

# Parts Catalog

Version 2.31



We've been designing and manufacturing solar mounting products since 1996. Our products are outstanding and our customers consistently rank us as #1 in both customer service and technical support. If you haven't already experienced why, please contact our customer service team at 800-227-9523 or via email at 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.



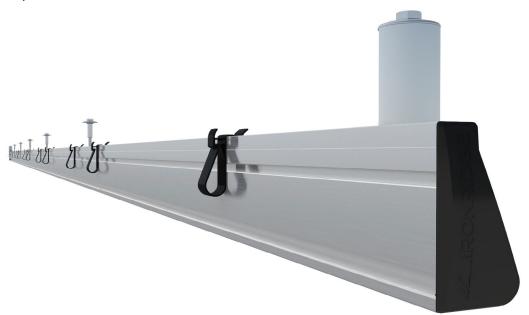
The IronRidge Tilt Mount System is an attached, fixed-tilt assembly for mounting solar modules on flat roofs. The system pairs IronRidge XR Rails with North & South Tilt Legs to achieve a wide range of mounting angles, while also supporting extreme wind and snow loads.



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 XR1000 Rail assembly for simple, rapid, cost effective ground mounting.



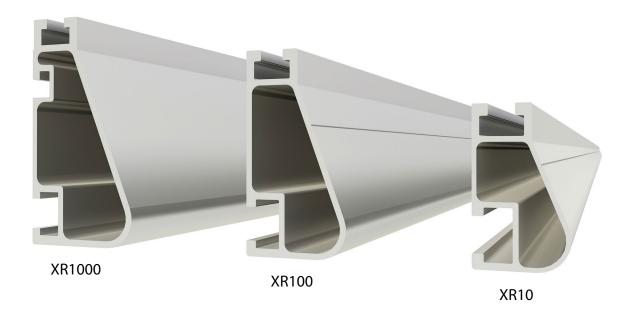
## Rail Assembly Overview



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.

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## **XR Rail**



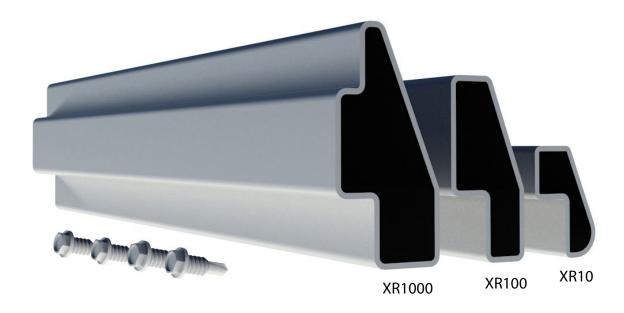
Item Number	Description	Item Number	Description
XR-1000-168A	XR1000, Rail 168" (14 Feet) Clear	XR-10-168A	XR10, Rail 168" (14 Feet) Clear
XR-1000-204A	XR1000, Rail 204" (17 Feet) Clear	XR-10-168B	XR10, Rail 168" (14 Feet) Black
XR-100-168A	XR100, Rail 168" (14 Feet) Clear	XR-10-204A	XR10, Rail 204" (17 Feet) Clear
XR-100-168B	XR100, Rail 168" (14 Feet) Black	XR-10-204B	XR10, Rail 204" (17 Feet) Black
XR-100-204A	XR100, Rail 204" (17 Feet) Clear		
XR-100-204B	XR100, Rail 204" (17 Feet) Black		

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.

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## **Bonded Splices**



Item Number	Description
XR-1000-SPLC-M1	XR1000 Bonded Splice (Incl. Self-tapping Screws)
XR-100-SPLC-M1	XR100 Bonded Splice (Incl. Self-tapping Screws)
XR-10-SPLC-M1	XR10 Bonded Splice (Incl. Self-tapping Screws)

Multiple sections of XR Rails can easily be spliced and bonded together with our bonded splices. The internal splice bars do not interfere with clamping or mounting locations, and offer a seamless appearance. XR Rail Splices are made with extruded 6000 series aluminum.  $12-14 \times 5/8$ " self-drilling screws are included.

**Parts Catalog** 

## Universal Fastening Objects (UFOs)



Item Number	Description
UFO-CL-01-A1	Universal Module Clamp, Clear
UFO-CL-01-B1	Universal Module Clamp, Black

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.

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# **Stopper Sleeves**





Item Number	Description (Mill)	Item Number	Description (Black)
UFO-STP-30MM-M1	Stopper Sleeve, 30MM	UFO-STP-30MM-B1	Stopper Sleeve, 30MM
UFO-STP-32MM-M1	Stopper Sleeve, 32MM	UFO-STP-32MM-B1	Stopper Sleeve, 32MM
UFO-STP-33MM-M1	Stopper Sleeve, 33MM	UFO-STP-33MM-B1	Stopper Sleeve, 33MM
UFO-STP-35MM-M1	Stopper Sleeve, 35MM	UFO-STP-35MM-B1	Stopper Sleeve, 35MM
UFO-STP-38MM-M1	Stopper Sleeve, 38MM	UFO-STP-38MM-B1	Stopper Sleeve, 38MM
UFO-STP-40MM-M1	Stopper Sleeve, 40MM	UFO-STP-40MM-B1	Stopper Sleeve, 40MM
UFO-STP-42MM-M1	Stopper Sleeve, 42MM	UFO-STP-42MM-B1	Stopper Sleeve, 42MM
UFO-STP-46MM-M1	Stopper Sleeve, 46MM	UFO-STP-46MM-B1	Stopper Sleeve, 46MM

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

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## CAMO



Item Number	Description
CAMO-01- M1	Hidden End Cam (Universal Clamp)

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.



## Calculating Rail Length

Calculate the row lengths as follows:

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

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

Location	UFO
Mid Clamp	0.375"
End Clamp	1.0"

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

Step	UFO
1. Add module widths	5 x 40" = 200"
2. Add width of mid clamps between modules	4 x 0.375" = 1.5"
3. Add allowances for end clamps	2 x 1" = 2
Total length of row	203.5" = 16.96'

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

IronRidge stock rail lengths: 11', 14', 17'. Custom lengths available via special order. Contact IronRidge Customer Service for additional details at 800-227-9523, or support@ironridge.com.



# **End Caps**



Item Number	Description
XR-1000-CAP	XR1000 End Cap, 10 Sets Per Bag
XR-100-CAP	XR100 End Cap, 10 Sets Per Bag
XR-10-CAP	XR10 End Cap, 10 Sets Per Bag

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



Item Number	Description
29-4000-077	Wire Clip, 20pcs

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.



## **Grounding Lugs**



Item Number Description

XR-LUG-03-A1 Grouding Lug, Low Profile

A single Grounding Lug connects an entire row of PV modules to the grounding conductor.



## Microinverter / Power Optimizer Bonding Hardware





Item Number Description

BHW-M1-01-A1 Microinverter Bonding Hardware, T-Bolt

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

#### **COMPATIBLE PRODUCTS**

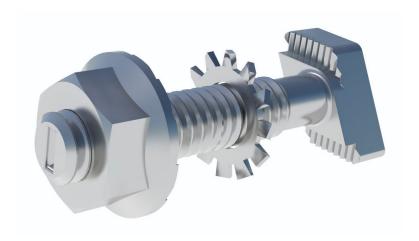
Enphase - M250-72, M250-60, M215-60, C250-72, S230, S280

Darfon - MIG240, MIG300, G320, G640

Solar Edge - P300, P320, P400, P405, P600, P700, P730, P800p, P800s



## Frameless Module Hardware Kits



Item Number	Description
FMLS-BHW	Kit, 4pcs, Frameless Module Clamp Bonding Hardware, T-Bolt

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



# Frameless Module Mid Clamps



Item Number Description

FMLS-MC-001-B Frameless Module Mid Clamp, Black

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



# Frameless Module End Clamps



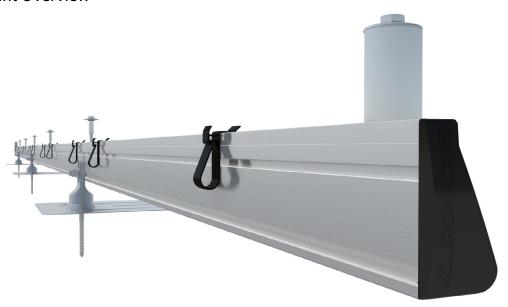
Item Number Description

FMLS-EC-001-B Frameless Module End Clamp, Black

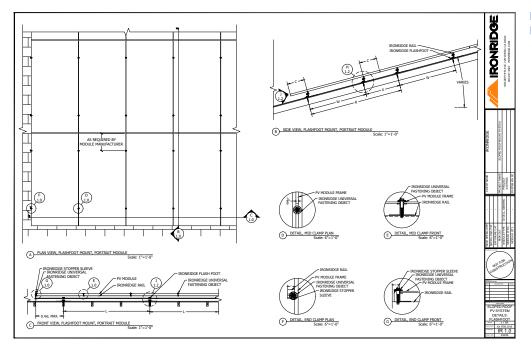
Use IronRidge's Frameless Module End Clamp to mount frameless solar modules.



#### Flush Mount 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.



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## FlashFoot2



Item Number	Description
FF2-01-M1	FlashFoot2, Mill
FF2-01-B1	FlashFoot2, Black

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's 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.



## **Knockout Tile**



Item Number	Description
KOB-1L01-B1	Tile Replacement Base (Incl. 1 L-Foot (Black), 1 Lag and Hardware)
KOF-F01-T1	Tile Replacement Flashing Flat, Tan
KOF-S01-T1	Tile Replacement Flashing S, Tan
KOF-W01-T1	Tile Replacement Flashing W, Tan

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. 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.

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## All Tile Hook



Item Number	Description
ATH-01-M1	All Tile Hook (Incl. 2 Lags)
ATHF-01-M1	All Tile Hook Flashing

All Tile Hook is a simple, adjustable roof attachment for mounting solar on tile roofs. It works with flat, S, and W tiles with optional deck flashing and has 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.

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## **Conduit Mount**



Item Number	Description
FM-CM- 001-B	Kit, 4pcs, Conduit Mount, Black

The IronRidge Conduit Mount elevates and securely fastens conduit to the roof deck with the proven waterproofing features of FlashFoot2. Aligning with any direction, Conduit Mount supports ¾" or 1" EMT conduit and other equipment such as a junction box for a sleek, versatile solution.



## Slotted L-Foot



Item Number	Description
LFT-03-M1	Slotted L-Foot, Mill
LFT-03-B1	Slotted L-Foot, Black

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**



Item Number	Description
BHW-SQ-02-A1	Square Bolt Bonding Hardware
BHW-TB-02-A1	1pc, T-Bolt Bonding Hardware

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.



## Flush Mount Standoffs



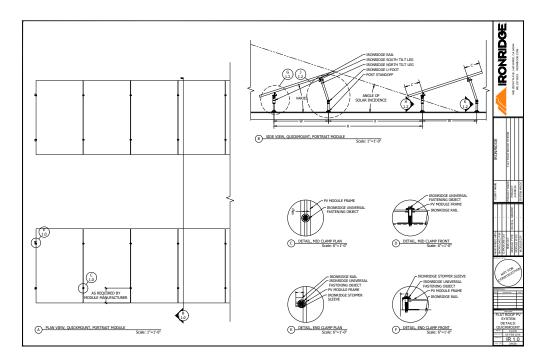
Item Number	Description
51-6004-500L	Kit, Standoff 4", Flush Mount, Mill
51-6007-500L	Kit, Standoff 7", Flush Mount, Mill

Our flat top Flush Mount Standoffs are ideal for flush-mounted applications and are sized to integrate easily with any conical-type flashing. IronRidge Aluminum Standoffs are available in 4" or 7" lengths. They ship assembled, as shown. Lag bolts not included.





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.



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## Fixed Tilt Legs



Item Number	Description
TM-FTL-007	Kit, Fixed Tilt Leg, 7", Mill
TM-FTL-010	Kit, Fixed Tilt Leg, 10", Mill
TM-FTL-015	Kit, Fixed Tilt Leg, 15", Mill
TM-FTL-020	Kit, Fixed Tilt Leg, 20", Mill
TM-FTL-025	Kit, Fixed Tilt Leg, 25", Mill
TM-FTL-030	Kit, Fixed Tilt Leg, 30", Mill

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 consists of a slotted aluminum tube and a pivot bracket for full adjustability.



## Flat Roof Attachment



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

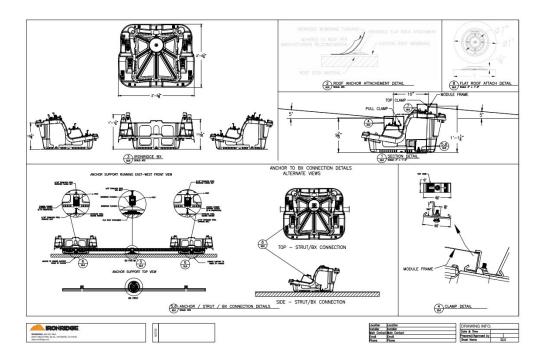
The IronRidge Flat Roof Attachment combines a high-strength cast aluminum base with a 16-point fastening pattern to enable the widest range of design options on low-sloped roofs. In addition, it is compatible with most of the common low-slope roofing materials to ensure a system that is both easy to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



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#### **BX Chassis**



\*Clamps sold seperately.

Item Number	Description
BX-5D-P1	BX Chassis, 5 Degrees
BX-10D-P1	BX Chassis, 10 Degrees

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 Clamps**



Item Number	Description	Item Number	Description (Black)
BX-TCL-30MM-M1	BX Top Clamp, 30MM, Mill	BX-BCL-M1	BX Bottom Clamp, Mill
BX-TCL-32MM-M1	BX Top Clamp, 32MM, Mill		
BX-TCL-35MM-M1	BX Top Clamp, 35MM, Mill		
BX-TCL-38MM-M1	BX Top Clamp, 38MM, Mill		
BX-TCL-40MM-M1	BX Top Clamp, 40MM, Mill		
BX-TCL-46MM-M1	BX Top Clamp, 46MM, Mill		

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.



## **BX Bonding Jumpers**

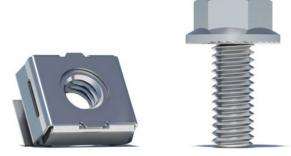


Item Number	Description
BX-MB8-M1	8" Module Bonding Jumper
BX-RB38-M1	38" Row Bonding Jumper

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**

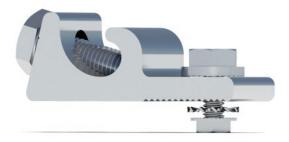


Item Number	Description
BX-CMA-MI-M1	BX MLPE Mounting Assembly

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



 Item Number
 Description

 PV-LUG-01-AG
 PV Module Grounding Lug

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**



Item Number	Description
BX-CT-UV-P1	BX Cable Tie, UV Rated, Black
BX-CT-EC-P1	BX Cable Tie and Edge Clip, UV Rated, Black

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.



## **BX Inverter Mounting Assembly**



Item Number	Description
BX-CMA-SI-M1	BX Inverter Mounting Assembly

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**



Item Number	Description
BX-MA-FRA-M1	BX Flat Roof Mounting Assembly

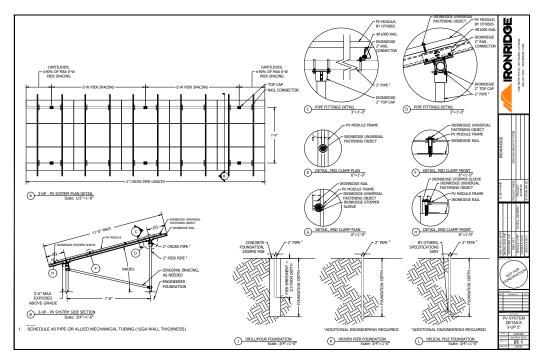
The BX Flat Roof Mounting Assembly provides parts (to be combined with the IronRidge Flat Roof Attachment and locally-sourced strut and channel nuts) to add Flat Roof Attachment anchors to the BX System.



## **Ground Mount Overview**



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 XR1000 rail assembly for simple, rapid, cost effective ground mounting.



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## **Top Caps**



Item Number	Description
70-0200-SGA	SGA Top Cap at 2", Mill
70-0300-SGA	SGA Top Cap at 3", Mill

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 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.

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 Mechancial Tubing Wall Thickness = 0.109"

3" Schedule 40 Pipe Wall Thickness = 0.216"

3" Allied Mechancial Tubing Wall Thickness = 0.165"



## **Bonded Rail Connectors**



Item Number	Description
GM-BRC-002	Ground Mount Bonded Rail Connector - 2"
GM-BRC-003	Ground Mount Bonded Rail Connector - 3"

Our Bonded Rail Connectors attaches and bonds horizontal cross pipes to 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.



# **Diagonal Brace Assembly Kits**



Item Number	Description
70-0200-CBR	SGA 2" (7.5') Brace Assembly
70-0300-CBR	SGA 3" (7.5') Brace Assembly
70-0205-CBR	SGA 2" (9') Brace Assembly, 5-Panel
70-0305-CBR	SGA 3" (9') Brace Assembly, 5-Panel

This optional assembly kit is for installations that require extra support. This Diagonal Brace Kit includes the brace, sleeves, and hardware for installation between one north and south pair of support legs.



## 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 <a href="https://www.ironridge.com/design">www.ironridge.com/design</a>.

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 <a href="mailto:ironridge.com/products/groundmounting/resources">ironridge.com/products/groundmounting/resources</a>.

#### 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

<sup>\*</sup>Always check local building codes for pier mounting requirements specific to your location.

