

SOLAR'S MOST TRUSTED



# REC ALPHA<sup>®</sup> PURE 2 SERIES PRODUCT SPECIFICATIONS



COMPACT PANEL SIZE

420 WP

20.1  $\frac{W}{FT^2}$

21.7% EFFICIENCY



ELIGIBLE



LEAD-FREE  
ROHS COMPLIANT

EXPERIENCE



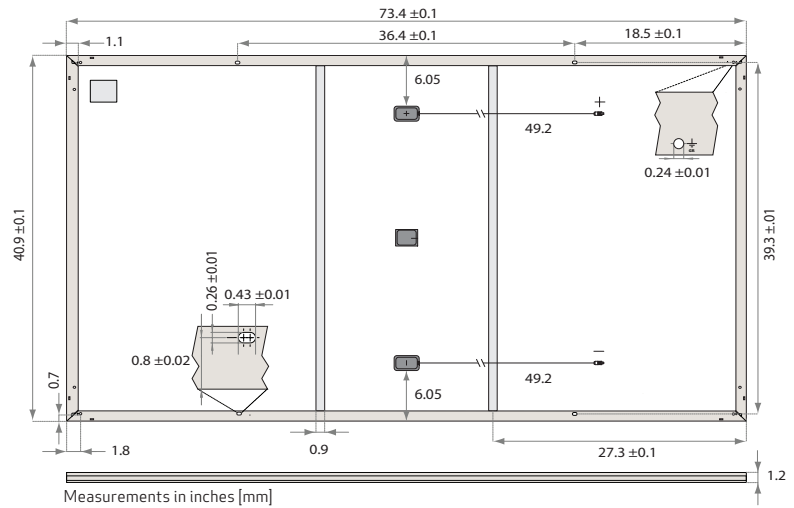
PERFORMANCE

# REC ALPHA PURE 2 SERIES

## PRODUCT SPECIFICATIONS

### GENERAL DATA

Cell type:	132 half-cut REC heterojunction cells with lead-free, gapless technology, 6 strings of 22 cells in series
Glass:	0.12 in solar glass with anti-reflective surface treatment in accordance with EN12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black)
Junction box:	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (12 AWG) in accordance with IEC 62852, IP68 only when connected
Cable:	12 AWG solar cable, 49.2 + 49.2 in in accordance with EN 50618
Dimensions:	73.4 x 40.9 x 1.2 in (20.88 sq-ft)
Weight:	47.6 lbs (21.6 kg)
Origin:	Made in Singapore



### ELECTRICAL DATA

#### Product Code\*: RECxxxAA PURE 2

	400	410	420	430
Power Output - P <sub>MAX</sub> (Wp)	400	410	420	430
Watt Class Sorting - (W)	0/+10	0/+10	0/+10	0/+10
Nominal Power Voltage - V <sub>MPP</sub> (V)	41.1	41.6	42.2	42.8
Nominal Power Current - I <sub>MPP</sub> (A)	9.74	9.86	9.96	10.05
Open Circuit Voltage - V <sub>OC</sub> (V)	48.5	48.8	49.1	49.3
Short Circuit Current - I <sub>SC</sub> (A)	10.60	10.67	10.74	10.81
Power Density (W/ft <sup>2</sup> )	19.2	19.6	20.1	20.6
Panel Efficiency (%)	20.6	21.1	21.7	22.2
Power Output - P <sub>MAX</sub> (Wp)	304	312	320	327
Nominal Power Voltage - V <sub>MPP</sub> (V)	38.7	39.2	39.8	40.3
Nominal Power Current - I <sub>MPP</sub> (A)	7.86	7.96	8.05	8.12
Open Circuit Voltage - V <sub>OC</sub> (V)	45.7	45.8	46.0	46.2
Short Circuit Current - I <sub>SC</sub> (A)	8.50	8.62	8.68	8.73

Values at standard test conditions (STC: air mass AM1.5, irradiance 10.75 W/sq ft (1000 W/m<sup>2</sup>), temperature 77°F (25°C), based on a production spread with a tolerance of P<sub>MAX</sub>, V<sub>OC</sub> & I<sub>SC</sub> ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM1.5, irradiance 800 W/m<sup>2</sup>, temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s). \* Where xxx indicates the nominal power class (P<sub>MAX</sub>) at STC above.

### MAXIMUM RATINGS

Operational temperature:	-40... +85°C
System voltage:	1000 V
Test load (front):	+ 7000 Pa (146 lbs/ft <sup>2</sup> )*
Test load (rear):	- 4000 Pa (83.5 lbs/ft <sup>2</sup> )*
Series fuse rating:	25 A
Reverse current:	25 A

\* See installation manual for mounting instructions.  
Design load = Test load / 1.5 (safety factor)

### WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Solar Professional	No	Yes	Yes
System Size	All	≤25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

See warranty documents for details. Conditions apply

Available from:

### CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730	
IEC 62804	PID
IEC 61701	Salt Mist
IEC 62716	Ammonia Resistance
UL 61730	Fire Type 2
IEC 62782	Dynamic Mechanical Load
IEC 61215-2:2016	Hailstone (35mm)
IEC 62321	Lead-free acc. to RoHS EU 863/2015
ISO 14001, ISO 9001, IEC 45001, IEC 62941	



### TEMPERATURE RATINGS\*

Nominal Module Operating Temperature:	44°C (±2°C)
Temperature coefficient of P <sub>MAX</sub> :	-0.24 %/°C
Temperature coefficient of V <sub>OC</sub> :	-0.24 %/°C
Temperature coefficient of I <sub>SC</sub> :	0.04 %/°C

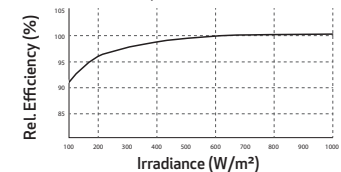
\*The temperature coefficients stated are linear values

### DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 (24 pallets)
Panels per 53 ft truck:	858 (26 pallets)

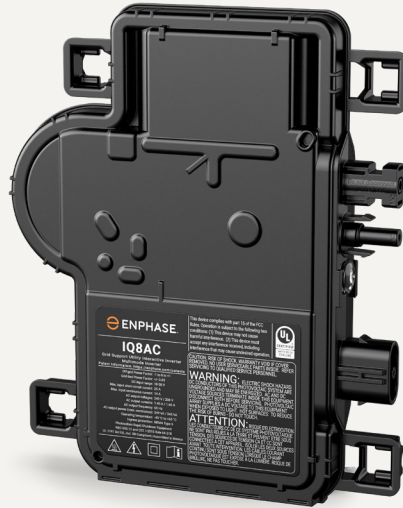
### LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.

REC Solar PTE. LTD.  
20 Tuas South Ave. 14  
Singapore 637312  
post@recgroup.com  
www.recgroup.com

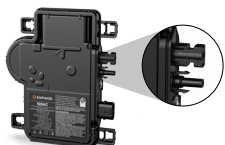


# IQ8AC Microinverter

Our newest IQ8 Series Microinverters are the industry's first microgrid-forming\*, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC), which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55 nm technology with high-speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



Connect PV modules quickly and easily to the IQ8 Series Microinverters that have integrated MC4 connectors.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



IQ8 Series Microinverters are UL Listed as PV rapid shutdown equipment and conform with various regulations when installed according to the manufacturer's instructions.

## Easy to install

- Lightweight and compact with plug-and-play connectors
- Power line communication (PLC) between components
- Faster installation with simple two-wire cabling

## High productivity and reliability

- Produces power even when the grid is down\*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

## Microgrid-forming

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB)

## NOTE:

- IQ8 Series Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, and so on) in the same system.
- IQ Microinverters ship with default settings that meet North America's IEEE 1547 interconnection standard requirements. Region-specific adjustments may be requested by an Authority Having Jurisdiction (AHJ) or utility representative according to the IEEE 1547 interconnection standard. An IQ Gateway is required to make these changes during installation.

\*Meets UL 1741 only when installed with IQ System Controller 2 or 3.

# IQ8AC Microinverter

INPUT DATA (DC)	UNITS	IQ8AC-72-M-US
Commonly used module pairings <sup>1</sup>	W	295–500
Module compatibility	–	To meet compatibility, PV modules must be within the maximum input DC voltage and maximum module $I_{sc}$ listed below. Module compatibility can be checked at <a href="https://enphase.com/installers/microinverters/calculator">https://enphase.com/installers/microinverters/calculator</a> .
MPPT voltage range	V	28–45
Operating range	V	18–58
Minimum/Maximum start voltage	V	22/58
Max. input DC voltage	V	60
Max. continuous input DC current	A	14
Max. input DC short-circuit current	A	25
Max. module ( $I_{sc}$ )	A	20
Overvoltage class DC port	–	II
DC port backfeed current	mA	0
PV array configuration	–	Ungrounded array; no additional DC side protection required; AC side protection requires max 20 A per branch circuit

OUTPUT DATA (AC)	UNITS	IQ8AC-72-M-US @240 VAC	IQ8AC-72-M-US @208 VAC
Peak output power	VA	366	350
Max. continuous output power	VA	349	345
Nominal grid voltage (L-L)	V	240, split-phase (L-L), 180°	208, single-phase (L-L), 120°
Minimum and maximum grid voltage <sup>2</sup>	V	211-264	183-229
Max. continuous output current	A	1.45	1.66
Nominal frequency	Hz	60	
Extended frequency range	Hz	47-68	
AC short circuit fault current over three cycles	Arms	2.70	
Max. units per 20 A (L-L) branch circuit <sup>3</sup>	–	11	9
Total harmonic distortion	%	< 5	
Overvoltage class AC port	–	III	
AC port backfeed current	mA	18	
Power factor setting	–	1.0	
Grid-tied power factor (adjustable)	–	0.85 leading ... 0.85 lagging	
Peak efficiency	%	97.3	97.2
CEC weighted efficiency	%	97.0	96.5
Nighttime power consumption	mW	30	22

MECHANICAL DATA	UNITS
Ambient temperature range	–40°C to 65°C (–40°F to 149°F)
Relative humidity range	4% to 100% (condensing)
DC connector type	Stäubli MC4
Dimensions (H × W × D); Weight	212 mm (8.3") × 175 mm (6.9") × 30.2 mm (1.2"); 1.1 kg (2.43 lbs)
Cooling	Natural convection – no fans
Approved for wet locations; Pollution degree	Yes; PD3
Enclosure	Class II double-insulated, corrosion-resistant polymeric enclosure
Environ. category; UV exposure rating	NEMA Type 6; outdoor

COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB), FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV rapid shutdown equipment and conforms with NEC 2014, NEC 2017, NEC 2020 and NEC 2023 section 690.12 and C22.1-2018 Rule 64-218 rapid shutdown of PV systems for AC and DC conductors when installed according to manufacturer's instructions.

(1) No enforced DC/AC ratio.

(2) Nominal voltage range can be extended beyond nominal if required by the utility.

(3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

# Revision history

REVISION	DATE	DESCRIPTION
DSH-00046-4.0	February 2024	Updated the information about IEEE 1547 interconnection standard requirements.
DSH-00046-3.0	October 2023	Included NEC 2023 specification in the "Compliance" section.
DSH-00046-2.0	September 2023	Updated module compatibility information.
DSH-00046-1.0	May 2023	Preliminary release.

**Attn:** Sean McDonald, CEO, IronRidge Inc.

**Date:** October 28<sup>th</sup> 2024

**Re:** Report #7.16 XR100: Engineering Certification and Span Tables for the IronRidge XR100 Rail Flush Mount System, for Gable and Hip roofs.

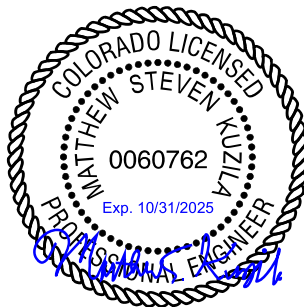
This letter certifies the loading criteria and design basis used for the structural analysis of the IronRidge XR System as shown in Report # 7.16 XR100 "Engineering Certification and Span Tables for the IronRidge XR100 Rail Flush Mount System, for Gable and Hip roofs Rev B". All information, data, and analysis therein are based on, and comply with, the following building codes and typical specifications. The Span Tables provided in the referenced report may be used when all conditions of the design criteria provided therein are met. Requirements for loading conditions that are not certified in this letter can be determined by using the online Design Assistant at [IronRidge.com](https://IronRidge.com).

**Building Codes:**

1. ASCE/SEI 7-16, Minimum Design Loads for Buildings and Other Structures, by American Society of Civil Engineers
2. 2021 International Residential Code
3. AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Panels, November 1, 2012 by ICC-ES
4. Aluminum Design Manual 2020, by The Aluminum Association, Inc.
5. SEAOC (Structural Engineers Association of California) report PV2-2017 Wind Design for Solar Arrays

Please note our evaluation only applies to IronRidge products and excludes the structural adequacy of the chosen roof attachments, PV modules, or underlying roof supporting members. It shall be the responsibility of the installer or system designer to verify the structural capacity and adequacy of the referenced system components with respect to the applied or resultant loads of the chosen array configuration.

Sincerely,



Matthew S Kuzila, P.E.

Digitally Sealed 10.28.2024

**Re: Report #7.16 XR100: Engineering Certification and Span Tables for the IronRidge XR100 Rail Flush Mount System, for Gable and Hip Roofs, Rev B.**

This report addresses the structural performance and code compliance of IronRidge's XR Rail Flush Mount System. The contents of the report shall be reviewed in its entirety before application to any project design. The XR Rail Flush Mount System is a proprietary rooftop mounting system used to support photovoltaic (PV) modules installed in portrait or landscape orientation and set parallel to the underlying roof surface. PV modules are supported by extruded aluminum XR Rails and secured to the rails with IronRidge mounting clamps. The XR Rails are side mounted to a roof attachment with 3/8" stainless steel bonding hardware and the attachment is secured directly to the underlying roof structure. Assembly details of a typical XR Rail Flush Mount System installation and its core components are shown in Exhibit EX-0015.

The IronRidge XR Rail Flush Mount System is designed and certified to the structural requirements of the reference standards listed below, for the load conditions and configurations tabulated in the attached span tables.

- Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-16
- SEAOC (Structural Engineers Association of California) report PV2-2017 Wind Design for Solar Arrays
- AC428, Acceptance Criteria for Modular Framing Systems Used to Support Photovoltaic (PV) Panels, November 1, 2012 by ICC-ES
- Aluminum Design Manual (ADM) 2015/2020, by the Aluminum Association, Inc.

The span tables provided in this report are certified based on the structural performance of IronRidge XR Rails only with no consideration of the structural adequacy of the chosen roof attachments, PV modules, or the underlying roof supporting members. It is the responsibility of the installer or system designer to verify the structural capacity and adequacy of the aforementioned system components in regards to the applied or resultant loads of any chosen array configuration. This report certifies the IronRidge products referenced within this document and provides no determination of the project specific conditions including site loads, building profile, & roof zones, which remain the responsibility of the installer or system designer.

The span tables included in this report provide the maximum allowable spans of XR Rail Flush Mount System for the respective loads and configurations listed, covering wind exposure categories B, C, & D, roof zones provided in ASCE 7 for enclosed and partially enclosed gable & hip roof profiles with roof slopes of 8° to 60°.

**The tabulated spans are applicable when the following conditions are met:**

- A. *Span* is the distance between two adjacent attachment points and is to be measured with respect to the center of the attachment fastener.
- B. Each module shall be supported by 2 rails (2 rail system) or 3 rails (3 rail system). Spans are calculated based on 2 rail systems and are conservatively deemed applicable for 3 rail systems.
- C. The underlying roof slope, measured between the roof surface and horizontal plane, is 8° to 60°.
- D. The *mean roof height*, defined as the average of the roof eave height and the roof ridge height measured from grade for roofs with pitches above 10 degrees and defined as the eave height for roofs with pitches less than or equal to 10 degrees, does not exceed 30 feet.

- E. A clearance from the underside of the array to the roof surface of 2" minimum shall be provided and the height of the array, the distance from the module top surface to the roof surface (defined as  $h_2$ ), shall not exceed 10".
- F. Module length and area shall not exceed the maximum values listed on the respective span tables. The maximum module length within the scope of this report is 98.5 inches. The maximum module length specified within ASCE 7-16 is 80.4 inches. Wind pressure loads used to generate the span tables for modules with lengths above this value are based on the wind tunnel study "Wind Loads on photovoltaic arrays mounted on sloped roofs of low-rise building, parallel to the roof surface." referenced in ASCE 7 Section C29.4.4.
- G. All Flush Mount components shall be installed in a professional workmanlike manner per IronRidge's *Flush Mount Installation Manual* and other applicable standards for the general roof construction.

**The parameters and adjustments allowed in the span tables are defined as the following:**

1. The Flush Mount System is designed as a Risk Category II structure as defined by ASCE 7-16 Table 1.5-1.
2. Wind speed shall conform to ASCE 7-16 Fig. 26.5-1B (for Risk Category II) and applicable state & local county/city amendments to the IBC. No special wind topographic features are included and both topographic coefficient ( $K_{zt}$ ) and wind ground elevation factor ( $K_e$ ) are taken as 1.0.
3. Snow load used in the span tables is the *ground snow* and shall conform to ASCE 7-16 Fig. 7.2-1 and applicable state & local county/city amendments to the IBC. If the local jurisdiction specified snow load is in the format of a *flat roof snow*, it shall first be converted to a *ground snow* following the local building code/ amendments before the application of the attached span tables.
4. No special snow conditions are considered including unbalanced, drifting, sliding, retention, or ponding snow. No rain-on-snow surcharge load is considered. The span tables do not apply to buildings which are intentionally kept below freezing, kept just above freezing, or unheated without first converting the snow load based on the difference in Thermal Factor and snow sliding. The Thermal Factor,  $C_t$ , is assumed to be 1.0, the roof exposure factor is assumed to be 1.0, and the Sliding Factor is based on ASCE 7-16 Figure 7.4-1 for a warm roof with unobstructed slippery surfaces.
5. The span tables reflect the ASCE 7 prescribed earthquake loads with the maximum magnitudes being:
  - a) For ground snow no greater than 42psf:  $S_S \leq 2.0g$  for Site Class A, B, C, & D.
  - b) For ground snow greater than 65psf:  $S_S \leq 1.0g$  for Site Class A, B, C, & D.
  - c) For ground snow between 42 and 65psf:  $S_S \leq 1.5g$  for Site Class A, B, C, & D.
6. Roof zones are defined by ASCE 7-16 Figure 30.3-2B to Figure 30.3-2I and are organized into three *groups* in which the zones are assumed to share the same External Pressure Coefficients ( $GC_p$ ). Roof zones comprising each group along with each roof zone's size and location to be used with the spans in this report are depicted in Figures 2 and 3 below each span table.
7. The maximum rail cantilever length, measured from the rail end to the nearest attachment point, shall be the lesser of the following two conditions: 40% of the allowable span provided for the respective load & configuration condition from the span tables, or 36".

8. Allowable span length in the charts may be multiplied by a factor of 1.08 if the rails are continuous over a minimum of three spans. This factor may not be used in determining maximum cantilever length.
9. No splices are allowed in the rail cantilever. For each XR splice type install per the following requirements:
  - a) XR Bonded Splice cannot be installed in the center 1/3 of interior spans, or the outer 2/3 of end spans.
  - b) BOSS Splice can be installed at any location within a span.
10. Shaded cells of the span tables indicate conditions in which UFO Mid Clamp connection capacity is exceeded if such conditions are encountered contact [techsupport@ironridge.com](mailto:techsupport@ironridge.com).
11. Systems using CAMO module clamps shall be installed with the following guidance:
  - a) For single module installations (orphan modules), CAMO clamps shall not be installed in regions that experience ground snow loads in exceedance of what is listed in the following table. Such scenarios are shown by asterisks in the applicable span tables.

Maximum Ground Snow load for Orphan Modules using CAMO per ASCE 7-16				
Module Area	21.7 ft <sup>2</sup>	23.5 ft <sup>2</sup>	28.0 ft <sup>2</sup>	30.5 ft <sup>2</sup>
Ground Snow	60 psf	55 psf	40 psf	40 psf

- b) CAMO will function within a module's design load ratings. Be sure the specific module being used with CAMO meets the dimensional requirements shown in the figure below and that the module selected is suitable for the environmental conditions of a particular project.

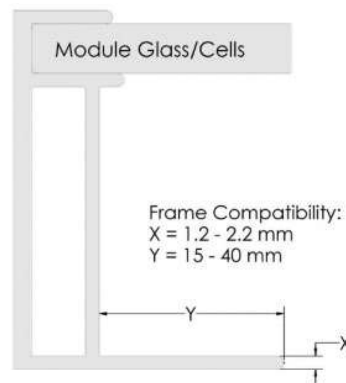


Figure 1: CAMO Module Frame Dimensional Requirements

## Spans for Exposed and Edge Modules

Span values for Exposed and Edge module conditions, as defined below, are included in the attached span tables and shall be used when each condition exists.

- A module is defined as Exposed (per Section 29.4.4 of ASCE 7) if the distance from any of its free edges (an edge with no connectivity to other modules) to its facing roof edge (such as eave, ridge, rake, or hip) is greater than  $0.5h$  ( $h$  is ASCE defined building height) AND if the distance from the same free edge to any other adjacent array or panel is greater than 4 feet.
- A module is defined as an Edge Module when its distance from any side of the module to its facing perimeter roof edge (such as eave, ridge, rake, or hip) is less than 2 times the height of the array ( $2h_2$ ) where  $h_2$  is measured from the roof surface to the top surface of the module.

The maximum allowable span for Exposed or Edge modules shall be the lesser of the following two:

1. The span value for the Exposed or Edge module condition.
2. The span value determined by site wind speed and ground snow load.

The allowable spans and cantilever shall only be applied to the portion of rail directly under Exposed or Edge Modules. Additionally, the shaded cells for the Exposed and Edge module conditions indicate conditions in which UFO Mid Clamp connection capacity is exceeded. If such conditions are encountered, contact [techsupport@ironridge.com](mailto:techsupport@ironridge.com).

### Prepared By:

Matthew S Kuzila, PE & Nancy E Schubert, PE

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	129	126	123	94	85
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	129	129	127	102	96
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	125	111	99	99
95 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	129	110	107	88	79
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	129	129	119	96	90
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	125	118	104	93
100 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	119	100	98	83	75
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	129	127	111	91	85
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	123	110	99	88
105 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	107	94	92	78	71
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	124	112	105	86	80
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	113	103	94	84
110 mph	8-20	129	129	127	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	99	88	86	74	67
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	112	102	100	81	76
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	104	98	89	79
115 mph	8-20	129	129	114	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	93	83	82	70	64
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	103	95	95	77	72
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	116	99	93	85	76
120 mph	8-20	129	125	103	111	111	103	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	88	78	78	67	61
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	97	90	91	74	68
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	108	94	89	81	72
130 mph	8-20	129	104	92	111	104	92	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	96	79	70	72	61	51
	21-27	129	121	109	117	117	109	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	113	87	81	83	67	62
	28-60	125	125	111	117	117	111	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	112	97	85	81	74	66
140 mph	8-20	129	94	83	111	94	83	92	92	83	90	90	83	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	85	71	63	67	53	42
	21-27	129	104	96	117	104	96	101	101	96	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	100	79	73	77	62	55
	28-60	125	117	99	117	117	99	103	103	99	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	99	88	77	75	69	61
150 mph	8-20	111	85	76	111	85	76	92	85	76	90	85	76	81	81	76	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	78	65	55	62	44	36
	21-27	127	95	87	117	95	87	101	95	87	91	90	85	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	92	72	66	72	56	45
	28-60	125	104	91	117	104	91	103	103	91	92	92	89	84	84	84	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	90	81	71	69	64	55
160 mph	8-20	95	78	70	95	78	70	92	78	70	90	78	70	81	77	70	73	73	69	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	72	60	43	58	38	32
	21-27	112	87	80	112	87	80	101	87	80	91	85	80	82	81	77	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	85	67	61	67	47	38
	28-60	111	96	84	111	96	84	101	96	84	90	80	84	83	83	83	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	83	75	66	64	59	47
170 mph	8-20	86	72	64	86	72	64	86	72	64	86	72	64	81	72	64	73	71	64	67	67	64	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48							

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure C																																													
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.			
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3							
90 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	103	92	90	77	70	
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	120	108	103	84	78	
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	110	102	92	82	
95 mph	8-20	129	129	120	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	96	85	84	72	65	
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	107	98	97	79	74	
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	120	101	96	87	78	
100 mph	8-20	129	129	106	111	111	106	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	89	79	79	68	62	
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	99	92	92	75	69	
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	110	95	90	82	73	
105 mph	8-20	129	115	98	111	111	98	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	103	84	74	75	64	57	
	21-27	129	129	122	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	123	93	86	87	71	65	
	28-60	125	125	120	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	124	102	90	86	78	70	
110 mph	8-20	129	104	92	111	104	92	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	95	79	70	72	61	50	
	21-27	129	129	120	108	108	108	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	113	87	80	83	67	62	
	28-60	125	125	111	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	112	96	85	81	74	66	
115 mph	8-20	129	97	87	111	97	87	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	89	74	66	69	57	45	
	21-27	129	110	100	117	117	100	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	104	82	76	79	64	59	
	28-60	125	123	103	117	117	103	103	103	102	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	102	91	80	77	71	63	
120 mph	8-20	129	92	82	111	92	82	92	92	92	90	90	90	82	81	81	80	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	83	70	62	66	51	40
	21-27	129	129	102	94	117	102	94	101	100	94	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	99	78	71	76	61	53
	28-60	125	114	98	117	114	98	103	103	98	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	97	87	76	74	68	60	
130 mph	8-20	101	82	73	101	82	73	92	82	73	90	82	73	81	81	80	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	75	63	50	61	41	34	
	21-27	121	91	84	117	91	84	101	91	84	91	88	83	82	82	80	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	89	70	64	70	52	42	
	28-60	121	101	88	117	101	88	102	101	88	92	87	87	84	84	84	83	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	87	79	69	67	62	52
140 mph	8-20	90	75	66	90	75	66	90	75	66	88	75	66	81	75	66	73	72	66	67	67	65	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	69	53	39	54	35	29	
	21-27	105	83	76	105	83	76	101	83	76	91	82	76	82	79	75	74	74	72	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	81	64	56	65	43	35	
	28-60	103	92	81	103	92	81	99	92	81	89	89	81	82	82	78	76	76	75	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	79	72	63	62	56	43	
150 mph	8-20	81	68	60	81	68	60	81	68	60	81	68	60	79	68	60	73	68	60	67	66	60	62	62	60	59	59	58	55	55	55	53	53	53	50	50	50	48	48	48	64	41	34	47	31	25	
	21-27	96	76	69	96	76	69	96	76	69	91	76	69	82	74	69	74	72	68	68	68	66	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	75	57	43	60	37	29	
	28-60	94	84	74	94	84	74	94	84	74	87	84	74	80	80	74	75	75	71	70	70	69	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	72	66	57	56	48	36	
160 mph	8-20	75	62	49	75	62	49	75	62	49	75	62	49	75	62	49	73	62	49	67	62	49	62	61	49	59	59	49	55	55	49	53	53	49	50	50	49	48	48	48	59	36	30	41	27	22	
	21-27	88	70	64	88	70	64	88	70	64	86	70	64	82	70	64	74	68	64	68	66	62	63	63	61	60	60	59	56	56	56	54	54	54	51	51	51	49	49	49	70	45	35	55	32	24	
	28-60	87	78	68	87	78	68	87	78	68	87	78	68	85	78	68	79	77	68	73	73	68	69	66	66	66	63	63	62	59	59	59	56	56	56	54	54	54	52	52	52	66	61	45	47	41	31
170 mph	8-20	70	55	40	70	55	40	70	55	40	70	55	40	70	55	40	69	55	40	67	55	40	62	55	40	59	55	40	55	55	40	53	53	40	50	50	40	48	48	40	51	32	26	36	24	20	
	21-27																																														

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure D																																														
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.				
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3								
90 mph	8-20	129	129	111	111	111	111	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	129	92	82	81	70	63		
	21-27	129	129	129	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	102	94	94	77	71		
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	114	98	93	84	75		
95 mph	8-20	129	120	100	111	111	100	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	112	85	76	77	66	59		
	21-27	129	129	128	117	117	117	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	127	95	88	89	72	67		
	28-60	125	125	123	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	104	91	87	79	71		
100 mph	8-20	129	106	93	111	106	93	92	92	92	90	90	90	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	97	80	71	73	62	52		
	21-27	129	123	111	117	117	111	101	101	101	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	115	89	82	84	68	63		
	28-60	125	125	113	117	117	113	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	114	98	86	82	75	67		
105 mph	8-20	129	98	87	111	98	87	92	92	87	90	90	87	81	81	81	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	90	75	66	69	58	46		
	21-27	129	111	101	117	111	101	101	101	100	91	91	91	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	106	83	76	80	64	59		
	28-60	125	124	104	117	117	104	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	103	92	81	78	71	63		
110 mph	8-20	129	92	82	111	92	82	92	92	82	90	90	82	81	81	80	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	83	70	62	66	51	40		
	21-27	129	102	95	117	102	95	101	101	95	91	91	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	99	78	72	76	61	53		
	28-60	125	115	98	117	115	98	103	103	98	93	93	93	85	85	85	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	97	87	76	74	68	60		
115 mph	8-20	129	87	77	111	87	77	92	87	77	90	87	77	81	81	77	73	73	73	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	79	66	58	63	46	37		
	21-27	129	96	89	117	96	89	101	96	89	91	91	86	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	93	74	67	73	58	47		
	28-60	125	106	93	117	106	93	103	103	93	92	92	90	84	84	84	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	92	82	72	70	65	57		
120 mph	8-20	101	82	73	101	82	73	92	82	73	90	82	73	81	80	73	73	73	71	67	67	67	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	75	63	49	60	41	34		
	21-27	120	91	84	117	91	84	101	91	84	91	88	83	82	82	79	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	89	70	64	70	51	42		
	28-60	120	100	88	117	100	88	102	100	88	91	91	87	84	84	83	77	77	77	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	87	78	68	67	62	51		
130 mph	8-20	88	74	65	88	74	65	88	74	65	87	74	65	81	74	65	73	73	72	65	67	67	64	62	62	62	59	59	59	55	55	55	53	53	53	50	50	50	48	48	48	68	51	39	53	35	29	
	21-27	104	82	75	104	82	75	101	82	75	91	82	75	82	78	74	74	74	71	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	80	63	54	64	42	34		
	28-60	102	91	80	102	91	80	99	91	80	89	89	80	82	82	78	76	76	75	71	71	71	67	67	67	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	78	71	62	61	55	42		
140 mph	8-20	79	67	59	79	67	59	79	67	59	79	67	59	78	67	59	73	73	67	59	67	65	59	62	62	59	59	58	55	55	53	53	53	50	50	50	48	48	48	63	40	33	45	30	25			
	21-27	94	74	68	94	74	68	94	74	68	94	74	68	82	73	68	74	71	67	68	68	65	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	74	54	41	60	36	28		
	28-60	92	83	73	92	83	73	92	83	73	87	83	73	80	80	73	75	75	70	70	68	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	71	65	54	54	46	35			
150 mph	8-20	73	61	46	73	61	46	73	61	46	73	61	46	73	61	46	72	61	46	67	61	46	62	60	46	59	59	46	55	55	46	53	53	46	50	50	46	48	48	46	57	35	29	39	26	21		
	21-27	86	68	62	86	68	62	86	68	62	85	68	62	81	68	62	74	67	62	68	65	61	63	63	60	60	60	58	56	56	56	54	54	54	51	51	51	49	49	49	68	42	34	53	31	23		
	28-60	84	76	67	84	76	67	84	76	67	84	76	67	84	76	67	78	75	67	73	73	66	69	69	65	65	65	63	62	62	61	59	59	59	56	56	56	54	54	54	52	52	52	65	59	42	44	39
160 mph	8-20	68	50	38	68	50	38	68	50	38	68	50	38	68	50	38	68	50	38	66	50	38	62	50	38	59	50	38	55	50	38	53	50	38	48	48	48	38	48	38	48	30	25	34	23	19		
	21-27	80	62	53	80	62	53	80	62	53	80	62	53	77	62	53	74	62	53	68	61	53	63	60	53	60	59	53	56	56	53	54	54	53	51	51	49	49	49	63	37	28	46	27	19			
	28-60	78	70	62	78	70	62	78	70	62	78	70	62	76	70	62	71	69	62	67	67	61	64	64	60	61	61	58	59	59	57	56	56	56	54	54	54	52	52	52	60	49	36	38	34	25		
170 mph	8-20	63	41	34	63	41	34	63	41	34	63	41	34	63	41	34	63	41	34	63	41	34	62	41	34	59	41	34	55	41	34	53	41	34	50	41	34	48	41	34	41	27	22	30	20	16		
	21-27	74	56	42	74	56	42	74	56	42	74																																					

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 75.5", Max Module SF: 23.5 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	125	114	111	91	82
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	77	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	124	121	99	93
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	120	120	106	95
95 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	125	105	103	85	77
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	124	113	93	87
	28-45	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	120	112	100	90
100 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	110	98	96	80	72
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	114	107	87	82
	28-45	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	114	106	95	85
105 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	103	91	90	76	68
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	113	106	101	83	77
	28-45	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	107	100	90	81
110 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	96	85	84	72	65
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	106	99	96	79	73
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	116	101	95	86	77
115 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	91	80	79	68	62
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	100	93	91	75	69
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	109	96	90	82	73
120 mph	8-20	125	114	101	106	106	101	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	108	85	76	75	65	58
	21-27	124	124	120	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	122	95	88	87	71	66
	28-60	120	120	118	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	103	91	86	78	70
130 mph	8-20	125	101	90	106	101	90	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	94	77	68	69	59	47
	21-27	124	111	104	112	111	104	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	107	85	78	80	65	60
	28-60	120	120	106	113	113	106	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	106	94	82	79	72	64
140 mph	8-20	125	91	81	106	91	81	88	88	81	86	86	81	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	83	69	62	64	49	38
	21-27	124	101	94	112	101	94	97	97	94	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	98	77	71	74	60	50
	28-60	120	110	96	113	110	96	99	99	96	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	96	86	75	72	66	59
150 mph	8-20	105	83	74	105	83	74	88	83	74	86	83	74	77	77	73	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	75	63	51	60	41	33
	21-27	117	92	85	112	92	85	97	92	85	87	87	83	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	89	70	64	69	51	42
	28-60	116	101	89	113	101	89	99	99	89	89	89	86	81	81	81	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	88	79	69	67	62	51
160 mph	8-20	93	76	68	93	76	68	88	76	68	86	76	68	77	75	68	70	70	67	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	69	56	40	53	35	29
	21-27	107	84	78	107	84	78	97	84	78	87	82	78	78	78	75	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	82	65	59	65	43	35
	28-60	105	93	82	105	93	82	97	93	82	87	87	81	80	80	80	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	81	73	64	62	57	43
170 mph	8-20	85	70	62	85	70	62	85	70	62	84	70	62	77	70	62	70	68	62	64	64	61	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	65	45	34	47	31	26	
	21-27																																													

**Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation**  
 Max Module Length: 75.5", Max Module SF: 23.5 SF  
 Exposure C

Wind Speed (mph)	Roof Slope (deg)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
		90 mph	8-20	125	125	124	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	101	89	88

  = min 72" span    
   = min 64" span    
   = min 48" span  
 = Shaded cells indicate conditions in which UFO Mid Clamp connection capacity is exceeded. If such conditions are encountered contact techsupport@ironridge.com.  
 \* = Note: additional installation requirement for CAMO module clamp. See Note 11 on Page 3 for details.

REV 07/16/2024

Grouping of ASCE 7-16 Roof Zones (Gable)						
Roof Slope	8° - 27°			28° - 45°		
Group	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
ASCE 7-16 Roof Zones	1 2e	2n 2r 3e	3r	1 2e 2r	2n 3r	3e

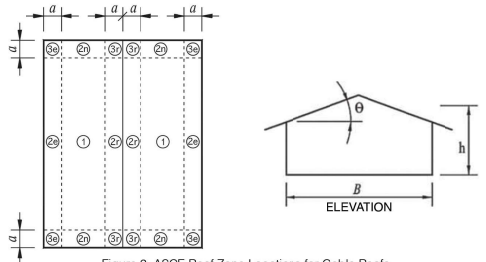


Figure 2: ASCE Roof Zone Locations for Gable Roofs

**Notation**  
 $a$  = 10% of least horizontal dimension or 0.4h, whichever is smaller, but not less than either 4% of least horizontal dimension or 3 ft (0.9 m). If an overhang exists, the edge distance shall be measured from the outside edge of the overhang. The horizontal dimensions used to compute the edge distance shall not include any overhang distances.  
 $B$  = Horizontal dimension of building measured normal to wind direction, in ft (m).  
 $h$  = Mean roof height, in ft (m), except that eave height shall be used for  $\theta \leq 10^\circ$ .  
 $\theta$  = Angle of plane of roof from horizontal, in degrees.

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 75.5", Max Module SF: 23.5 SF Exposure D																																														
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.				
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3								
90 mph	8-20	125	124	106	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	90	80	78	67	61		
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	77	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	90	92	91	74	69		
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	108	95	90	81	72	
95 mph	8-20	125	110	98	106	106	98	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	105	83	74	74	63	55	
	21-27	124	124	114	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	118	92	85	85	70	65		
	28-45	120	120	114	113	113	113	99	99	99	89	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	116	101	89	84	77	68	
100 mph	8-20	125	103	91	106	103	91	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	96	78	69	70	60	48		
	21-27	124	113	106	112	112	106	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	109	86	79	81	66	61		
	28-45	120	120	107	113	113	107	99	99	99	89	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	107	95	83	79	73	65	
105 mph	8-20	125	96	85	106	96	85	88	88	85	86	86	84	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	88	73	65	66	53	42		
	21-27	124	106	98	112	106	98	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	102	81	74	77	62	56		
	28-45	120	115	101	113	113	101	99	99	99	89	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	101	89	78	75	69	61	
110 mph	8-20	125	90	80	106	90	80	88	88	80	86	86	80	72	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	82	68	61	63	47	37		
	21-27	124	99	92	112	99	92	97	97	92	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	96	76	70	73	59	49		
	28-60	120	108	95	113	108	95	99	99	95	89	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	95	84	74	71	65	58	
115 mph	8-20	107	85	75	106	85	75	88	85	75	86	84	75	77	77	74	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	76	64	54	61	42	34		
	21-27	120	94	87	112	94	87	97	93	87	87	84	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	91	72	66	70	53	43			
	28-60	119	102	90	113	102	90	99	99	90	89	89	87	81	81	81	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	89	80	70	68	62	52		
120 mph	8-20	99	80	71	99	80	71	88	80	71	86	80	71	77	77	71	70	70	69	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	72	61	46	57	38	31		
	21-27	112	88	82	112	88	82	97	88	82	87	85	81	78	78	77	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	86	68	62	67	47	38		
	28-60	110	97	85	110	97	85	98	97	85	88	88	84	80	80	80	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	84	76	66	65	60	47		
130 mph	8-20	87	72	64	87	72	64	87	72	64	85	72	64	77	72	64	70	69	64	64	64	62	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	66	47	35	48	32	26			
	21-27	101	80	73	101	80	73	97	80	73	87	79	73	78	76	72	71	71	69	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	78	61	50	62	39	31		
	28-60	99	88	77	99	88	77	95	88	77	86	86	77	79	79	75	73	73	72	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	76	69	60	59	51	38		
140 mph	8-20	77	65	55	77	65	55	77	65	55	77	65	55	75	65	55	70	65	55	63	55	60	60	55	56	56	55	53	53	53	50	50	50	48	48	48	46	46	46	61	37	30	41	27	23			
	21-27	91	72	66	91	72	66	91	72	66	91	72	66	86	78	71	66	71	69	65	65	63	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	71	50	37	56	33	25		
	28-60	90	80	70	90	80	70	90	80	70	84	80	70	77	77	70	72	72	68	67	67	66	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	69	63	49	49	42	32		
150 mph	8-20	71	59	42	71	59	42	71	59	42	71	59	42	71	59	42	69	59	42	64	59	42	60	58	42	56	56	42	53	53	42	50	50	42	48	48	42	46	46	42	52	32	26	36	24	20		
	21-27	84	66	60	84	66	60	84	66	60	84	66	60	84	66	60	78	66	60	71	65	60	63	59	61	61	58	57	57	56	54	54	54	51	51	51	49	49	49	47	47	47	66	39	31	48	29	21
	28-60	82	74	65	82	74	65	82	74	65	81	74	65	75	73	65	70	70	64	66	66	62	63	63	61	60	60	59	57	57	57	54	54	54	52	52	52	50	50	50	63	57	39	41	36	27		
160 mph	8-20	66	46	35	66	46	35	66	46	35	66	46	35	66	46	35	66	46	35	64	46	35	60	46	35	56	46	35	53	46	35	50	46	35	48	46	35	46	35	44	28	23	31	21	17			
	21-27	77	61	49	77	61	49	77	61	49	77	61	49	74	61	49	71	61	49	65	59	49	61	58	49	57	57	49	54	54	49	51	51	49	49	49	47	47	47	61	34	26	42	25	18			
	28-60	76	68	60	76	68	60	76	68	60	76	68	60	73	68	60	69	67	60	65	65	59	62	62	58	59	59	56	56	56	55	54	54	54	52	52	50	50	50	58	45	33	35	31	23			
170 mph	8-20	61	37	31	61	37	31	61	37	31	61	37	31	61	37	31	61	37	31	61	37	31	59	37	31	56	37	31	53	37	31	50	37	31	48	37	31	46	37	31	37	25	20	28	18	15		
	21-27	72	51	38	72	51	38	72	51	38	72	51	38	71	51	38	69																															

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure B																																													
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.			
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3							
90 mph	8-20	115	115	115	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	115	115	102	100	80	73	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	113	106	87	82		
	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	110	110	106	94	84	
95 mph	8-20	115	115	115	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	115	106	94	92	75	68	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	113	110	100	82	77	
	28-45	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	110	108	100	89	80	
100 mph	8-20	115	115	115	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	115	99	87	86	71	64	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	108	102	94	77	73	
	28-45	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	110	102	94	84	75	
105 mph	8-20	115	115	109	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	115	92	82	80	67	61	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	101	95	89	73	68	
	28-45	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	109	96	89	80	71	
110 mph	8-20	115	115	102	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	115	86	76	75	63	55	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	95	89	85	69	65	
	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	103	91	84	76	68	
115 mph	8-20	115	108	96	97	97	96	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	107	81	72	71	60	49	
	21-27	113	113	112	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	89	83	81	66	62	
	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	97	86	80	73	65	
120 mph	8-20	115	102	90	97	97	90	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	99	76	68	67	55	44	
	21-27	113	111	105	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	106	84	79	77	63	59	
	28-60	110	110	104	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	106	92	81	77	69	62	
130 mph	8-20	115	91	80	97	97	91	80	81	81	80	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	86	68	61	61	45	35
	21-27	113	100	94	103	100	94	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	96	76	70	71	56	47	
	28-60	110	107	95	103	103	95	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	95	84	74	70	64	55	
140 mph	8-20	108	82	72	97	82	72	81	81	72	79	79	72	71	71	70	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	75	62	48	54	37	29	
	21-27	113	90	84	103	90	84	89	89	84	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	87	69	63	65	46	38	
	28-60	110	98	86	103	98	86	90	90	86	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	86	76	67	64	59	46	
150 mph	8-20	95	74	66	95	74	66	81	74	66	79	74	66	71	71	66	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	67	52	37	47	31	25	
	21-27	104	82	76	103	82	76	89	82	76	79	78	75	72	72	71	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	80	63	56	61	39	31	
	28-60	103	90	79	103	90	79	90	90	79	81	77	74	74	74	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	79	70	61	59	51	38		
160 mph	8-20	85	68	60	85	68	60	81	68	60	79	68	60	71	67	60	64	64	64	60	59	59	58	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	62	40	30	41	27	22
	21-27	95	75	70	95	75	70	89	75	70	79	74	70	72	71	67	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	73	56	43	55	33	26	
	28-60	95	83	73	95	83	73	88	83	73	79	79	73	73	73	70	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	72	65	55	52	43	33	
170 mph	8-20	77	63	50	77	63	50	77	63	50	76	63	50	71	63	50	64	62	50	59	59	50	55	55	50	51	51	50	49	49	49	46	46	46	44	44	44	42	42	42	55	32	26	36	24	20	
	21-27	88	70	64	88	70	64	87	70	64</																																					

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure C																																													
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.			
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3							
90 mph	8-20	115	115	107	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	115	90	80	79	66	59	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	99	93	88	72	67	
	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	107	94	88	79	70	
95 mph	8-20	115	111	99	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	115	102	92	86	83	68	63
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	92	86	83	68	63	
	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	100	88	82	74	66	
100 mph	8-20	115	103	92	97	97	92	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	101	78	69	68	58	45	
	21-27	113	113	107	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	108	86	80	78	64	59	
	28-60	110	110	106	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	108	94	83	78	70	63	
105 mph	8-20	115	97	86	97	97	86	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	93	73	65	64	50	40	
	21-27	113	106	100	103	103	100	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	102	81	75	74	60	53	
	28-60	110	110	100	103	103	100	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	101	89	78	74	67	59	
110 mph	8-20	115	90	80	97	90	80	81	81	80	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	85	68	61	61	44	35	
	21-27	113	99	93	103	99	93	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	96	76	70	70	56	46	
	28-60	110	107	94	103	103	94	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	95	84	73	70	63	55	
115 mph	8-20	114	85	75	97	85	75	81	81	81	75	79	79	75	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	79	64	54	57	39	31
	21-27	113	94	88	103	94	88	89	89	87	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	90	71	66	67	50	41	
	28-60	110	101	89	103	101	89	90	90	89	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	90	79	69	66	60	49	
120 mph	8-20	105	80	71	97	80	71	81	80	71	79	79	79	71	71	71	69	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	74	61	45	52	35	29
	21-27	111	88	82	103	88	82	89	87	82	79	79	79	78	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	85	67	62	64	45	36
	28-60	110	96	85	103	96	85	90	90	85	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	85	75	66	63	58	44	
130 mph	8-20	91	72	64	91	72	64	81	72	64	79	72	64	71	70	64	64	64	62	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	65	47	33	44	29	24	
	21-27	100	79	74	100	79	74	89	79	74	79	77	73	72	72	70	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	77	61	50	59	36	29	
	28-60	100	87	77	100	87	77	89	87	77	80	80	76	73	73	72	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	76	68	59	58	47	36	
140 mph	8-20	80	65	55	80	65	55	80	65	55	78	65	55	71	65	55	64	63	55	59	55	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	59	35	28	38	25	21		
	21-27	91	72	66	91	72	66	89	72	66	79	72	66	72	69	65	65	65	63	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	70	49	37	51	30	24	
	28-60	90	80	70	90	80	70	87	80	70	78	78	70	72	72	68	67	67	66	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	69	62	48	47	39	30	
150 mph	8-20	71	59	42	71	59	42	71	59	42	71	59	42	69	59	42	64	59	42	59	58	42	55	55	42	51	51	42	49	49	42	46	46	42	44	44	42	42	42	42	49	29	24	33	22	18	
	21-27	83	66	60	83	66	60	83	66	60	79	66	60	72	65	60	65	63	59	60	60	57	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	64	38	29	44	26	20		
	28-60	82	73	64	82	73	64	82	73	64	76	73	64	70	70	64	66	66	62	62	62	60	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	63	56	38	39	33	25	
160 mph	8-20	64	46	33	64	46	33	64	46	33	64	46	33	64	46	33	63	46	33	59	46	33	55	46	33	51	46	33	49	46	33	46	46	33	44	44	33	42	42	33	41	26	21	29	19	16	
	21-27	76	60	49	76	60	49	76	60	49	75	60	49	72	60	49	65	59	49	60	57	49	56	56	49	52	52	49	49	47	47	47	45	45	45	43	43	43	59	31	25	39	23	17			
	28-60	76	68	59	76	68	59	76	68	59	75	68	59	69	67	59	64	64	59	61	61	57	57	57	56	55	54	52	52	49	49	49	47	47	47	45	45	45	58	44	31	32	29	21			
170 mph	8-20	60	37	28	60	37	28	60	37	28	60	37	28	60	37	28	60	37	28	58	37	28	58	37	28	51	37	28	49	37	28	46	37	28	44	37	28	42	37	28	35	23	19	25	17	14	
	21-27	71	51	38	71	51	38	71	51	38	71	51	38	68	51	38	65	51	38	60	51	38</																									

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure D																																													
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.			
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3							
90 mph	8-20	115	107	95	97	97	95	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	105	80	71	70	60	48	
	21-27	113	113	110	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	111	89	83	80	65	61	
	28-60	110	110	109	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	96	85	80	72	64	
95 mph	8-20	115	99	88	97	97	88	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	95	74	66	65	53	41	
	21-27	113	108	102	103	103	102	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	104	82	76	76	62	55	
	28-45	110	110	102	103	103	102	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	103	90	79	75	68	60	
100 mph	8-20	115	92	81	97	92	81	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	87	69	62	61	46	36	
	21-27	113	101	95	103	101	95	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	97	77	71	71	58	48	
	28-45	110	109	96	103	103	96	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	97	85	74	71	64	57	
105 mph	8-20	115	86	76	97	86	76	81	81	76	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	80	65	55	58	40	32	
	21-27	113	95	88	103	95	88	89	89	87	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	91	72	67	68	51	42	
	28-45	110	102	90	103	102	90	90	90	89	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	91	80	70	67	61	50	
110 mph	8-20	106	80	71	97	80	71	81	80	71	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	74	61	46	53	36	29	
	21-27	112	89	83	103	89	83	89	88	83	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	86	68	62	64	45	37	
	28-60	110	97	85	103	97	85	90	90	85	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	85	75	66	63	58	44	
115 mph	8-20	97	76	67	97	76	67	81	76	67	79	79	79	76	71	71	67	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	69	55	39	48	32	26	
	21-27	105	84	78	103	84	78	89	84	78	79	79	79	76	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	81	64	59	61	40	32
	28-60	105	92	80	103	92	80	90	90	80	81	81	81	78	74	74	74	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	80	71	62	60	52	40
120 mph	8-20	90	71	63	90	71	63	81	71	63	79	71	63	71	70	63	64	64	62	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	64	46	33	44	29	24	
	21-27	100	79	73	100	79	73	89	79	73	79	79	79	76	73	72	72	69	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	77	60	49	59	36	29
	28-60	99	87	76	99	87	76	89	87	76	80	80	80	76	73	73	72	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	76	68	59	57	47	36
130 mph	8-20	79	64	53	79	64	53	79	64	53	78	64	53	73	64	53	64	63	63	59	59	59	53	55	55	53	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	58	34	27	37	25	20
	21-27	90	71	66	90	71	66	88	71	66	79	71	66	72	68	65	65	65	62	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	69	47	36	50	30	23	
	28-60	89	79	69	89	79	69	87	79	69	78	77	69	72	68	67	67	65	62	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	68	61	47	45	38	29	
140 mph	8-20	69	56	39	69	56	39	69	56	39	69	56	39	68	56	39	64	56	39	59	56	39	59	56	39	51	51	39	49	49	39	46	46	39	44	44	39	42	42	39	47	28	23	32	21	17	
	21-27	81	64	59	81	64	59	81	64	59	78	64	59	72	64	59	65	62	58	60	60	57	56	56	55	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	63	36	28	43	25	19	
	28-60	81	72	63	81	72	63	81	72	63	76	72	63	70	69	63	65	65	61	61	61	59	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	62	53	36	37	32	24	
150 mph	8-20	63	43	31	63	43	31	63	43	31	63	43	31	63	43	31	62	43	31	59	43	31	55	43	31	51	43	31	49	43	31	46	43	31	44	43	31	42	42	31	39	25	20	28	18	15	
	21-27	75	59	45	75	59	45	75	59	45	74	59	45	70	59	45	65	58	45	60	56	45	56	55	45	52	52	45	49	49	45	47	47	45	45	45	43	43	43	58	30	23	37	22	16		
	28-60	74	66	58	74	66	58	74	66	58	74	66	58	68	66	58	64	63	58	60	60	56	57	57	55	54	54	53	52	52	49	49	49	47	47	47	45	45	45	54	41	29	31	28	20		
160 mph	8-20	57	34	27	57	34	27	57	34	27	57	34	27	57	34	27	57	34	27	57	34	27	57	34	27	51	34	27	49	34	27	46	34	27	44	34	27	42	34	27	33	21	18	24	16	13	
	21-27	69	47	35	69	47	35	69	47	35	69	47	35	67	47	35	64	47	35	60	47	35	56	47	35	52	47	35	49	47	35	47	47	35	45	45	35	43	35	48	26	20	33	19	13		
	28-60	68	61	46	68	61	46	68	61	46	68	61	46	67	61	46	62	60	46	59	58	46	56	56	46	54	54	46	51	51	46	49	49	46	47	47	46	45	45	45	41	33	25	27	24	17	
170 mph	8-20	48	29	24	48	29	24	48	29	24	48	29	24	48	29	24	48	29	24	48	29	24	48	29	24	48	29	24	48	29	24	46	29	24	44	29	24	42	29	24	29	19	16	21	14	12	
	21-27	64	37	29	64	37	29	64	37	29	64	37	29	63	37	29	61	37	29	60	37	29	56																								

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure B																																													
Wind Speed (mph)	Roof Slope (deg)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.			
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3							
90 mph	8-20	110	110	110	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	110	107	94	93	74	67	
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	108	108	98	81	76	
	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	105	105	98	87	78	
95 mph	8-20	110	110	110	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	110	99	87	86	70	63	
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	108	102	93	76	71	
	28-45	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	105	101	93	82	74	
100 mph	8-20	110	110	109	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	110	92	81	80	66	59	
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	101	95	87	72	67	
	28-45	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	105	105	95	87	70	
105 mph	8-20	110	110	101	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	110	85	76	74	62	53	
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	94	88	83	68	63	
	28-45	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	101	89	83	74	66	
110 mph	8-20	110	107	95	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	109	80	71	70	59	46	
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	88	83	79	64	60	
	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	96	84	78	71	63	
115 mph	8-20	110	100	89	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	100	75	67	66	52	41	
	21-27	108	108	104	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	104	83	78	75	61	55	
	28-60	105	105	102	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	91	80	75	67	60	
120 mph	8-20	110	94	84	93	93	84	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	92	71	63	62	46	36	
	21-27	108	103	98	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	99	78	73	71	58	49	
	28-60	105	105	97	99	99	97	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	99	86	76	71	64	57	
130 mph	8-20	110	84	75	93	84	75	77	77	77	75	76	76	74	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	80	63	52	54	37	29
	21-27	108	93	87	98	93	87	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	89	70	65	65	47	39	
	28-60	105	100	88	99	99	88	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	89	78	68	65	59	46	
140 mph	8-20	101	76	67	93	76	67	77	76	67	76	75	67	68	68	66	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	70	55	39	46	31	25	
	21-27	105	84	78	98	84	78	85	83	78	76	76	75	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	81	64	59	60	39	32	
	28-60	105	91	80	99	91	80	86	86	80	78	78	77	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	81	71	62	60	51	38	
150 mph	8-20	89	69	61	89	69	61	77	69	61	76	69	61	68	67	61	61	61	60	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	63	42	30	40	26	22	
	21-27	96	76	71	96	76	71	85	76	71	76	74	70	68	68	67	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	74	58	44	54	32	26	
	28-60	96	84	74	96	84	74	86	84	74	77	77	73	70	70	69	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	73	65	57	52	43	32	
160 mph	8-20	79	63	51	79	63	51	77	63	51	76	63	51	68	63	51	61	61	61	51	56	56	51	52	52	51	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	55	33	26	35	23	19
	21-27	88	70	65	88	70	65	85	70	65	76	70	65	68	66	63	62	62	61	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	68	45	34	47	28	22	
	28-60	88	77	68	88	77	68	84	77	68	75	75	68	69	69	66	64	64	63	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	67	60	45	43	36	27	
170 mph	8-20	71	57	40	71	57	40	71	57	40	71	57	40	68	57	40	61	57	40	56	56	40	52	52	40	49	49	40	46	46	40	44	44	40	42	42	40	41	41	40	46	27	23	31	20	17	
	21-27	82	65	60	82	65	60	82	65	60	76	65	60	68	63	60	62																														

Rail: XR100		Gable Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	110	110	99	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	110	84	74	73	61	50
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	92	86	81	67	62
	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	99	88	81	73	65
95 mph	8-20	110	104	92	93	93	92	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	104	78	69	68	55	43
	21-27	108	108	107	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	86	80	77	63	59
	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	93	82	76	69	61
100 mph	8-20	110	96	85	93	93	85	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	94	72	64	63	48	38
	21-27	108	105	100	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	101	80	74	72	59	51
	28-60	105	105	99	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	101	87	77	72	65	58
105 mph	8-20	110	90	79	93	90	79	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	86	67	60	59	42	33
	21-27	108	98	93	98	98	93	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	94	75	69	69	53	44
	28-60	105	105	93	99	99	93	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	94	82	72	68	62	52
110 mph	8-20	110	84	74	93	84	74	77	77	74	76	76	74	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	80	63	51	54	37	29
	21-27	108	92	87	98	92	87	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	89	70	65	65	47	39
	28-60	105	100	88	99	99	88	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	89	78	68	65	59	46
115 mph	8-20	107	79	70	93	79	70	77	77	70	76	76	70	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	74	60	43	49	33	27
	21-27	108	87	81	98	87	81	85	85	81	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	84	66	61	62	42	34
	28-60	105	94	83	99	94	83	86	86	83	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	84	74	64	61	54	41
120 mph	8-20	98	74	66	93	74	66	77	74	66	76	74	66	68	68	65	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	69	52	36	45	30	24
	21-27	103	82	77	98	82	77	85	82	77	76	76	74	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	79	63	56	59	37	30
	28-60	103	90	79	99	90	79	86	86	79	78	78	76	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	79	70	61	59	49	37
130 mph	8-20	85	66	59	85	66	59	77	66	59	76	66	59	68	65	59	61	61	58	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	60	38	28	38	25	21
	21-27	93	74	68	93	74	68	85	74	68	76	72	68	68	65	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	71	53	40	51	30	24	
	28-60	93	81	71	93	81	71	85	81	71	76	76	71	70	70	68	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	71	63	51	48	40	30
140 mph	8-20	74	60	44	74	60	44	74	60	44	74	60	44	68	60	44	61	59	44	56	56	44	52	52	44	49	49	44	46	46	44	44	44	42	42	42	41	41	41	50	29	24	32	21	18	
	21-27	84	67	62	84	67	62	83	67	62	76	67	62	67	68	65	61	62	62	59	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	65	40	30	44	26	20
	28-60	84	74	65	84	74	65	82	74	65	74	73	65	68	68	64	63	63	62	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	64	58	39	39	33	25
150 mph	8-20	66	48	34	66	48	34	66	48	34	66	48	34	65	48	34	61	48	34	56	48	34	52	48	34	49	48	34	46	46	34	44	44	42	42	42	41	41	41	34	25	21	28	18	15	
	21-27	77	61	51	77	61	51	77	61	51	74	61	51	68	61	51	62	59	51	57	57	51	53	53	51	50	50	47	47	47	45	45	45	43	43	43	41	41	41	59	31	24	38	22	17	
	28-60	77	68	60	77	68	60	77	68	60	72	68	60	67	66	60	62	62	58	59	59	56	55	55	55	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	59	45	31	32	28	21
160 mph	8-20	60	37	27	60	37	27	60	37	27	60	37	27	60	37	27	60	37	27	56	37	27	52	37	27	49	37	27	46	37	27	44	37	27	42	37	27	41	37	27	35	22	18	25	16	13
	21-27	71	52	39	71	52	39	71	52	39	70	52	39	67	52	39	62	52	39	57	52	39	53	52	39	50	39	47	47	39	45	45	39	43	39	41	41	39	51	26	20	33	20	14		
	28-60	70	63	50	70	63	50	70	63	50	70	63	50	67	63	50	60	50	57	57	50	55	55	50	52	50	50	47	47	47	45	45	45	43	43	43	46	36	26	27	25	18				
170 mph	8-20	51	30	24	51	30	24	51	30	24	51	30	24	51	30	24	51	30	24	51	30	24	51	30	24	49	30	24	46	30	24	44	30	24	42	30	24	41	30	24	29	19	16	22	14	12
	21-27	66	41	31	66	41	31	66	41	31	66	41	31	64	41	31	62	41	31	57	41	31	53	41	31	50	41	31	47	41	31	45	41	31	43	41										



Rail: XR100		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 69.5", Max Module SF: 21.7 SF Exposure B																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	129	129	129	120	103	99
	21-27	129	129	129	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	129	129	129	115	115
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	125	125	108	108
95 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	129	129	129	129	110	97
	21-27	129	129	129	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	129	129	129	108	108
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	125	124	101	101
100 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	129	129	129	129	103	92
	21-27	129	129	129	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	129	129	129	101	101
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	125	116	117	95
105 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	129	129	129	129	115	87
	21-27	129	129	129	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	129	129	129	111	96
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	125	110	109	90
110 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	129	113	105	91	82	79
	21-27	129	129	129	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	129	129	114	91	91
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	124	104	102	86
115 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	129	104	99	87	78	75
	21-27	129	129	129	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	123	123	108	87	87
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	112	99	97	81
120 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	121	98	93	82	75	72
	21-27	129	129	129	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	113	113	102	83	83
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	125	125	103	95	92	78
130 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	101	89	84	76	68	65
	21-27	129	129	129	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	129	99	99	93	76	76
	28-60	125	125	125	117	117	117	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	120	123	93	87	84	71
140 mph	8-20	129	105	99	111	105	99	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	91	80	76	70	63	60
	21-27	129	125	125	117	117	117	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	123	90	90	86	70	70
	28-60	125	125	114	117	117	114	103	103	103	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	106	103	84	80	77	65
150 mph	8-20	114	96	91	111	96	91	92	92	92	90	90	89	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	82	74	70	66	58	52
	21-27	129	109	109	117	109	109	101	101	101	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	106	83	83	79	65	65
	28-60	125	125	100	117	117	100	103	103	100	93	93	93	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	97	94	77	74	71	59
160 mph	8-20	100	88	84	100	88	84	92	88	84	90	87	84	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	76	68	64	62	49	45
	21-27	129	99	99	117	99	99	101	98	98	90	90	90	82	82	82	74	74	74	68	68	68	63	63	63	60	60	60	56	56	56	54	54	54	51	51	51	49	49	49	97	76	76	74	60	60
	28-60	119	121	92	117	117	92	103	103	92	93	93	91	85	85	85	77	77	77	71	71	71	66	66	66	63	63	63	59	59	59	56	56	56	54	54	54	52	52	52	89	86	71	69	65	50
170 mph	8-20	92	81	77	92	81	77	92	81	77	90	81	77	80	79	77	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55															

**Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation**  
 Max Module Length: 69.5", Max Module SF: 21.7 SF  
 Exposure C

Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
		90 mph	8-20	129	129	129	111	111	111	92	92	92	90	90	90	80	80	80	73	73	73	67	67	67	62	62	62	58	58	58	55	55	55	53	53	53	50	50	50	48	48	48	129	121	112	95

= min 72" span      = min 64" span      = min 48" span  
 = Shaded cells indicate conditions in which UFO Mid Clamp connection capacity is exceeded. If such conditions are encountered contact techsupport@ironridge.com.  
 \* = Note: additional installation requirement for CAMO module clamp. See Note 11 on Page 3 for details.

REV 07/16/2024

Grouping of ASCE 7-16 Roof Zones (Gable)						
Roof Slope	8° - 27°			28° - 45°		
Group	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
ASCE 7-16 Roof Zones	1 2e	2n 2r 3e	3r	1 2e 2r	2n 3r	3e

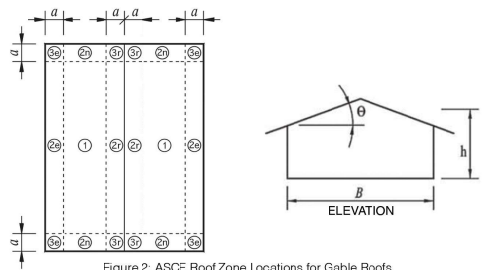


Figure 2: ASCE Roof Zone Locations for Gable Roofs

**Notation**  
 $a = 10\%$  of least horizontal dimension or  $0.4h$ , whichever is smaller, but not less than either  $4\%$  of least horizontal dimension or  $3$  ft ( $0.9$  m). If an overhang exists, the edge distance shall be measured from the outside edge of the overhang. The horizontal dimensions used to compute the edge distance shall not include any overhang distances.  
 $B =$  Horizontal dimension of building measured normal to wind direction, in ft (m).  
 $h =$  Mean roof height, in ft (m), except that eave height shall be used for  $\theta \leq 10^\circ$ .  
 $\theta =$  Angle of plane of roof from horizontal, in degrees.



**Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation**  
 Max Module Length: 75.5", Max Module SF: 23.5 SF  
 Exposure B

Wind Speed (mph)	Roof Slope (deg)	Ground Snow: 0 psf																											10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1			Group 2			Group 3			Group 1			Group 2			Group 3			Group 1			Group 2			Group 3			Group 1			Group 2			Group 3			Group 1			Group 2			Group 3			Group 1			Group 2			Group 3																	
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3																								
90 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	125	125	113	100	95																								
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	77	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	124	110	110	110																								
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	120	120	120	104																								
95 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	125	125	106	94	90																								
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	124	104	103	103																								
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	120	117	118	98																								
100 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	125	117	99	88	85																								
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	124	123	98	98																								
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	120	111	110	92																								
105 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	115	108	94	84	80																								
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	124	115	93	93																								
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	120	105	104	87																								
110 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	107	102	88	79	76																								
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	124	109	88	88																								
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	113	100	99	83																								
115 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	122	101	96	84	76	72																								
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	114	114	103	84	84																								
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	106	96	94	79																								
120 mph	8-20	125	125	122	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	111	96	91	80	72	69																								
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	107	107	98	80	80																								
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	101	91	89	75																								
130 mph	8-20	125	113	107	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	98	86	82	73	66	63																								
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	97	97	90	73	73																								
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	112	112	90	84	81	68																								
140 mph	8-20	124	102	97	106	102	97	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	89	78	74	68	61	57																								
	21-27	124	115	115	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	113	88	88	83	67	67																								
	28-60	120	120	107	113	113	107	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	102	101	82	77	75	63																								
150 mph	8-20	107	93	88	106	93	88	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	80	71	68	63	53	48																								
	21-27	124	105	105	112	105	105	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	103	80	80	77	62	62																								
	28-60	120	120	98	113	113	98	99	99	98	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	94	92	75	72	69	57																								
160 mph	8-20	98	86	81	98	86	81	88	86	81	86	85	81	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	74	66	63	59	45	41																								
	21-27	124	96	96	112	96	96	97	95	95	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	94	74	74	71	57	57																								
	28-60	111	111	90	111	111	90	99	99	90	89	89	88	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	87	84	69	67	63	46																								
170 mph	8-20	90	79																																																																			

Rail: XR100		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 75.5", Max Module SF: 23.5 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	112	106	92	82	79
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	124	124	113	91	91
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	120	104	102	86
95	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	125	104	99	86	77	74
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	119	119	106	86	86
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	109	98	96	81
100	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	113	97	92	81	73	70
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	109	109	100	81	81
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	102	93	91	76
105	8-20	125	123	114	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	105	91	87	76	69	66
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	103	103	95	77	77
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	96	88	86	72
110	8-20	125	112	107	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	98	86	82	73	66	63
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	96	96	90	73	73
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	112	111	90	84	81	68
115	8-20	125	106	100	106	106	100	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	92	81	77	70	63	60
	21-27	124	122	122	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	120	91	91	85	69	69
	28-60	120	120	111	113	113	111	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	106	105	85	80	77	65
120	8-20	119	100	95	106	100	95	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	87	77	73	67	60	55
	21-27	124	112	112	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	111	86	86	81	66	66
	28-60	120	120	105	113	113	105	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	100	99	80	76	73	62
130	8-20	103	90	85	103	90	85	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	78	69	66	61	50	45
	21-27	124	101	101	112	101	101	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	99	78	78	74	60	60
	28-60	118	120	95	113	113	95	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	91	89	72	70	66	52
140	8-20	93	82	78	93	82	78	88	82	78	86	82	78	77	77	76	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	71	63	60	55	42	38
	21-27	121	92	92	112	92	92	97	92	92	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	90	71	71	68	52	52
	28-60	107	106	86	107	106	86	99	99	86	89	89	86	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	83	80	66	64	61	40
150	8-20	84	75	71	84	75	71	84	75	71	84	75	71	77	74	71	70	70	69	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	65	55	48	48	35	33
	21-27	108	84	84	108	84	84	97	84	84	86	82	82	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	82	65	65	63	44	44
	28-60	98	96	78	98	96	78	98	96	78	89	89	78	81	81	78	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	76	73	60	60	52	32
160	8-20	77	69	65	77	69	65	77	69	65	77	69	65	76	69	65	70	68	65	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	61	44	39	42	31	29
	21-27	99	77	77	99	77	77	95	77	77	84	77	77	77	74	74	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	76	60	60	59	37	37
	28-60	90	88	72	90	88	72	90	88	72	80	88	72	80	80	72	73	73	71	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	70	66	44	53	42	26
170	8-20	72	64	60	72	64	60	72	64	60	72	64	60	72	64	60	69	64	60	64	62	60	60	60	59	56	56	53	53	53	50	50	50	48	48	48	46	46	46	54	37	34	37	27	25	
	21-27	91	71	71	91	71	71	91	71	71	83	71	71	7																																

**Rail: XR100**  
 Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation  
 Max Module Length: 75.5", Max Module SF: 23.5 SF  
 Exposure D

Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf			50 psf			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	125	125	125	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	119	100	95	83	75	72
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	112	112	102	83	83
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	105	95	93	78
95 mph	8-20	125	125	117	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	107	93	88	78	71	68
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	105	105	96	78	78
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	120	120	98	89	87	73
100 mph	8-20	125	115	108	106	106	106	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	100	87	83	74	67	64
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	124	98	98	91	74	74
	28-60	120	120	120	113	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	113	113	92	85	82	69
105 mph	8-20	125	107	101	106	106	101	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	93	82	78	70	63	60
	21-27	124	124	124	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	121	92	92	86	70	70
	28-60	120	120	112	113	113	112	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	107	106	86	80	78	65
110 mph	8-20	120	100	95	106	100	95	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	87	77	73	67	60	55
	21-27	124	113	113	112	112	112	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	111	86	86	82	66	66
	28-60	120	120	105	113	113	105	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	101	99	81	76	74	62
115 mph	8-20	109	95	90	106	95	90	88	88	88	86	86	86	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	82	73	69	64	55	50
	21-27	124	106	106	112	106	106	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	105	82	82	78	63	63
	28-60	120	120	99	113	113	99	99	99	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	95	93	76	73	70	59	
120 mph	8-20	103	89	85	103	89	85	88	88	85	86	86	84	77	77	77	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	77	69	65	61	49	45
	21-27	124	101	101	112	101	101	97	97	97	87	87	87	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	99	77	77	74	60	60
	28-60	118	119	94	113	113	94	99	99	94	89	89	89	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	91	88	72	69	66	51
130 mph	8-20	92	81	77	92	81	77	88	81	77	86	81	77	77	77	75	70	70	70	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	70	62	59	54	41	37
	21-27	119	91	91	112	91	91	97	91	91	87	86	86	78	78	78	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	89	70	70	68	51	51
	28-60	105	104	85	105	104	85	99	99	85	89	89	85	82	82	82	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	82	79	65	64	60	39
140 mph	8-20	83	73	70	83	73	70	83	73	70	83	73	70	77	73	70	70	70	68	64	64	64	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	64	53	46	46	34	32
	21-27	105	82	82	105	82	82	97	82	82	86	81	81	78	77	77	71	71	71	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	81	63	63	62	42	42
	28-60	96	94	77	96	94	77	96	94	77	89	89	77	81	81	76	73	73	73	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	75	71	58	59	50	31
150 mph	8-20	75	67	64	75	67	64	75	67	64	75	67	64	74	67	64	70	66	64	64	64	62	60	60	60	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	59	42	37	40	30	27
	21-27	96	75	75	96	75	75	94	75	75	84	75	75	77	73	73	71	70	70	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	74	57	57	56	36	36
	28-60	88	86	70	88	86	70	88	86	70	87	84	70	79	79	70	73	73	70	68	68	68	64	64	64	60	60	60	57	57	57	54	54	54	52	52	52	50	50	50	69	64	40	50	40	25
160 mph	8-20	70	62	58	70	62	58	70	62	58	70	62	58	70	62	58	68	62	58	64	61	58	60	60	58	56	56	56	53	53	53	50	50	50	48	48	48	46	46	46	50	35	32	35	26	24
	21-27	88	69	69	88	69	69	88	69	69	82	69	69	75	69	69	70	67	67	65	65	65	61	61	61	57	57	57	54	54	54	51	51	51	49	49	49	47	47	47	68	46	46	48	31	31
	28-60	81	78	64	81	78	64	81	78	64	81	78	64	81	78	64	78	76	64	73	73	64	68	68	64	64	63	60	60	60	57	57	57	54	54	54	52	52	50	50	63	59	32	43	33	20
170 mph	8-20	65	54	47	65	54	47	65	54	47	65	54	47	65	54	47	65	54	47	63	54	47	60	54	47	56	54	47	53	53	47	50	50	47	48	48	47	46	46	46	43	31	29	31	23	21
	21-27	82	64	64	82	64																																								



Rail: XR100		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 90", Max Module SF: 28 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3						
90	8-20	115	115	115	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	115	100	95	81	73	70
90	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	112	112	100	81	81
90	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	110	106	92	91	76
95	8-20	115	115	115	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	109	93	88	76	68	65
95	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	105	105	94	76	76
95	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	110	98	87	86	72
100	8-20	115	114	108	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	101	87	82	72	65	62
100	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	98	98	89	72	72
100	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	110	92	82	81	68
105	8-20	115	107	101	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	94	81	77	68	61	58
105	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	92	92	84	68	68
105	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	106	107	86	78	76	64
110	8-20	115	110	105	97	97	95	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	88	76	73	64	57	52
110	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	111	86	86	79	64	64
110	28-60	110	110	106	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	100	100	81	74	72	61
115	8-20	111	94	89	97	94	89	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	83	72	69	61	51	46
115	21-27	113	106	106	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	105	81	81	76	61	61
115	28-60	110	110	100	103	103	100	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	95	94	76	71	68	58
120	8-20	104	89	85	97	89	85	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	78	68	65	58	46	42
120	21-27	113	100	100	103	100	100	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	99	77	77	72	58	58
120	28-60	110	110	95	103	103	95	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	90	89	72	67	65	51
130	8-20	93	80	76	93	80	76	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	69	62	58	49	38	34
130	21-27	113	90	90	103	90	90	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	89	69	69	66	48	48
130	28-60	105	105	85	103	103	85	90	90	85	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	81	80	65	62	59	38
140	8-20	83	73	69	83	73	69	81	73	69	79	73	69	71	71	68	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	63	51	45	42	32	29
140	21-27	106	82	82	103	82	82	89	82	82	79	78	78	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	80	63	63	60	40	40
140	28-60	95	95	77	95	95	77	90	90	77	81	81	77	75	75	74	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	74	72	59	56	48	30
150	8-20	75	67	63	75	67	63	75	67	63	75	67	63	71	66	63	64	64	62	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	57	40	35	37	27	25
150	21-27	96	75	75	96	75	75	88	75	75	78	74	74	71	71	71	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	73	56	56	53	33	33
150	28-60	88	86	70	88	86	70	88	86	70	81	81	70	74	74	70	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	68	65	43	47	38	24
160	8-20	69	61	57	69	61	57	69	61	57	69	61	57	68	61	57	64	61	57	59	57	57	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	48	33	30	32	24	22
160	21-27	88	69	69	88	69	69	86	69	69	77	69	69	70	67	67	65	64	64	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	67	45	45	45	29	29
160	28-60	81	79	64	81	79	64	81	79	64	81	79	64	73	73	64	67	67	64	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	63	60	31	40	31	20
170	8-20	63	53	46	63	53	46	63	53	46	63	53	46	63	53	46	62	53	46	59	53	46	55	53	46	51	51	46	49	49	46	46	46	44	44	44	42	42	42	40	28	26	28	21	19	
170	21-27	81	64	64	81	64	64	81	64	64	81	64	64																																	

**Rail: XR100**  
 Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation  
 Max Module Length: 90", Max Module SF: 28 SF  
 Exposure D

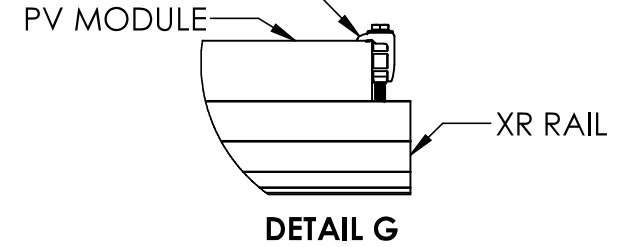
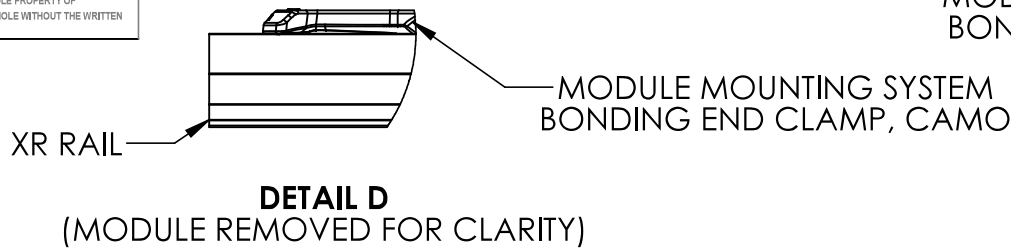
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.			
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3				
90 mph	8-20	115	115	111	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	104	89	85	74	66	63	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	100	100	91	73	73	
	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	110	110	95	84	83	69	
95 mph	8-20	115	109	103	97	97	97	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	96	83	79	69	62	60	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	94	94	85	69	69	
	28-60	110	110	110	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	108	109	88	79	78	65	
100 mph	8-20	115	102	96	97	97	96	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	89	78	74	65	59	53	
	21-27	113	113	113	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	113	87	87	80	65	65	
	28-60	110	110	108	103	103	103	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	101	102	82	75	73	61	
105 mph	8-20	112	95	90	97	95	90	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	83	73	69	62	52	47	
	21-27	113	107	107	103	103	103	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	106	82	82	76	62	62	
	28-60	110	110	101	103	103	101	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	96	95	77	71	69	58	
110 mph	8-20	105	89	85	97	89	85	81	81	81	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	78	69	65	59	46	42	
	21-27	113	101	101	103	101	101	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	99	77	77	72	59	59	
	28-60	110	110	95	103	103	95	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	90	89	72	68	65	51	
115 mph	8-20	98	84	80	97	84	80	81	81	81	80	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	73	65	61	54	42	38
	21-27	113	95	95	103	95	95	89	89	89	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	94	73	73	69	53	53	
	28-60	110	110	89	103	103	89	90	90	90	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	85	84	68	64	62	44	
120 mph	8-20	92	80	76	92	80	76	81	80	76	79	79	79	71	71	71	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	69	61	57	49	37	34	
	21-27	113	90	90	103	90	90	89	88	88	79	79	79	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	88	69	69	65	47	47	
	28-60	104	105	85	103	103	85	90	90	85	81	81	81	75	75	75	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	81	79	64	62	59	38	
130 mph	8-20	82	72	68	82	72	68	81	72	68	79	72	68	71	70	68	64	64	64	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	62	50	43	42	31	28	
	21-27	104	81	81	103	81	81	81	81	81	79	78	78	72	72	72	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	79	62	62	60	39	39	
	28-60	94	94	76	94	94	76	90	90	76	81	81	81	76	75	75	74	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	73	71	58	55	47	29
140 mph	8-20	74	65	62	74	65	62	74	65	62	74	65	62	70	65	62	64	63	61	59	59	59	55	55	55	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	54	38	34	36	26	24	
	21-27	94	73	73	94	73	73	88	73	73	78	73	73	71	70	70	65	65	65	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	72	53	53	51	32	32	
	28-60	86	85	69	86	85	69	86	85	69	81	81	69	74	74	69	67	67	67	62	62	62	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	67	64	39	45	37	23	
150 mph	8-20	67	60	53	67	60	53	67	60	53	67	60	53	67	60	53	64	60	53	59	58	53	55	55	53	51	51	51	49	49	49	46	46	46	44	44	44	42	42	42	45	31	28	31	23	21	
	21-27	86	67	67	86	67	67	86	67	67	76	67	67	70	66	66	65	63	63	60	60	60	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	66	42	42	42	28	28	
	28-60	79	77	63	79	77	63	79	77	63	79	76	63	72	72	72	63	67	67	63	62	62	61	58	58	58	55	55	55	52	52	52	49	49	49	47	47	47	45	45	45	61	58	29	38	30	18
160 mph	8-20	62	49	42	62	49	42	62	49	42	62	49	42	62	49	42	61	49	42	59	49	42	55	49	42	51	49	42	49	42	46	46	42	44	44	42	42	42	42	38	27	25	27	20	18		
	21-27	79	62	62	79	62	62	79	62	62	75	62	62	68	62	62	63	60	60	60	58	58	56	56	56	52	52	52	49	49	49	47	47	47	45	45	45	43	43	43	60	33	33	36	24	24	
	28-60	73	70	58	73	70	58	73	70	58	73	70	58	71	69	58	66	66	66	60	60	60	58	58	58	57	55	55	52	52	52	49	49	49	47	47	47	45	45	45	54	42	23	32	24	15	
170 mph	8-20	56	40	35	56	40	35	56	40	35	56	40	35	56	40	35	56	40	35	56	40	35	55	40	35	51	40	35	49	40	35	46	40	35	44	40	35	42	40	35	32	24	22	24	18	16	
	21-27	73	55	55	73	55	55	73	55	55	72																																				



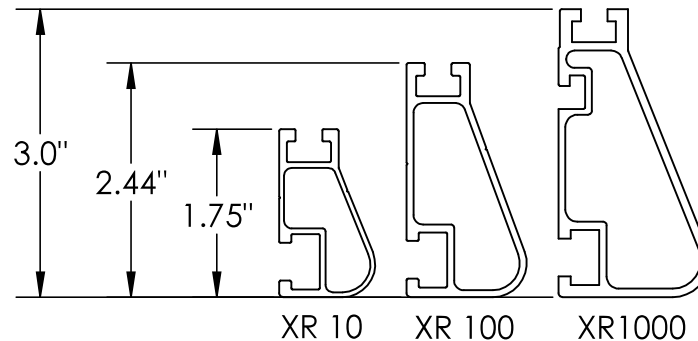
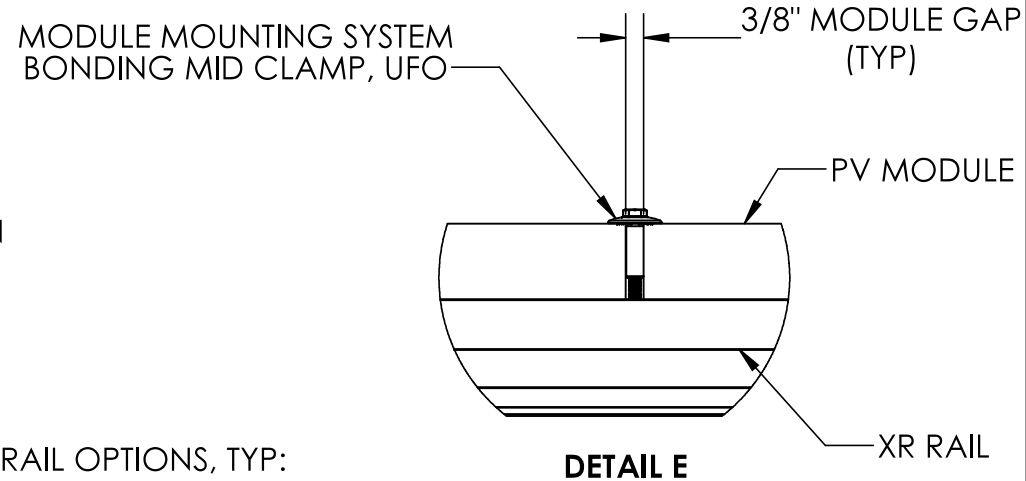
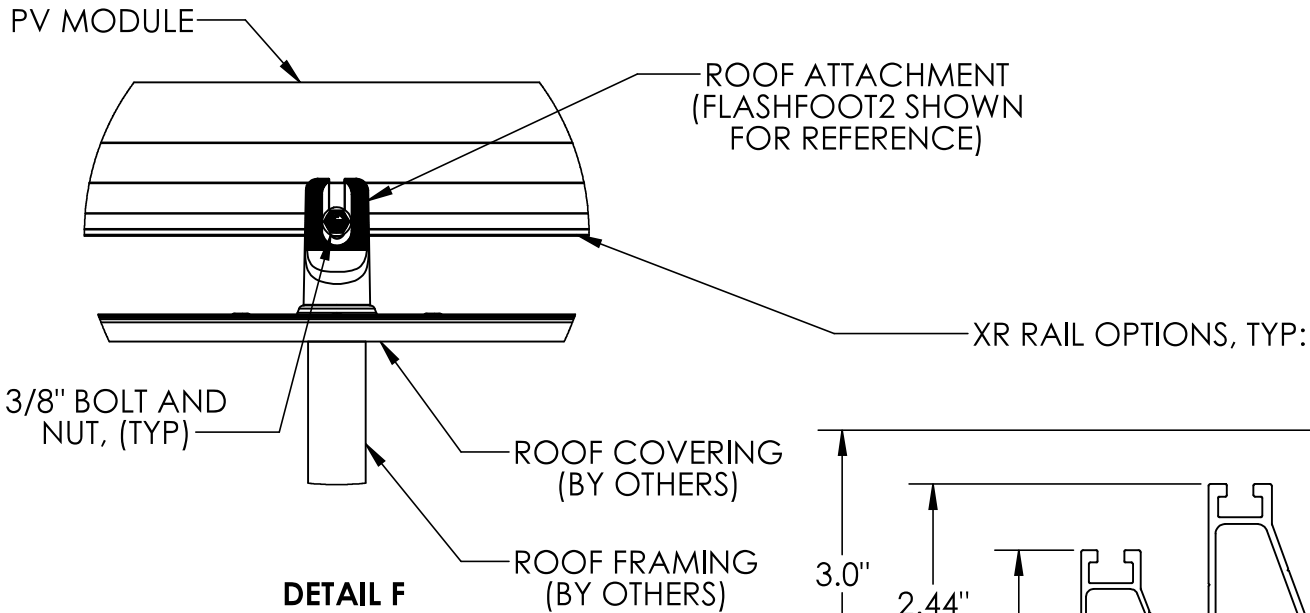
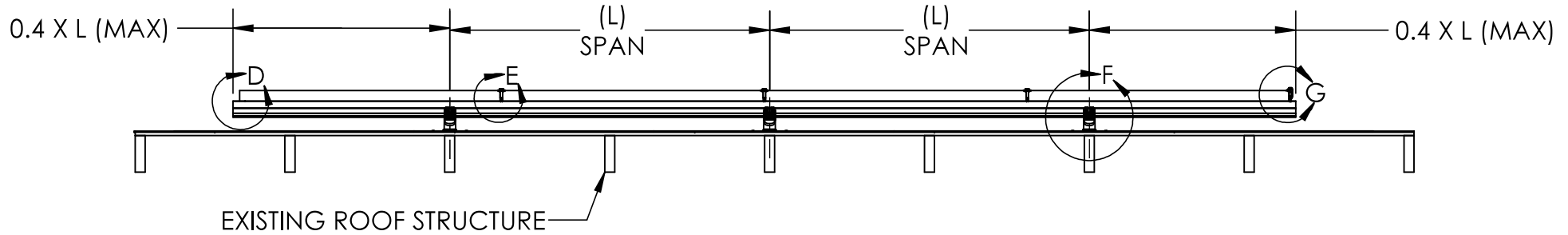
Rail: XR100		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure C																																												
Wind Speed (mph)	Roof Slope (deg.)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.		
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3			
90 mph	8-20	110	110	110	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	110	93	88	75	67	64
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	104	104	92	75	75
	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	105	99	85	85	71
95 mph	8-20	110	110	108	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	110	86	82	71	63	61
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	97	97	87	70	70
	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	105	92	80	79	67
100 mph	8-20	110	106	100	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	94	80	76	67	60	55
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	91	91	82	66	66
	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	105	86	76	75	63
105 mph	8-20	110	99	94	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	87	75	72	63	54	49
	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	85	85	78	63	63
	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	99	100	80	72	71	59
110 mph	8-20	110	93	88	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	82	71	67	59	48	44
	21-27	108	108	105	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	103	80	80	74	60	60
	28-60	105	105	99	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	93	93	75	69	67	55
115 mph	8-20	108	87	83	93	87	83	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	77	67	64	54	43	39
	21-27	108	99	99	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	97	75	75	70	55	55
	28-60	105	105	93	99	99	93	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	88	88	71	65	63	48
120 mph	8-20	97	83	78	93	83	78	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	72	63	60	50	39	35
	21-27	108	93	93	98	93	93	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	92	71	71	67	49	49
	28-60	105	105	88	99	99	88	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	84	83	67	62	60	41
130 mph	8-20	86	74	71	86	74	71	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	64	54	47	42	32	29
	21-27	108	84	84	98	84	84	85	83	83	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	82	64	64	61	40	40
	28-60	97	98	79	97	98	79	86	86	79	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	76	74	60	57	51	31
140 mph	8-20	77	67	64	77	67	64	77	67	64	75	67	64	68	66	64	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	57	42	36	27	25	
	21-27	98	76	76	98	76	76	76	76	76	73	73	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	75	58	58	53	33	33	
	28-60	89	89	72	89	89	72	86	86	72	78	78	72	71	71	70	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	69	67	49	47	39	24
150 mph	8-20	70	62	58	70	62	58	70	62	58	70	62	58	67	62	58	61	60	58	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	47	33	29	31	23	21
	21-27	89	69	69	89	69	69	84	69	69	75	69	69	68	66	66	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	68	46	46	44	28	28
	28-60	82	80	65	82	80	65	82	80	65	77	77	65	70	70	65	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	63	61	33	40	32	20
160 mph	8-20	64	53	46	64	53	46	64	53	46	64	53	46	64	53	46	61	53	46	56	53	46	52	52	46	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	40	27	25	27	20	19
	21-27	82	64	64	82	64	64	82	64	64	73	64	64	67	63	63	62	60	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	63	36	36	37	25	25	
	28-60	75	74	60	75	74	60	75	74	60	75	73	60	69	69	60	64	64	60	60	60	59	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	58	51	25	34	26	16	
170 mph	8-20	59	43	38	59	43	38	59	43	38	59	43	38	59	43	38	58	43	38	56	43	38	52	43	38	49	43	38	46	43	38	44	43	38	42	42	38	41	41	38	34	24	22	24	18	17
	21-27	76	59	59	76	59	59	76	59	59	72	59	59	65	59	59	61	57	57	56	56	53	53	53																						

Rail: XR100		Hip Roof Flush Mount System Span Table (inches) - Portrait or Landscape Installation Max Module Length: 98.5", Max Module SF: 30.5 SF Exposure D																																													
Wind Speed (mph)	Roof Slope (deg)	Ground Snow: 0 psf			10 psf			20 psf			30 psf			40 psf*			50 psf*			60 psf*			70 psf*			80 psf*			90 psf*			100 psf*			110 psf*			120 psf*			Exposed Mod.			Edge Mod.			
		Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3							
90	8-20	110	109	103	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	97	83	79	68	61	59	
90	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	93	93	84	68	68	
90	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	105	105	88	78	77	64	
95	8-20	110	101	96	93	93	93	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	90	77	73	64	56	51	
95	21-27	108	108	108	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	108	87	87	79	64	64	
95	28-60	105	105	105	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	101	102	82	74	72	60	
100	8-20	110	94	89	93	93	89	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	83	72	68	60	50	45	
100	21-27	108	106	106	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	105	81	81	75	60	60	
100	28-60	105	105	100	99	99	99	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	94	95	77	70	68	57	
105	8-20	104	88	84	93	88	84	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	77	68	64	55	44	40	
105	21-27	108	100	100	98	98	98	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	98	76	76	71	56	56	
105	28-60	105	105	94	99	99	94	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	89	89	72	66	64	49	
110	8-20	97	83	79	93	83	79	77	77	77	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	72	64	60	50	39	35	
110	21-27	108	94	94	98	94	94	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	92	72	72	67	49	49	
110	28-60	105	105	88	99	99	88	86	86	86	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	84	83	67	63	61	42	
115	8-20	91	78	74	91	78	74	77	77	74	76	76	76	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	68	60	54	46	35	32	
115	21-27	108	88	88	98	88	88	88	85	85	85	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	87	68	68	64	44	44
115	28-60	102	104	83	99	99	83	86	86	83	78	78	78	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	79	78	63	60	58	35	
120	8-20	86	74	70	86	74	70	77	77	74	76	76	73	70	68	68	68	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	64	54	46	42	32	29
120	21-27	108	83	83	98	83	83	85	83	83	76	76	76	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	82	64	64	61	40	40	
120	28-60	97	98	79	97	98	79	86	86	79	78	78	77	71	71	71	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	75	74	60	57	50	31	
130	8-20	76	67	63	76	67	63	76	67	63	75	75	67	63	68	66	63	61	61	61	56	56	56	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	56	40	35	35	26	24
130	21-27	97	75	75	97	75	75	75	75	75	76	73	73	68	68	68	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	74	57	57	52	32	32	
130	28-60	88	87	71	88	87	71	86	86	71	78	78	71	71	71	69	64	64	64	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	68	66	46	46	38	24	
140	8-20	69	60	55	69	60	55	69	60	55	69	60	55	67	67	60	55	61	59	55	56	56	55	52	52	52	49	49	49	46	46	46	44	44	44	42	42	42	41	41	41	45	31	28	30	23	21
140	21-27	88	68	68	88	68	68	84	68	68	74	68	68	68	65	65	62	62	62	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	67	43	43	43	27	27	
140	28-60	80	79	64	80	79	64	80	79	64	77	76	64	70	64	64	64	63	60	60	60	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	62	60	30	38	30	19		
150	8-20	62	50	43	62	50	43	62	50	43	62	50	43	62	50	43	60	50	43	56	50	43	52	50	43	49	49	43	46	46	46	43	44	44	43	42	42	42	41	41	41	38	26	24	26	20	18
150	21-27	80	62	62	80	62	62	80	62	62	73	62	62	66	62	62	61	60	60	57	57	57	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	61	34	34	36	24	24	
150	28-60	73	72	58	73	72	58	73	72	58	73	71	58	69	68	58	64	64	58	60	60	58	56	56	56	52	52	52	50	50	50	47	47	47	45	45	45	43	43	43	56	45	24	32	24	15	
160	8-20	55	40	35	55	40	35	55	40	35	55	40	35	55	40	35	55	40	35	55	40	35	52	40	35	49	40	35	46	40	35	44	40	35	42	40	35	41	40	35	32	23	21	23	17	16	
160	21-27	73	56	56	73	56	56	73	56	56	71	56	56	65	56	56	60	56	56	55	55	55	53	53	53	50	50	50	47	47	47	45	45	45	43	43	43	41	41	41	52	28	28	30	21	21	
160	28-60	68	65	45	68	65	45	68	65	45	68	65	45	67	65	45	63	62	45	59	59	45	56	56	45	52	45	50	50	45	47	47	45	45	45	43	43	43	44	32	19	27	20	13			
170	8-20	47	32	29	47	32	29	47	32	29	47	32	29	47	32	29	47	32	29	47	32	29	47	32	29	47	32	29	46	46	46	43	43	43	42	42	42	41	41	41	27	20	19	20	15	14	
170	21-27	68	45	45	68	45	45	68	45	45	68	45	45	64	45	45	59	45	45	56	45	45																									





**PLAN VIEW**



**IRONRIDGE**

FLUSH MOUNT SYSTEM

SIZE	DWG. NO.	EX-0015
SCALE: NTS	WEIGHT: N/A	SHEET 2 OF 2