

# TECHNICAL ADVISORY BULLETIN

To: GAF Residential Sales, Master Elite Contractors, Distributors

From: Technical Services Department

Subject: Florida Building Code- Residential & Asphalt Shingle Wind Ratings



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Date: March 15, 2012

No: TAB-R 2012-159

## What Are The New Wind Resistance Requirements For Asphalt Shingles?

The 2010 Florida Building Code-Residential (FBC-R) requirement for wind resistance relies on three sets of standards:

- Requires shingles to be tested to product standards **ASTM D7158** or **D3161**. ASTM product standards define resistance of asphalt shingles to wind uplift which includes detailed underlayment and fastening requirements.
- **ASCE-7-10** which provides building designers with detailed engineering criteria for the application of loads on structures.

## What Special Things Do I Need To Know?

Changes were made to **ASCE-7...** to simplify the calculations and not to increase the required level of shingle wind resistance.

- **Previous versions contained...** a single wind map that established design wind speeds for **3-second gusts** and a **50 year** mean recurrence interval.
- **The new standard contains...** three separate maps that define “ultimate wind speeds” for differing building risk categories and varying return periods. Since the FBC-R applies to residential structures only, the code contains a **single map** reflecting the appropriate risk category as shown in Figure R301.2(4) below.

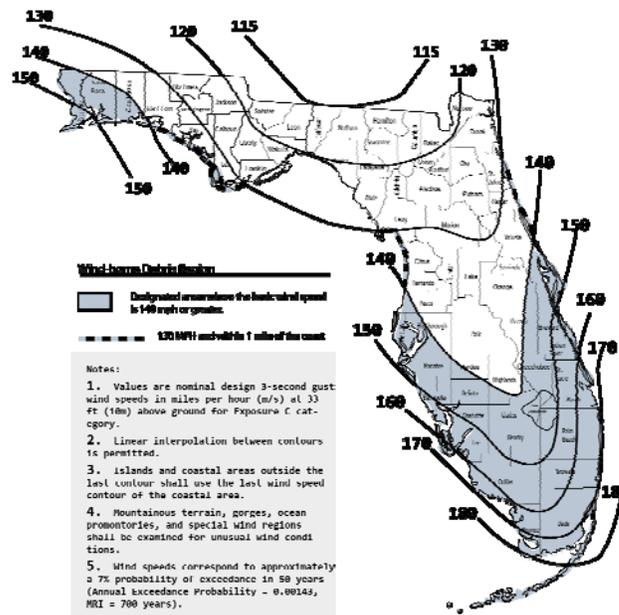


Figure R301.2(4) Wind-Borne Debris Region, Category II and III Buildings and Structures except health care facilities

Important! The basic wind speeds did not change; it is simply the method of expressing design wind speeds that have changed. Again, these changes were made to simplify the calculations, not the required level of shingle wind resistance.

**How Do You Determine  
The Required Wind  
Resistance Rating?**

In previous versions of FBC-R...the designer would:

- Use the wind speed map to determine the basic wind speed that applied to their specific building type.
- Convert the wind speed into pressure.
- Apply several variable coefficients such as building height and terrain exposure.

Under the 2010 FBC-R utilizing ASCE-7-10... the designer would:

- Select the “class” designation that corresponds to the specified “maximum basic wind speed ( $V_{ult}$ )” and the applicable wind resistance standard.

For reference, the previous versions of the code including the ASCE-7 3-second gust values ( $V_{asd}$ ) are included in Table R905.2.6.1 shown below (from the FBC-R). This table shows how these values correlate to the new ultimate wind speeds and which shingles comply with the requirements.

**TABLE R905.2.6.1  
WIND RESISTANCE OF ASPHALT SHINGLES**

Classification of Asphalt Shingles			
Maximum Basic Wind Speed, $V_{ult}$ From Figure R301.2(4)	$V_{asd}$ as determined in accordance with Section R301.2.1.3	ASTM D 7158	ASTM D 3161
110	85	D, G or H	A, D or F
116	90	D, G or H	A, D or F
129	100	G or H	A, D or F
142	110	G or H	F
155	120	G or H	F
168	130	H	F
181	140	H	F
194	150	H	F

- Because all GAF shingles are both ASTM D7158 Class H and ASTM D3161 Class F, **they are compliant with the most stringent requirements of the 2010 FBC-R.**

**How Do I Know That My  
GAF Shingles Are Code  
Compliant?**

**Always check the label on the shingles!** GAF labels all of its asphalt shingles that are tested in accordance with both ASTM D3161 and ASTM D7158. It is always best to check the label for the class of performance for the product you are going to install just to verify that it complies.

**What Else Do I Need To  
Know?**

**To be code compliant...**shingles must be installed with nails (not staples) in accordance with the application instructions and fastening guidelines printed on each bundle of shingles.

**In some areas...**building codes may require additional application techniques (such as additional nails) beyond our instructions. Always follow local codes.

**Products are tested...**to meet building code and approval agency requirements for specific jurisdictions. Products may be tested for conditions that are higher than those covered by the GAF Limited Warranty. Code compliance and limited warranties are separate and distinct. Testing is performed under controlled laboratory conditions and the fact that GAF may publish testing results does not modify the applicable limited warranty in any way.

**Where Can I Get More  
Information?**

**GAF Technical Services can assist you...** with these and other questions you may have regarding your new roof installation. GAF Technical Services can be contacted at **800-ROOF-411** (800-766-3411). Also, the GAF website is a great resource for just about any question you may have or for additional information you may require. Please visit: [www.gaf.com](http://www.gaf.com).