This catalog includes components for IronRidge® solar mounting systems.
Our products are supported with powerful online tools and experienced sales and service teams, who are dedicated to making solar easy to design, procure and install. Whether you have initial questions or need immediate assistance, our team is ready to help: 1-800-227-9523 and support@ironridge.com

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Overview

The **IronRidge® Flush Mount System** is a rail based system for mounting solar modules on pitched roofs. The system utilizes IronRidge XR Rails® with a variety of roof attachments to support extreme wind and snow loads. The entire system uses only aluminum and stainless steel components to ensure complete corrosion resistance.

The **IronRidge® Tilt Mount System** is an attached, fixed-tilt assembly for mounting solar modules on flat roofs. The system pairs IronRidge XR Rails® with North & South Tilt Legs to achieve a wide range of mounting angles, while also supporting extreme wind and snow loads.

The **IronRidge® Ground Mount System** scales to support a wide range of site and terrain challenges. This system consists of components that allow for installer-supplied steel pipe or mechanical tubing to combine with our XR100® or XR1000® Rail assembly for simple, rapid, cost effective ground mounting.

The **IronRidge® BX Ballasted System** delivers superior power density and design flexibility to flat roof solar arrays. Made of a glass reinforced composite, the BX Chassis is engineered for extreme structural loading, yet is also shaped to be roof-friendly and easy to install.

The **QuickMount®** product line is now a part of the IronRidge® solar mounting family of components. For more information on QuickMount® products, visit [QuickMountPV.com](http://QuickMountPV.com) or contact support@ironridge.com.
XR Rail® Assembly Overview

Our product development team strives to keep things simple and intuitive for installers while accommodating a wide range of mounting scenarios. As a result, we offer three complementary types of rail within the XR Rail® Family. Please refer to our website or contact our customer service team so that we can best assist in determining which rail assembly is best for you and your specific project.
The XR Rail Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail to match. XR1000® is a heavyweight among solar mounting rails. It’s built to handle extreme climates and spans 12 feet or more for commercial applications. XR100® is the ultimate residential mounting rail. It supports a range of wind and snow conditions, while also maximizing spans. XR10® is a sleek, low-profile mounting rail, perfectly matched to regions with light or no snow. It achieves 6 foot spans, while also staying light and economical.
BOSS® Bonded Structural Splices

The BOSS® (Bonded Structural Splice) provides a truly seamless, hidden connection for XR Rails®. Built-in, one-piece springs feature bonding teeth that bite inside the rail, creating a bonded rail connection and meeting all UL standards without any extra tools or hardware. In addition, BOSS® eliminates installation restrictions. Place it anywhere except the outside cantilever.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>XR10-BOSS-01-M1</td>
<td>Bonded Structural Splice, XR10</td>
</tr>
<tr>
<td>XR100-BOSS-01-M1</td>
<td>Bonded Structural Splice, XR100</td>
</tr>
<tr>
<td>XR1000-BOSS-01-M1</td>
<td>Bonded Structural Splice, XR1000</td>
</tr>
</tbody>
</table>
Universal Fastening Objects (UFO®)

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UFO-CL-01-A1</td>
<td>Universal Module Clamp, Clear</td>
</tr>
<tr>
<td>UFO-CL-01-B1</td>
<td>Universal Module Clamp, Black</td>
</tr>
</tbody>
</table>

The IronRidge UFO® (Universal Fastening Object) is a single-size, single-piece fastener, built to quickly and securely bond any solar modules to XR Rails. It comes fully-lubricated and fully-assembled, and it looks just as good as it performs. When combined with a Stopper Sleeve, the UFO® functions as an end clamp. It comes in two finishes: Clear and Black.
## Stopper Sleeves

The IronRidge Stopper Sleeve snaps onto the IronRidge UFO® to transform it into an end clamp. It comes in mill and black finishes and is sized to match a range of module frames.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description (Mill)</th>
<th>Item Number</th>
<th>Description (Black)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UFO-STP-30MM-M1</td>
<td>Stopper Sleeve, 30MM</td>
<td>UFO-STP-30MM-B1</td>
<td>Stopper Sleeve, 30MM</td>
</tr>
<tr>
<td>UFO-STP-32MM-M1</td>
<td>Stopper Sleeve, 32MM</td>
<td>UFO-STP-32MM-B1</td>
<td>Stopper Sleeve, 32MM</td>
</tr>
<tr>
<td>UFO-STP-33MM-M1</td>
<td>Stopper Sleeve, 33MM</td>
<td>UFO-STP-33MM-B1</td>
<td>Stopper Sleeve, 33MM</td>
</tr>
<tr>
<td>UFO-STP-35MM-M1</td>
<td>Stopper Sleeve, 35MM</td>
<td>UFO-STP-35MM-B1</td>
<td>Stopper Sleeve, 35MM</td>
</tr>
<tr>
<td>UFO-STP-38MM-M1</td>
<td>Stopper Sleeve, 38MM</td>
<td>UFO-STP-38MM-B1</td>
<td>Stopper Sleeve, 38MM</td>
</tr>
<tr>
<td>UFO-STP-40MM-M1</td>
<td>Stopper Sleeve, 40MM</td>
<td>UFO-STP-40MM-B1</td>
<td>Stopper Sleeve, 40MM</td>
</tr>
<tr>
<td>UFO-STP-46MM-M1</td>
<td>Stopper Sleeve, 46MM</td>
<td>UFO-STP-46MM-B1</td>
<td>Stopper Sleeve, 46MM</td>
</tr>
</tbody>
</table>
CAMO™

CAMO™ is a tool-less, end-cam clamp, designed to bond and secure while staying completely hidden under the solar module. It comes as one piece, fully assembled, and has been tested up to 5 times to ensure bonding after installation, removal, and re-installation. Certified to IBC ASCE/SEI-7 and UL 2703.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAMO-01- M1</td>
<td>Hidden End Cam (Universal Clamp)</td>
</tr>
</tbody>
</table>

Calculating Rail Length

Calculate the row lengths as follows:

1. Add module widths.
2. Add width of UFO® between modules.
3. Add allowances for UFO® and Stopper Sleeves on ends of rail.

Depending on the location of the UFO®, the clearance values will differ.

<table>
<thead>
<tr>
<th>Location</th>
<th>UFO®</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid Clamp</td>
<td>0.375”</td>
</tr>
<tr>
<td>End Clamp</td>
<td>1.0”</td>
</tr>
</tbody>
</table>

For example, to mount five modules that are each 40” wide (in portrait), the row length is calculated as follows:

<table>
<thead>
<tr>
<th>Step</th>
<th>UFO®</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Add module widths</td>
<td>5 x 40” = 200”</td>
</tr>
<tr>
<td>2. Add width of mid clamps between modules</td>
<td>4 x 0.375” = 1.5”</td>
</tr>
<tr>
<td>3. Add allowances for end clamps</td>
<td>2 x 1” = 2</td>
</tr>
<tr>
<td>Total length of row</td>
<td>203.5” = 16.96’</td>
</tr>
</tbody>
</table>

Two 17’ rails will be required to mount this row of five modules.

End Caps

End Caps provide a finished look to rails, while preventing the collection of water and debris inside the rail. End Caps are molded from black polycarbonate with UV protection.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>XR-1000-CAP</td>
<td>XR1000® End Cap, 10 Sets Per Bag</td>
</tr>
<tr>
<td>XR-100-CAP</td>
<td>XR100® End Cap, 10 Sets Per Bag</td>
</tr>
<tr>
<td>XR-10-CAP</td>
<td>XR10® End Cap, 10 Sets Per Bag</td>
</tr>
</tbody>
</table>

End Caps provide a finished look to rails, while preventing the collection of water and debris inside the rail. End Caps are molded from black polycarbonate with UV protection.
Wire Clips

Wire Clips fit XR Rails®, and accommodate up to ten 5mm panel wires, or one MC4, one Enphase wire and one dual Enphase wire. Molded from black polycarbonate with UV protection.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>29-4000-077</td>
<td>Wire Clip, 20pcs</td>
</tr>
</tbody>
</table>
Grounding Lugs

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>XR-LUG-03-A1</td>
<td>Grouding Lug, Low Profile</td>
</tr>
</tbody>
</table>

A single Grounding Lug connects an entire row of PV modules to the grounding conductor.
Microinverter / Power Optimizer Bonding Hardware

Use IronRidge® Microinverter Bonding Hardware to bond compatible microinverters and power optimizers to the racking system.

**COMPATIBLE PRODUCTS**
- Enphase - M250-72, M250-60, M215-60, C250-72, S230, S280
- Darfon - MIG240, MIG300, G320, G640
- Solar Edge - P300, P320, P400, P405, P600, P700, P730, P800p, P800s

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHW-M1-01-A1</td>
<td>Microinverter Bonding Hardware, T-Bolt</td>
</tr>
</tbody>
</table>
Frameless Module Hardware Kits

Use the Frameless Hardware Kit with IronRidge's Frameless Clamps to mount frameless solar modules (one piece needed per clamp).

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMLS-BHW</td>
<td>Kit, 4pcs, Frameless Module Clamp Bonding Hardware, T-Bolt</td>
</tr>
</tbody>
</table>
Frameless Module Mid Clamps

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMLS-MC-001-B</td>
<td>Frameless Module Mid Clamp, Black</td>
</tr>
</tbody>
</table>

Use IronRidge's Frameless Module Mid Clamp to mount frameless solar modules.
Frameless Module End Clamps

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMLS-EC-001-B</td>
<td>Frameless Module End Clamp, Black</td>
</tr>
</tbody>
</table>

Use IronRidge’s Frameless Module End Clamp to mount frameless solar modules.
The IronRidge Flush Mount System is a rail based system for mounting solar modules on pitched roofs. The system utilizes IronRidge XR Rails® with a variety of roof attachments to support extreme wind and snow loads. The entire system uses only aluminum and stainless steel components to ensure complete corrosion resistance.
FlashFoot2®

IronRidge FlashFoot2® features a completely redesigned seal that is both elevated and fully encapsulated, protecting against water intrusion. The flashing has a 9” x 12” profile, which minimizes interference with roofing nails. FlashFoot2® has alignment markers help to quickly align the flashing with pilot holes. Twisting on the Cap makes FlashFoot2® ready to mount XR Rails®. Comes with flashing, lag bolt, and Cap.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>FF2-01-M2</td>
<td>FlashFoot2, Mill</td>
</tr>
<tr>
<td>FF2-01-B2</td>
<td>FlashFoot2, Black</td>
</tr>
</tbody>
</table>
FlashVue®

We set out to design a flashing that checked all the boxes: fully waterproof, fast and easy to install correctly, economical, and strong enough to handle every environmental condition. FlashVue® does it all. The optimized flashing design features a large viewport, for easy alignment with the pilot hole. And the GripCap® and GripCap+® sit snugly in place, so the lag can be driven single-handedly.

GripCap+® adds another full inch of height and replaces the standard GripCap® on FlashVue®. This is helpful on older roofs with varying undulations that can make low-profile mounts a challenge.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FV-01-M1</td>
<td>FlashVue®, Mill (GripCap® Included)</td>
</tr>
<tr>
<td>FV-01-B1</td>
<td>FlashVue®, Black (GripCap® Included)</td>
</tr>
<tr>
<td>FV-GCP-01-B1</td>
<td>GripCap+®, Black</td>
</tr>
</tbody>
</table>

GripCap+® (Sold Separately)
Knockout Tile

IronRidge Knockout Tile is a tile replacement mount that installs fast and works on flat, S, or W tiles, as well as, on roofs with battens or roofs that are battenless. Its simple base allows you to put it anywhere within the flashing pad on the rafter, and just punch a small hole in the flashing where it is needed—with no cutting or grinding. Open-Slotted L-Foot included. Knockout Tile is fully tested to our rigorous standards, certified as a system with XR Rail® and covered by our 25-year warranty. The Knockout Tile Deck Flashing can add an extra layer of water protection, when necessary.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KOB-1L02-B1</td>
<td>Tile Replacement Base (Incl. 1 Open-Slotted L-Foot (Black), 1 Lag and Hardware)</td>
</tr>
<tr>
<td>KOF-F01-T1</td>
<td>Tile Replacement Flashing Flat, Tan</td>
</tr>
<tr>
<td>KOF-S01-T1</td>
<td>Tile Replacement Flashing S, Tan</td>
</tr>
<tr>
<td>KOF-W01-T1</td>
<td>Tile Replacement Flashing W, Tan</td>
</tr>
<tr>
<td>KODF-1L01-M1</td>
<td>Knockout Tile Deck Flashing (Optional)</td>
</tr>
</tbody>
</table>
All Tile Hook & Deck Flashing

All Tile Hook is a simple, adjustable roof attachment for mounting solar on tile roofs. It works with flat, S, and W tiles, can be used with our universal Tile Hook Deck Flashing (compatible with both IronRidge All Tile Hook and Quick Hook®), and utilizes 7/16” hardware—making it a single socket installation. All Tile Hook is fully tested to our rigorous test standards, certified as a system with XR rail and covered by our 25-year warranty.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATH-01-M1</td>
<td>All Tile Hook (Incl. 2 Lags)</td>
</tr>
<tr>
<td>QM-THDF-01-M1</td>
<td>QuickMount® Tile Hook Deck Flashing</td>
</tr>
</tbody>
</table>
Slotted L-Foot

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LFT-03-M1</td>
<td>Slotted L-Foot, Mill</td>
</tr>
<tr>
<td>LFT-03-B1</td>
<td>Slotted L-Foot, Black</td>
</tr>
</tbody>
</table>

Our Slotted L-feet are engineered for most roof mounting applications. Vertical slots allow for easily dropping in rails with pre-attached hardware and provide adjustability to account for roof irregularities. Our L-feet are manufactured using 6000 series aluminum and are also available in black anodized finish.
Bonding Attachment Hardware

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHW-SQ-02-A1</td>
<td>Square Bolt Bonding Hardware, 1 pc</td>
</tr>
<tr>
<td>BHW-TB-02-A1</td>
<td>T-Bolt Bonding Hardware, 1 pc</td>
</tr>
</tbody>
</table>

Attachment bonding hardware available in both square bolt and t-bolt options, based on personal preference. Bonding hardware is used to attach and bond the rail to the FlashFoot2®, Slotted L-Foot, or a third-party roof attachment. The step nut allows installers to use the same socket as the rest of the system.
IronRidge Contour™ Trim elevates the look of any solar array by providing a sleek trim (or skirt) across the south edge or around the perimeter to hide components that are visible beneath the solar panels. Homeowners want the solar on their home to meet their energy needs, while not detracting from their home’s aesthetics. Contour™ will make any array look great, and have your crew on and off the roof in a snap.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTR-TR84-01-B1</td>
<td>Contour Trim, 84”</td>
</tr>
<tr>
<td>CTR-SPLC-01-M1</td>
<td>Contour Splice</td>
</tr>
<tr>
<td>CTR-CL-01-B1</td>
<td>Contour Clamp</td>
</tr>
<tr>
<td>CTR-OUT-01-B1</td>
<td>Contour Corner Cap, Outer</td>
</tr>
<tr>
<td>CTR-IN-01-B1</td>
<td>Contour Corner Cap, Inner</td>
</tr>
<tr>
<td>CTR-CAP-01-B1</td>
<td>Contour End Caps (L-R Pair)</td>
</tr>
</tbody>
</table>

Contour™ Trim

Contour™ Splice

Contour™ Clamp

Contour™ Outer Corner Cap

Contour™ Inner Corner Cap

Contour™ End Caps
The IronRidge® Tilt Mount System is an attached, fixed-tilt assembly for mounting solar modules on flat roofs. The system pairs IronRidge XR Rails® with North & South Tilt Legs to achieve a wide range of mounting angles, while also supporting extreme wind and snow loads. The entire system uses only aluminum and stainless steel components to ensure complete corrosion resistance.
Fixed Tilt Legs

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM-FTL-010</td>
<td>Kit, Fixed Tilt Leg, 10”, Mill</td>
</tr>
<tr>
<td>TM-FTL-015</td>
<td>Kit, Fixed Tilt Leg, 15”, Mill</td>
</tr>
<tr>
<td>TM-FTL-020</td>
<td>Kit, Fixed Tilt Leg, 20”, Mill</td>
</tr>
<tr>
<td>TM-FTL-025</td>
<td>Kit, Fixed Tilt Leg, 25”, Mill</td>
</tr>
<tr>
<td>TM-FTL-030</td>
<td>Kit, Fixed Tilt Leg, 30”, Mill</td>
</tr>
</tbody>
</table>

Fixed Tilt Leg Kits are available in multiple lengths to support a wide range of mounting angles. The Fixed Tilt Leg Kit includes a North & South Tilt Leg, plus hardware for attaching to XR Rails®. South Tilt Legs come assembled and feature angle indicator markings to simplify installation. North Tilt Legs consist of a slotted aluminum tube and a pivot bracket for full adjustability.
Flattop Roof Attachment

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRA-BASE-01-M1</td>
<td>Flat Roof Attachment, Mill</td>
</tr>
<tr>
<td>FRA-M60T-GF-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, TPO, GAF, White</td>
</tr>
<tr>
<td>FRA-M60P-GF-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, PVC, GAF, White</td>
</tr>
<tr>
<td>FRA-M60T-JM-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, TPO, Johns Manville, White</td>
</tr>
<tr>
<td>FRA-M60T-MH-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, TPO, Mule Hide, White</td>
</tr>
<tr>
<td>FRA-M60P-MH-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, PVC, Mule Hide, White</td>
</tr>
<tr>
<td>FRA-M60T-FS-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, TPO, Firestone, White</td>
</tr>
<tr>
<td>FRA-M60T-CA-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, TPO, Carlisle, White</td>
</tr>
<tr>
<td>FRA-M60K-CA-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, KEE, Carlisle, White</td>
</tr>
<tr>
<td>FRA-M60P-SN-W1</td>
<td>Flat Roof Attachment, Membrane, 60 mil, PVC, Sarnafil, White</td>
</tr>
</tbody>
</table>

The IronRidge® Flat Roof Attachment combines a high-strength cast aluminum base with a 16-point fastening pattern to enable the widest range of design options on low-sloped roofs. In addition, it is compatible with most of the common low-slope roofing materials to ensure a system that is both easy to integrate and engineered down to the deck.
BX Overview

The IronRidge® BX System is designed to meet the needs of commercial solar—navigating complex roof layouts, while also handling the most extreme environmental conditions. At the very core of the system is the Chassis, a ballasted mount made of lightweight glass-reinforced composite and molded specifically for the needs and challenges of solar installations.

Download AutoCAD File
Download PDF Preview
BX Chassis

At the core of the BX system is the Chassis, a ballasted mount made of BASF Ultramid. Ultramid polyamides (nylon) are exceptional for their high mechanical strength, rigidity and thermal stability. Moreover, Ultramid polyamides afford good impact resistance even at low temperatures, advantageous sliding friction properties and problem-free processing. Chassis come in 5° and 10° options.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BX-5D-P1</td>
<td>BX Chassis, 5 Degrees</td>
</tr>
<tr>
<td>BX-10D-P1</td>
<td>BX Chassis, 10 Degrees</td>
</tr>
</tbody>
</table>
BX Clamps

The Top and Bottom Clamps of the BX System combine to create a multi-directional grip on the module from above and below, ensuring a strong connection regardless of force direction.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
<th>Item Number</th>
<th>Description (Black)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BX-TCL-30MM-M1</td>
<td>BX Top Clamp, 30MM, Mill</td>
<td>BX-BCL-M1</td>
<td>BX Bottom Clamp, Mill</td>
</tr>
<tr>
<td>BX-TCL-32MM-M1</td>
<td>BX Top Clamp, 32MM, Mill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BX-TCL-33MM-M1</td>
<td>BX Top Clamp, 33MM, Mill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BX-TCL-35MM-M1</td>
<td>BX Top Clamp, 35MM, Mill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BX-TCL-38MM-M1</td>
<td>BX Top Clamp, 38MM, Mill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BX-TCL-40MM-M1</td>
<td>BX Top Clamp, 40MM, Mill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BX-TCL-46MM-M1</td>
<td>BX Top Clamp, 46MM, Mill</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
BX Bonding Jumpers

8” Module Bonding Jumper

38” Row Bonding Jumper

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BX-MB8-M1</td>
<td>8” Module Bonding Jumper</td>
</tr>
<tr>
<td>BX-RB38-M1</td>
<td>38” Row Bonding Jumper</td>
</tr>
</tbody>
</table>

8” Module Bonding Jumper bonds adjacent modules in the array, while the 38” Row Bonding Jumper completes row-to-row bonding in the array. BX Bonding Jumpers use a press-on installation, being made of tin-plate copper wire and providing a factory-crimped connection.
BX MLPE Mounting Hardware

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BX-CMA-MI-M1</td>
<td>BX MLPE Mounting Assembly</td>
</tr>
</tbody>
</table>

Optional mounting hardware for mounting MLPE devices to BX Chassis. Kit includes stainless steel 300 series cap screw and cage nut.
BX PV Module Grounding Lug

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PV-LUG-01-A1</td>
<td>PV Module Grounding Lug</td>
</tr>
</tbody>
</table>

At the core of the BX system is the Chassis, a ballasted mount made of BASF Ultramid. Ultramid polyamides (nylon) are exceptional for their high mechanical strength, rigidity and thermal stability. Moreover, Ultramid polyamides afford good impact resistance even at low temperatures, advantageous sliding friction properties and problem-free processing. Chassis come in 5° and 10° options.
BX Cable Ties

Complete wire management with weatherproof ties that are made of UV stabilized polyamide. Cable Ties come in 12” length, bundles of 100. Cable Tie with Edge Clips help to manage wires underneath module and Chassis flange by clipping to module and Chassis.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BX-CT-UV-P1</td>
<td>BX Cable Tie, UV Rated, Black</td>
</tr>
<tr>
<td>BX-CT-EC-P1</td>
<td>BX Cable Tie and Edge Clip, UV Rated, Black</td>
</tr>
</tbody>
</table>

Cable Tie

Cable Tie & Edge Clip
BX Inverter Mounting Assembly

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BX-CMA-SI-M1</td>
<td>BX Inverter Mounting Assembly</td>
</tr>
</tbody>
</table>

The BX Inverter Mounting Assembly includes all parts needed (Chassis, XR10® Rail, and hardware) to create a mounting platform for an inverter (with up to a 4’ base).
BX Flat Roof Mounting Assembly

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BX-MA-FRA-M1</td>
<td>BX Flat Roof Mounting Assembly</td>
</tr>
</tbody>
</table>

The BX Flat Roof Mounting Assembly provides parts (to be combined with the IronRidge Flat Roof Attachment and locally-sourced strut and channel nuts) to add Flat Roof Attachment anchors to the BX System.
The IronRidge® Ground Mount System scales to support a wide range of site and terrain challenges. This system consists of components that allow for installer-supplied steel pipe or mechanical tubing to combine with the XR100® or XR1000® rail assembly for simple, rapid, cost effective ground mounting.
Top Caps

Our heavy duty cast aluminum IronRidge Top Caps secure quickly and easily to galvanized schedule 40 pipe (ASTM A53 Grade B) or mechanical tubing (i.e. Allied Flo-Coat, Gatorshield, Gatorshield-Plus) piers with 2 set screws. Available in sizes that fit either 2” or 3” steel pipe and mechanical tubing, the top cap supports cross pipes with U-bolt hardware. The top caps are manufactured using cast aluminum ALMAG 535 and come with a mill finish. As a reminder, the substructure pipe and mechanical tubing are not included.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>70-0200-SGA</td>
<td>SGA Top Cap at 2”, Mill</td>
</tr>
<tr>
<td>70-0300-SGA</td>
<td>SGA Top Cap at 3”, Mill</td>
</tr>
</tbody>
</table>

2” Pipe/Tubing Outside Diameter = 2.375” (2 3/8”)
3” Pipe/Tubing Outside Diameter = 3.5”

2” Schedule 40 Pipe Wall Thickness = 0.154”
2” Allied Mechanical Tubing Wall Thickness = 0.109”

3” Schedule 40 Pipe Wall Thickness = 0.216”
3” Allied Mechanical Tubing Wall Thickness = 0.165”
Bonded Rail Connectors

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM-BRC-002</td>
<td>Ground Mount Bonded Rail Connector - 2&quot;</td>
</tr>
<tr>
<td>GM-BRC-003</td>
<td>Ground Mount Bonded Rail Connector - 3&quot;</td>
</tr>
</tbody>
</table>

Our Bonded Rail Connectors attaches and bonds horizontal cross pipes to XR100® or XR1000® Rails. Each rail requires two connectors to create a secure and bonded attachment. Available for both 2” and 3” sizes, these Rail Connectors are manufactured using extruded 6000 series aluminum. Review the images on the section overview for added context.
Hex Head Set Screws

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM-HSHW-01-M1</td>
<td>Hex Head Set Screw for Ground Screws</td>
</tr>
</tbody>
</table>

To connect the IronRidge® Ground Mount System to your ground screw, you simply insert the downtube pipe into the top of the installed ground screw and tighten the required number of hex head set screws to the appropriate torque.
Diagonal Braces

This optional diagonal brace is for installations that require extra support. Pieces include the brace, sleeves, and hardware for installation between one north and south pair of support legs.

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM-DB2-SLV01-M1</td>
<td>GM 2” Sleeve, Diagonal Brace</td>
</tr>
<tr>
<td>GM-DB2-TB02-M1</td>
<td>GM Diagonal Brace, 2” Square Tube, 106.5” LG (For 2” Pipe)</td>
</tr>
<tr>
<td>GM-DB2-TB01-M1</td>
<td>GM Diagonal Brace, 2” Square Tube, 88.5” LG (For 2” Pipe)</td>
</tr>
<tr>
<td>GM-DB3-SLV01-M1</td>
<td>3” Sleeve, Diagonal Brace</td>
</tr>
<tr>
<td>GM-DB3-TB02-M1</td>
<td>GM Diagonal Brace, 2.5” Square Tube, 105.0” LG (For 3” Pipe)</td>
</tr>
<tr>
<td>GM-DB3-TB01-M1</td>
<td>GM Diagonal Brace, 2.5” Square Tube, 87.0” LG (For 3” Pipe)</td>
</tr>
<tr>
<td>GM-DB-HW01-M1</td>
<td>GM Diagonal Brace Hardware (For 2” &amp; 3” Pipe)</td>
</tr>
</tbody>
</table>
Pipe & Mechanical Tubing Summary

To save installers money, we have engineered the use of locally sourced 2” or 3” schedule 40 steel pipe or mechanical tubing as the primary substructure element of our Ground Mount System. By allowing customers to source these materials locally, installers benefit from reduced shipping, product and inventory costs, and shortened delivery times. We provide intuitive online tools that will help you quickly and easily craft a bill of materials to simplify substructure costing and purchasing.

When additional assistance is needed to address ground mounting your array, please contact our customer service team at 800-227-9523, or at support@ironridge.com. Many IronRidge customers prefer to use our online Design Assistant, found at www.ironridge.com/design.

A soils report is widely considered the most reliable and accurate method for determining the type and depth of piers for any Ground Mount System. Soils reports can be obtained through a Geotechnical Engineer. A commonly relied upon alternative to obtaining a site-specific soils report is to use the IBC 2006 Table 1804.2. The advantage of purchasing a site specific soils report is that the information provided often results in shorter embedment depths, thus lowering both material and installation cost.

In many cases installers rely on our easy to use PE stamped certification and post/pier installation guides that our engineering staff has made available for download. You will find these and other IronRidge Ground Mount System documents located at ironridge.com/products/groundmounting/resources.

Schedule 40 Pipe

ASTM A53 Grade B standard weight (schedule 40) steel pipes or structural equivalent, with minimum geometry and material properties of:

- 3” pipe: OD 3.5”, wall thickness 0.216”, 35ksi yield strength
- 2” pipe: OD 2.38”, wall thickness 0.154”, 35ksi yield strength

Mechanical Tubing

Steel mechanical tubing or structural equivalent, with minimum geometry and material properties of:

- 3” Tubing: OD 3.5”, wall thickness 0.165”, 45ksi yield strength
- 2” Tubing: OD 2.375”, wall thickness 0.109”, 50ksi yield strength

*Always check local building codes for pier mounting requirements specific to your location.
### QRail® Assembly

#### Rails

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMR-RL14-A-60</td>
<td>QRail Light, 14 ft., Mill</td>
</tr>
<tr>
<td>QMR-RL14-B-60</td>
<td>QRail Light, 14 ft., Black</td>
</tr>
<tr>
<td>QMR-RS14-A-60</td>
<td>QRail Standard, 14 ft., Mill</td>
</tr>
<tr>
<td>QMR-RS14-B-60</td>
<td>QRail Standard, 14 ft., Black</td>
</tr>
</tbody>
</table>

#### Rail Skirt

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMR-QS14-B-24</td>
<td>QSkirt 14ft</td>
</tr>
<tr>
<td>QMR-QSS-A-12</td>
<td>QSkirt Splice</td>
</tr>
<tr>
<td>QMR-QSE-B-12</td>
<td>QSkirt End Cap Pairs</td>
</tr>
</tbody>
</table>

#### Rail Splices

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMR-ISL-A-15</td>
<td>QSplice Internal, Light, Mill</td>
</tr>
<tr>
<td>QMR-ISS-A-15</td>
<td>QSplice Internal, Standard, Mill</td>
</tr>
</tbody>
</table>

#### Rail End Caps

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>QMR-CPL-B-50</td>
<td>End Cap Light, Black (5 Bags of 10)</td>
</tr>
<tr>
<td>QMR-CPS-B-50</td>
<td>End Cap Standard, Black (5 Bags of 10)</td>
</tr>
</tbody>
</table>

#### Rail Mid Clamps

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMR-UMC3045-A-20</td>
<td>Universal Mid Clamp, 30-45mm, w/ Bonding, Mill</td>
</tr>
<tr>
<td>QMR-UMC3045-B-20</td>
<td>Universal Mid Clamp, 30-45mm, w/ Bonding, Black</td>
</tr>
</tbody>
</table>

#### Rail End Clamps

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMR-UEC3045-A-20</td>
<td>Universal End Clamp, 30-45mm, Mill</td>
</tr>
<tr>
<td>QMR-UEC3045-B-20</td>
<td>Universal End Clamp, 30-45mm, Black</td>
</tr>
<tr>
<td>QMR-HEC-A-20</td>
<td>Hidden End Clamp, Mill</td>
</tr>
</tbody>
</table>

#### Rail Attachment & Grounding

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMR-TB20P-A-300</td>
<td>20mm T-Bolt w/ Nut, Patch, SS (6 Bags of 50)</td>
</tr>
<tr>
<td>QMR-GLQ-A-50</td>
<td>Grounding lug, QRail, AL, w/T-Bolt</td>
</tr>
</tbody>
</table>
QRail® Assembly (Continued)

L-Feet

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>QM-TLF5-M1</td>
<td>L-Foot, Fixed Tilt, 5 Degree, Mill</td>
</tr>
<tr>
<td>QM-TLF10-M1</td>
<td>L-Foot, Fixed Tilt, 10 Degree, Mill</td>
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</tbody>
</table>

Composition Shingle Mounts

HUG™ Halo UltraGrip™

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>QM-HUG-01-M1</td>
<td>Halo UltraGrip - Mill</td>
</tr>
<tr>
<td>QM-HUG-01-B1</td>
<td>Halo UltraGrip - Black</td>
</tr>
<tr>
<td>RD-1430-01-M1</td>
<td>RD Structural Screw</td>
</tr>
</tbody>
</table>

L-Mount®

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QM-LM-01-M1</td>
<td>L-Mount, 9&quot; x 12&quot;, Mill</td>
</tr>
<tr>
<td>QM-LM-01-B1</td>
<td>L-Mount, 9&quot; x 12&quot;, Black</td>
</tr>
<tr>
<td>QMLM-ST-B-12</td>
<td>L-Mount 5/16&quot; Structural Screw, 9&quot; x 12&quot;, Black</td>
</tr>
</tbody>
</table>

 Comp Mounts

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>QMNC-A-12</td>
<td>QBase Comp Mount, 3.25&quot; Post - 3.75&quot; Net, 12&quot; x 12&quot;, Mill</td>
</tr>
</tbody>
</table>

Conduit Mounts

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QM-BUG-01-M1</td>
<td>BUG, Conduit Mount, Mill (10 Pairs Per Box)</td>
</tr>
<tr>
<td>QMCC-A-12</td>
<td>Classic Conduit Composition Mount, 9&quot; x 12&quot;, Mill</td>
</tr>
<tr>
<td>QMCPA-A-12</td>
<td>Conduit Penetration Flashing, Mill</td>
</tr>
</tbody>
</table>
## Tile Roof Mounts

### QuickHook for Side Mounted Rails

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMHSS-NF-A-12</td>
<td>Quick Hook Standard Height Hook, (No Flashing), Mill</td>
</tr>
<tr>
<td>QMHL5-NF-A-12</td>
<td>Quick Hook Low Height Hook, (No Flashing), Mill</td>
</tr>
</tbody>
</table>

### QBase Universal Tile Mount

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMUTM-A-12</td>
<td>QBase Universal Mount, 6.5&quot; Post - 7&quot; Net, 18&quot; x 18&quot;, Mill</td>
</tr>
</tbody>
</table>

### Tile Replacement

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>QMTR-BM-A-12</td>
<td>Tile Replacement, Base Mount, Mill</td>
</tr>
<tr>
<td>QMTR-S3.25-A-12</td>
<td>Tile Replacement, S-Tile, 3-1/4&quot; Post, Mill</td>
</tr>
<tr>
<td>QMTR-S3.25-B-12</td>
<td>Tile Replacement, S-Tile, 3-1/4&quot; Post, Black</td>
</tr>
<tr>
<td>QMTR-F3.25-A-12</td>
<td>Tile Replacement, Flat Tile, 3-1/4&quot; Post, Mill</td>
</tr>
<tr>
<td>QMTR-F3.25-B-12</td>
<td>Tile Replacement, Flat Tile, 3-1/4&quot; Post, Black</td>
</tr>
<tr>
<td>QMTR-W4-A-12</td>
<td>Tile Replacement, W-Tile, 4&quot; Post, Mill</td>
</tr>
<tr>
<td>QMTR-W4-B-12</td>
<td>Tile Replacement, W-Tile, 4&quot; Post, Black</td>
</tr>
<tr>
<td>QMC-TRF-F-A-12</td>
<td>Tile Replacement Flashing, Flat Tile, Mill</td>
</tr>
<tr>
<td>QMC-TRF-S-A-12</td>
<td>Tile Replacement Flashing, S-Tile, Mill</td>
</tr>
<tr>
<td>QMC-TRF-W-A-12</td>
<td>Tile Replacement Flashing, W-Tile, Mill</td>
</tr>
</tbody>
</table>

### Tile Hook Deck Flashing

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>QM-THDF-01-M1</td>
<td>Tile Hook Deck Flashing, Mill</td>
</tr>
</tbody>
</table>

### Conduit Mounts

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMCMT-A-12</td>
<td>Conduit Mount for Tile, Mill</td>
</tr>
<tr>
<td>QMCPT-A-12</td>
<td>Conduit Penetration Flashing, Tile, Mill</td>
</tr>
</tbody>
</table>
Other Mounts & Accessories

**Metal, Shake & Slate**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QM-LYNX-SS</td>
<td>Lynx™ Standing Seam Metal Roof Clamp</td>
</tr>
<tr>
<td>QMLC-A-12</td>
<td>Classic Shake Mount, Mill, 18x18”</td>
</tr>
<tr>
<td>QMNS-A-12</td>
<td>QBase Metal, Shake &amp; Slate, 3.25” Post - 3.75” Net, Mill</td>
</tr>
</tbody>
</table>

**QBase® Mount (Low Slope Roof Attachment, No Flashing)**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QM-QBB-01-M1</td>
<td>QBase Base (incl. base to post h/w), Mill</td>
</tr>
<tr>
<td>QM-QBP-3.25-M1</td>
<td>QBase 3.25” Post (incl. post to rack h/w), Mill (3.75” Net)</td>
</tr>
<tr>
<td>QM-QBP-4.5-M1</td>
<td>QBase 4.5” Post (incl. post to rack h/w), Mill (5” Net)</td>
</tr>
<tr>
<td>QM-QBP-6.5-M1</td>
<td>QBase 6.5” Post (incl. post to rack h/w), Mill (7” Net)</td>
</tr>
<tr>
<td>QM-QBP-8.5-M1</td>
<td>QBase 8.5” Post (incl. post to rack h/w), Mill (9” Net)</td>
</tr>
<tr>
<td>QM-QBP-11.5-M1</td>
<td>QBase 11.5” Post (incl. post to rack h/w), Mill (12” Net)</td>
</tr>
<tr>
<td>QM-QBP-12.5-M1</td>
<td>QBase 12.5” Post (incl. post to rack h/w), Mill (13” Net)</td>
</tr>
<tr>
<td>QM-QBP-14.5-M1</td>
<td>QBase 14.5” Post (incl. post to rack h/w), Mill (15” Net)</td>
</tr>
<tr>
<td>QM-QBP-17.5-M1</td>
<td>QBase 17.5” Post (incl. post to rack h/w), Mill (18” Net)</td>
</tr>
</tbody>
</table>

**Grounding**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMR-ECW-A-50</td>
<td>WEEB BMC, SS (5 Bags of 10)</td>
</tr>
<tr>
<td>QMR-WC-A-300</td>
<td>Trunk/PV Cable Clip, SS (25 Bags of 12)</td>
</tr>
</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMAFBU-A-25</td>
<td>Accessory Frame Bracket, Universal, Mill</td>
</tr>
<tr>
<td>QM-JBX-RF01-B1</td>
<td>JayBox™ Junction Box, Roof Mount (Comp Shingle)</td>
</tr>
<tr>
<td>QM-JBX-RL02-B1</td>
<td>JayBox™ Junction Box, Rail Mount*</td>
</tr>
</tbody>
</table>

*Rail hardware sold sepearately: BH-W-MI-01-A1 (XR Rails) QMR-TB20P-A-300 (QRail)