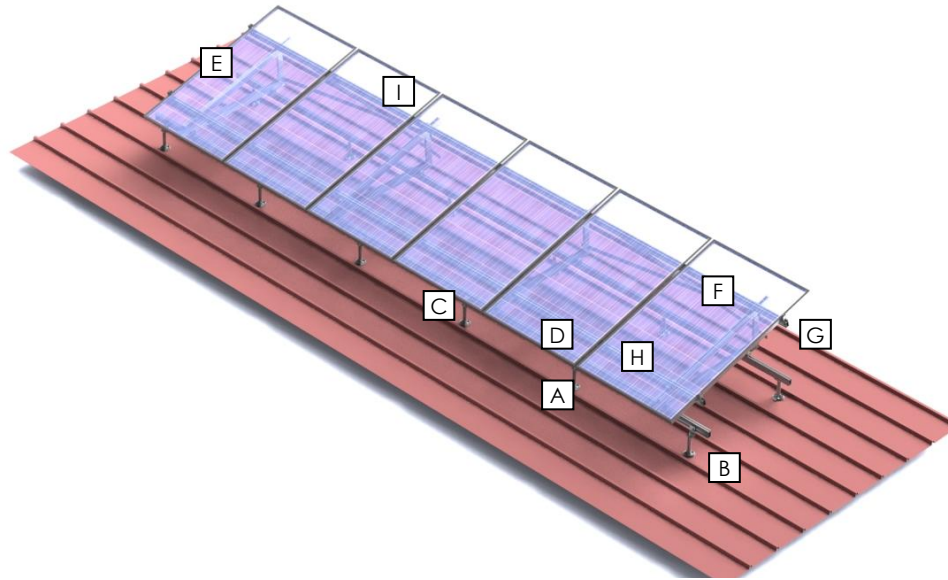


Installation Instructions:
 alTite System
 *For framed PV-modules in portrait mode



System Component List:

A Angle Bracket Slotted Complete
 For fastening rail to standoff



B 13/60 Bottom Rail
 For mounting triangles
 *19/66 Rails and 182/120 Rails may be used, depending on site conditions



C Hatibond Splice 13
 For connecting bottom rails and top rails
 *Hatibond Splice 19 may be used, depending on site conditions



D Cross Adapter
 For connecting bottom rail to triangle and triangle to top rail



E Triangle
 For supporting top rail and providing module tilt



F 13/60 Top Rail
 For mounting solar modules
 *19/66 Rails may be used, depending on site conditions



G End Clamp
 For clamping module to rail



H Mid Clamp
 For clamping module to rail



I Diagonal Strap
 For bracing triangle
 *May not be required, depends on site conditions



Hardware

M6 x 70mm SHCS 18-8 SS (optional)
 For connecting Diagonal Straps to Triangles



WEEB and WEEB Lug (optional)
 For electrical grounding of the system



Tool Requirements:

Open Ended Wrench



Size: 13mm

Metric Allen Wrench



Size: 5mm

Cordless Screwdriver and 5/16" Drill Bit (optional)



Note: Do not use Impact Drivers

Other requirements:

Approved flashing system or standoff device for attachment of the system to the roof.

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 roof, we highly recommend commissioning a professional assessment before beginning the installation.

Step 1: Flashing/Standoff and Angle Bracket

Haticon Solar's flat roof systems must be attached to an approved and properly installed standoff or flashing system of the installer's choice.



Loosen the nut from Angle Bracket Slotted Complete **A**.

Install approved flashing or standoff devices for installation of mounting rails.

Fasten Angle Bracket to flashing or standoff device.

Torque: Per mfg. requirements



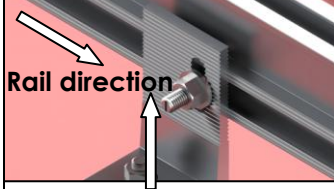
Step 2: Mounting rail to Angle Bracket

Attach 13/60 Rail **B** to Angle Bracket Slotted-Complete **A**. Insert T-bolt into the C-channel on rail. Turn T-bolt clockwise until it stops (approx. 1/4 turn.)

Properly align T-bolt by ensuring groove on bottom of T-bolt is perpendicular to direction of rail

Tighten T-bolt nut.

Torque: 7 ft-lbs (10 N-m)



Step 3: Connecting Rails

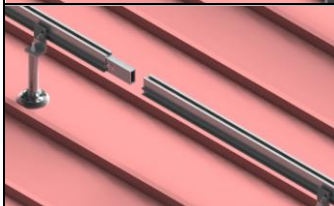
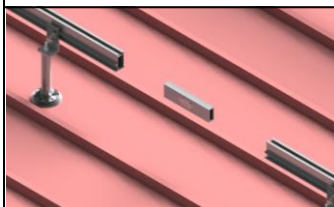
Continue fastening all rails to Angle Brackets until system is completely attached to roof. A HatiBond Splice 13 **C** is required to connect rails together. Slide rail splice into the first rail until the rivet head stops the splice.

Slide the second rail over the rail splice until the rivet head stops the rail.

Note: Allow a 1/2 inch gap between the rails for thermal expansion. For details on thermal breaks, please refer to *Thermal Break Instructions*, available online at www.haticonsolar.com or by request.

Note: No through bolt is required for splice connection.

*In case of re-installing HatiBond splice 13, insert it backward for optimal performance



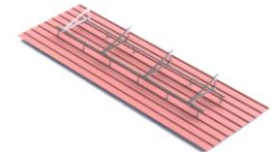
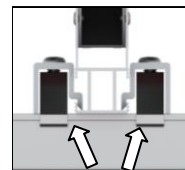
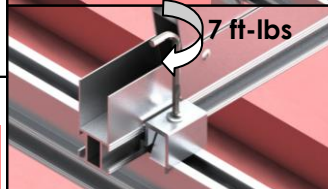
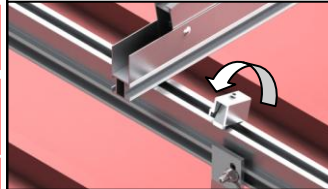
Step 4: Triangle Installation

Attach Triangle **E** to rails using Cross Adapter **D**. This requires a Cross Adapter on each side of the rail, 2 per connection.

Click Cross Adapter onto rail, slide up to triangle bottom rail and fasten bolt by turning clockwise.

Torque: 7 ft-lbs (10 N-m)

Repeat this process for each Triangle connection in row.



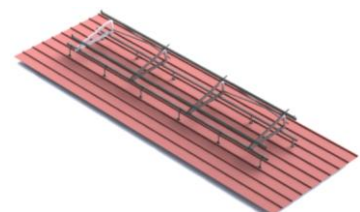
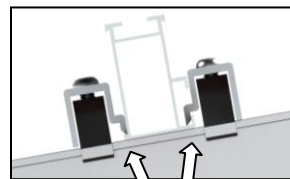
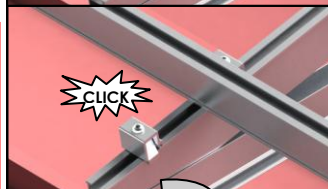
Step 5: Top Rail Installation

Place 13/60 Top Rail **F** onto triangles. Secure top rail to triangles using Cross Adapter **D**. This requires a Cross Adapter on each side of the rail, 2 per connection.

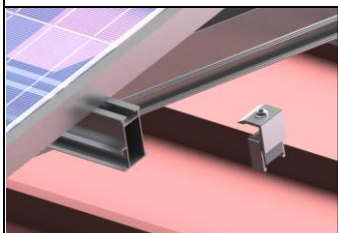
Click the Cross Adapter onto the rail, slide up to triangle and fasten the bolt by turning clockwise.

Torque: 7 ft-lbs (10 N-m)

Repeat this process for all top rail to triangle connections.



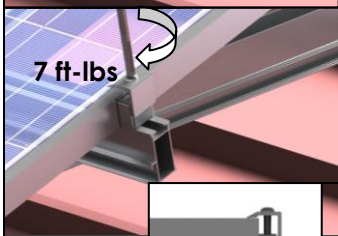
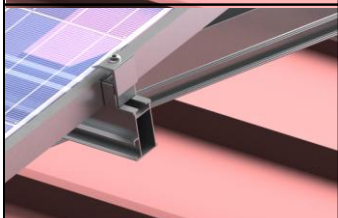
Step 6: Module Installation, End Clamps



Place the first module onto top rails and hold in place by method of installer's choice. Slide the End Clamp **[G]** up to the module and tighten the clamp by turning the bolt clockwise.

Torque: 7 ft-lbs (10 N-m)

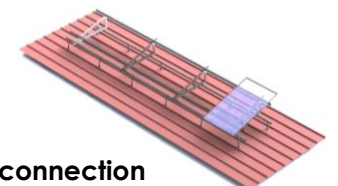
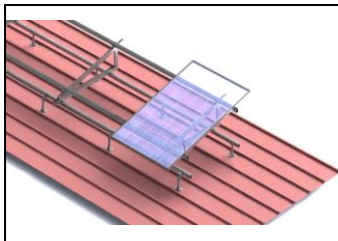
Repeat this process on every top rail at the beginning and end of each module row.



7 ft-lbs



Proper connection



Step 8: Module Installation, End Clamps

Once all modules in the row are installed, place an End Clamp on the end of each mounting rail. **See Step 6 for details.**

Step 9: Connecting Diagonal Straps



Secure pre-drilled end of Diagonal Strap **[I]** to vertical triangle rail using M6x70mm SHCS SS hardware.

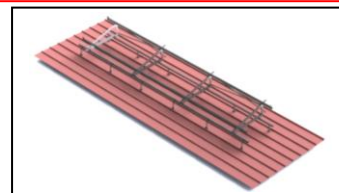
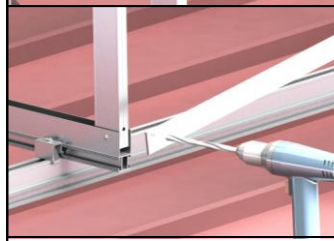
Line up the opposite end of Diagonal Strap drill a hole through the strap with 5/16" drill bit.

Secure strap using M6x70mm bolt as above.

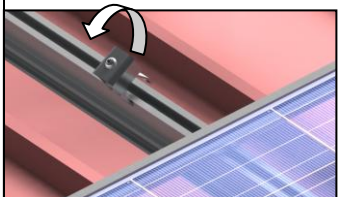
Torque: 7 ft-lbs (10 N-m)



7 ft-lbs



Step 7: Module Installation, Mid Clamps



Note: For the optional WEEB grounding system, see *Installation Instructions: WEEB Grounding System*, available online at www.haticonsolar.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.

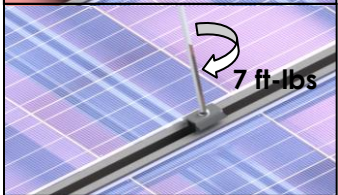
Click Mid Clamp **[H]** onto rail and slide up to the module. Slide next module up to the Mid Clamp and tighten the clamp by turning the bolt clockwise.

Torque: 7 ft-lbs (10 N-m)

Repeat this process with the rest of the modules in the row.

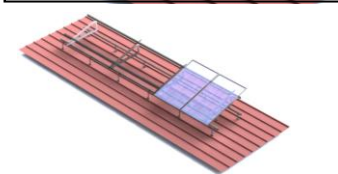
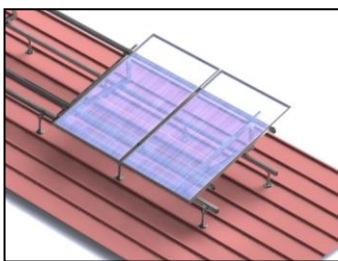
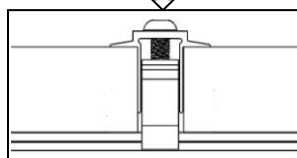


CLICK

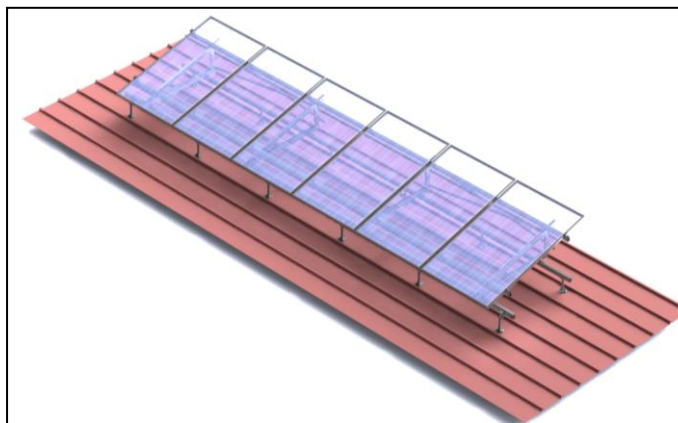
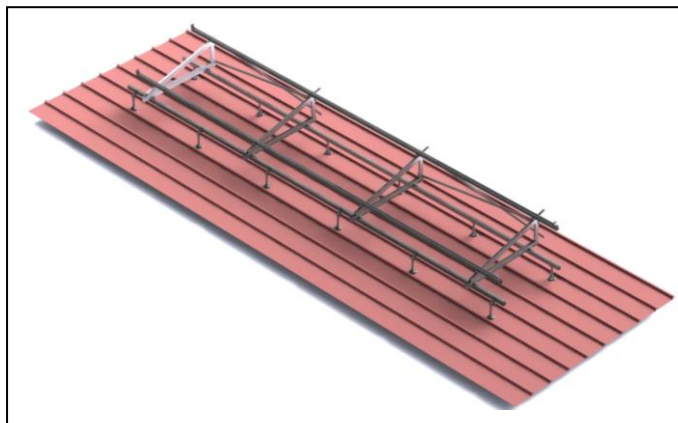


7 ft-lbs

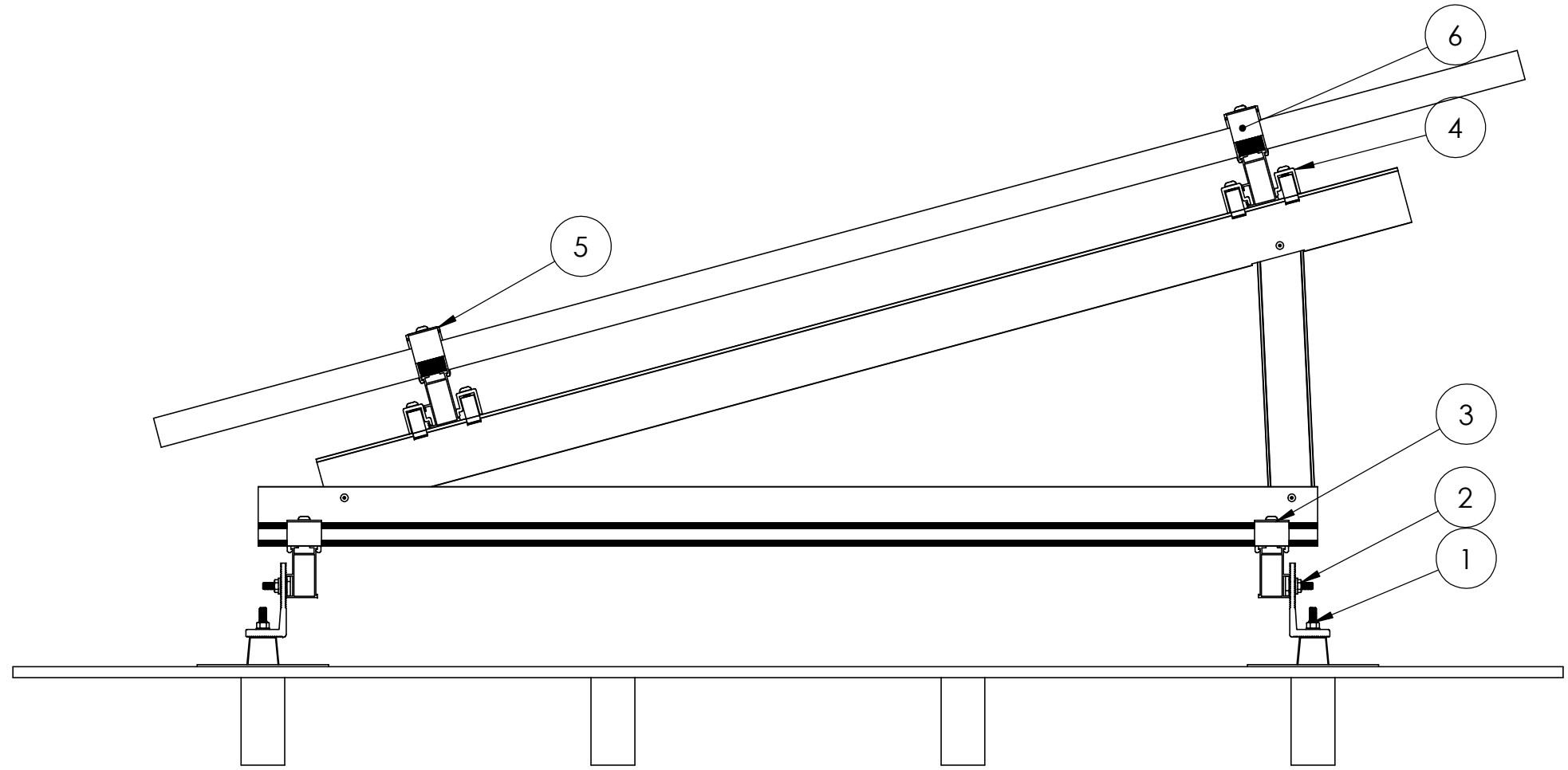
Proper connection



Full System View



Haticon Solar Torque Requirement (aITite Flat Roof System)				
Location ID#	Connection	Hardware	Torque Requirement	
1A	Angle Bracket - Roof	3/8" Lag Bolt	14 lb-ft	19 N·m
1B	Angle Bracket - Roof	5/16" Lag Bolt	13 lb-ft	18 N·m
2	Angle Bracket - Bottom Rail	M8 x 25 MM T-Headed Bolt 18-8 SS	11 lb-ft	15 N·m
3	Cross Adapter - Triangle	M8 x 25 MM BHCS 18-8 SS	7 lb-ft	10 N·m
4	Cross Adapter - Rail	M8 x 25 MM BHCS 18-8 SS	7 lb-ft	10 N·m
5	Module Mid Clamp	M8 x 30 MM BHCS 18-8 SS	7 lb-ft	10 N·m
6	Module End Clamp	M8 X 35 MM BHCS 18-8 SS	7 lb-ft	10 N·m



HATICON SOLAR aITITE FLAT ROOF SYSTEM TORQUE REQUIREMENT ILLUSTRATION



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REV	DESCRIPTION	DATE	PROJECT:

DRAWING NAME: aITerrain, aITite, aITHome, aITite System Torque Table
 SHEET SIZE: 11" x 17" SHEET 1 OF 3 DO NOT SCALE DRAWING