

ASCENT

An aerial photograph of a solar farm. The solar panels are arranged in neat, parallel rows on a green grassy field. The perspective is from a high angle, looking down at the panels. The panels are dark blue with a grid of white lines. The grass is a vibrant green, and the overall scene is bright and clear.

Aluminium Ground Mounting Portrait
Concrete Foundation

www.rubiconsa.co.za

General Information

Ascent provides a new highly pre-assembled PV mounting systems, such as this Aluminium ground mounting system. The pre-assembly of the main support beam makes installation more convenient, requiring less labour time. The system requires few components, which are all of high quality – saving on installation time and costs.

Ascent products are:

- ⇒ easy to install,
- ⇒ innovative and engineered to speed up installation time,
- ⇒ backed by a 10-year warranty and AS/NZS1170.2:2011 AMDT 3 -2012 compliant.

Applications:

- ⇒ Ground mounting

Features:

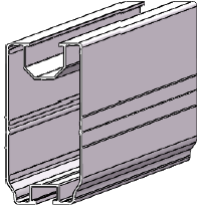
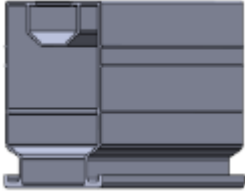
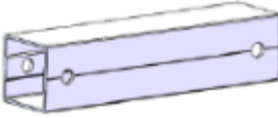


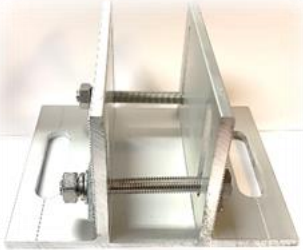
- ⇒ Extruded from Anodised Al 6005-T6 (Aluminium)
- ⇒ Can be preassembled, making installation quick and easy
- ⇒ Suitable for a variety of conditions and with popular PV panels currently in use
- ⇒ Inherent corrosion resistance results in lower maintenance and extended product life.
- ⇒ 10-year limited warranty backed by the parent company (Antai Aluminium)

Material Standard:

Material	Yield Strength [MPa]	
	Tensile Strength	Yield Strength
Al 6005-T6	295	263



Components

Part Name	ASCENT Part Number	Picture
ASCENT Ground mount beam 3600mm Preassembled with poles	A4000000	
ASCENT Ground mount rail 5750mm 5000mm	A4001010 A4001011	
ASCENT Ground mount Pole 264mm 1034mm 1922mm	A4000000	
ASCENT Ground mount Top Connector	A4000000	
ASCENT Ground mount Bottom Connector	A4000000	
ASCENT Ground mount Base 130mm Type E Type F	A4001030 A4001031	



<p>ASCENT Ground mount Mid clamp 40mm</p>	<p>A4001040</p>	
<p>ASCENT Ground mount End clamp 40mm A</p>	<p>A4001050</p>	
<p>ASCENT Bottom Rail Clamp</p>	<p>A5001100</p>	
<p>ASCENT Ground mount Rail Splice</p>	<p>A4001070</p>	
<p>ASCENT Grounding Lug</p>	<p>A0001000</p>	
<p>ASCENT Ground mount Aluminium Angle</p>	<p>A4001120</p>	



ASCENT Type A Earthing Clip	A0001010	
ASCENT Ground mount Rail cap	A4001110	
ASCENT Ground mount Rail cap	A4001111	
ASCENT Ground mount Eyelet Bolt M12*300	A4001090	
ASCENT M10x80 Bolts	A4001100	
ASCENT Ground mount Rubber Rail Cap	A4001110	
ASCENT Ground mount Rubber Rail Cap	A4001111	
ASCENT ST6.3x25 Drilling Screw	A0001030	

Installation Manual

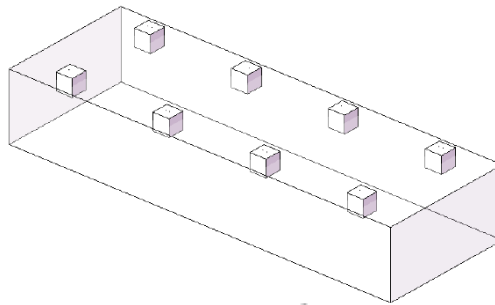
Tools required for the installation



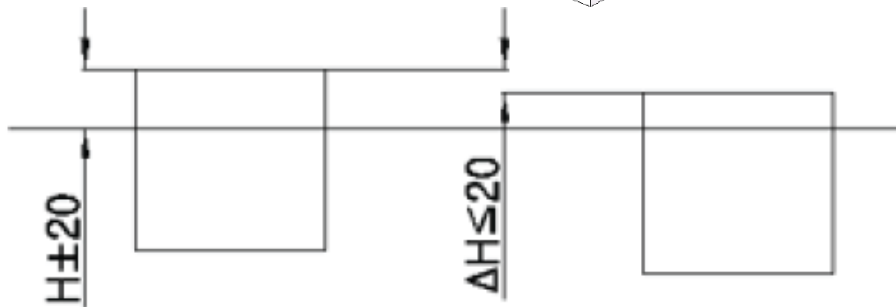
			
6mm Allen key or hexagonal driver bit.	monkey spanner	Torque wrench	Measuring tape
			
Power tool	Pen	pipe wrench (M10/M14)	Rope

Installation Instruction

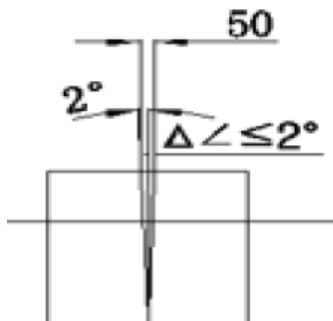
1. Mark the position of the concrete slabs that should be laid – as per the engineering drawing and the drawing at the back of this booklet.



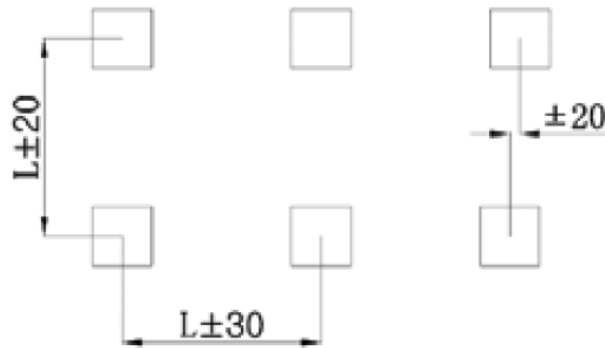
- a. There is a height of the concrete slabs. The surfaces.



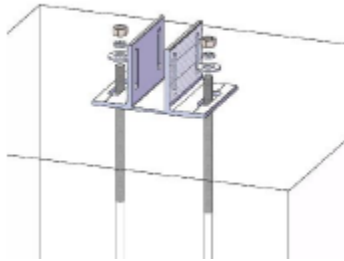
- b. The concrete slabs have a 2° deflection angle tolerance, where the maximum deflection from the centre of the slab to the edge of the slab is 50mm.



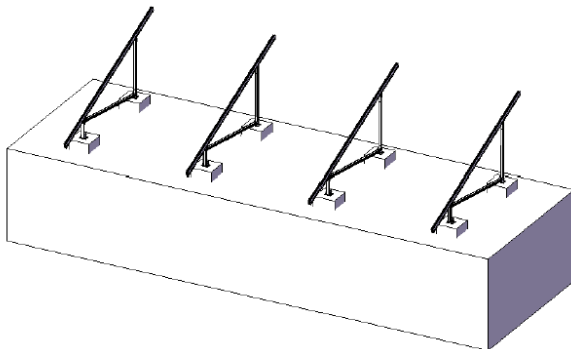
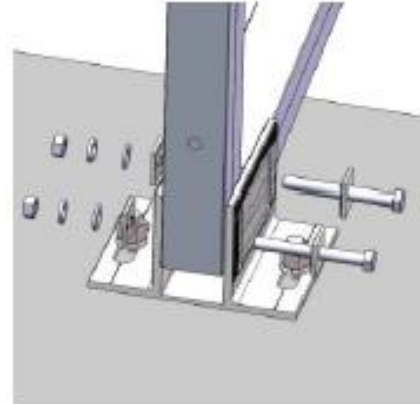
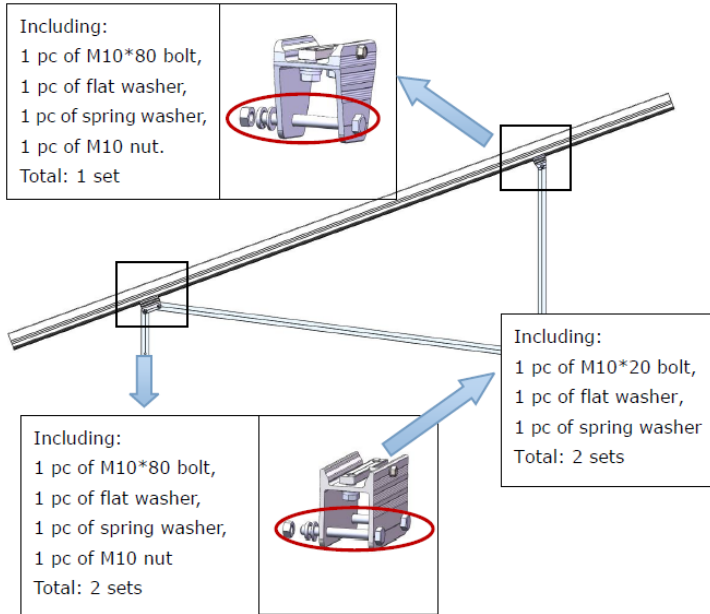
- c. When the East-West direction is flat, there is a 30mm tolerance between the slabs in the East-West direction. There is a 20mm tolerance between the slab centres. There is a 20mm tolerance between the slabs in the North South direction.



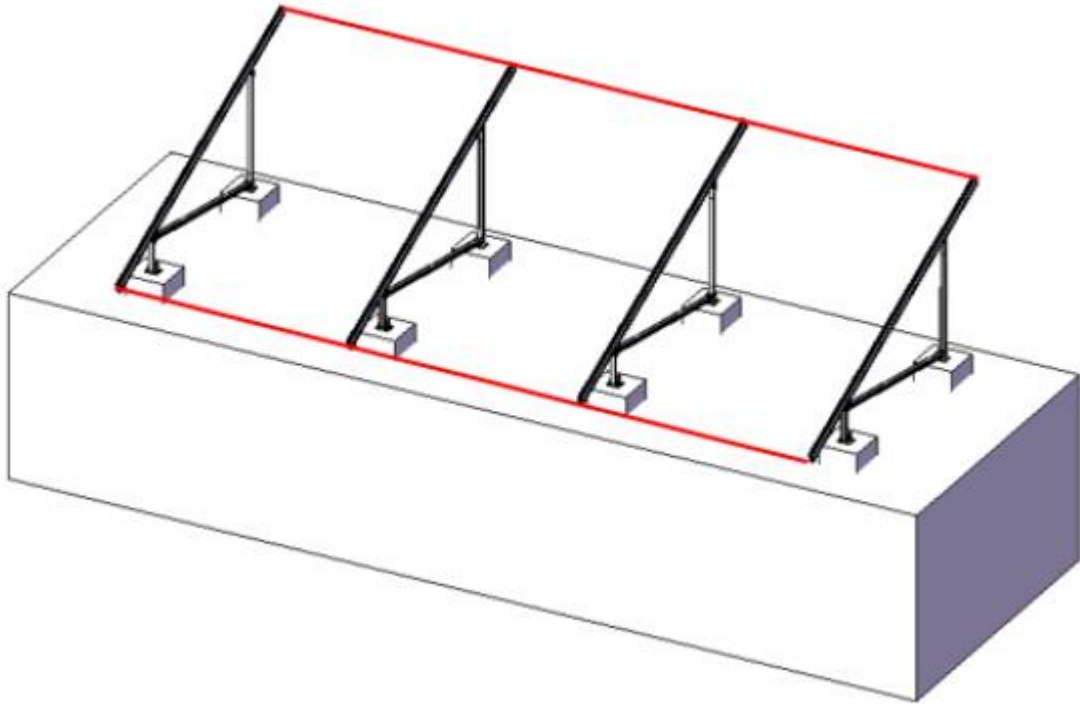
2. Mark the location of each anchor bolt (A4001090), ensuring that they are in the same horizontal/vertical line.
3. Drill the holes for the Anchor Bolts, with two bolts per base and fit the U-base (A4001030/A4001031) to the concrete as per the drawings.



4. Unfold the preassembled beam (A4001000 + A4001020/1 + A4001060/1/2) and attach the U-base (A4001030/A4001031) and beams (A4001000 + A4001020/1 + A4001060/1/2).



- Adjust the rails to ensure that the upper surface of the beams is on the same plane.

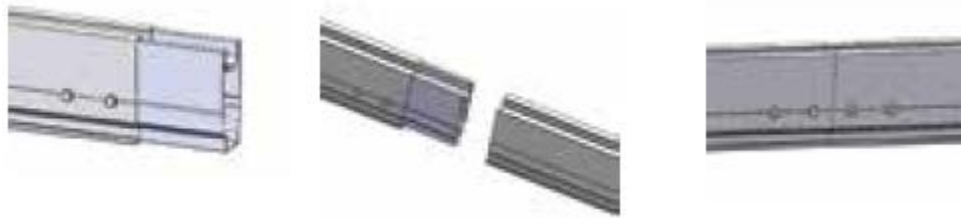


- Fix the Angle Aluminium (A4001120) to the back beam using a M10x80 bolt (A4001100).

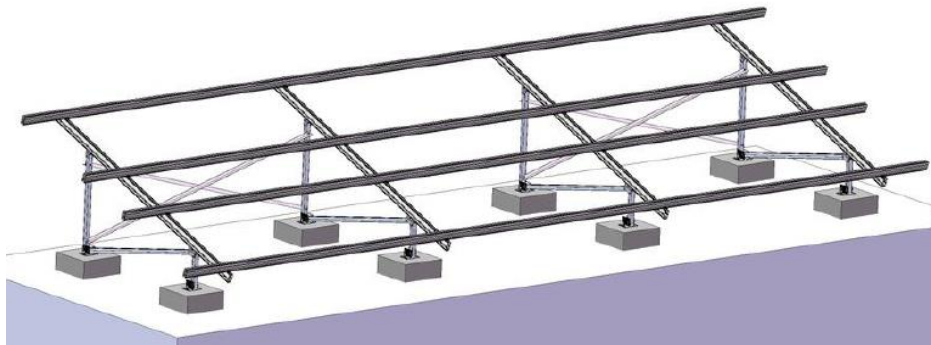
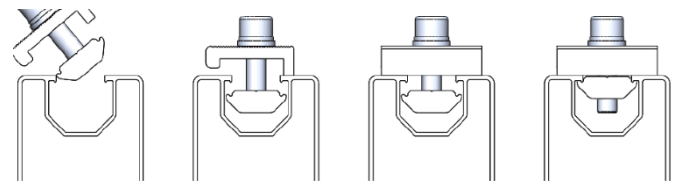
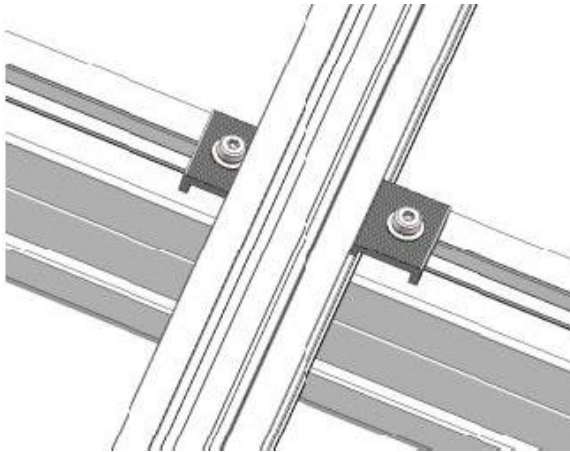


- Insert the rail splice (A4001070) into one of the rails (A4001010/A4001011) and fasten with two self-drilling screws. Ensure that the rails are aligned. NOTE: To avoid interference of self-tapping screw, stagger the installation position of the screws to both sides of the rail.

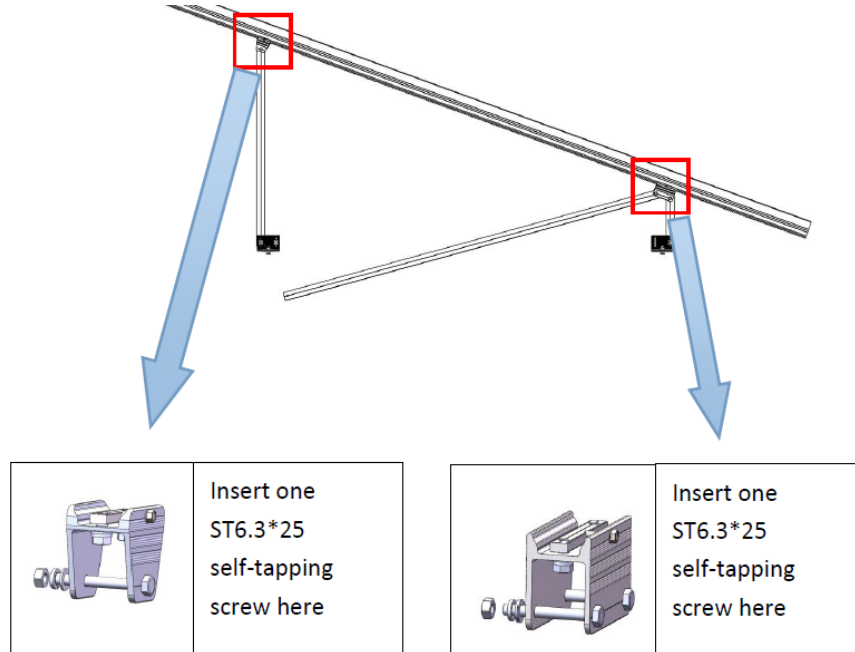




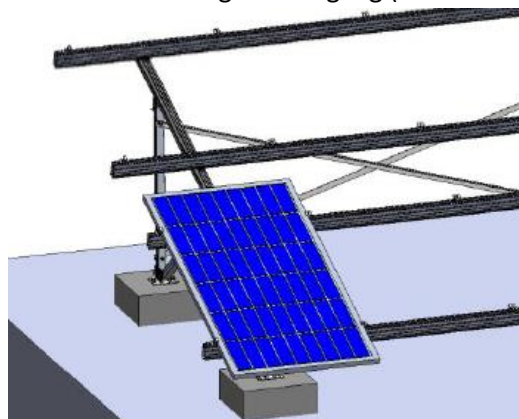
- Use rail clamp (A5001100) to fix the rail (A4001010/ A4001011) to the pre-assembled and fixed beam (A4001000), with two clamps on each side of the rail. Take note of the nut direction to ensure that the clamp is tightened correctly.



9. After the entire mounting structure is assembled, a self-tapping screw (A0001030) into each of the connectors (A4001020/A4001021). This is to reduce the risk of the connectors sliding along the beams (A4001000).

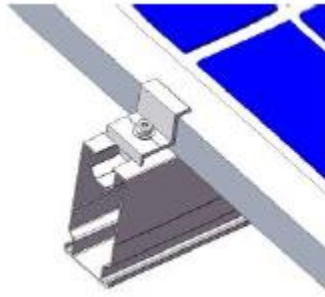


10. The modules can now be installed. They should be installed from the bottom to the top and from the left to the right. Leave 50mm between the end of the rail (A4001010/ A4001011) and the edge modules for installation of the grounding lug (A0001000).

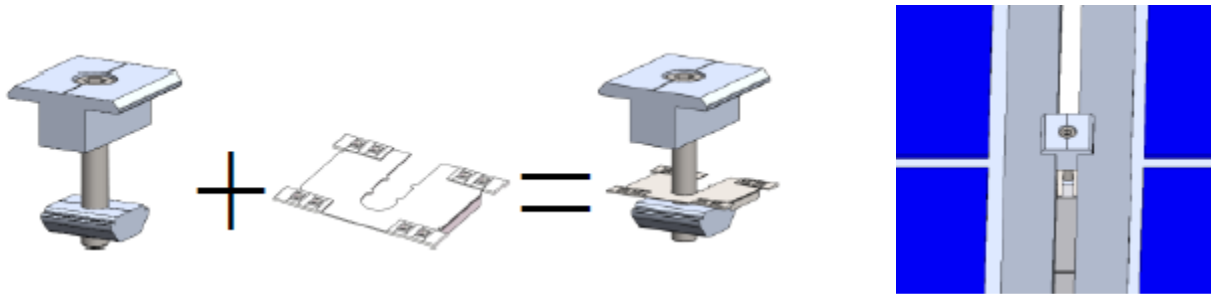


11. Fix the modules on the rails using the mid clamps (A4001040) and the end clamps (A4001050). Place the base of the end clamp in the rail slot and move the end clamp over the module rim. Loosely tighten the bolt of the clamp.

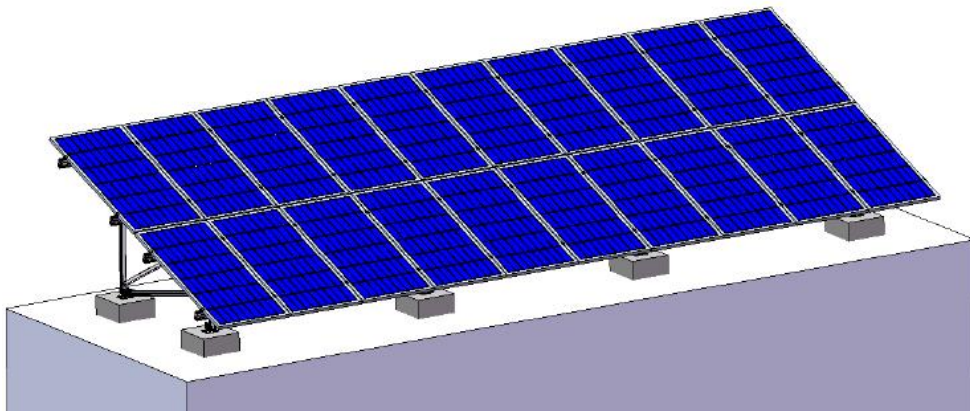




12. Unscrew the base of the mid clamp (A4001040) until it is fully extended. Insert the base of the clamp (A4001040) into the rail (A4001010/ A4001011) slot and move to the specified position. Loosely tighten each of the mid clamps. If an earthing clip (A0001010) is required, place the clip above the base of the clamp (A4001040) before slotting the clamp base into the rail slot (A4001010/ A4001011).

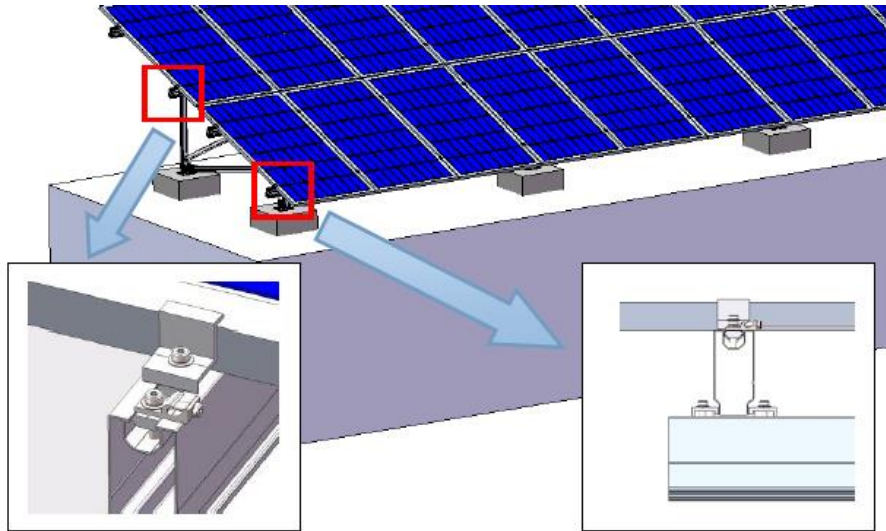


13. Ensure that all the clamps are in the correct positions and tighten them. The spacing between the modules should not be larger than 3mm.

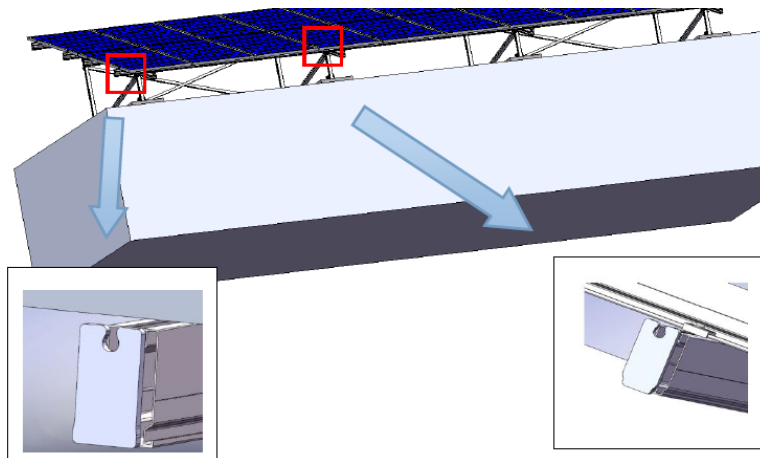


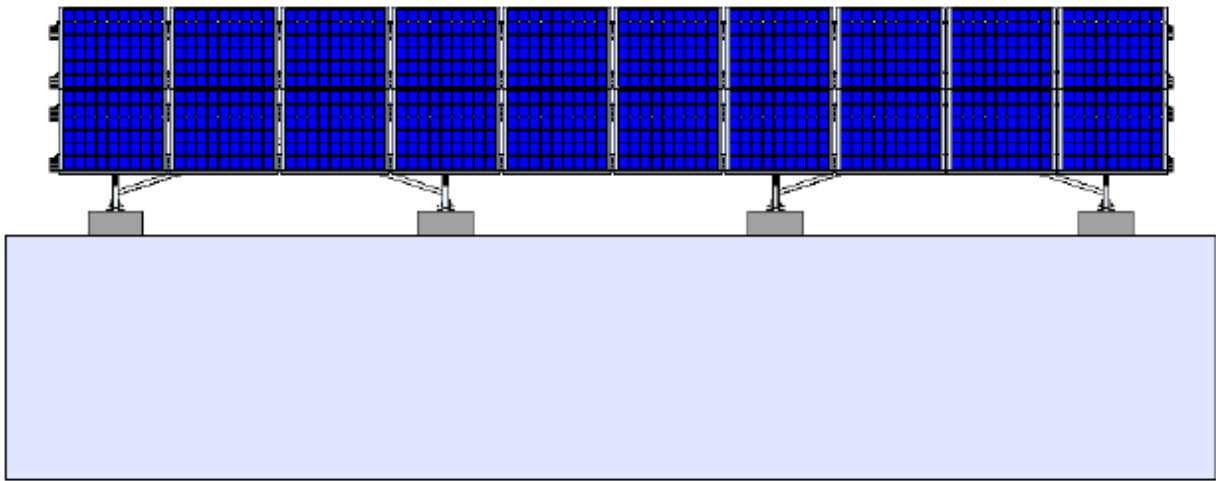
14. Install the grounding lug (A0001000) at the end of the rail (A4001010/ A4001011). Wire each of the grounding lugs with wires prepared by the user.



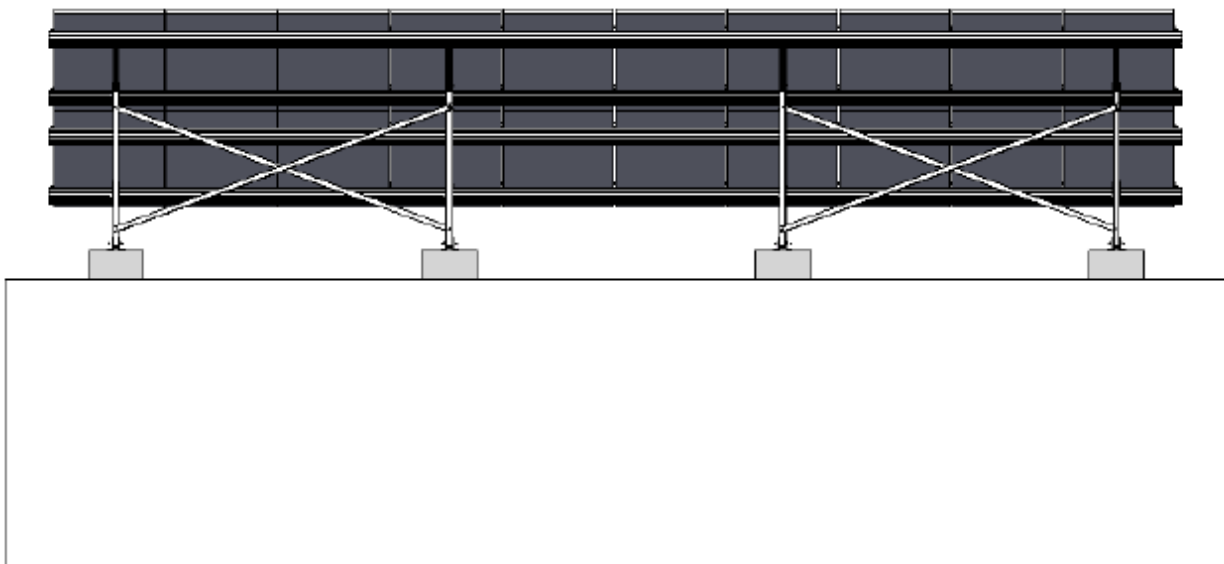


15. Place the beam end caps (A4001110) and the rail end caps (A4001111) on the beams and the rails, respectively.



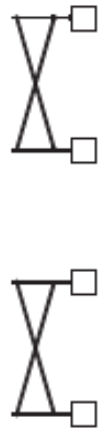
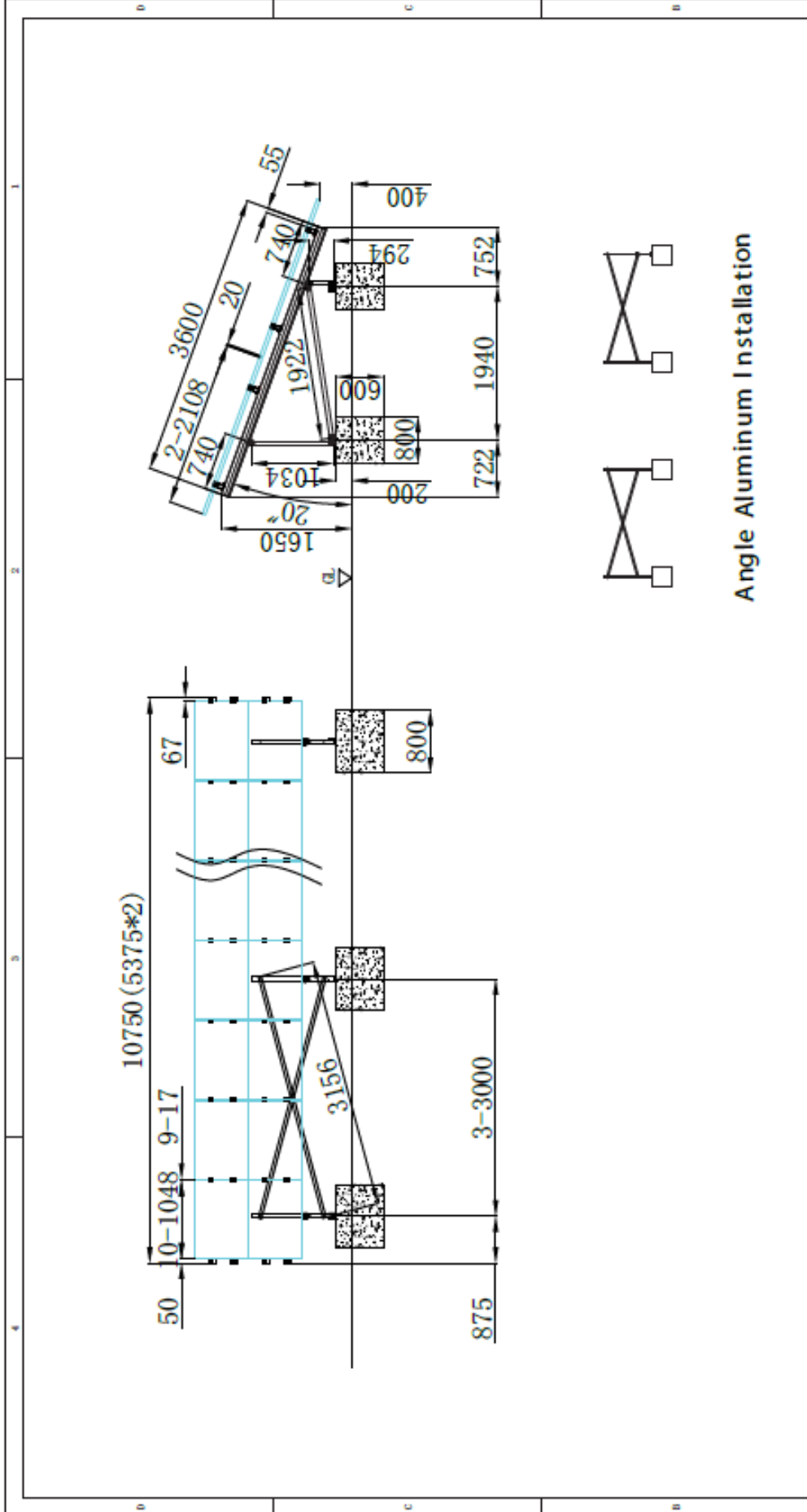


Front View



Back View





Angle Aluminum Installation

<p>Forward-backward Base adjustment</p>		<p>End C clamp</p>		<p>Mid C clamp</p>		<p>Base C clamp</p>		<p>Concrete Foundation</p>		<p>Panel dimension</p>		<p>Surface roughness</p>		<p>Wind speed</p>		<p>Snow load</p>		<p>Date</p>		<p>Version</p>		<p>Design</p>		<p>Audit</p>		<p>Approval</p>		<p>2108x1048x40</p>		<p>ASCENT</p>	
		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>		<p>ASCENT</p>	
																						<p>Mounting System term</p>		<p>Project</p>		<p>2X10</p>		<p>500KW</p>			