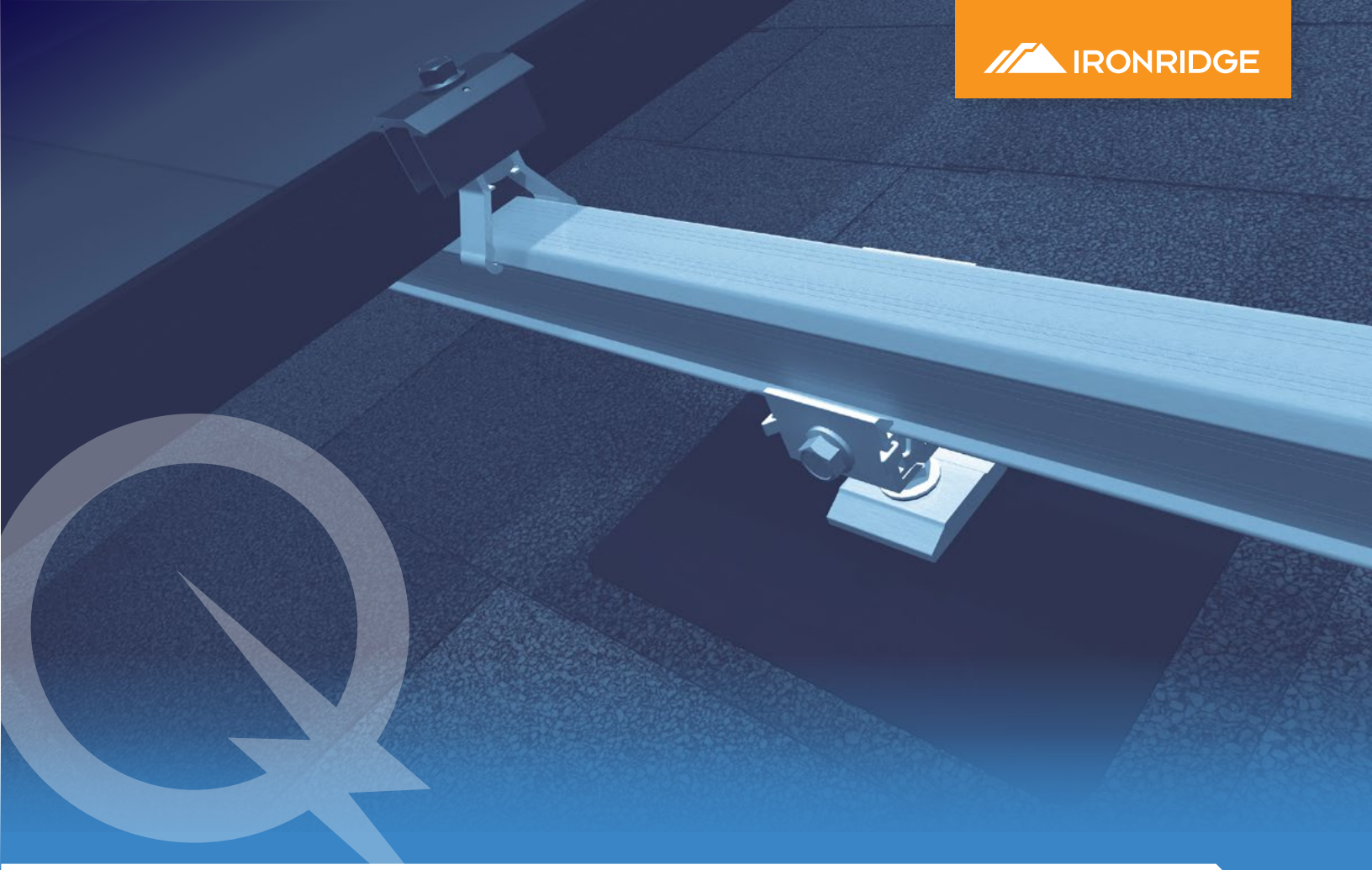


IRONRIDGE

CLICKFIT®

COMPLETE RAIL-BASED RACKING SYSTEM

INSTALLATION GUIDE

REVISION DATE: 12/3/25	VERSION: v1.2

CLICKFIT®

INSTALLATION GUIDE

QuickMount IRONRIDGE

Clicking the page name will take you to that page

TABLE OF CONTENTS PAGE 01

FEATURES & BENEFITS PAGE 02

DISCLAIMER PAGE 03

COMPONENTS PAGE 04

RATINGS PAGE 07

ARRAY LAYOUT PAGE 08

INSTALLATION PAGE 09

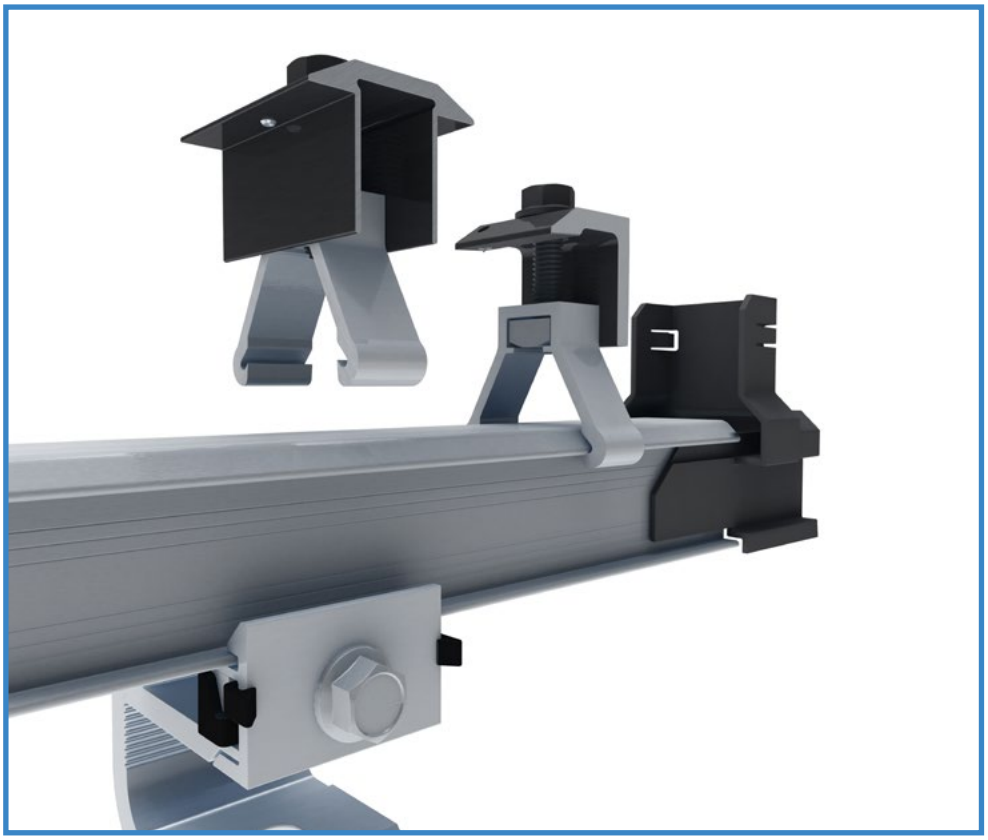
GROUNDING PAGE 30

ACCESSORIES PAGE 32

SUPPLEMENTAL INSTALL GUIDES PAGE 37

COMPATIBLE MODULES PAGE 39

TABLE OF CONTENTS



CLICKFIT

ClickFit conforms to UL 2703 (and UL 2703A when using the QuickMount HUG (Halo Ultra Grip) and is one of the fastest installing rail-based systems in the industry. Thanks to its Click-In Rail assembly, the rails can be connected to a variety of QuickMount and IronRidge composition shingle, tile, and metal roof mounts in seconds. The ClickFit system is made of robust materials, to ensure longevity. ClickFit has been tested in extreme weather conditions including wind, fire, and snow.

FEATURES

- Fully integrated bonding
- Click-on Mid & End Clamps
- Compatible with a variety of QuickMount and IronRidge roof attachments

DISCLAIMER

This manual describes proper installation procedures and provides necessary standards required for product reliability. Warranty details are available on the website. All installers must thoroughly read this manual and have a clear understanding of the installation procedures prior to installation. Failure to follow these guidelines may result in property damage, bodily injury or even death.

IT IS THE INSTALLER'S RESPONSIBILITY TO:

- Ensure safe installation of all electrical aspects of the array. All electrical installation and procedures should be conducted by a licensed and bonded electrician or solar contractor.
- All work must comply with national, state and local installation procedures, product and safety standards, including the proper use of PPE.
- Comply with all applicable local or national building and fire codes, including any that may supersede this manual.
- Ensure all products are appropriate for the installation, environment, and array under the site's loading conditions.
- Use only QuickMount and IronRidge parts or parts recommended by QuickMount and IronRidge; substituting parts may void any applicable warranty.
- Review the Design Assistant and Certification Letters to confirm design specifications.
- Ensure provided information is accurate. Issues resulting from inaccurate information are the installer's responsibility.
- Ensure bare copper grounding wire does not contact aluminum and zinc-plated steel components, to prevent risk of galvanic corrosion.
- If loose components or loose fasteners are found during periodic inspection, re-tighten immediately. Any components showing signs of corrosion or damage that compromise safety shall be replaced immediately.
- Provide an appropriate method of direct-to-earth grounding according to the latest edition of the National Electrical Code, including NEC 250: Grounding and Bonding, and NEC 690: Solar Photovoltaic Systems.
- Disconnect AC power before servicing or removing modules, AC modules, microinverters and power optimizers.
- Review module and any 3rd party manufacturer's documentation for compatibility and compliance with warranty terms and conditions.
- Module mounting rails shall not be used as scaffolding, a roof jack, or any form of an anchoring point for roof personnel.
- Ensure that the roof is in good condition prior to installing any QuickMount or IronRidge components.

REQUIRED SYSTEM COMPONENTS

CLICKFIT SYSTEM

RAIL

RAIL SPLICE

MID CLAMP

END CLAMP

END CAP

COMP SHINGLE INSTALLATION

HUG + CF RAIL CLICKER

HUG MOUNT

CF RAIL CLICKER

COMP SHINGLE INSTALLATION

FLASHING + UNIVERSAL L-FOOT

CF UNIVERSAL L-FOOT

COMP SHINGLE FLASHING (US)

COMP SHINGLE INSTALLATION

ADDITIONAL MOUNTING OPTIONS

FLASHVUE WITH CF RAIL CLICKER

FLASHFOOT2 WITH CF RAIL CLICKER

Q-BASE COMPOSITION MOUNT WITH CF UNIVERSAL L-FOOT

COMPONENTS

METAL ROOF INSTALLATION

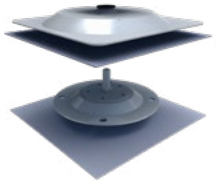
CORRUGATED AND STANDING SEAM

CORRUSLIDE WITH CF UNIVERSAL L-FOOT

LYNX WITH CF UNIVERSAL L-FOOT

LOW SLOPE ROOF INSTALLATION

MOUNTING OPTIONS + UNIVERSAL L-FOOT



SIMPLEGRIP WITH CF UNIVERSAL L-FOOT

FRA (FLAT ROOF ATTACHMENT) WITH CF UNIVERSAL L-FOOT

SHAKE & SLATE INSTALLATION

Q-BASE METAL, SHAKE & SLATE + UNIVERSAL L-FOOT

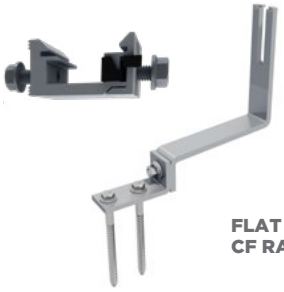
Q-BASE METAL, SHAKE AND SLATE

CF UNIVERSAL L-FOOT

TILE ROOF INSTALLATION

TILE HOOKS

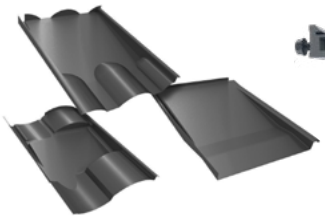
ALL TILE HOOK & CF RAIL CLICKER



FLAT TILE FLY & CF RAIL CLICKER

TILE ROOF INSTALLATION

ADDITIONAL MOUNTING OPTIONS (FLAT, S, W, TILES)



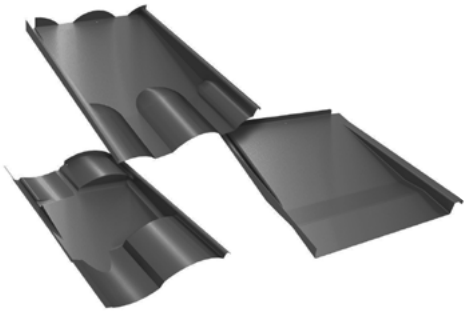
KNOCKOUT TILE (WITH FLAT, S, W FLASHING) & CF RAIL CLICKER

Q-BASE UNIVERSAL TILE (WITH FLAT, S, W FLASHING & CF UNIVERSAL L-FOOT)

COMPONENTS

OPTIONAL ACCESSORIES

CLICKFIT SYSTEM



TILE REPLACEMNT FLASHING
(FLAT, S & W)

SKIRT &
SKIRT END CAP

OPTIONAL ACCESSORIES

EBOS & WIRE MANAGEMENT

JAYBOX

BUG CONDUIT
MOUNT

MLPE
MOUNT

WIRE MANAGEMENT
CLAMP

MANTIS
MID CLIP

MANTIS
SIDE CLIP

CF WIRE
MANAGEMENT CLIP

MODULE
JUMPER

COMPONENTS

RATINGS

Fire Rating	Class A* and B** System Fire Rating
Max System Voltage	1500 VDC
Max Fuse Rating	40A
Certification	Conforms to UL STD 2703 and UL SUBJECT 2703A
Warranty	25 Year Material and Workmanship
UL 2703 Markings	Markings are located on End Clamp
Roof Pitch	1/4:12 – 21:12
UL 2703 Allowable Design Load Rating	10 psf downward, 5 psf upward, and 5 psf lateral
Max Module Size	30.5 sqft
Module Orientation	Portrait or Landscape
Multiple use Rated Components (Position Independent)	End Clamp, Mid Clamp, Frame MLPE Mount and MLPE Mount
UL 2703A HUG Ratings	• Steep Slope Ratings applicable for Asphalt Shingle roofs with slopes 2:12 and up • Low Slope Ratings applicable for Roll Roofing (Rolled Comp) roofs with slopes 1:12 and up • Low Slope Ratings applicable for Modified Bitumen (Mod-Bit) roofs with slopes 1/4:12 and up
UL 1565 Positioning Device Ratings **Conforms to UL STD 1565** **Certified to CSA C22.2#18.5**	• CF Wire MGT Clip and CF Wire MGT Clamp • Operating Temperature Range: -35 to 90C • Maximum Load: 10lbs • For outdoor use

*Class A System fire rating with Steep and Low Slope roofs and Type 1, 2, 3, 4, 5, 13, 19, 25, 29, 30 and 38 PV modules with no skirt required. Class A System fire rating with Steep Slope Roofs and Type 4 and 5 modules with south edge skirt required. Any roof-to-module gap is permitted. This rating is applicable with any roof attachment. **Class B System fire rating with Steep Slope roofs and Type 4 and 5 modules, no skirt required. Any roof-to-module gap is permitted. This rating is applicable with any roof attachment.

MARKINGS:

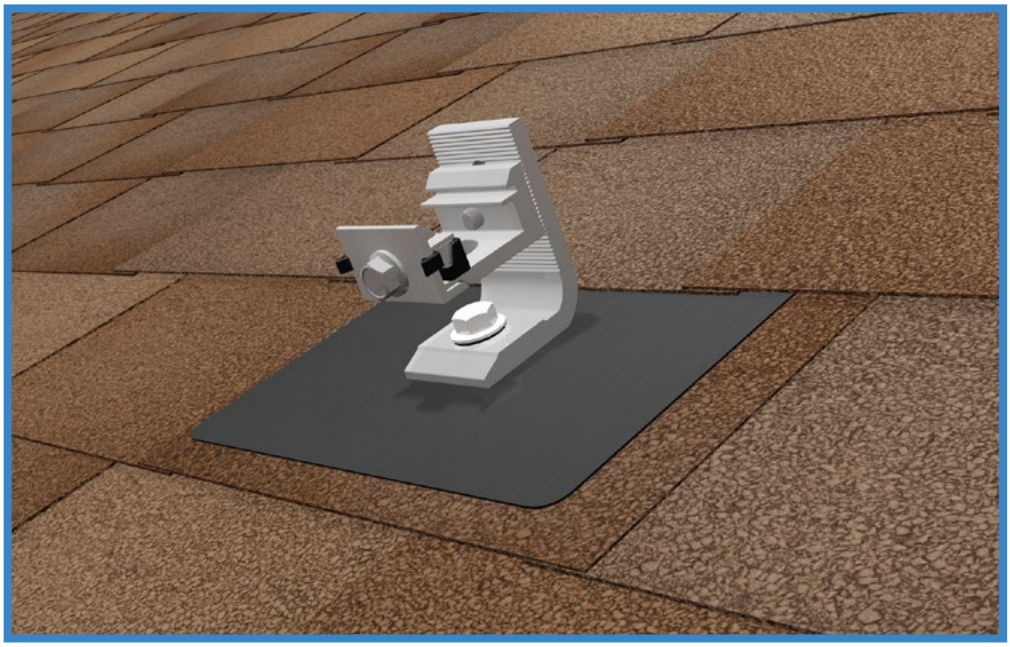
ETL LISTED US
Intertek

5028986, 5017913,
5030706, 5031449
CONFORMS TO UL STD 2703

MARKINGS LOCATED ON END CLAMP

TORQUE SPECIFICATIONS

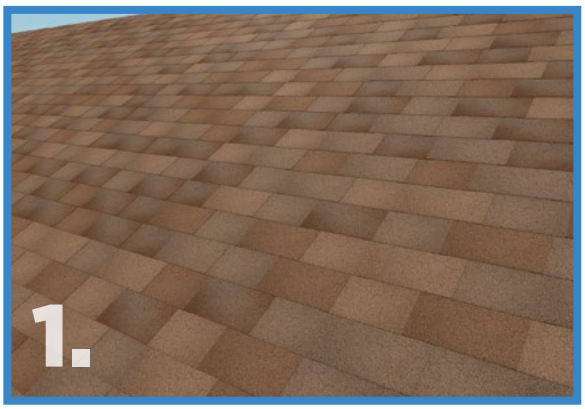
Component	Torque (in-lb)	Notes
Lag Screw	N/A	Fully Seat. Use visual indicator of the black EPDM ring around the bonded washer for torquing.
Mid-Clamp	144	
End-Clamp	144	
Rail Clicker Leveling Bolt	144	Pre-torqued upon delivery. Applies to Tile Hook and L-Foot/Clicker
Hook Height Bolt	N/A	Lightly clamp hook to flush with top of next tile row
Ground Lug	N/A	Refer to specific ground lug manufacturer's installation manual
MLPE Clip	144	
MLPE Mount	144	

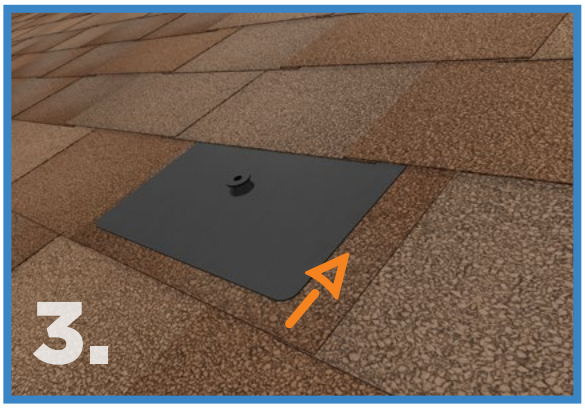


- Refer to span tables, local jurisdiction, or engineer of record specifications when determining setbacks from roof edges, attachment spans, etc.
- Mark the perimeter and corners of the array on the roof surface.
  Add 3/4" to account for the gap between modules in each direction
- Draw or snap chalk lines where the rails will be installed, (refer to module manufacturer specs to determine allowable mounting locations).
- Determine attachment locations within the area of the array. It may be necessary to shift the array East or West on the roof in order to fall within the rail cantilever specs (1/3 of span).
- Stagger rafters every row if required by the local jurisdiction, engineer of record, or company policy.

COMP SHINGLE INSTALLATION

GF-1 FLASHING / COMP SHINGLE FLASHING (US) & CF UNIVERSAL L-FOOT





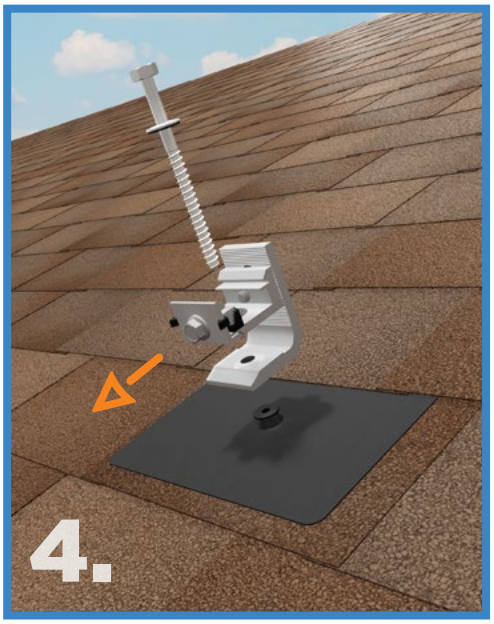
1. Locate the rafter.

2. Drill 7/32" pilot holes at all attachment points and back fill using roof-compatible sealant.

3. Separate shingles where flashing is to be installed. Insert the flashing so the top portion is under the next row of shingles north of the pilot hole. Ensure the flashing is pushed under the third-course of shingle to prevent water ingress.

COMP SHINGLE INSTALLATION

GF-1 FLASHING / COMP SHINGLE FLASHING (US) & CF UNIVERSAL L-FOOT

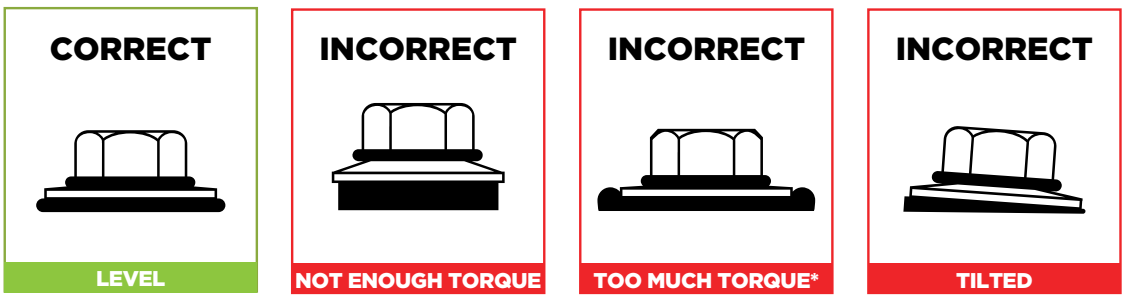


*Note the orientation of the L-Foot and clicker. The clicker should be facing downslope

4. Align the flashing hole with pilot hole. Insert the lag screw with pre-installed bonded washer through the CF Universal L-Foot and flashing. Tighten the lag screw until fully seated. The EPDM bonded washer ring visual indicator is the most effective way to ensure a watertight seal.

NOTE: Mounting screws and washers should be driven as straight as possible and square with the base. The use of a longer nut driver and/or extension allows the installer to better view the mounting screws for proper alignment during driving and also helps see the washer compression at the critical point to avoid over-torquing.

EPDM TORQUE GUIDE



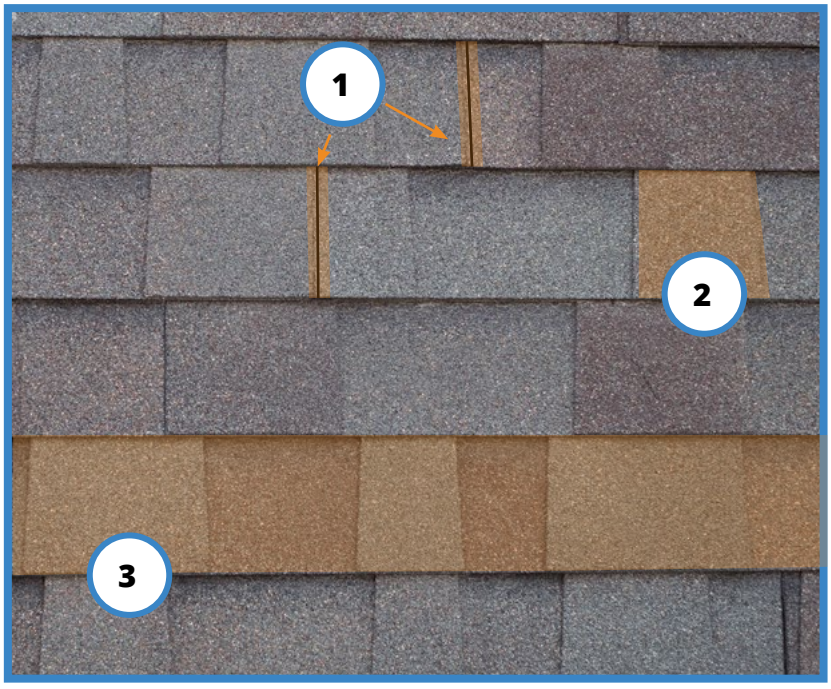
* If too much torque is used it could damage the EPDM washer. Damaged or blown out EPDM washers should be replaced with a new washer as needed.

COMP SHINGLE INSTALLATION

HUG (HALO ULTRA GRIP)

1. ClickFit Clicker
2. #14x3 Screw with Bonded Washer
3. HUG

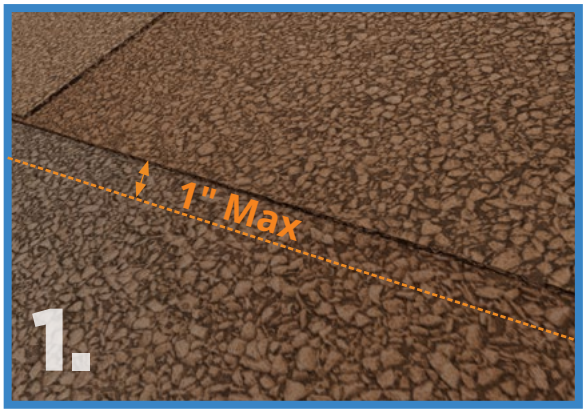
COMPOSITION SHINGLE INFORMATION

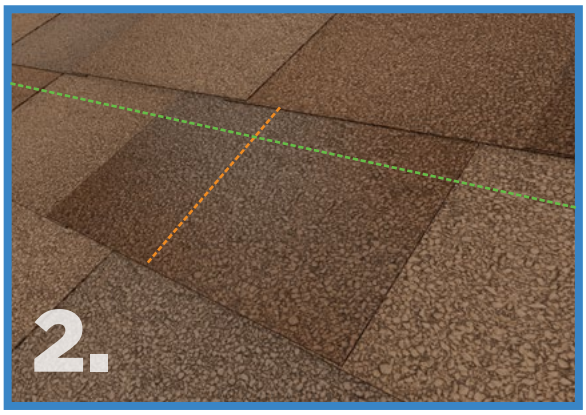


1. Shingle Joint
2. Shingle Step
3. Shingle Course

Keyways are the gaps between each tab of a 3-tab shingle.

COMP SHINGLE INSTALLATION
HUG





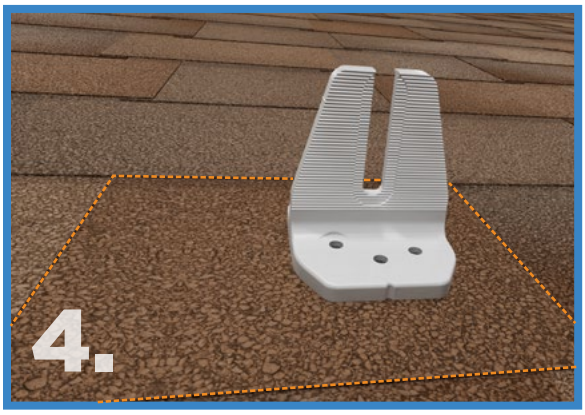
1. Snap chalk lines for attachment locations up to 1" below the drip edge of the upslope shingle course. Attachments can be installed anywhere along a shingle course, but should not overhang drip edge.

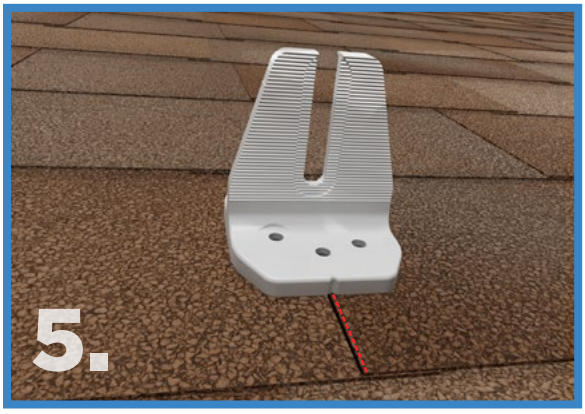
2. Mark HUG locations based on the allowable span between attachments. Draw long vertical marks over HUG locations which can be used to help align them during installation.
   Clean mounting location with brush to clear any dirt or debris. Make sure the roof is clear of ice and snow.

3. Install HUG on individual shingle course, **DO NOT** straddle two different shingle courses. If the shingle course is wavy, it is acceptable to cut away the second course to properly align the mount.

COMP SHINGLE INSTALLATION

HUG MOUNTING REQUIREMENTS





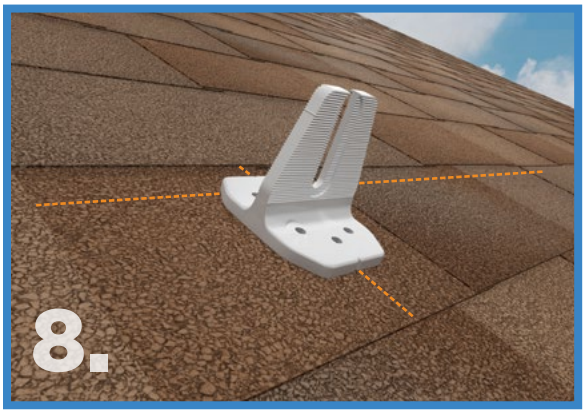
4. HUG should be installed on the flat part of the shingle when possible.
Avoid installing HUG on shingle steps taller than 1/8”.

5. Avoid placing HUG attachments directly over keyways or shingle joints.
If they cannot be avoided, fill the exposed gap of the keyway or shingle joint above the mount with approved sealant.

6. Apply a bead of roof sealant over and exposed shingle joints north (upslope) of a mounting foot.
Please reference our approved sealant list posted on our website.

COMP SHINGLE INSTALLATION

HUG MOUNTING REQUIREMENTS



7. Remove release liner from bottom of HUG attachments before installing.

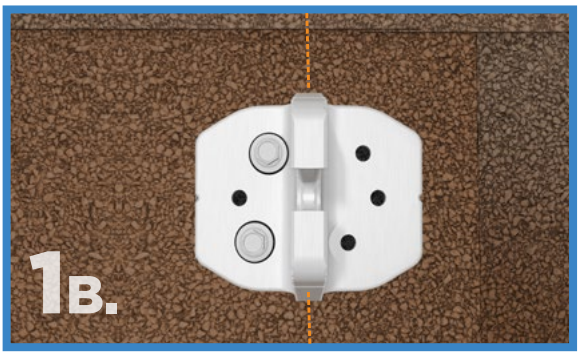
8. Place HUG attachment into position on roof. Minimal force is required when pressing HUG into position. There is no need to apply excessive pressure. HUG attachments will be difficult to relocate after applying pressure.

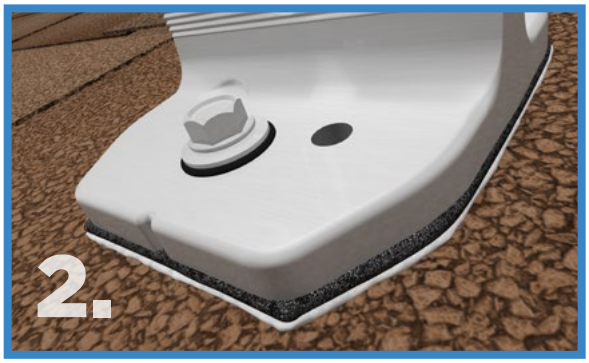
NOTE: Always double check the position of the HUG because once the release liner is removed and the HUG is placed into position, it will be difficult to remove from the roof.

Regardless of rafter or deck attachment of the HUG, the clicker can be installed in either the upslope or downslope positions

COMP SHINGLE INSTALLATION

HUG - RAFTER ATTACH





1. All rafter attached installations require two #14x3" Screw with Bonded Washer:

1A For rails running East to West on the roof, use the two holes in the center of HUG.

1B For rails running North to South on the roof, use two holes on one side of the rail attachment slot mount.

2. Drive each screw, checking to make sure the EPDM washer is fully compressed.

NOTE: Screws should be driven in straight down and square with the base. Use a long nut driver or a drive extension to better view the mounting screws for proper alignment and the sealing washers for correct compression.

3. If the first screw misses the rafter or feels like it's on the edge of a rafter, follow the rafter friendly process shown in steps 3a-3c.

NOTE: Do not remove any screws that have missed the rafter

COMP SHINGLE INSTALLATION

HUG - RAFTER ATTACH

3A. Drive a second screw through the adjacent hole either to the left or right of center, whichever is closest to the rafter.

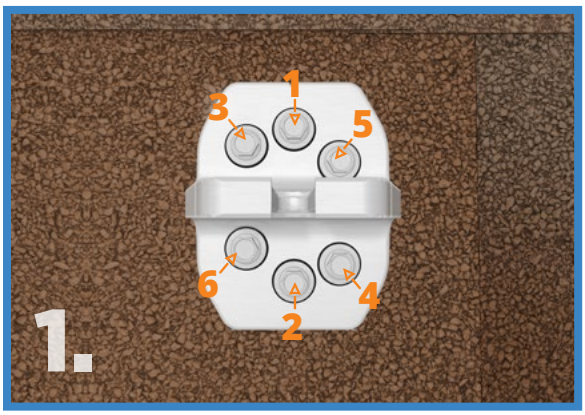
3B. If the rafter is hit with the second screw, drive a third screw into the rafter directly below to complete the attachment installation. Two #14x3" Screw with Bonded Washer MUST be installed into the rafter.

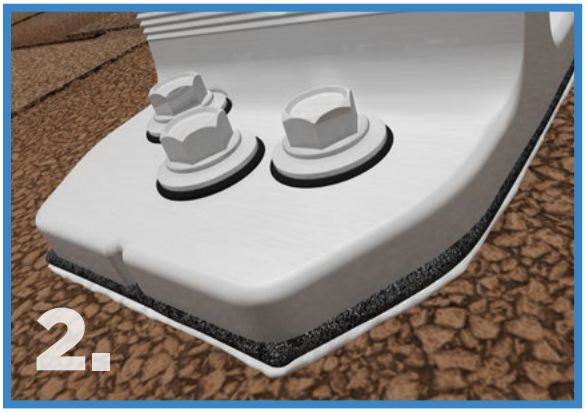
3C. If more than three screws miss the rafter, follow the deck attaching procedure and reduce attachment spacing as required to meet site specific engineering. Note that for North / South rails if the first two screws miss the rafter the deck installation procedure should be followed.

NOTE: NEVER REMOVE A SCREW after it have been driven into the roof, even if it misses a rafter. Smart Slide is designed to give the installer multiple opportunities to find the rafter.

COMP SHINGLE INSTALLATION

HUG - DECK ATTACH



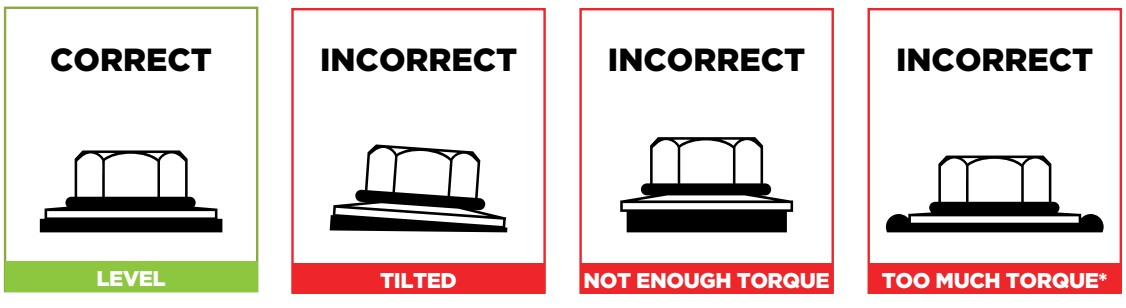


1. Install six #14x3” Screw with Bonded Washer in an alternating pattern. This helps ensure even compression of the HUG attachment.

2. After initial tightening, check to make sure all EPDM washers are properly compressed.

NOTE: If three or more screws are stripped during installation, leave the HUG installed and install another attachment within the acceptable attachment spacing for the project.

PROPER TORQUE FOR EPDM WASHERS



* If too much torque is used it could damage the EPDM washer. Damaged or blown out EPDM washers should be replaced with a new washer as needed.

COMP SHINGLE INSTALLATION
FLASHVUE

Locate rafters and snap vertical and horizontal lines to mark locations of flashings. Drill 1/4" pilot holes, then backfill with an approved sealant. Slide flashing between 1st and 2nd course of shingles, ensuring both that the flashing reaches under the 3rd shingle course and doesn't overhang the downhill shingle course. Line up pilot hole with View Port. Press Grip Cap onto flashing in desired orientation for E/W or N/S rails. Insert Lag Bolt with mechanically bonded washer through flashing. With a 7/16" Socket drive Lag Bolt until fully seated. FlashVue is now installed and ready for ClickFit Rails.

Install the ClickFit Clicker into the Grip Cap channel and torque to 144 in-lbs. The Clicker can be installed facing either upslope or downslope.

When installing Gripcap+ on roofs with undulations greater than 1 inch, install GripCap+ in low points across the array as required.

ADDITIONAL RESOURCES:

FlashVue Installation Manual.

GripCap+ Installation Manual.

COMP SHINGLE INSTALLATION
FLASHFOOT 2

Locate roof rafters and mark locations on roof. Drill 1/4" pilot holes perpendicular to the roof and back fill with roofing manufacturers' approved sealant. Slide flashing between 1st and 2nd course of shingles, ensuring both that the flashing reaches under the 3rd shingle course and doesn't overhang the downhill shingle course. Line up with pilot hole and insert supplied lag bolt with washer through flashing. With a 7/16" Socket fully seat lag bolt. Place Cap onto flashing in desired orientation for E/W or N/S rails and rotate 180 degrees until it locks into place.

Install the ClickFit Clicker into the Cap channel and torque to 144 in-lbs. The Clicker can be installed facing either upslope or downslope.

ADDITIONAL RESOURCES:

FlashFoot 2 Installation Manual

COMP SHINGLE INSTALLATION

QBASE COMPOSITION MOUNT

Locate roof rafters and mark locations on roof. Align QBase vertical holes over center rafter and mark. Drill two pilot holes with 7/32" drill bit, perpendicular to roof and back fill with roofing manufacturers' approved sealant.

Set grade 8 cap screw through bottom of QBase, place QBase over drilled holes and secure lags. Screw Post to QBase. Proceed with roofing up until the flashing should be installed. Install flashing over mount. Allow roofing to proceed to the next course. Apply sealant where post and flashing meet, install EPDM counter flashing collar. Attach ClickFit Universal L-Foot on Standoff with hardware. Torque to 174 in-lbs (14.5 ft-lbs).

ADDITIONAL RESOURCES:

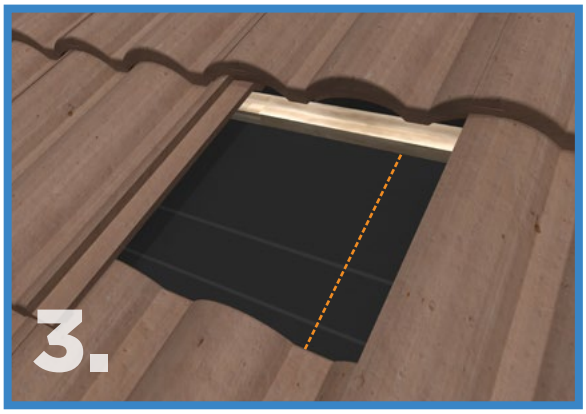
QBase Composition Mount Installation Manual

TILE INSTALLATION

ALL TILE HOOK

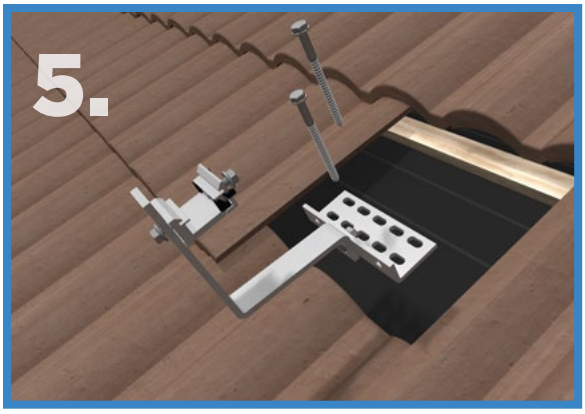
1. Locate rafters on the roof, mark the tiles to be removed. Hint: In some cases rafter tails are visible at the eaves of the roof, making it easy to find the rough location of the rafters. In other cases, the fascia board may have nail heads visible where it was attached to the rafters. In the worst-case a 2-4 tiles may need to be moved to determine the rafter locations.

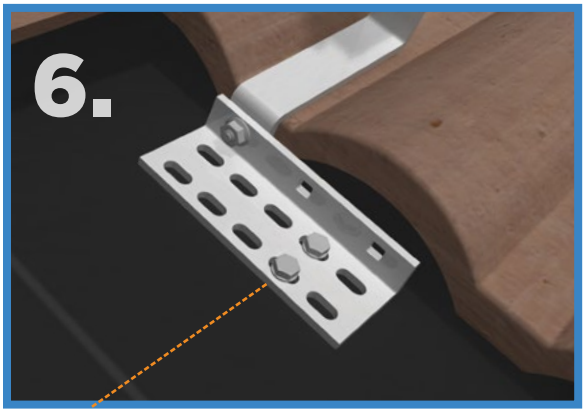
2. Slide the tile at the desired location upward to expose the roof sub surface. If the tile is to be notched, or if using a replacement flashing, remove it entirely. Clean the sub surface with a brush to remove any debris that could affect the sealing.



3. Locate the rafter center and mark it.

TILE INSTALLATION
ALL TILE HOOK





4. Place the tile hook with the hook arm itself in the valley of the next tile below. Using the Base as a template, drill two 7/32" pilot holes in the rafter center, taking care to keep the Hook Arm in the valley of the tile below. Backfill each hole with a roof-compatible sealant. For flat tiles, try to avoid postitioning the Hook Arm directly under or over a joint between tiles, this will create a larger gap or require more notching than necessary.

5. Install two 5/16" x 4" lag screw within the base making sure the hook arm stays in the valley of S and W shaped tile.

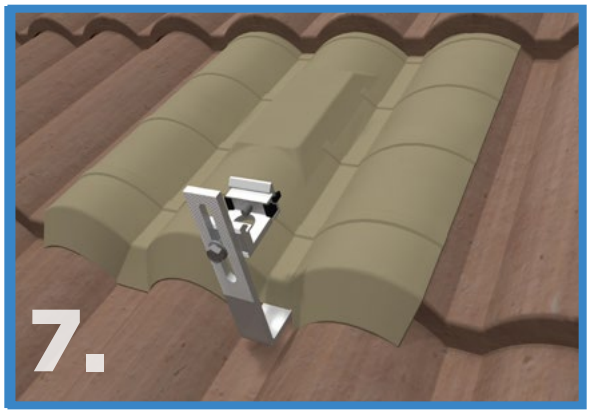
NOTE: IronRidge recommends flashing the All Tile Hook at the deck level after the lag screws have been securely installed.

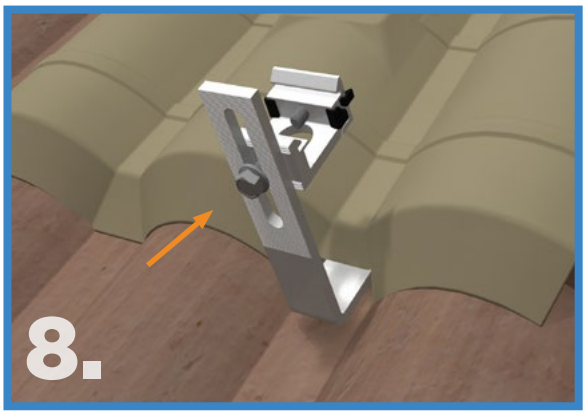
6. If necessary, the hook arm can be positioned to the left or the right position on the base in order to accommodate the rafter location.

NOTE: see page 20 for sub-flashing installation step

TILE INSTALLATION

ALL TILE HOOK



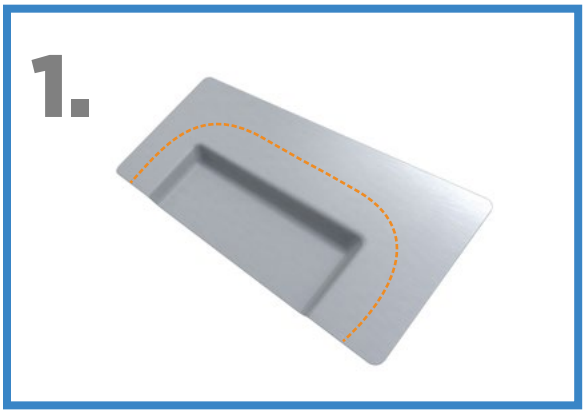


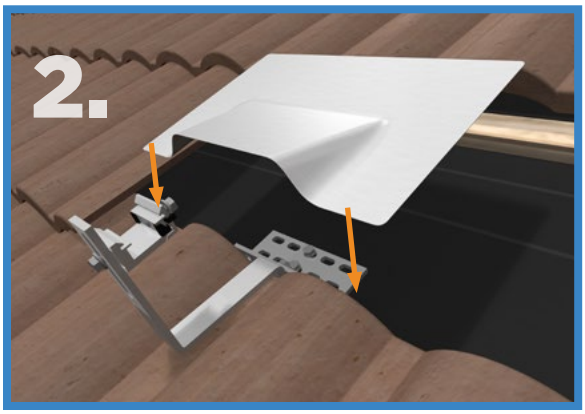
7. Replace the tile that was moved and/or removed, or install the Tile Replacement Flashing. If it is to be notched, mark the tile lug at the location of the hook. Notching can be done with a grinding wheel or by using a chisel.

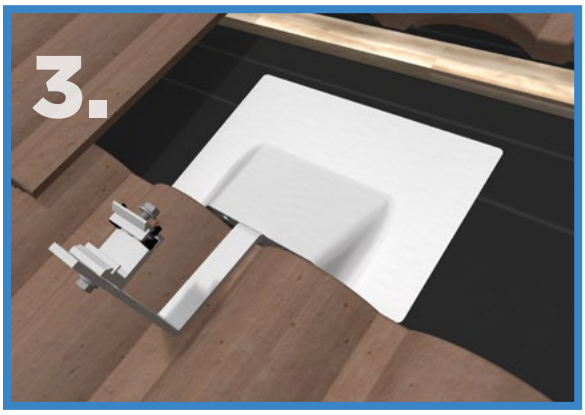
8. The rail can be leveled by adjusting the postion of the Clicker on the All Tile Hook arm. Loosen the bolt and move the Clicker up or down in the slot.

TILE INSTALLATION

ALL TILE HOOK SUB-FLASHING







TOOLS REQUIRED:

Caulking gun, roofing mastic applicator

MATERIALS REQUIRED:

Roofing mastic, reinforcing fabric, roof sealant

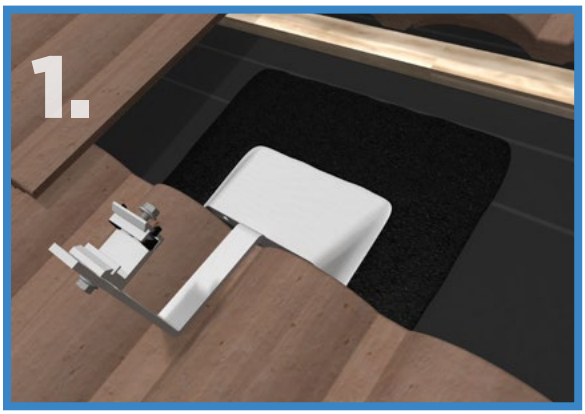
1. Apply a continuous line of the roofing manufacturer's approved sealant on the underside of the All Tile Hook DeckFlashing to form a U-shape around the raised edges.

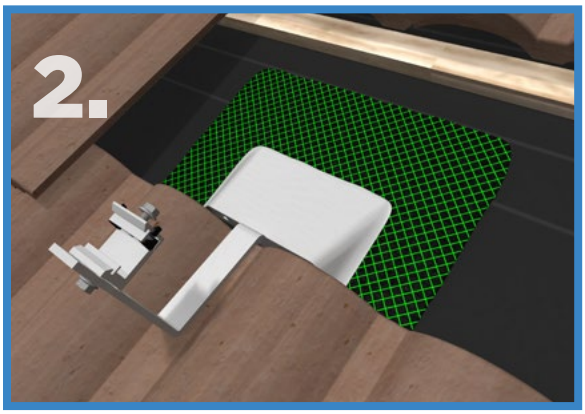
2. Lower the Deck Flashing over the All Tile Hook Base. It may be necessary to move adjacent tiles to easily lower the Deck Flashing onto the roof deck.

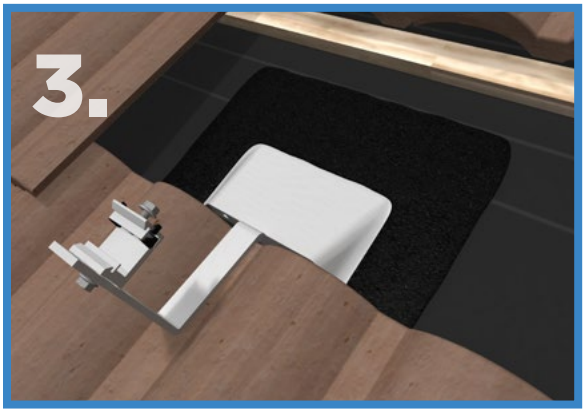
3. Place the Deck Flashing over the Base of the All Tile Hook so the Flashing covers the entire Base.

TILE INSTALLATION

ALL TILE HOOK SUB-FLASHING







1. IronRidge recommends following the TRI guidelines three-course sealing method. Start the three-course sealing method by applying a layer of roofing mastic over the edges of the tile hook sub-flashing.

2. Place strips of reinforcing fabric over mastic to cover approximately 2" from the edge of the sub-flashing in both directions. Place strips on the side first, then the top edge.

3. Apply a final layer of mastic to completely cover the reinforcing fabric. The flashing is now installed and sealed.

TILE INSTALLATION
FLAT TILE FLY

Remove flat tile and mark rafter. Position base over rafter, adjust arm if necessary and torque hardware to 144 in-lbs (11 ft-lbs). Use Flat base as guide to drill 1/4" pilot holes, back fill with roofing manufacturer's approved sealant, then insert lag bolts and tighten until fully seated. Replace tiles and notch as necessary to ensure proper fit.

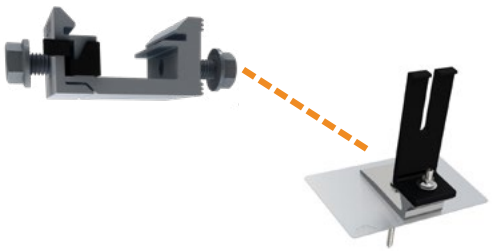
Install the ClickFit Clicker into the L-Foot channel and torque to 144 in lbs. The Clicker can be installed facing either upslope or downslope.

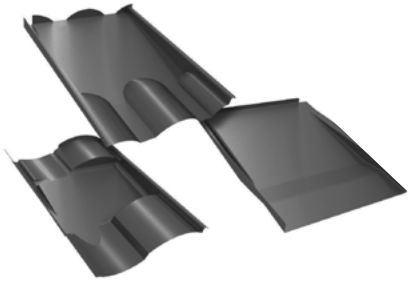
NOTE: If arm lands on seam of joining flat tiles Aire ATH may be used instead. Ensure top of hook does not extend above rail.

ADDITIONAL RESOURCES:

Flat Tile Fly Installation Manual.

TILE INSTALLATION
KNOCKOUT TILE





Remove tile and mark rafter. Use base as guide to drill 1/4" pilot hole and fill with roofing manufacturer's approved sealant. Install optional Roof Flashing and seal appropriately. Insert lag bolt with bonded washer through base (and flashing if used) and drive until fully seated.
Insert Tile Replacement Flashing, lower onto base and apply pressure over the threaded post until it dimples the flashing. Place L-Foot over dimple and tap with hammer to punch threaded post through the flashing. Ensure punched pieces of flashing are cleared away. Form flashing as needed to sit flush with surrounding tiles, position L-Foot in desired orientation and torque hardware to 132 in-lbs (11 ft-lbs). .

Install the ClickFit Clicker into the L-Foot channel and torque to 144 in lbs. The Clicker can be installed facing either upslope or downslope.

NOTE: Base can be installed in any orientation relative to rafter. Ensure L-Foot does not extend above rail.

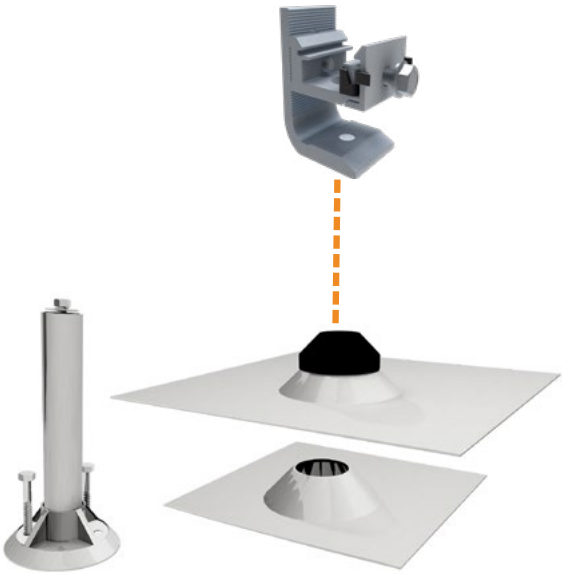
ADDITIONAL RESOURCES:

Deck level flashing Installation Manual

Flat Tile Fly Installation Manual

TILE INSTALLATION

QBASE UNIVERSAL TILE MOUNT



Remove tile and mark rafter. Measure up 6 5/8” from bottom of tiles and mark horizontally. Align QBase over rafter center and drill two 7/32” pilot holes, back fill with roofing manufacturers’ approved sealant. Place grade-8 Cap Screw under QBase, lag QBase into rafter location. Install Sub-flashing, waterproof at underlayment level according to roofing manufacturers’ instructions and the Tile Roofing Industry Alliance guidelines. Cut tile with diamond blade to allow post to pass through. Place tile in position and then install Post. Install 18”x18” flashing, pre-bent to follow the contour of the tile as required. Apply sealant where Post and Flashing meet and install EPDM counter flashing.

Install the ClickFit Clicker into the L-Foot channel and torque to XX. The Clicker can be installed facing either upslope or downslope.

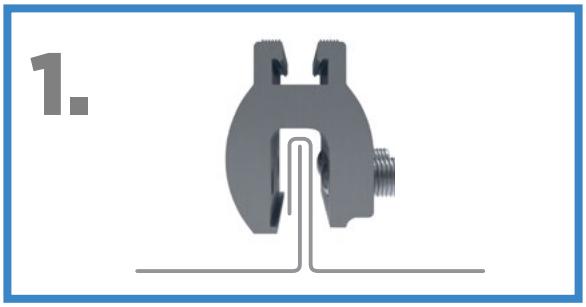
ADDITIONAL RESOURCES:

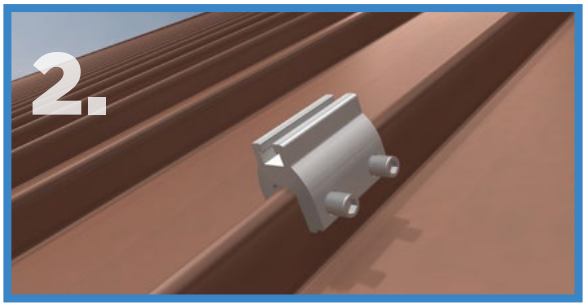
Qbase Universal Tile Installation Manual

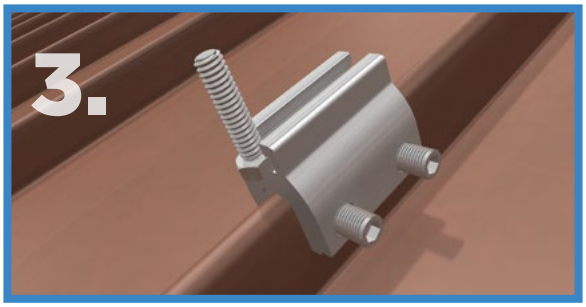
STANDING SEAM METAL INSTALLATION
LYNX

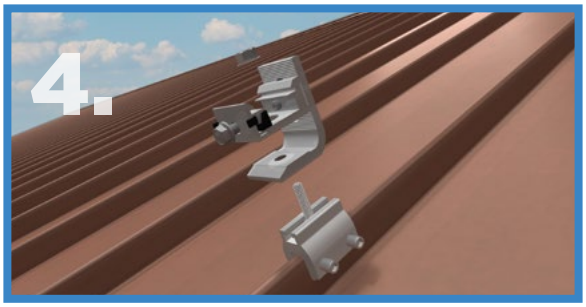
PRE-INSTALLATION:

The Lynx can be installed on many different standing seam profiles. See Lynx Installation Manual for compatible and non-compatible standing seam profiles. Be sure that each standing seam is no thicker than ½" in width.







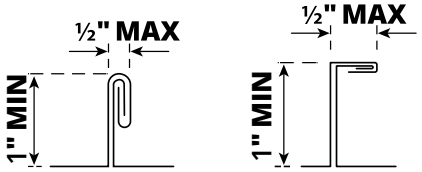


INSTALLATION:

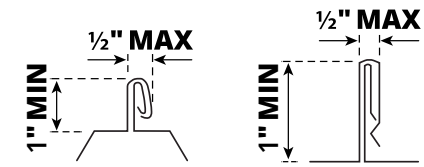
1. Position the Lynx assembly on the panel seam. Make sure the block is fully seated on the metal seam.
2. Torque the 2 preinstalled oval point set screws to 150in-lbs using the included 3/16" hex drive.
3. Included with the block, slide the hex holt into the channel on top of the Lynx assembly.
4. Place the ClickFit Universal L-Foot over the hex bolt followed by the serrated flange nut and torque to 150in-lbs.

NOTE: Links to the Lynx Installation guide can be found on page 36.

FOLDING PROFILES



SNAPPING PROFILES



CPORRUGATED METAL INSTALLATION

CORRUSLIDE

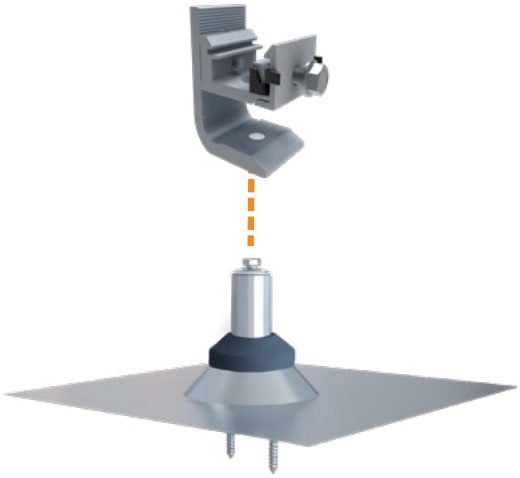
The QM Corruslide is used to install on almost all corrugated metal roofs. Follow instructions in the installation manual for spacing and location inscrutions.
Place ClickFit Universal L-Foot over Hex Bolt and secure with Flange Nut, torque Flange Nut to 150 in-lbs(12.5 ft- lbs) using 1/2" socket.

ADDITIONAL RESOURCES:

QM Corruslide installation manual

METAL SHINGLE, SHAKE & SLATE INSTALLATION

QBASE METAL, SHAKE & SLATE MOUNT



The QM QBase can be used to install on multiple roofing types with different installation methods. After the mount has been installed, Attach ClickFit Universal L-Foot on Standoff with hardware. Torque to 174 in-lbs (14.5 ft-lbs). Refer to the specific QBase installation manual for your roof type:

ADDITIONAL RESOURCES:

QBase on Slate installation manual

QBase on Shake installation manual

QBase on Metal Shingle installation manual

LOW SLOPE ROOFS
FLAT ROOF ATTACHMENT

Flat Roof Attachment can be used with an L-foot for flush mounting modules on low sloped roofs. Mark locations for Flat Roof Attachment. Screws should be installed symmetrically to each other. If using a membrane flashing, remove the silicone washer's protective liner prior to attaching the membrane. Attach ClickFit Universal L-foot with washers and 3/8" hardware torqued to 250 in-lbs (21 ft-lbs). Seal attachment and/or membrane per roofing manufacturer's requirements.

NOTE: Type, size, and quantity of roof screws to be specified by Structural Engineer. Fastener size not to exceed #15.

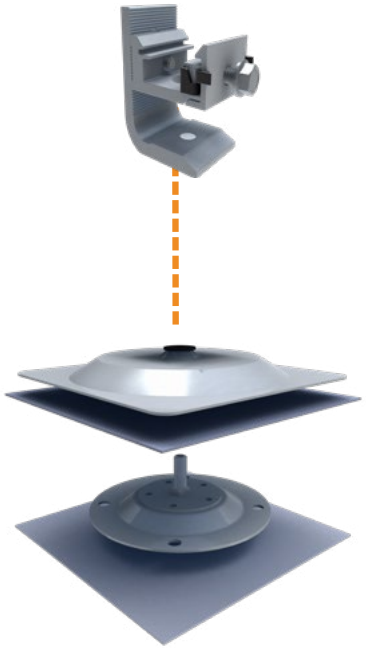
Membrane flashing available for TPO, PVC, and KEE roofs. Ensure membrane flashing is compatible with existing roofing material.

If membrane flashing is not used, only washer on top of L-Foot is required.

ADDITIONAL RESOURCES:

Flat Roof Attachment Installation Manual.

LOW SLOPE ROOFS
SIMPLEGRIP

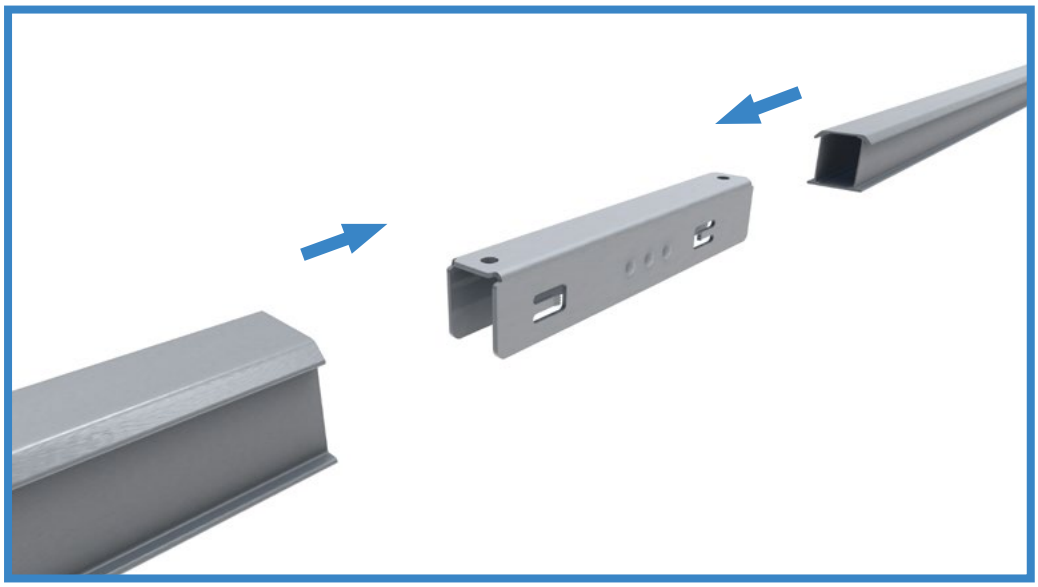


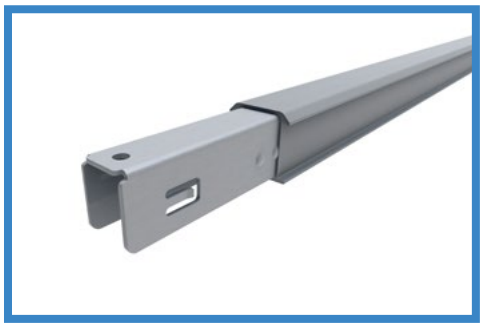
The QM SimpleGrip is used to install on multiple roofing types with different methods and screw configurations. Attach ClickFit Universal L-Foot on SimpleGrip with hardware. Torque to 140in-lbs (12 ft-lbs). Attach rails to L-Foot using Bonding Hardware and torque to 300 in-lbs (25 ft-lbs).

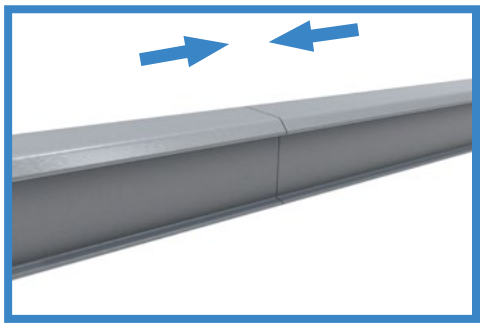
ADDITIONAL RESOURCES:

QM SimpleGrip installation manual

INSTALLING RAIL SPLICES





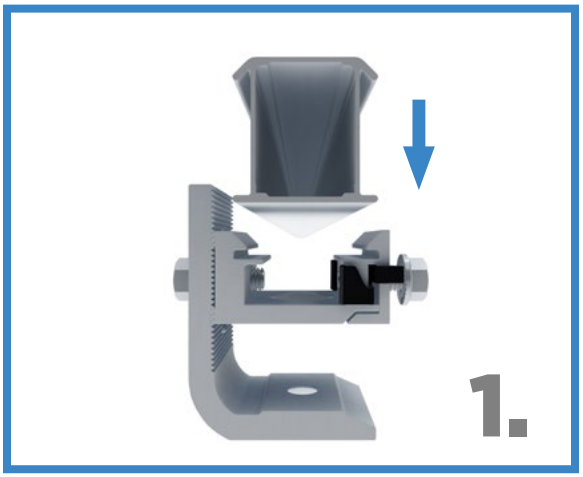


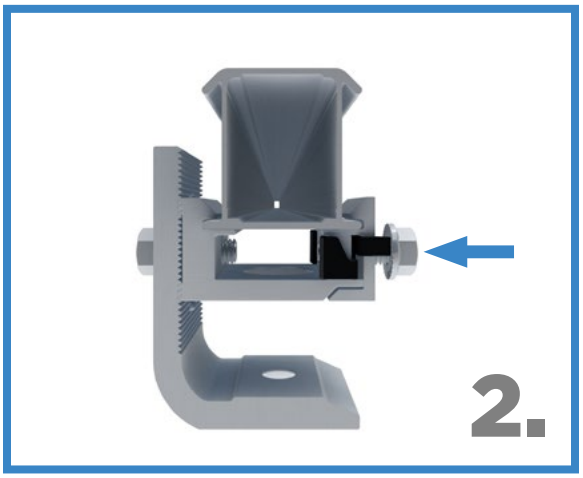
1. Determine the number of rails required per row of modules.
2. Insert a Rail splice into one rail. **Do not push it past the center bump.**
3. Slide the next rail onto the rail splice until the two rail ends meet.
4. Repeat steps 2 and 3 until the desired length is achieved.

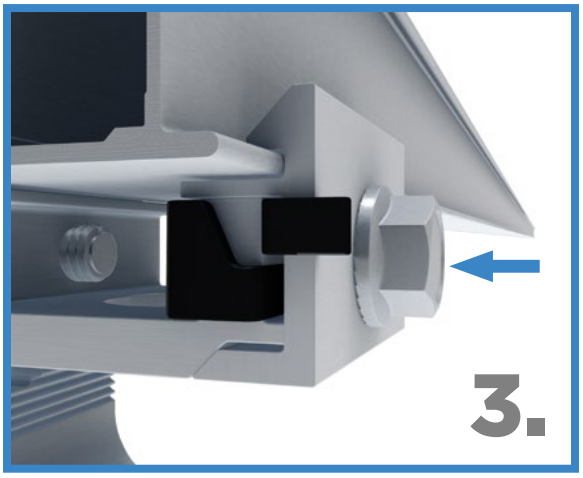
THERMAL EXPANSION

- A thermal expansion gap is required per each continuous 70' length of modules.
- Leave a 2" minimum gap in the ClickFit rail and also between the modules at that point.
- Bonding across the thermal gap should be accomplished with with an approved grounding method.

RAIL INSTALLATION







1. Ensure the rails extend a minimum of 2" past the last attachments in each row.

2. Push the rail into the Universal L-foot clicker starting on the side with the plastic clips first, then roll the rail into seated position. Verify the rail is sitting flush with both ledges. If attachments are extremely misaligned it may be necessary to loosen the leveling bolt and adjust the height of the Universal L-foot. Tighten the clamping bolt to 144 in-lbs.

3. Level the rail if necessary by loosening the bolt attaching the Clicker to the Universal L-foot or tile hook.

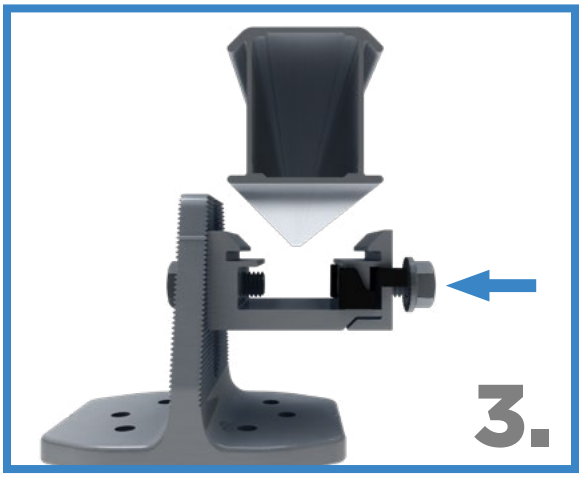
RAIL INSTALLATION ON HUG

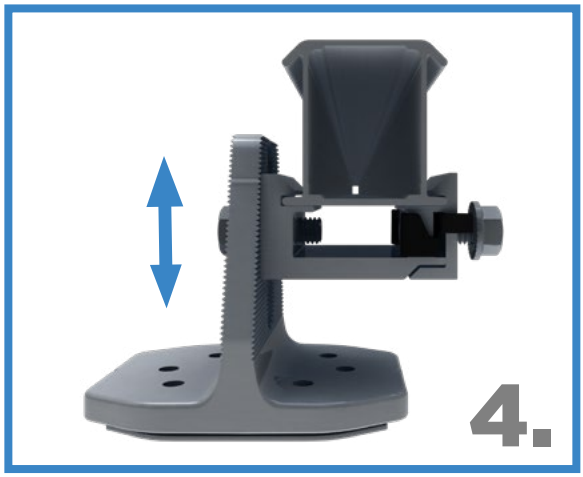
1. Insert the Clicker into the HUG as shown, and leave loose at the bottom of the slot.

2. Push the rail into the Clicker starting on the side with the plastic clips first, then roll the rail into seated position.

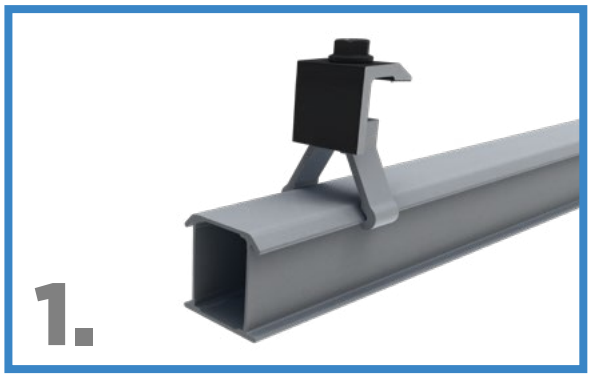
3. Tighten the clamping bolt to 144 in-lbs.

4. Raise the rail to the desired height (using the alignment guide as a reference as needed), and tighten the leveling bolt attaching the Clicker to the HUG



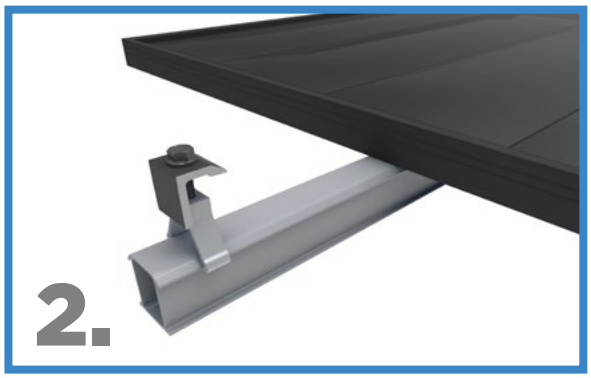


FIRST MODULE INSTALLATION

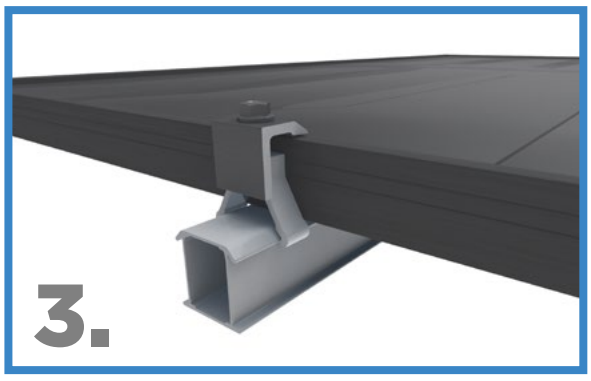


1. With the rails in position and leveled, start by clicking on the end clamps.

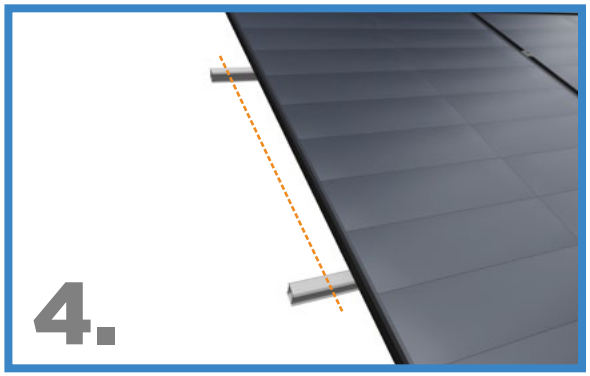
2. Place the first module on the rails and slide the module to the end clamps. Ensure the end of each rail extends between 0.75" and 1.75" past the module (cut rail if necessary.)

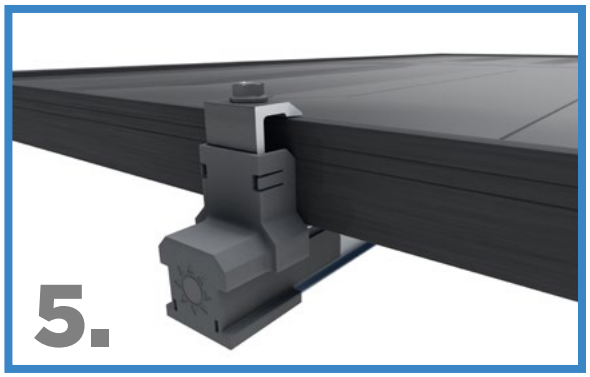


3. Tighten the end clamp to 144 in-lbs.



LAST MODULE INSTALLATION





4. Repeat steps 1-4 above for the other end of the row, ensuring that the end of the rail extends between 0.75” and 1.75” past the module (cut rail if necessary.)

5. If using the end cap, slide the end cap onto the rail and snap on to the back on the end clamps. End caps can be installed at any phase of the installation after the End Clamps have been installed.

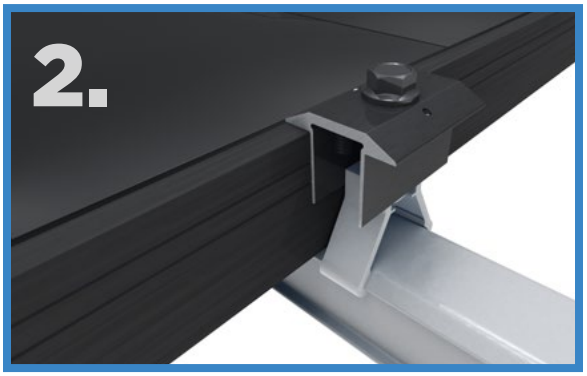
INSTALLING ADDITIONAL MODULES

CLICK IT ON

Click a mid clamp onto each rail.

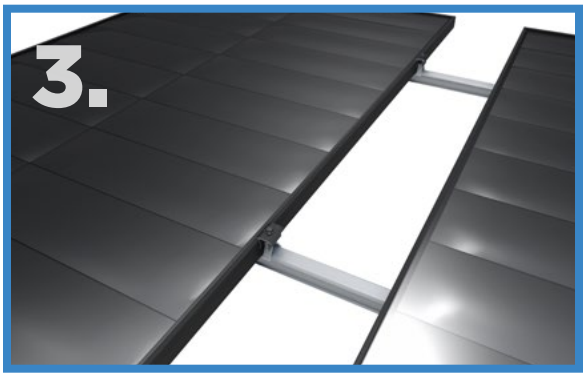
SLIDE IT UP

Slide the mid clamps until they are flush with the side of the existing module.



PLACE AND TIGHTEN

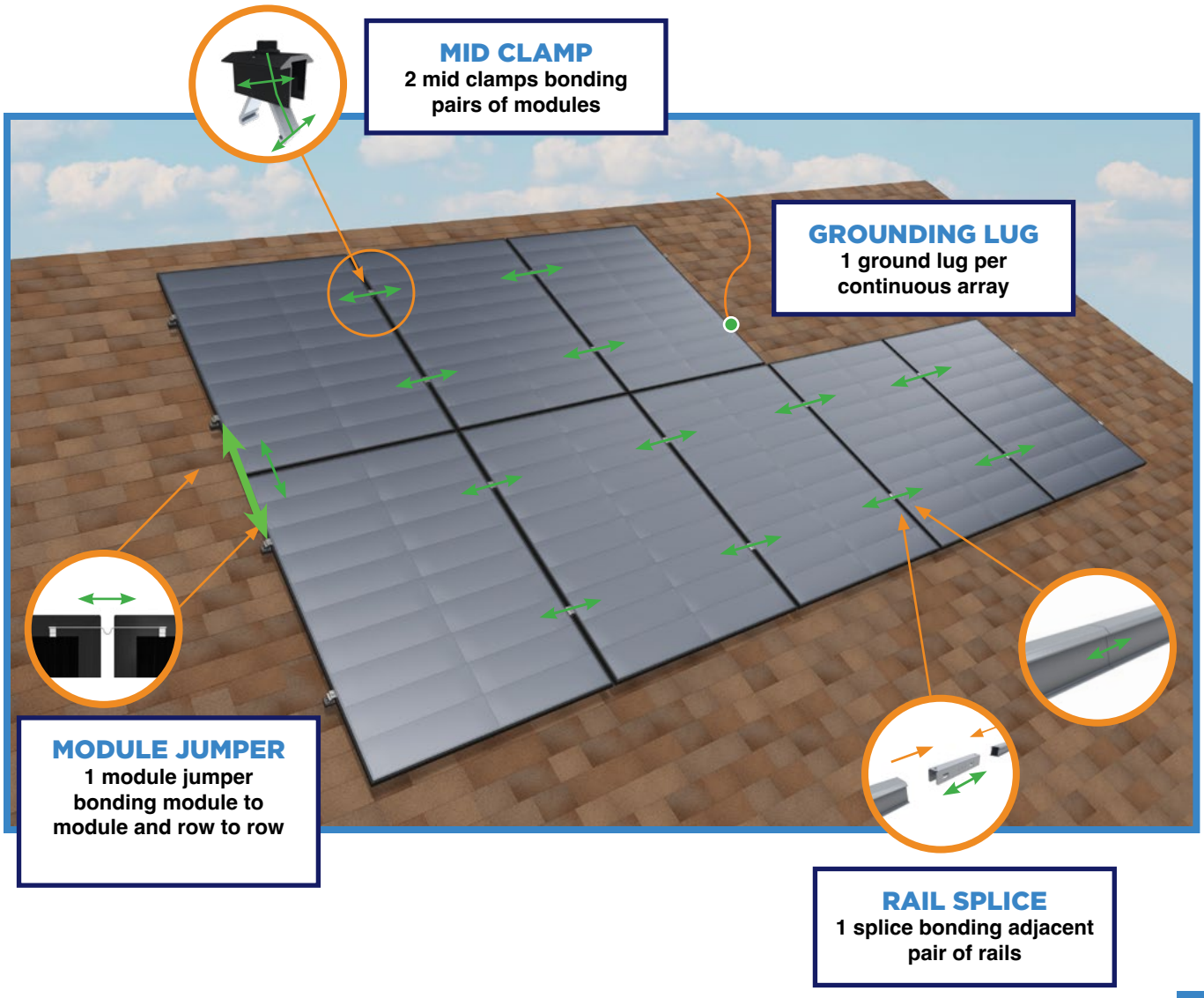
Place and slide the next module firmly against the mid clamps. Align the bottom edges of the modules. Tighten mid clamps to 144 in-lb.



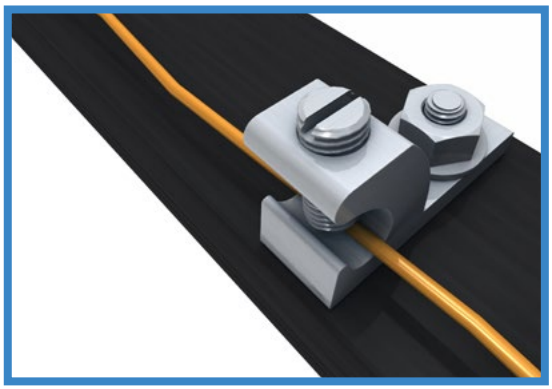
BONDING AND GROUNDING

BONDING PATHS

Bonding paths are carried throughout the array in a variety of ways. They are carried module-to-module and module-to-rail through mid clamps, carried at rail-to-rail connections through the splices, and carried row-to-row using module jumpers or grounding lugs with bare copper. For easy row to row bonding, IronRidge recommends using our Module Jumper.



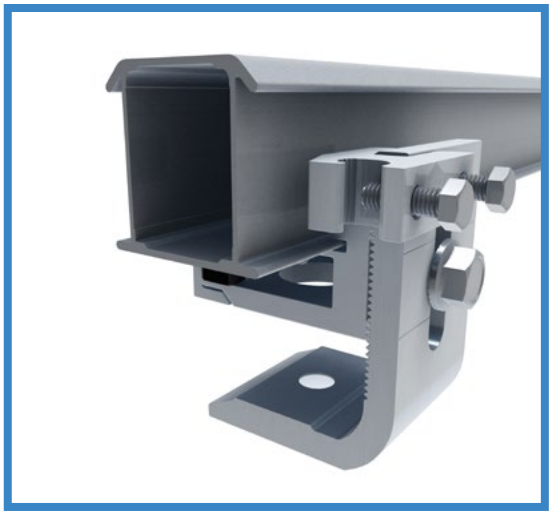
GROUNDING



NECESSARY COMPONENTS

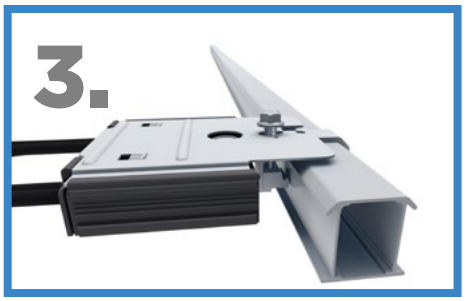
One of the following grounding lugs (or any UL 2703 Compliant ground Lug):

- BurndyCL50-1TN Ground Lug (UL 2703 - E3514343 / UL 467-E9999)
- ILSCO SGB-4 Ground Lug (UL 2703 - E354420 / UL 467 - E34440)
- ILSCO GBL-4DBT (UL 2703 - E354420 / UL467 - E34440)
- ILSCO GBL-4DBTH (UL 2703 - E354420 / UL 467 - E34440)
- ILSCO GBL-4SS (UL 2703 - E354420 / UL 467 - E34440)



*Equipment grounding wire should be sized in accordance with the National Electrical Code, NFPA70 and a minimum of 1/4" clearance is required between bare copper wires and aluminum components.

MLPE MOUNT INSTALLATION

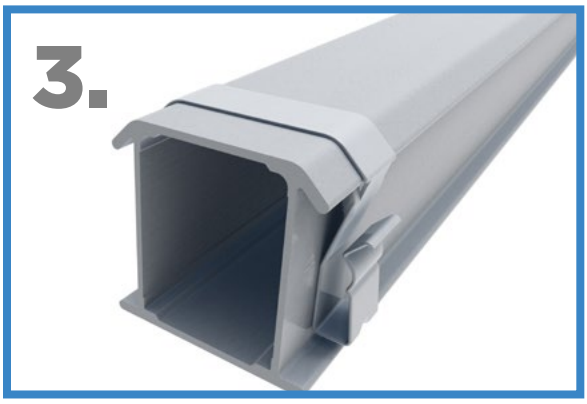


1. Lower the MLPE Mount to the rail. Tilt and hook the mount around the top “dog ear” of the rail
2. Set the MLPE Mount flush with the top of the rail
3. Slide the microinverter flange between the MLPE Mount and the serrated bolt flange
4. Tighten the bolt to 144 in-lbs
5. Repeat this process for all other microinverter and/or optimizer installations

MLPE MOUNT IS COMPATIBLE WITH THE FOLLOWING MLPE DEVICES:

AP Systems	DS3, DS3-H, DS3-L, DS3-S, QS1, QT2, QT2-208, QT2-480 and YC600
Darfon	MIG240, MIG300, G320, G640
Duracell	D350-M1, D350-M1A-xxx, D400-M1A-xxx, D600-M2A-xxx, D700-M2, D800-M2A-xxx, D1500-M4 Where “xxx” can be blank, 208A or 240A
Enphase	M250-72, 250-60, M215-60, C250-72, S230, S280, IQ 6, IQ 6+, IQ7, IQ 7A, IQ 7+, IQ7 PD, IQ 7X, Q Aggregator; IQ8-60, IQ8PLUS-72, IQ8A-72, IQ8AC-72, IQ8H-3P-72, IQ8H-208-72, IQ8H-240-72, IQ8HC-72, IQ8M-72, IQ8MC-72, IQ8P-72, IQ8P-3P-72, IQ8X-80; may be followed by -2-US, -E-US, -M-US, or M-DOM US
Generac	S2502, PM-820
Hoymiles	HMA-xxxYY-ZZ where “A” can be blank or S, xxx can be 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000, 1200, 1500, 1600, 1800 or 2000; “YY” can be NT, 1T, 2T, 4T; and “ZZ” can be blank, NA or 208-NA
Lunar Energy	Maximizer 10-005220 or 10-00522D
NEP	**NEP MICROINVERTERS** BDM-xxx-yyy Where “xxx” can be 300, 300X2, 350, 400, 500, 550, 650, 800, 1000, 1200, 1600 or 2000; and “yyy” can be blank, 208A or 240A **NEP RAPID SHUTDOWN** PVG-1, PVG-2, PVG-3, PVG-4
SMA	RoofCommKit-P2-US, TS4-R Module Retrofit Kits (TS4-R-S, TS4-R-O, TS4-R-F)
Solar Edge	C651U, C652U, M1600, P300, P320, P340, P370, P400, P401, P405, P485, P505, P600, P700, P730, P750, P800p, P800s, P801, P850, P860, P950, P960, P1100, P1101, S440, S500, S500B, S650B, S1200, S1201, U650 and U650B
Tigo	Tigo Access Point (TAP) TS4-R-X (where X can be F, M, O, or S) TS4-R-X-DUO (where X can be M, O, or S) TS4-A-X (where X can be F, 2F, O, O-DUO, or S)
Yotta	DPI 208/480

WIRE CLIP INSTALLATION



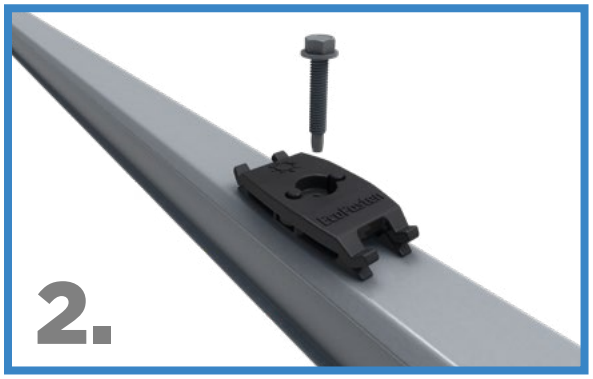
1. Place the wire clip on the rail at the angle shown in diagram 2 - engage the small teeth first and then click onto the rail

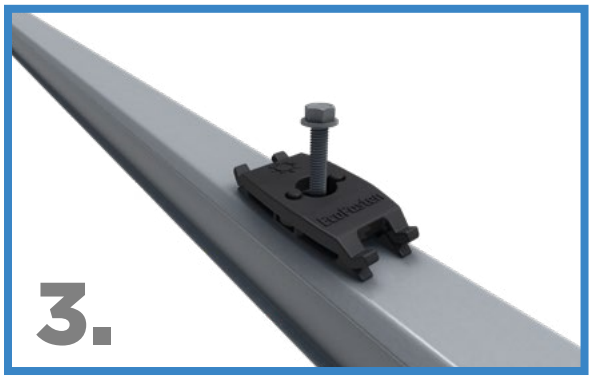
2. With the wire end touching the bottom lip of the rail, roll and click-in the Wire Clip to the opposite end of the rail.

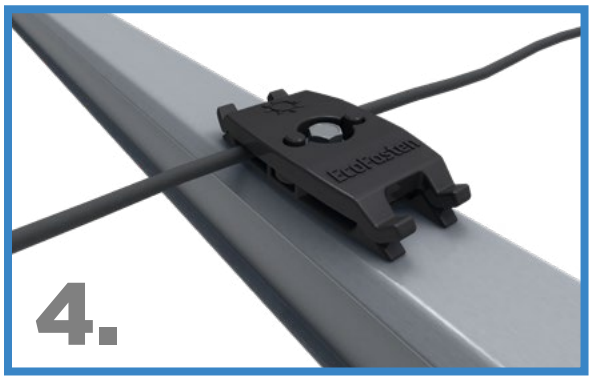
3. You will hear an audible click when the Wire Clip is set in place.

NOTE: The ClickFit Wire Clip clicks onto the top of the rail and accommodates 1-3 PV wires (up to 10AWG)
or 1 Q cable and 1-2 PV wires (up to 10AWG).

INSTALLING WIRE MANAGEMENT CLAMP







1. Assemble the screw, top, and bottom clamp as shown.

NOTE: The bottom clamp has two vertical columns which help guide and align the top clamp during installation.

2. The clamp can be placed anywhere on the top or side of the rail where needed.

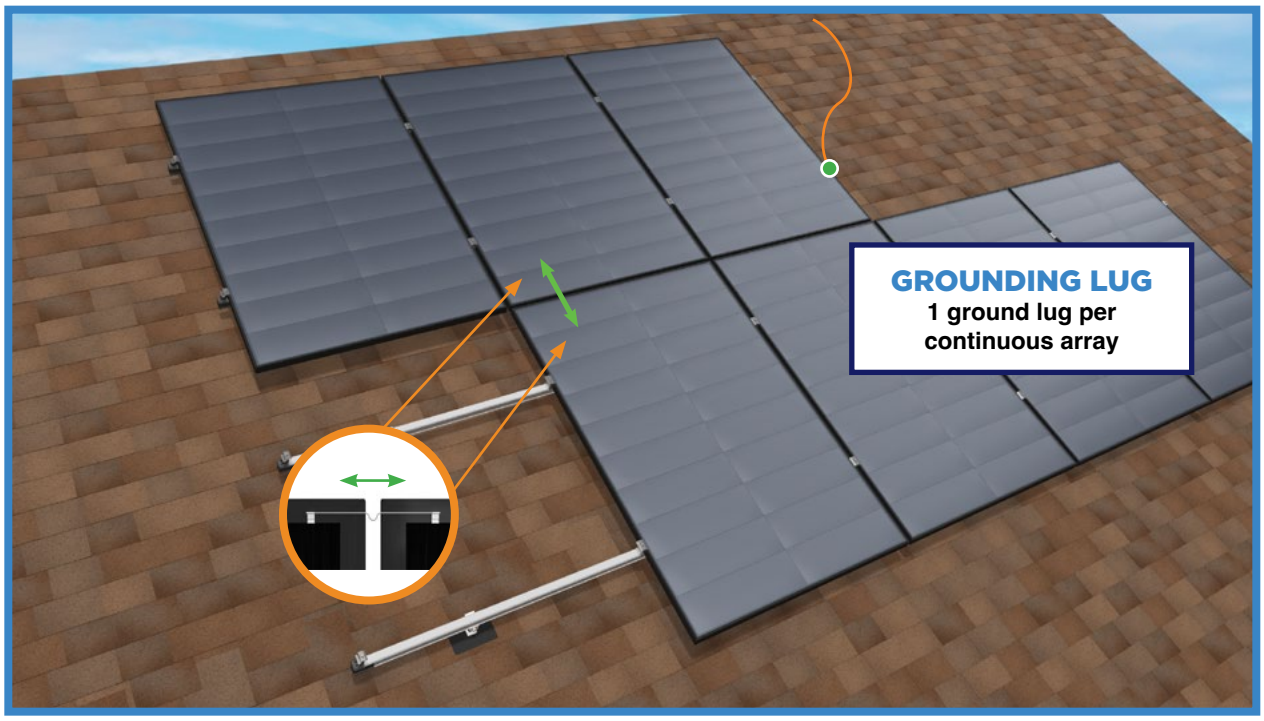
3. Using an 5/16" socket and an impact or drill, drive the self-drilling screw through the assembly and halfway into the rail.

4. Insert the PV wires or Trunk cables into the assembly n either or both sides and fully tighten the self-tapping screw making sure not to strip. Be sure that the clamp is not pinching the wires when fully seated to the rail.

NOTE: The wire clamp can hold up to 4 PV Wires (up to 10AWG) or 2 trunk cables. Although easiest to install the wires after the screw has been slightly inserted into the rail, installers have the flexibility to place wires in the clamp before or after the screw has been drilled through the rail.

MODULE MAINTENANCE & SERVICING

During servicing or maintenance, module removal may disrupt the bonding path and could introduce the risk of electric shock. If a module is removed for servicing that does disrupt the bonding path, then a Module Jumper shall be installed to the adjacent modules to maintain the bond path. In lieu of long module jumper, place an Ilsco SGB-4 approved for mounting to the L-Foot on either side and use a copper wire as a jumper. Modules should only be removed by qualified persons in compliance with the instructions in this manual.



Example module removed for servicing. Install bonding jumper to maintain fault current ground path for adjacent module that has disrupted bond path as shown above.

OPTIONAL SKIRT INSTALLATION

1. The skirt is designed to give the rows of the array facing the eave of the roof a uniform appearance.

- If the snow load is greater than 20psf in your region two skirt clamps are required per module and skirt end cap must be used. Contact IronRidge for information on the skirt coupling.
- QuickMount offers three options for skirts: "**A**", "**B**" and "**C**". "**A**" skirt are designed for panel thickness of 35mm and 40mm. "B" Skirt are design for panel thickness of 32mm and 38mm. "**A**" and "**B**" skirt can be identified by their inner channel. "**B**" skirt will have a ribbed inner channel where "**A**" skirts will have a smooth inner channel. "**C**" skirts are only design for 30mm panels and do NOT have an inner channel.

SKIRT COMPONENTS

SKIRT & END CAP

SKIRT CLAMP

INSTALLATION

2. Once the first row of modules is installed (or after the array is complete), locate the appropriate skirts and skirt clamps. Our 65" skirts typically cover one landscape module and our 80" and 81" skirts typically cover 2 portrait modules.

3. Place the skirts making sure to align them with the array edge for a clean look. two clamps are needed for each skirt. place the skirt clamp within 10" of the skirt on both ends making sure that the skirt clamp is fully seated on to the module and skirt. Tighten to 144 in-lbs.

4. With the first skirt in position tap the end cap into the skirt and place the second skirt into the cap as well. The cap will now double as a splice or coupling for proper alignment. Again, place two skirt clamps within 10" of the skirt on both ends.

5. Repeat steps for each skirt.

6. Be sure to install end caps at each end of the array for a clean look.

7. If the skirt needs to be cut for perfect alignment, you may do so using an appropriate tool.

OTHER INSTALLATION OPTIONS

SUPPLEMENTAL GUIDES

ROOF ATTACHMENTS

LYNX INSTALLATION
Click here to view guide

ALL TILE HOOK FLASHING
Click here to view guide

FLASHVUE
Click here to view guide

FLASHFOOT 2
Click here to view guide

CORRUSLIDE
Click here to view guide

SIMPLEGRIP
Click here to view guide

FRA
Click here to view guide

FLAT TILE FLY
Click here to view guide

KNOCKOUT TILE
Click here to view guide

OTHER INSTALLATION OPTIONS

SUPPLEMENTAL GUIDES

ROOF ATTACHMENTS

Q-BASE TILE

Click here to view guide

Q-BASE COMP

Click here to view guide

Q-BASE, METAL SHAKE SLATE

Click here to view guide

QM TILE REPLACEMENT MOUNT

Click here to view guide

ACCESSORIES

TILE CONDUIT MOUNT INSTALLATION

Click here to view guide

BUG CONDUIT MOUNT

Click here to view guide

CLASSIC CONDUIT MOUNT INSTALLATION

Click here to view guide

JAYBOX INSTALLATION

Click here to view guide

COMPATIBLE MODULES

The ClickFit System has been tested and evaluated to UL 2703 for bonding, grounding, mechanical loading and fire classification, and may be used to ground and/or mount PV modules listed to UL 1703 or UL 61730. A list of approved modules is included below.

Unless otherwise noted, “xxx” refers to the module power rating and both black and silver frames are included in the certification.

TYPE 1, 2, 3, 4, 5, 13, 19, 25, 29, 30 AND 38 MODULES

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Adani	Adani modules with 30, 35 and 40 mm frames ASX-Y-ZZ-xxx Where “S” can be S or blank; “X” can be B, M or P, “Y” can be 6, 7, G12R or M10 and “ZZ” can be blank, 132, 144, PERC, B-PERC, or AB-PERC
AIONRISE	Aionrise modules with 35 and 40 mm frames AIONyyG1-xxx Where “yy” can be 60 or 72
Amerisolar	Amerisolar modules with 35 and 40 mm frames AS-bYxxxZ Where “b” can be 5 or 6; “Y” can be M, P, M27, P27, M30, or P30; and “Z” can be blank, W or WB
Aptos Solar	Aptos modules with 35 and 40 mm frames DNA-yy-zzaa-xxxbb Where “yy” can be 108, 120 or 144; “zz” can be BF, BFN, MF, or MFN; “aa” can be 10, 23 or 26; and “bb” can be blank, W or W-DG
Astronergy Solar	Astronergy modules with 30, 35 and 40 mm frames aaSMbbyyC/zz-xxx Where aa can be CH or A; “bb” can be 60, 66, or 72; yy can be blank, 10 or 12; “C” can M, P, M(BL), M-HC, M(BL)-HC, P-HC, M(DG), M(DGT) or N(DG); and zz can be blank, HV, F-B, or F-BH
ASUN	ASUN modules with 35 and 40 mm frames ASUN-xxx-YYZZ-aa Where “YY” can be 60 or 72; “ZZ” can be M,or MH5; and “aa” can be blank or BB
Auxin	Auxin modules with 35 and 40 mm frames AXNCyzAxxxB Where “C” can be 6, 10 or G1; “y” can be M or P; “z” can be blank, 08, 09, 610, 11, or 612; and “A” can be blank, F, M or T; and “B” can be blank, A, B, C or W

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Axitec	Axitec Modules with 30, 35 and 40 mm frames AC-xxxY/aaZZb Where “Y” can be M, P, MB, MBT, MH or TGB; “aa” can be blank, 125-, or 156-; “ZZ” can be 54, 60, 72, 108, 120, or 144; “b” can be BB, BB-US, S, X, V, MX, TS, TS-US, US, VB or XV
Big Shine Solar	Big Shine Solar modules with 35mm frames BSExxxN-144BMH-DG
Bila Solar	Bila Solar modules with 30 mm frames AA-xxxUS-6x24GG
Bluesun Solar	Bluesun modules with 30 and 35 mm frames BSMxxxY-AAA Where “Y” can be M or M10; and “AAA” can be 54HPH, 60HPH or 72HBD
Boviet	Boviet modules with 33, 35 and 40 mm frames BVMZZaaYY-xxxBcc Where “ZZ” can be 66, 76 or 86; “aa” can be 9, 10, 11 or 12; “YY” is M or P; and “B” can be blank, L or S; and “cc” can be blank, H, H-BF, H-BF-DG, H-HC, H-HC-BF, H-HC-BF-DG, HC-BF, HC-BF-DG or R-H-HC-BF
BYD	BYD modules with 30 and 35 mm frames BYDxxxAY-ZZ Where “A” can be M6, P6, MH, MLB, MLT, NLB or PH; “Y” can be C or K; and “ZZ” can be 30 or 36
Canadian Solar	Canadian Solar modules with 30, 32, 35 and 40 mm frames CSbY-xxxZ Where “b” can be 1, 3, 6, 6.1, 6.2 or 7; “Y” can be H, K, L, N, P, R, U, V, W, X, Y, -48TD, -48TM, -54TM, -66TB, -66TM or -72TB; and “Z” can be blank, H, HP, M, P, T, MS, PX , M-SD, P-AG, P-SD, MB-AG, PB-AG, MS-AG, MS-HL, MS-SD or TB-AG
CertainTeed	CertainTeed modules with 30, 35 and 40 mm frames CTBBxxxYZZ-AA Where “BB” can be blank, M10 or TC; “Y” can be M, P, or HC; “ZZ” can be 00, 01, 10, 11 or 12; and “AA” can be 01, 02, 03, 04, 06, 08 or 09
Crossroads Solar	Crossroads Solar modules with 40 mm frames Crossroads Solar xxx

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
CSUN	Csun modules with 35 and 40 mm frames YYxxx-zzAbb Where “YY” is CSUN or SST; “zz” is blank, 60, or 72; and “A” is blank, P, M or MM; “bb” is blank, BB, 5BB, BW, or ROOF
Dehui	Dehui modules with 30, 35 and 40 mm frames DH-MYYYZ-xxx Where “YYY” can be 760, 772, 860, or 872; and “Z” can be B, F or W
Ecosolargy	Ecosolargy modules with 35 and 40 mm frames ECOxxxYzzA-bbD Where “Y” can be A, H, S, or T; “zz” can be 125 or 156; “A” can be M or P; “bb” can be 60 or 72; and “D” can be blank or B
Emmvee	Emmvee modules with 35 mm frames Exxx-YYZZZ-A Where “YY” can be M, P, HCM, HCMW, HCBG, HCBT; “ZZZ” can be 72, 108, 120, 132 or 144; and “A” can be blank, B, T, or BT
Energy America	Energy America modules with 30 and 40 mm frames EA-ZLKY-ZZZxxx/M Where “Y” can be 7 or 8; and “ZZZ” can be SHDB108 or THLDD132
ET Solar (EliTe Solar)	ET Solar modules with 30, 33, 35 and 40 mm frames ET-YZZZxxxAA Where “Y” can be P, L, M, N or NR; “ZZZ” can be 48TBH, 660, 660BH, 672, 672BH, 754BH, 760BH, 766BH, 772BH, 760TBH, 766TBH, 772TBH, 778TBH or 848TBH; and “AA” can be GB, GL, TB, TW, WB, WW, BB, WBG, WWG, WBAC, WBCO, WWCO, WWBCO or BBAC
Flex	Flex modules with 35 and 40 mm frames FXS-xxxYY-ZZ; Where “YY” can be BB or BC; and “ZZ” can be MAA1B, MAA1W, MAB1W, SAA1B, SAA1W, SAC1B, SAC1W, SAD1W, SBA1B, SBA1W, SBC1B, or SB-C1W
Freedom Forever	Freedom Forever modules with 35 mm frames FF-MPa-BBB-xxx Where “a” can be blank or 1
Freevolt	Freevolt modules with 35 mm frames ECP-PVGRAF-144HC-xxx

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
GCL	GCL modules with 35 mm and 40 mm frames GCL-ab/YY xxx Where “a” can be M or P; “b” can be 3 or 6; and “YY” can be 60, 72, 72H, or 72DH
GigaWatt Solar	Gigawatt modules with 40 mm frames GWxxxYY Where YY can be either PB or MB
Goldi	Goldi modules with 35 mm frames GS10-Byyy-zz-xxx Where “yyy” can be 108 or 144; and “zz” can be GF or TF
Grape Solar	Grape modules with 35 mm frames GS-M120-xxx-FAB1
GreenWatts Solar	GreenWatts modules with 30 and 35mm frames HSYY-A-xxx-ZZ Where “YY” can be 54, 60, 66, 72 or 78; “A” can be blank or F; and “ZZ” can be MN or BOB
Hansol	Hansol modules with 30, 35 and 40 mm frames HSxxxYY-zz Where “S” can be A or S; “YY” can be AA, AB, AD, AE, PB, PD, PE, TB, TD, UB, UD, UE, XA, XD or ZB; and “zz” can be AH2, AN1, AN3, AN4, CGEA0, CGFA0, DGEA0, HH2, HV1, JH2, GNEA0, NGEA0 or NNEA0
Hanwha Solar	Hanwha Solar modules with 40 mm frames HSLaaP6-YY-1-xxxZ Where “aa” can be either 60 or 72; “YY” can be PA or PB; and “Z” can be blank or B
Heliene	Heliene modules with 35 and 40 mm frames YYZZxxxA Where “YY” can be 36, 60, 72, 96, 108, 120, 132, 144 or 156; “ZZ” can be HC, M, P, or MBLK; and “A” can be blank, HomePV, Bifacial, M10-SL, M10-SL-BLK, M10 TPC SL, M10 Bifacial, M10 SL-Bifacial, M10 TPC SL Bifacial, M10 NTYP SL or M10 NTYP SL Bifacial
HT-SAAE	HT-SAAE modules with 30, 35 and 40 mm frames HTyy-aaaZ-xxx Where “yy” can be 60, 66, 72 or 78, “aaa” can be 18, 156 or 166, “Z” can be M, P, M-C, P-C, M(S), M(VS), M(V), P(V), M(V)-C, P(V)-C, X, X(ND)-F or X+(ND)-F

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Hyperion Solar (Runergy)	Hyperion or Runergy modules with 30 and 35 mm frames HY-DHzzzA8-xxxB Where “zzz” can be 108 or 144; “A” can be N or P; and “B” can be blank or B
Hyundai	Hyundai modules with 30, 32, 33, 35 and 40 mm frames HiY-SxxxZZ Where “Y” can be A, D, N or S; “S” can be M, S or T; and “ZZ” can be GI, HG, HI, KI, MI, MF, MG, NF(BK), NJ, OJ, PI, RI, RG, RG(BF), RG(BK), SG, TI, TG, YH(BK) or XG(BK)
Illuminate USA	Illuminate USA Modules with 30 and 35 mm frames IL5-72HBD-xxxM
Imperial Star	Imperial Star Modules with 35 mm frames ISY7-zzzAAA-xxx/M Where “Y” can be M or N; “zzz” can be SHSB or UHSB; and “AAA” can be 108, 144 or 156
Itek	Itek Modules with 40 mm frames IT-xxx-YY Where “YY” can be blank, HE, or SE, or SE72
JA Solar	JA Solar modules with 30, 35 and 40 mm frames JAyyzz-bbww-xxx/aa Where “yy” can be M, P, M6 or P6; “zz” can be blank, (K), (L), (R), (V), (BK), (FA), (TG), (FA)(R), (L)(BK), (L)(TG), (R)(BK), (R)(TG), (V)(BK), (BK)(TG), or (L)(BK)(TG); “bb” can be 48, 54, 60, 66, 72 or 78; “ww” can be D09, D10, D20, D30, D40, D41, D42, D45, S01, S02, S03, S06, S09, S10, S12, S17, S20, S30 or S31; and “aa” can be BP, LB, MB, MB-US, MR, SI, SC, PR, 3BB, 4BB, 4BB/RE, 5BB
Jakson Solar	Jakson Solar modules with 35mm frames JH-xxxYY Where “YY” can be BB or BT
Jinko	Jinko modules with 30, 35 and 40 mm frames JKMYxxxZZ-aa Where “Y” can either be blank or S; “ZZ” can be M, N, P, or PP; and “aa” can be blank, 54HL4-B, 60, 60B, 60H, 60L, 60BL, 60HL, 60HB, 60HBL, 6HBL-EP, 60-J4, 60B-J4, 60B-EP, 60(Plus), 60-V, 60-MX, 6RL3, 6RL3-B, 6TL3-B, 66HL4M-BDV, 7RL3-V, 7RL3-TV, 72, 72B, 72-J4, 72B-J4, 72(Plus), 72-V, 72H-V, 72L-V, 72HL-V, 72HBL-V, 72HL4-V, 72HL4-BDV, 72HL4-TV, 72-MX, 72H-BDVP, 72HL-TV, 72HL-V-MX3 or 72HL4-BDX

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Jolywood Solar	Jolywood Solar modules with 30mm frames JW-HDYYN-ZZ-xxx Where “YY” can be 96, 108, 132 or 144; and “ZZ” can be blank, R0 or R2
KB Solar	KB Solar modules with 35 mm frames KBS-xxx-Mono-YY Where “YY” can be blank or BF
Kyocera	Kyocera Modules KYxxxZZ-AA Where “Y” can be D or U; “ZZ” can be blank, GX, or SX; and “AA” can be LPU, LFU, UPU, LPS, LPB, LFB, LFBS, LFB2, LPB2, 3AC, 3BC, 3FC, 4AC, 4BC, 4FC, 4UC, 5AC, 5BC, 5FC, 5UC, 6BC, 6FC, 8BC, 6MCA, or 6MPA
LA Solar	LA Solar modules with 35 mm frames LSxxxYY Where “YY” can be BF, BL, BLA, HC or ST
LG	LG modules with 35 and 40 mm frames LGxxxYaZ-bb Where “Y” can be A, E, M, N, Q, S; “a” can be A, 1, 2 or 3 “Z” can be C, K, T, or W; and “bb” can be A3, A5, A6, B3, B6, E6, E6.AW5, G3, G4, J5, K4, L5, N5, V5, V6
Longi	Longi modules with 30, 35 and 40 mm frames LRa-YYZZ-xxxM Where “a” can be 4, 5, 6, 7 or 8; “YY” can be blank, 54, 60, 66, or 72; and “ZZ” can be blank, BK, BP, HV, PB, PE, PH, HBD, HGD, HIB, HIH, HPB, HPH, HIBD, HABB, HABD or HGBB
Magnus Green Solar	Magnus Green Solar modules with 35 mm frames MGS-xxxW-yyy-M10 Where “yyy” can be M54H, M60H or M72H
Maxeon	Maxeon modules with 35, 40 and 46 mm frames SPR-AAAY-xxx-zzz Where “AAA” can be MAX, P or X; “Y” can be 3, 5, 6, 7, 21 or 22; and “zzz” can be blank, R, BLK, BLK-R, COM or UPP
Meyer Burger	Meyer Burger Modules with 35 mm frames Meyer Burger Black, White or Glass

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Mission Solar (mSolar)	Mission Solar modules with 30, 33, 35 and 40 mm frames YYYbb-xxxZZaa Where “YYY” can be MSI, MSE, MSH, MSN, MSX, TXI or TXS; “bb” can be blank, 6, 10 or 60A; “ZZ” can be blank, HN, HT, MM, SE, SO, SQ , SR, SX, TS, 108, 120 or 144; and “aa” can be blank, 0B, 2B, BB, BW, 1J, 4G, 4J, 4S, 4T, 5K, 5R, 5T, 60, 6J, 6S, 6W, 6Z, 8K, 8T, 9R, 9S or 9Z
Mitrex	Mitrex modules with 30 and 40 mm frames Mxxx-XYZ Where “X” can be A, B, I or L; “Y” can be 1 or 3; and “Z” can be F or H
Mitsubishi	Mitsubishi modules PV-MYYxxxZZ Where “YY” can be LE or JE; and “ZZ” can be either HD, HD2, or FB
Motech	IM and XS series modules with 40 mm frames
Navitas	Navitas Modules with 35 mm frames NSMxxx-yyy Where “yyy” can be 120, 132 or 144
Next Energy Alliance	Next Energy Alliance modules with 35 and 40 mm frames yyNEA-xxxZZ where “yy” can be blank or US; “ZZ” can be M, MB or M-60
NE Solar	NE Solar modules with 30, 35 and 40 mm frames NESExxx-zzAAX-yy Where “zz” can be 54, 60 or 72; “AA” can be MH or TH; “X” can be blank or B; and “yy” can be M6 or M10
Neo Solar Power	Neo Solar Power modules with 35 mm frames D6YxxxZZaa Where “Y” can be M or P; “ZZ” can be B3A, B4A, E3A, E4A, H3A, H4A; and “aa” can be blank, (TF), ME or ME (TF)
Panasonic (HIT)	Panasonic modules with 35 and 40 mm frames VBHNxxxYYzzA Where “YY” can be either KA, RA, SA or ZA; “zz” can be either 01, 02, 03, 04, 06, 06B, 11, 11B, 15, 15B, 16, 16B, 17, or 18; and “A” can be blank E, G or N
Panasonic (EverVolt)	Panasonic modules with 30 mm frames EVPVxxxA Where “A” can be blank or H, K, HK, HK2 or PK
Peimar	Peimar modules with 35 and 40 mm frames AbxxxYzz Where “A” can be S or DR; “b” can be G, M, P or 10H; “Y” can be M, MB or P; and “zz” can be blank, (BF), or (FB)

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Philadelphia Solar	Philadelphia modules with 30, 35 and 40 mm frames PS-YzzAA-xxxW Where “Y” can be M, MNB, MNG or P; “zz” can be 60, 72, 108, 132, 144 or 156; “AA” can be blank, (BF), (HC), (HCBF) or (HCBF)-GG; and “W” can be blank or W
Phono Solar	Phono Solar modules with 30, 35 and 40 mm frames PSxxxY-ZZ/A Where “Y” can be M, M1, MH, M1H, M4, M4H, M5GF, M5GFH, M6, M6H, M8, M8H, M8GF, M8GFH or P; “ZZ” can be 18, 20 or 24; and “A” can be F, T, TH, THB, TNH, U, UH, UHB, VH, VHB or VNHB
Prism Solar	Prism Solar modules with 35 mm frames PST-xxxW-M72Y Where “Y” can be H, HB or HBI
Q CELLS	Q CELLS Modules with 30, 32, 35, 40 mm frames aaYY-ZZ-xxx where “aa” can be Q. or B.; “YY” can be PLUS, PRO, PEAK, LINE PRO, LINE PLUS, PLUS DUO, PEAK DUO or TRON; and “ZZ” can be G3, G3.1, G4, G4.1, L-G2, L-G2.3, L-G3, L-G3.1, L-G3y, L-G4, L-G4.2, L-G4y, LG4.2/TAA, BFR-G3, BLK-G3, BFR-G3.1, BLK-G3.1, BFR-G4, BFR-G4.1, BFR G4.3, BLK-G4.1, G4/SC, G4.1/SC, G4.1/TAA, G4.1/MAX, BFR G4.1/TAA, BFR G4.1/MAX, BLK G4.1/TAA, BLK G4.1/SC, EC-G4.4, G5, G5/SC, G5/TS, BLK-G5, BLK-G5/SC, BLK-G5/TS, L-G5, L-G5.1, L-G5.2, L-G5.2/H, L-G5.3, G6, G6/SC, G6/TS, G6+/TS, G6+, BLK-G6, L-G6, L-G6.1, L-G6.2, L-G6.3, L-G6.3/BFG, G7, BLK-G6+, BLK-G6+/AC, BLK-G6+/HL, BLK-G6+/SC, BLK-G6/TS, BLK-G6+/TS, BLK-G7, G7.2, G8, BLK-G8, G8+, BLK-G8+ L-G7, L-G7.1, L-G7.2, L-G7.3, L-G8, L-G8.1, L-G8.2, L-G8.3, L-G8.3/BFF, L-G8.3/BFG, L-G8.3/BGT, M-G2+, BLK M-G2+, BLK M-G2.C+, BLK M-G2.F+, BLK M-G2.H+, BLK M-G2+/AC, BLK M-G2.C1+/AC, BLK M-G2.F1+/AC, BLK M-G2.H1+/AC, ML-G9, BLK ML-G9, ML-G9+, BLK ML-G9+, BLK-G10, BLK-G10+, BLK G10+/AC, BLK-G10+/HL, ML-G10, BLK ML-G10, ML-G10+, BLK ML-G10+, ML-G10.a, BLK ML-G10.a, ML-G10.a+, BLK ML-G10.a+, BLK ML-G10.B+, BLK ML-G10.C+, BLK ML-G10.C1+/AC, BLK ML-G10 +/t, BLK ML-G10+/TS, XL-G2.3/BFG, XL-G9, XL-G9.2, XL-G9.3, XL-G9.3/BFG, XL-G10.2, XL-G10.3, XL-G10.c, XL-G10.d, XL-G10.d/BFG, XL-G10.3/BFG, XL-G11.2, XL-G11.3, XL-G11.3/BFG or XL-G11S.3/BFG

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Rayzon Solar RSYxxxWC	Rayzon Solar modules with 35 and 40 mm frames RSYxxxAAZZ Where “Y” can be blank or B; “AA” can be blank or 144; and “ZZ” can be TGC or WC
Recom	Recom modules with 35 and 40 mm frames RCM-xxx-6yy Where “yy” can be MA, MB, ME or MF
REC Solar	REC modules with 30 and 38 mm frames RECxxxYYZZ Where YY can be AA, M, NP, NP2, NP3, PE, PE72, TP, TP2, TP2M, TP2SM, TP2S, TP3M or TP4; and ZZ can be blank, Black, BLK, BLK2, SLV, 72, Pro M, Pure, Pure-R, Pure-RX or Pure 2
Renesola	ReneSola modules with 35 and 40 mm frames AAxxxY-ZZ Where “AA” can be SPM(SLP) or JC; “Y” can be blank, F, M or S; and “ZZ” can be blank, Ab, Ab-b, Abh, Abh-b, Abv, Abv-b, Bb, Bb-b, Bbh, Bbh-b, Bbv, Bbv-b, Db, Db-b, or 24/Bb
Renogy	Renogy Modules with 35 and 40 mm frames RZZ-xxxY-AAA Where “ZZ” can be NG or SP; “Y” can be D or P; and “AAA” can be blank, 144, BB-108, BB-120 or BK-120
Risen	Risen Modules with 30, 35 and 40 mm frames RSMyy-a-xxxZZ Where “yy” can be 60, 72, 110, 120, 132 or 144; “a” can be 6, 7 or 8; and “ZZ” can be M, P or BMDG
Saatvik	Saatvik Modules with 35 mm frames SGExxx-YYYZZZ Where “YYY” can be 108 or 144; and “ZZZ” can be MHC, MBHC or MHCB
S-Energy	S-Energy modules with 35 and 40 mm frames SABB-CCYYY-xxxZ Where “A” can be C, D, L or N; “BB” can be blank, 20, 25, 40 or 45; “CC” can be blank, 60 or 72; “YYY” can be blank, BDE, MAE, MAI, MBE, MBI, MCE or MCI; and “Z” can be V, M-10, P-10 or P-15

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
SEG Solar	SEG Solar with 30, 35 and 40 mm frames SEG-aYY-xxx-ZZ Where “a” can be blank, 6 or B; “YY” can be blank, MA, MB, PA, or PB; and “ZZ” can be blank, BB, BG, BW, HV, WB, WW, BMB, BMA-HV, BMA-BG, BMA-TB, BMB-TB, BMB-HV, BMD-BG, BMD-HV, BMB-BG, BTA-BG, BTB-BG, BTC-BG, BTD-BG, BTZ-BG, BMD-TB or BMZ-BG
Seraphim	Seraphim modules with 30, 33, 35 and 40 mm frames SRP-xxx-YYY-ZZ Where “xxx” is the module power rating; and “YYY” can be BMA, BMB, BMD, BTA, BTC, BTD, BTE, 6MA, 6MB, 6PA, 6PB, 6QA-XX-XX, and 6QB-XX-XX; ZZ is blank, BB, BG or HV
Sharp	Sharp modules with 35 and 40 mm frames NUYYxxx Where YY can be SA or SC
Shinsung E&G	Shinsung Modules with 35 mm frames SSVxxx-144MH
Silfab	Silfab Modules with 35 and 38 mm frames SYY-Z-xxxAb Where “YY” can be IL, SA, LA, SG or LG; “Z” can be blank, M, P, or X; “A” can be blank, B, H, M, N, Q or X; and “b” can be A, C, C+, D, G, K, L, M, M+, N, T, U or X
Sinotec	Sinotec Modules with 30 and 35 mm frames STS-xxxP-aabb Where “aa” can be 54 or 72; and “bb” can be BB, DB or DD
Sirius PV	Sirius PV Modules with 35 mm frames ELNSMzzM-HC-yy-xxx Where “zz” can be 54 or 72; and “yy” can be blank, BF or N
Solar4America	Solar4America modules with 30, 35 and 40 mm frames S4Axxx-YYzzAA Where “YY” can be 60, 72, 108 or 144; “zz” can be MH5, MH10, TH10 or TH16; and “AA” can be blank or BB, BW, SW or STT
Solarever	Solarever modules with 30, 35 mm frames SE-zzz*yy-xxxM-aaa Where “zzz” can be 166 or 182; “yy” can be 83, 91 or 105; and “aaa” can be 108, 96-BD, 120-BH, 144 or 144N

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Solaria	Solaria modules with 35 and 40 mm frames PowerA-xxxY-ZZ Where “A” can be X or XT, “Y” can be R or C; and “ZZ” can be blank, AC, BD, BX, BY, PD, PL, PM, PM-AC, PX, PZ, WX, WZ or 4T
Solarcity (Tesla)	Solarcity modules with 40 mm frames SCxxxYY Where “YY” can be blank, B1 or B2
SolarSpace	SolarSpace modules with 30 and 35mm frames SS8-yyzzz-xxxA Where “yy” can be 54 or 72; “zzz” can be HD, HDB or HSB; and “A” can be M or N
SolarTech	SolarTech modules with 40 mm frames AAA-xxxYY Where “AAA” can be PERCB-B, PERCB-W, HJTB-B, HJTB-W or STU; “YY” can be blank, PERC or HJT
SolarWorld AG	SolarWorld Sunmodule Plus, Protect, Bisun, XL, Bisun XL, may be followed by mono, poly, duo, black, bk, or clear; modules with 31 and 33 mm frames SW-xxx
SolarWorld Americas	SolarWorld Sunmodule Plus, Protect, Bisun, XL, Bisun XL, may be followed by mono, poly, duo, black, bk, or clear; modules with 33 mm frames SWA-xxx
Sonali	Sonali Modules with 35 and 40 mm frames SS-M-xxx-yyy Where “M” can be blank or M; and “yyy” can be blank, 108M-B or W-M60H M10
Star Solar	Star Solar modules with 35 mm frames Star-xxxW-YYY-ZZZ Where “YYY” can be M60H or M60HB; and “ZZZ” can be blank or M10
Stion	Stion Thin film modules with 35 mm frames STO-xxx or STO-xxxA
SunEdison	SunEdison Modules with 35 and 40 mm frames SE-YxxxZABCDE Where “Y” can be B, F, H, P, R, or Z; “Z” can be 0 or 4; “A” can be B,C,D,E,H,I,-J,K,L,M, or N ; “B” can be B or W; “C” can be A or C; “D” can be 3, 7, 8, or 9; and “E” can be 0, 1 or 2
Sungold	Sungold Modules with 35 mm frames SG-xxxWM

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Suniva	Suniva modules with 35, 38 and 40 mm frames OPTxxx-AA-B-YYY-Z MVXxxx-AA-B-YYY-Z Where “AA” is either 60 or 72; “B” is either 4 or 5; “YYY” is either 100,101,700,1B0, or 1B1; and “Z” is blank or B
Sunket	Sunket modules with 35 mm frames SKTxxxM10-144S1
Sunmac Solar	Sunmac modules with 30 and 35 mm frames SMxxxMaaaZZ-YY Where “aaa” can be 660, 754 or 772; “ZZ” can be NH or SH; and “YY” can be BB or TB
Sunpower	Sunpower standard (G3 or G4) or InvisiMount (G5) 35, 40 and 46 mm frames SPR-Zb-xxx-YY Where “Z” can be A, E, M, P or X; b can be blank, 17, 18, 19, 20, 21, or 22; and YY can be blank, BLK, COM, C-AC, D-AC, E-AC, BLK-E-AC, G-AC, BLK-G-AC, H-AC, BLK-H-AC, BLK-C-AC, or BLK-D-AC
Sunpro	Sunpro Modules with 30 and 35 mm frames SPDGxxx-NyyyM10 Where “yyy” can be 108 or 144
Sunspark	Sunspark modules with 30, 35 and 40 mm frames SYYBB-xxxZ-A Where “YY” can be G, MX or ST; “BB” can be blank, 7F54M(H) or 7G72M(H); and “Z” can be blank, M, MB, M3, M3B, P or W; and “A” can be blank, 60 or 72
Suntech	Suntech Modules with 35 and 40 mm frames STPxxxy-zz/aa Where “y” is blank or S; and “zz” can be 20, 24, A60, A72U, B60 or B72; and “aa” can be Vd, Vem, Vfw, Vfh, Vnh, Wdb, Wde, Wd, Wfhb or Wnhb
Talesun	Talesun modules with 30, 35 and 40 mm frames TAByZZaa-xxx-b Where “A” can be D, M or P; “B” can be 3, 6, 7 or 9; “y” can be blank, F, G, H, I or L; “ZZ” can be 48, 54, 60, 66, 72 or 78; “aa” can be M, M(H), or P; and “b” can be blank, B, T, or (H)
Tata Power Renewable Energy	TP Solar Ltd modules with 30mm frames TPxxxHG10B
Tesla	Tesla modules with 40 mm frames TxxxY Where “Y” can be H or S

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Thornova	Thornova Modules with 30 and 35 mm frames TS-YYZZ(xxx)-X Where “YY” can be BB, BBT, BG, BGT, BW or BWT; “ZZ” can be 54, 60 or 72; and “X” can be blank, G11 or X
Topco Solar	Topco Solar modules with 30mm frames TPM7-SH108-xxx/M
Trina	Trina Modules with 30, 35 and 40 mm frames TSM-xxxYYZZ Where “YY” can be DD05, DD06, DD14, DE14, DE15, DE15V, DEG15, DE-G15VC, DE18M, DEG18MC, DE09, DE19, DEG19C.20, DE06X, PA05, PC05, PD05, PD06, PA14, PC14, PD14, PE14, PE15, NE19RC, NED19RC, NEG19RC, NE09RC, NE09RH.05 or NFG19RC ; and “ZZ” can be blank, .05, .05(II), .08, .08(II), .10, .18, .08D, .18D, 0.82, .002, .00S, 05S, 08S, .20, .20(II), A, A.05, A.08, A.10, A.18, (II), A(II), A.05(II), A.08(II), A.082(II), A.10(II), A.18(II), C.05, C.07, C.05(II), C.07(II), H, H(II), H.05(II), H.08(II), HC.20(II), HC.20(II), M, M(II), M.05(II), MC.20(II)
Universal	Universal Solar Modules with 35 mm frames UNI-xxx-yyyZZZ-aa Where “yyy” can be 108, 120 or 144; “ZZZ” can be M, MH, BMH; and “aa” can be blank, BB or DG
URE	URE modules with 30 and 35 mm frames DyZxxxaa Where “D” can be D or F; “y” can be A, B, 6 or 7; “Z” can be F, K, L or M; and “aa” can be B7G, B8G, BFG, BFG-BB, C8G, DFG-BB, H3A, H4A, H8A, L4A, E7G-BB, E8G, E8G-BB, MFG, MFG-BB or M7G-BB
Vikram	Vikram solar modules with 30, 35 and 40 mm frames XVSyy.ZZ.AAA.bb Where “X” can be blank, Hypersol, Paradea, Prexos or Somera; “yy” can be M, P, MBB, MDH, MDHT, MH, MS, MHBB, or PBB; “ZZ” can be 54, 60, 72 or 78; “AAA” is the module power rating; and “bb” can be 03, 04 or 05
VSUN	VSUN modules with 30, 35 and 40 mm frames VSUNxxxA-YYz-aa Where “A” can be blank or N; “YY” can be 60, 72, 96, 108, 120, 132, 144 or 156; “z” can be M, P, MH, PH, BMH, BMHR or BMHS; and “aa” can be blank, BB, BW, DG, DG-BB or DG-BT

MANUFACTURER	LIST OF UL 2703 APPROVED PV MODULES*
Waaree	Waaree modules with 35 and 40 mm frames AAyy-xxx Where “AA” canbe WS or Bi; and “yy” can be blank, M, MB, MD, MDI, MDIB, 33, 55, 57 or 66
Winaico	Winaico modules with 35 and 40 mm frames Wsy-xxxZa Where “y” can be either P or T; “Z” can be either M, P, or MX; and “a” can be blank or 6
Yingli	Yingli modules with 30, 35 and 40 mm frames YLxxxZ-yy Where “Z” can be D or P; “yy” can be blank, 29b, 30b, 34d, 35b, 36b, 37e 1/2, 37e 1500V 1/2, 40d, 49e 1/2 or 49e 1500V 1/2
Yotta	Yotta modules with 30 and 35 mm frames YSM-Bxxx-ZZ-72-1 Where “ZZ” can be 06 or 10
Zeus	Zeus Solar Modules with 40 mm frames ZxxxM-HB
ZN Shine	ZN Shine modules with 30 and 35 mm frames ZXMY-AAA-xxx/M Where “Y” can be 6, 7 or 8; “AAA” can be 72, NH120, NH144, NHDB144, NHLDD144, SH108, SH144, SHDB120, SHDB144, SHLDD120, SHLDD144, TP120, TPLDD120, UHLDD108 or UHLDD144; and “M” can be M or N

IRONRIDGE

Make Solar Stronger®

IronRidge®, an Enstall® company, designs and manufactures structural hardware for residential and commercial solar systems. For almost 30 years, we have worked closely with solar professionals to build strong, simple, and cost-effective products. The QuickMount brand family of products are manufactured and sold by IronRidge.

28357 INDUSTRIAL BOULEVARD HAYWARD, CA 94545

800-227-9523 | SALES@IRONRIDGE.COM