Martin County Building Department

Garage Door Design & Pressures

Florida Building Code, 8th Edition (2023)

Table 1609.3.1: Wind Speed Conversions[1] [2] [3]

For SI: 1 mile per hour = 0.44 m/s.

V_{ult}	100	110	120	130	140	150	160	170	180	190	200
V_{asd}	78	85	93	101	108	116	124	132	139	147	155

Table 1609.7(2): Adjustment Factor for Building Height & Exposure (A)

	Exposure		
Mean Roof Height (feet)	B	C	D
15	0.82	1.21	1.47
20	0.89	1.29	1.55
25	0.94	1.35	1.61
30	1.00	1.40	1.66
35	1.05	1.45	1.70
40	1.06	1.49	1.74
45	1.10	1.53	1.78
50	1.13	1.56	1.81
55	1.16	1.59	1.84
60	1.19	1.62	1.87

[1] Linear interpolation is permitted.

[2] V_{asd} = nominal design wind speed applicable to methods specified in Exceptions 1 through 5 of Section 1609.I.I.

[3] V_{ult} = ultimate design wind speeds determined from Figure 1609.3(1), 1609.3(2) or 1609.3(3).

R609.4.1 Garage Door Labeling

Garage doors shall be labeled with a permanent label provided by the garage door manufacturer. The label shall identify the garage door manufacturer, the garage door model/series number, the positive and negative design pressure rating, indicate impact rated if applicable, the installation instruction drawing reference number, the Florida product approval or Miami-Dade product approval number if applicable, and the applicable test standards. The required garage door components for an approved garage door assembly may be indicated using a checklist form on the label. If a checklist format is used on the label, the door installer or the garage door manufacturer shall mark the selected components on the checklist that are required to assemble an approved garage door system. The installation instructions shall be provided and available on the job site.

Table 1609.7(1): Nominal (ASD) Garage Door and Rolling Door Wind Loads for a Building with a Mean Roof Height of 40 Feet Located in Exposure B (PSF)[4 5 6 7 8]

Ultimate design and wind speech (V_{ult}) determined in accordance with Section 1609.3 (MPH – 3-second gust)

Width (ft)	Height (ft)	100 MPH		110 MPH		120 MPH		130 MPH		140 MPH		150 MPH		160 MPH		170 MPH		180 MPH		190 MPH		200 MPH	
Roof Angle 0 – 10 degrees																							
8	8	+ 10.0	– 10.0	+ 10.5	– 11.9	+ 12.5	– 14.2	+ 14.7	– 16.6	+ 17.1	– 19.3	+ 19.6	– 22.2	+ 22.3	– 25.2	+ 25.1	– 28.5	+ 28.2	– 31.9	+ 31.4	– 35.5	+ 34.8	– 39.4
10	10	+ 10.0	– 10.0	+ 10.2	– 11.4	+ 12.1	– 13.6	+ 14.2	– 16.0	+ 16.5	– 18.5	+ 18.9	– 21.2	+ 21.5	– 24.2	+ 24.3	– 27.3	+ 27.3	– 30.6	+ 30.4	– 34.1	+ 33.7	– 37.8
14	14	+ 10.0	– 10.0	+ 10.0	– 10.8	+ 11.5	– 12.8	+ 13.5	– 15.0	+ 15.7	– 17.4	+ 18.0	– 20.0	+ 20.5	– 22.8	+ 23.1	– 25.7	+ 25.9	– 28.8	+ 28.9	– 32.1	+ 32.0	– 35.6
Roof Angle > 10 degrees																							
9	7	+10.0	–10.9	+ 11.4	– 12.9	+ 13.7	– 15.5	+ 16.1	– 18.2	+ 18.5	– 20.9	+ 21.3	– 24.1	+ 24.3	– 27.5	+ 27.6	– 31.2	+ 30.6	– 34.6	+ 34.2	– 38.6	+ 38.0	– 43.0
16	7	+10.0	–10.3	+ 10.9	– 12.2	+ 13.1	– 14.6	+ 15.5	– 17.2	+ 17.7	– 19.7	+ 20.4	– 22.7	+ 23.3	– 26.0	+ 26.4	– 29.4	+ 29.3	– 32.6	+ 32.7	– 36.5	+ 36.4	– 40.6
		78 MPH		85 MPH		93 MPH		101 MPH		108 MPH		116 MPH		124 MPH		132 MPH		139 MPH		147 MPH		155 MPH	

For SI: 1 foot = 304.8 mm, 1 mile per hour = 1.609 km/h, 1 psf = 47.88 N/m2 •

Nominal Design Wind Speed (V_{asd}) converted from Ultimate Design Wind Speed per Section 1609.3.l

[4] For door sizes or wind speeds between those given above the load may be interpolated, otherwise use the load associated with the lower door size.
[5] Table values shall be adjusted for height and exposure by multiplying by the adjustment coefficient in Table 1609.7(2).
[6] Plus and minus signs signify pressures acting toward and away from the building surfaces.
[7] Negative pressures assume door has 2 feet of width in building's end zone.
[8] Table values include the 0.6 load reduction factor.