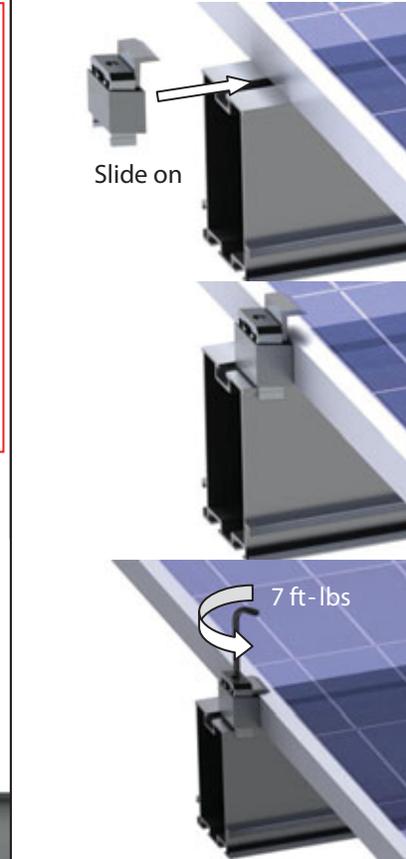
Step 6: Attach Top Rail to Bottom Rail



Attach the 120/90 Top Rail **[E]** to the bottom rail using the Cross Adapter **[G]**. This requires at least 2 cross adapters per connection (may require 4, depending on site conditions). Click the Cross Adapter onto the rail, slide up to the top rail and fasten the bolt by turning clockwise.
 Torque: 7 ft -lbs (9 N -m)
 Repeat this process for all top rail to bottom rail connections.

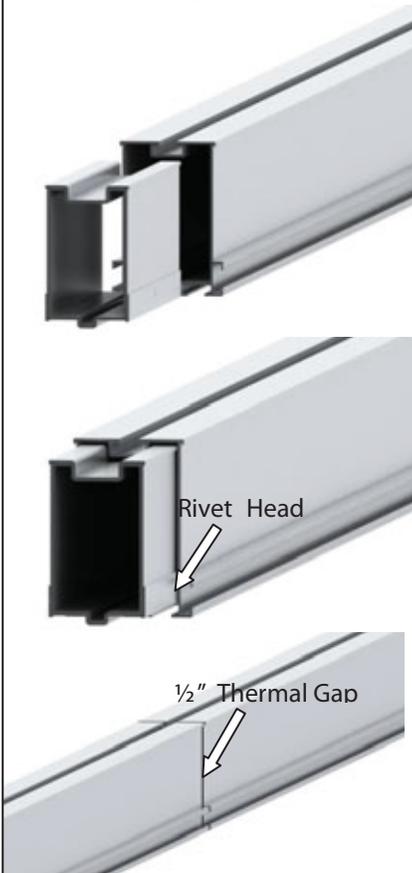


Step 8: Module Installation, End Clamps



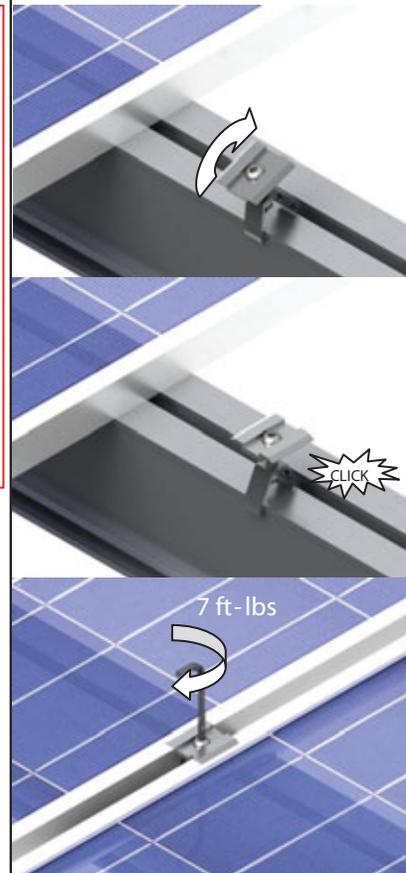
Place the first module onto the rails and hold in place by method of installer's choice.
 Slide the End Clamp **[H]** onto the end of the mounting rail and up to the edge of the module frame.
 Tighten the End-Clamp by turning the bolt counterclockwise.
 Torque: 7 ft -lbs (9 N -m)
 Repeat this process on every top rail at the beginning and end of each module row.

Step 7: Splicing Top Rail



A splice is required to connect rails together. For the 120/90 Top Rail **[G]** insert the 120/90 Rail Splice **[I]** into the top rail until the rivet stops the splice.
 Slide the second top rail over the splice until the rivet head stops the rail.
 Note: Splice is only needed for thermal breaks (approximately every 40 ft.)
 Note: Allow a 1/2" gap between the rails for thermal expansion.
 Note: Do not attempt to thread bolt through the splice.

Step 9: Module Installation, Mid Clamps



Note: For the optional WEEB grounding system, see Installation Instructions: WEEB Grounding System, available online at www.wurthcanada.com or by request.
 Note: There are two Mid Clamps between every two modules and both clamps must be secured onto the rail before the next module can be placed.
 Click the Mid Clamp **[L]** onto the rail and slide it up to the module.
 Slide the next module up to the Mid Clamp and tighten the clamp by turning the bolt clockwise.
 Torque: 7 ft -lbs (9 N -m)
 Continue the same process with the rest of the modules in the row.

Full System View

Step 10: Module Installation, End Clamps

Once all the modules in the row are installed, place an End Clamp on the end of each mounting rail. See Step 8 for details.

Step 11: Connecting Diagonal Straps



Note : The M10 hardware and Diagonal Strap can be installed on either side of the Vertical Post.

Attach the Diagonal Strap  to provide cross-bracing for the system. Remove the M10 flange nut from the Bearing Block connection and loosely fasten the pre-drilled end of the strap to the Vertical Post. Connect the lower end of the strap by drilling through the strap and post as shown, in accordance with the Würth structural drawings. Fasten the strap to the post using the M10 x 80mm Bolt and serrated flange nut. Tighten the M10 hardware on both ends of the strap. Torque: 10 ft-lbs (14 N-m)

