



**COMMUNITY DEVELOPMENT SERVICES**

(954) 390-2180 FAX: (954) 567-6069

**WINDOWS, DOORS  
AND SHUTTERS**

*Life's Just Better Here*

**WINDOWS, DOORS AND SHUTTERS**

This checklist is designed to expedite permit application processing by ensuring that all required documentation is submitted with your application.

Submit one (1) **notarized** copy of the permit application and:

A) For the replacement of windows, doors and shutters in buildings when no change in opening size is proposed, **submit two (2) copies of the following:**

- \_\_\_\_\_ 1. A site-specific plan showing the location, window and/or door and/or shutter type, and size of opening being replaced, as well as total square footage of windows and total square footage of doors being replaced, and the mean roof height of the building. Number each opening location on the floor plan for reference. If the distance from the opening to the corner is not provided, the worst-case scenario will be applied with the Zone 5 pressures.
- \_\_\_\_\_ 2. Product Approval for each type of window and/or door to be installed. Please circle the fastener option and glass thickness.
- \_\_\_\_\_ 3. Buildings over thirty (30) feet in height require a site-specific plan signed and sealed by an Engineer.
- \_\_\_\_\_ 4. Owner/Builder Affidavit if installed/constructed by Owner.
- \_\_\_\_\_ 5. If installed/constructed by a contractor, include proof of Workers' Compensation Insurance, copy of contractor's license and copy of contract.

All retrofit windows, doors and shutters will need to meet **ONE** of the following wind load requirements:

- a) A site-specific plan signed and sealed by a Florida Professional Engineer or Architect, indicating the location of all openings and the design pressures; or
- b) A site-specific plan (not sealed) indicating the location of the openings and a worst-case design pressure chart signed and sealed by a Florida Professional Engineer or Architect; or
- c) A site-specific plan (not sealed) indicating the location of the openings and the design pressure based on attached FBC Table R301.2(2) and R301.2(3). Highlight the area on the FBC Tables.

**NOTE:** These tables apply to retrofit windows, doors and shutters only on buildings with a maximum mean roof height of less than 30 feet.

- All design pressures are to meet ASCE 7-05 @ 140mph, or FBC1606.2(b) and 1606.2(d).
- All doors and windows must meet the impact test requirements of FBC 1626 or be protected by hurricane shutters
- Existing shutters must meet FBC 2007 edition, with a Product Approval/Notice of Acceptance that verifies such compliance.

**OR,**

B) For the installation of windows, doors and shutters in new openings with an altered size, **submit two (2) copies of the following:**

- \_\_\_\_\_ 1. Sealed floor plans by an Architect or Engineer.
- \_\_\_\_\_ 2. Product Approval for each type of window and/or door to be installed.
- \_\_\_\_\_ 3. Sealed wind load calculations by an Architect or Engineer showing negative and positive wind pressures for each opening.
- \_\_\_\_\_ 4. Hurricane shutter are required when a new opening is proposed or when window size is changed. Two (2) copies of the Notice of Acceptance/Product Approval must be submitted for each type of shutter. Hurricane shutters are not required for impact rated windows.
- \_\_\_\_\_ 5. Owner/Builder Affidavit if installed/constructed by Owner.
- \_\_\_\_\_ 6. If installed/constructed by a contractor, include proof of Workers' Compensation Insurance.

**INSPECTIONS:**

Inspections must be submitted online, faxed or dropped off prior to **4:30 PM** for the next business day.

\_\_\_\_\_  
Signature of Applicant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Applicant



**BROWARD COUNTY  
BOARD OF RULES AND APPEALS**

**FBC 5<sup>th</sup> Edition (2014)**


**FORMAL INTERPRETATION (#5)**

One North University Drive  
Suite 3500-B  
Plantation, Florida 33324

Phone: 954-765-4500

Fax: 954-765-4504

www.broward.org/codeappeals

**DATE:** May 18, 2015  
**TO:** All Building Officials  
**FROM:** James DiPietro, Administrative Director   
**SUBJECT:** Retrofit of Windows, Doors, Garage Doors, Shutters and Skylights  
FBC Existing Building, Alteration Level I

**2015 Voting Members**

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Chair  
Mr. Jeffrey Lucas, Deputy Fire Chief  
Vice-Chair  
Fire Service Professional  
Mr. Gregg D'Attile  
Mechanical Contractor  
Mr. John Fanularo  
Roofing Contractor  
Mrs. Shalanda Giles Nelson  
General Contractor  
Mr. Gary Elzweig, P.E.  
Structural Engineer  
Vacant  
Master Plumber  
Mr. Allan Kozich, P.E.  
Electrical Engineer  
Vacant  
Consumer Advocate  
Mr. Kenneth B. Wynn  
Representative Disabled Community  
Mr. John Sims  
Master Electrician  
Vacant  
Mechanical Engineer  
Mr. Abbas H. Zackria, CSI  
Architect

**2015 Alternate Board Members**

Mr. Steven Feller, P.E.  
Mechanical Engineer  
Mr. Alberto Fernandez  
General Contractor  
Mr. Daniel Lavrich, P.E.  
Structural Engineer  
Assistant Chief Jeff Moral, CFO  
Fire Service  
Mr. David Rice, P.E.  
Electrical Engineer  
Vacant  
Master Plumber  
Mr. David Tringo  
Master Electrician  
Mr. William Flett  
Roofing Contractor  
Vacant  
Architect

**Board Attorney**  
Charles M. Kramer, Esq.

**Board Administrative Director**  
James DiPietro

—ESTABLISHED 1971—

At its meeting of May 14, 2015, the Board approved an interpretation of Retrofit of Windows, Doors, Garage Doors, Shutters and Skylights, for detached one and two family dwellings, and multiple single family dwellings, (townhouses) with common roof height < 30 feet.

1. Window or door buck, and mull bar inspections are not required. The buck shall comply with Section FBC 1710.10 specifically, unless otherwise tested; buck shall extend beyond the interior face of the window or door frame such that full support of the frame is provided.

2. A Florida Professional Engineer or Architect may modify the buck or fasteners as specified in a Notice of Acceptance. Such modification must be documented with a signed and sealed letter or drawing.

3. To obtain the required design pressure for a specific opening at a specific site, an individual must utilize one of the following and submit documentation as indicated.

a) A site-specific plan (signed and sealed) by a Florida Professional Engineer or Architect, indicating the location of all retro openings and the required design pressures.

b) A site-specific plan (not sealed) indicating the location of all retro openings accompanied by a worst case design pressure chart (signed and sealed) prepared by a Florida P.E. or Architect.

c) A site-specific plan (not sealed) indicating the location of all openings and indicating the required design pressures based on the Broward County Fenestration Voluntary Wind Load Chart. (see attached chart).

4. Buildings with a (height) > 30 feet or more shall have a site-specific design (signed and sealed) by a Florida Professional Engineer or Architect, indicating the location of all retro openings and the required design pressures for each opening.

NOTE: Generic charts, graphs alone, etc. are not acceptable for buildings above 30 feet.

**EFFECTIVE DATE:** September 12, 2012

**RE-ISSUED:** May 9, 2014

**RE-ISSUED:** May 14, 2015

**EFFECTIVE DATE:** June 30, 2015

\*\*\*\*PLEASE POST AT YOUR PERMIT COUNTER\*\*\*\*

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**Broward County Fenestration Voluntary Wind Load Chart\***  
**Per ASCE 7-10 Method 1, Part 1 and FBC 5th Edition (2014) for Retrofitting in Accordance with Formal Interpretation #.**  
**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  
 \* 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 2			Zone 3			Zone 2			Zone 3			Zone 2			Zone 3			Zone 2			Zone 3		
		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
10	Gable/Hip Roof	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	Roof	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	θ ≤ 7°	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	(0 to 1.5:12)	15.0	-34.6	15.0	-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	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	Roof***	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	7° < θ ≤ 27°	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	(1.5 to 6:12)	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	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	27° < θ ≤ 45°	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	(6 to 12:12)	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 5			Zone 4			Zone 5			Zone 4			Zone 5			Zone 4			Zone 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**

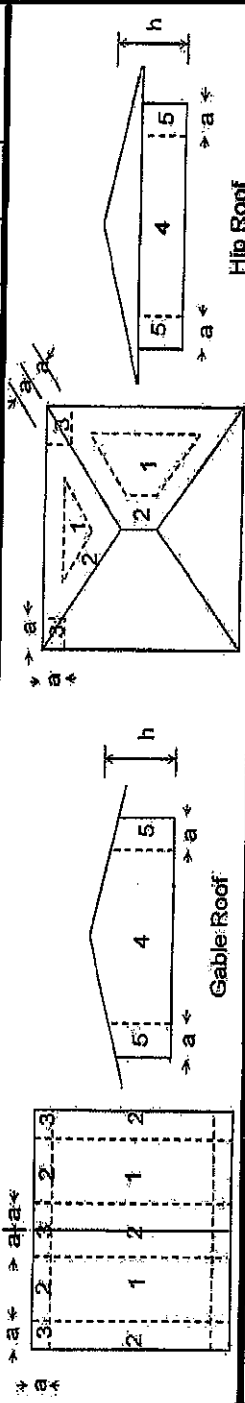
for a Building with 30-foot Mean Roof Height

Exposure C

Tables 1609.7(1) & (2), and Section 1609.3.1

Effective Wind Area Width	Roof Height	Roof Angle	Wind Load	
			+	-
8	8	0 - 10 degrees	35.2	-39.8
10	10	0 - 10 degrees	34.1	-38.2
14	14	> 10 degrees	32.3	-36.1
9	7	> 10 degrees	38.4	-43.4
16	7	> 10 degrees	36.8	-41.0

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.



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, 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.