

# GARAGE DOOR REPLACEMENT

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[Commercial Windows, Doors, Garage Doors](#)

1. Product Approvals:
  - a. Miami-Dade NOA with referenced engineered drawings \_\_\_\_\_
  - b. Florida/DCA product approval with referenced engineered drawings \_\_\_\_\_
2. Identify details on engineering which apply to the project such as sizes, design loads, fasteners, etc. \_\_\_\_\_
3. Provide the Required Design Pressures for the Site and make sure they meet the Actual Design Pressures Identified in the Product Approvals \_\_\_\_\_

**Door bucks MUST be attached to main structure as per the engineered drawings provided with the product approvals.**

**IMPORTANT NOTICE**  
**IF RESIDENT LIVES IN DEED RESTRICTED COMMUNITY**  
**PLEASE CONTACT HOA TO DETERMINE IF ASSOCIATION APPROVAL IS REQUIRED**  
**TOJ BUILDING DEPARTMENT CANNOT ENFORCE ASSOCIATION REGULATIONS**

**BCAB Fenestration Voluntary Wind Load Chart For PBC\***

Per ASCE 7-10 Method 1, Part 1 and FBC (2017) for Retrofitting in Accordance with Formal Interpretation #5

For Detached One-and Two family dwellings and Multiple Single-Family Dwellings (Townhouses) with Mean Roof Height ≤ 30 feet

Wind 170 mph (3-second gust) / Exposure C\*\* / Kd = 0.85 / Kzt = 1.0 / Pressures are in PSF / Not for use in Coastal (Exposure 'D' areas)

\* Using Allowable Stress Design methodology (P = 0.6w) / \*\* Exposure shall be determined according to ASCE 7-10 Section 26.7.3 (Exposure Categories)

Effective Wind Area (ft <sup>2</sup> )	Location: Gable or Hip Roof	Mean Roof Height of 15 feet						Mean Roof Height of 20 feet						Mean Roof Height of 25 feet						Mean Roof Height of 30 feet					
		Zone						Zone						Zone						Zone					
		1		2		3		1		2		3		1		2		3		1		2		3	
		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
10	Gable/Hip Roof θ ≤ 7°	16.0	-37.8	16.0	-63.4	16.0	-95.4	16.3	-40.2	16.3	-67.4	16.3	-101.4	17.1	-42.1	17.1	-70.6	17.1	-106.3	17.8	-43.7	17.8	-73.4	17.8	-110.4
20		16.0	-36.8	16.0	-56.7	16.0	-79.1	16.0	-39.1	16.0	-60.2	16.0	-84.0	16.0	-41.0	16.0	-63.1	16.0	-88.0	16.7	-42.6	16.7	-65.6	16.7	-91.5
50		16.0	-35.6	16.0	-47.7	16.0	-57.4	16.0	-37.8	16.0	-50.7	16.0	-61.0	16.0	-39.6	16.0	-53.2	16.0	-63.9	16.0	-41.1	16.0	-55.2	16.0	-66.4
100		16.0	-34.6	16.0	-41.0	16.0	-41.0	16.0	-36.8	16.0	-43.6	16.0	-43.6	16.0	-38.5	16.0	-45.7	16.0	-45.7	16.0	-40.0	16.0	-47.4	16.0	-47.4
10	Gable/Hip Roof*** 7° < θ ≤ 27°	21.8	-34.6	21.8	-60.2	21.8	-89.0	23.1	-36.8	23.1	-64.0	23.1	-94.6	24.3	-38.5	24.3	-67.1	24.3	-99.2	25.2	-40.0	25.2	-69.7	25.2	-103.0
20		19.9	-33.6	19.9	-55.4	19.9	-83.3	21.1	-35.7	21.1	-58.9	21.1	-88.5	22.1	-37.4	22.1	-61.7	22.1	-92.7	23.0	-38.9	23.0	-64.1	23.0	-96.3
50		17.3	-32.4	17.3	-49.0	17.3	-75.6	18.4	-34.4	18.4	-52.1	18.4	-80.3	19.3	-36.0	19.3	-54.6	19.3	-84.2	20.0	-37.4	20.0	-56.7	20.0	-87.5
100		16.0	-31.4	16.0	-44.2	16.0	-69.8	16.3	-33.3	16.3	-47.0	16.3	-74.2	17.1	-35.0	17.1	-49.2	17.1	-77.8	17.8	-36.3	17.8	-51.1	17.8	-80.8
10	Gable Roof 27° < θ ≤ 45°	34.6	-37.8	34.6	-44.2	34.6	-44.2	36.8	-40.2	36.8	-47.0	36.8	-47.0	38.5	-42.1	38.5	-49.2	38.5	-49.2	40.0	-43.7	40.0	-51.1	40.0	-51.1
20		33.6	-35.9	33.6	-42.3	33.6	-42.3	35.7	-38.1	35.7	-44.9	35.7	-44.9	37.4	-39.9	37.4	-47.1	37.4	-47.1	38.9	-41.5	38.9	-48.9	38.9	-48.9
50		32.4	-33.3	32.4	-39.7	32.4	-39.7	34.4	-35.4	34.4	-42.2	34.4	-42.2	36.0	-37.1	36.0	-44.2	36.0	-44.2	37.4	-38.6	37.4	-46.0	37.4	-46.0
100		31.4	-31.4	31.4	-37.8	31.4	-37.8	33.3	-33.3	33.3	-40.2	33.3	-40.2	35.0	-35.0	35.0	-42.1	35.0	-42.1	36.3	-36.3	36.3	-43.7	36.3	-43.7

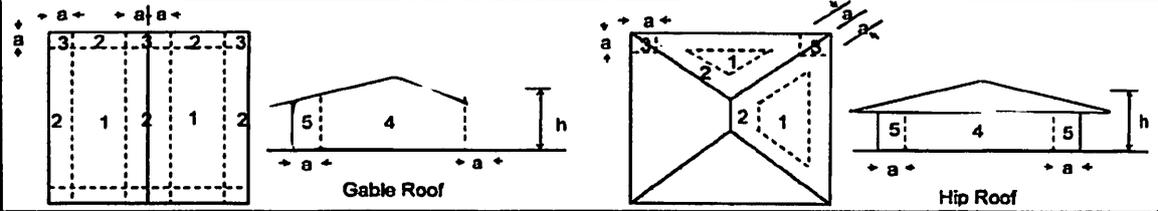
\*\*\* For Hip Roofs with angle > 7 degrees (1.5:12) and ≤ 25 degrees (5.5:12), Zone 3 shall be treated as Zone 2 (Figure 30.4-2B, Note 7, p. 337)

Effective Wind Area (ft <sup>2</sup> )	Location	Mean Roof Height of 15 feet				Mean Roof Height of 20 feet				Mean Roof Height of 25 feet				Mean Roof Height of 30 feet			
		Zone				Zone				Zone				Zone			
		4		5		4		5		4		5		4		5	
		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
10	Wall	37.8	-41.0	37.8	-50.6	40.2	-43.6	40.2	-53.8	42.1	-45.7	42.1	-56.4	43.7	-47.4	43.7	-58.6
20		36.1	-39.3	36.1	-47.2	38.3	-41.7	38.3	-50.1	40.2	-43.8	40.2	-52.6	41.8	-45.5	41.8	-54.6
50		33.8	-37.0	33.8	-42.7	36.0	-39.4	36.0	-45.4	37.7	-41.3	37.7	-47.5	39.2	-42.9	39.2	-49.4
100		32.1	-35.3	32.1	-39.3	34.1	-37.5	34.1	-41.7	35.8	-39.4	35.8	-43.8	37.2	-40.9	37.2	-45.5
500		28.2	-31.4	28.2	-31.4	29.9	-33.3	29.9	-33.3	31.4	-35.0	31.4	-35.0	32.6	-36.3	32.6	-36.3

**Garage Door Wind Loads**

for a Building with 30-foot Mean Roof Height  
Exposure C  
Tables 1609.7(1) & (2), and Section 1609.3.1

Effective Wind Area		Roof Angle	Wind Load	
Width	Height		+	-
8	8	0 - 10 degrees	35.2	-39.8
10	10		34.1	-38.2
14	14		32.3	-36.1
9	7	> 10 degrees	38.4	-43.4
16	7		35.8	-41.0



For Effective Wind Areas between those given, values may be interpolated. Otherwise use the value associated with the lower Effective Wind Area.  
End Zone (a) shall be the smaller of 10% of Least Hor. Dist. or 40% of Mean Roof Height ('h'), but not less than 4% of Least Hor. Dist. or 3 ft.  
Identify the zone per the figure or information by others. Any questionable zone is to be considered the more critical zone.

Design is based on the 3-second gust (wind velocity) for Risk Category II (general residential & commercial construction) per FBC 1620.2 Broward. These tables not for use with essential facilities or assembly occupancies.