

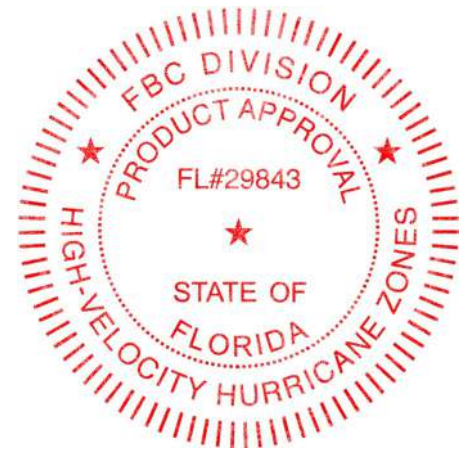
FLORIDA PRODUCT APPROVAL STREAMLINES SOLAR DESIGN & PERMITTING

The First in Florida

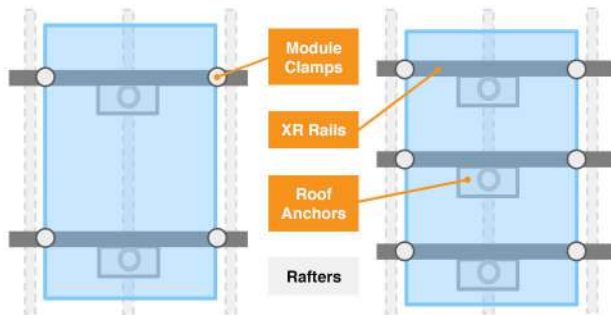
In 2020, IronRidge became the first High Velocity Hurricane Zone (HVHZ) approved solar system in accordance with 7-10 building code. We are happy to share that the Flush Mount System is now HVHZ-approved in accordance with 7-16 as well. We are committed to safe solar, even in extreme environments.

The rigorous evaluation process for Florida Product Approval includes testing for resistance to high wind forces (TAS 202) and wind-driven rain [TAS 100(A)], and ongoing auditing of quality assurance programs.

Our Florida Product Approval (FL#29843) covers all Flush Mount components and applies to all regions of the state of Florida both inside and outside the high-velocity hurricane zones (HVHZ), up to 100 PSF of wind pressure. The approval also lists allowable rail spans for configurations using either XR10, XR100, or XR1000 mounting rails as well as multiple IronRidge roof attachments.



Approved Components & Configurations



2-Rail
Standard Rack Configuration

3-Rail
Extra Support for Module Frames



Pressure Tables

The following tables provide a quick reference for the maximum wind uplift pressures on gable and hip roofs at different tilt angles.

Roof Tilt Angle	Maximum Wind Uplift Pressure for Gable Roofs (psf)								
	Exposure B			Exposure C			Exposure D		
	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
8-20°	35	47	55	48	63	74	57	75	89
21-27°	27	39	44	37	53	59	44	63	71
28-45°	27	32	40	36	43	54	43	52	64

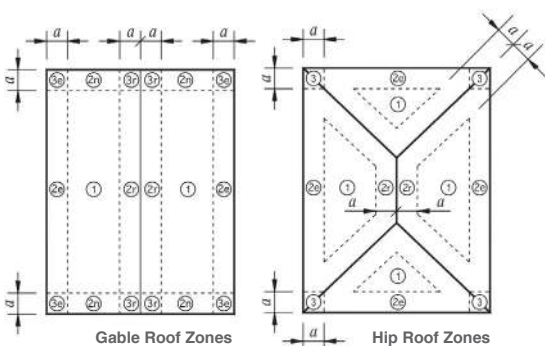
Roof Tilt Angle	Maximum Wind Uplift Pressure for Hip Roofs (psf)								
	Exposure B			Exposure C			Exposure D		
	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3
8-20°	33	39	42	44	53	57	52	63	68
21-27°	22	32	32	30	43	43	35	52	52
28-45°	24	26	34	32	35	46	39	41	55

Footnotes:

1. The pressure forces tabulated are per ASD (Allowable Stress Design) method and Florida Building Code 2020.
2. The pressure values are calculated based on the single module area of 22 sf as the maximum allowed and 25 ft building height defined as the average of the roof ridge and eave height.
3. The tabulated values are based on the selected ultimate design wind speed V_{ult} of 175 mph. For other chosen ultimate wind speed ($V_{ult-other}$), the pressure shall be adjusted per the following equation: Pressure for $V_{ult-other}$ = Pressure from the table x $(V_{ult-other}/175)^2$
4. The pressures are calculated for non-exposed modules in the array as defined by ASCE 7-16 Section 29.4.4. For exposed modules, the pressure shall be multiplied by an edge factor of 1.5.
5. The table is applicable to an array which maintains a minimum edge distance (to ridge, eave, side rake, or hip) of $2xh_2$ (h_2 is the clearance from the roof surface to underside of the module), and contains modules with the maximum dimension not exceed 80.4".

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

Grouping of ASCE 7-16 Roof Zones (Hip)									
Roof Slope	8-20°			21-27°			28-45°		
Group	1	2	3	1	2	3	1	2	3
Roof Zones	1	2r	2e 3	1	2e 2r	3	1	2e	2r 3



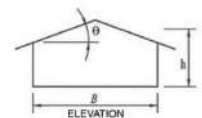
Notation (Per ASCE 7-16)

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).

θ = Angle of plane of roof from horizontal, in degrees.



The Florida PE seal is to certify the Pressure Tables on this page including the wind uplift pressure and the roof zone grouping, both of which are based on ASCE 7-16.

Gang Xuan
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This item has been electronically signed and seal by Gang Xuan using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.