

2016 Annual NRLRC Luncheon Program
February 17, 2016 – Orlando, Florida


Part 2:
Technical observations from the field

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Wind design for roof assemblies
*Specifying a wind warrantee, in itself,
is not proper wind design*



Proper wind design

- Determine wind loads
 - IBC Ch. 16-Structural Design
 - ASCE 7-10, “Minimum Design Loads for Buildings and Other Structures”
- Design for resistance
 - FM 4474
 - UL 580 or UL 1897


IBC requires (Sec. 1603) design wind loads to be shown in the Contract Documents



Design wind load determination



The screenshot shows the homepage of roofwinddesigner.com. At the top, there is a navigation bar with links for Home, Contact Us, and FAQ. Below the navigation bar, there is a main heading "Design wind load determination" and a sub-heading "Design wind load determination". The main content area contains several paragraphs of text explaining the purpose and use of the Roof Wind Designer tool. At the bottom of the page, there are logos for the Midwest Roofing Contractors Association (MRCA), the National Roofing Contractors Association (NRCA), and the North/East Roofing Contractors Association (NERCA).



FM 1-28 has been updated

www.fmglobaldatasheets.com

FM Global
Property Loss Prevention Data Sheets 1-28
October 2015
Page 1 of 100


WIND DESIGN

NUMBERS OF FM GLOBAL SHOULD CORRECT THESE LOGS FOR GLOBAL OFFICE BEFORE DESIGNING AND ERECTING ROOFS.

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- October 2015 update
- Based upon ASCE 7-05 with enhancements
- Reformatted
- Be cautious of FM-insured projects
- See *Professional Roofing*, March 2016



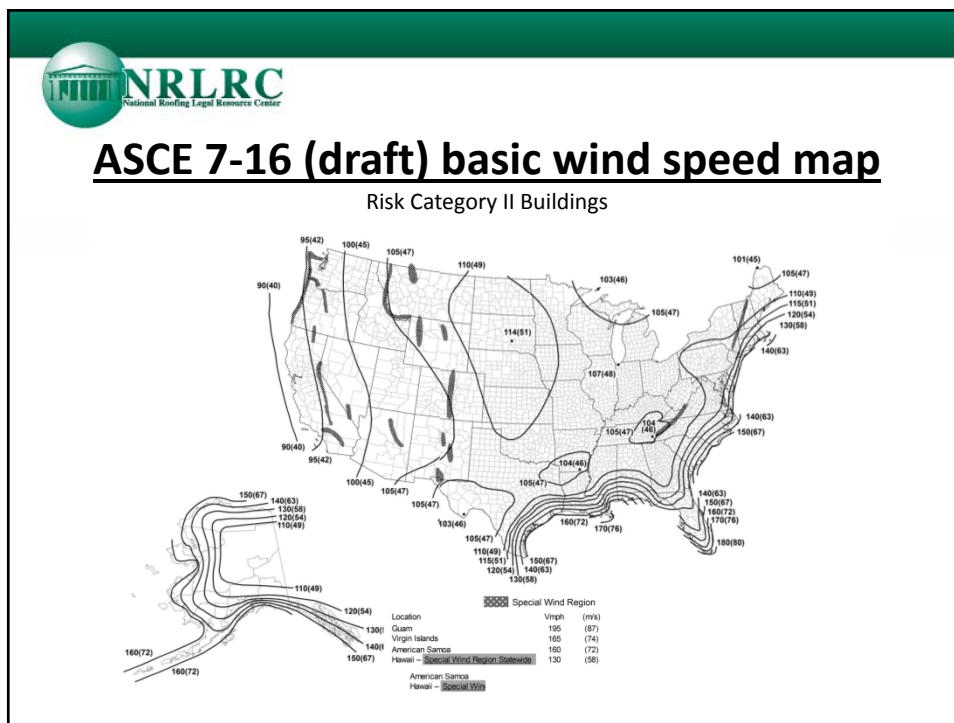
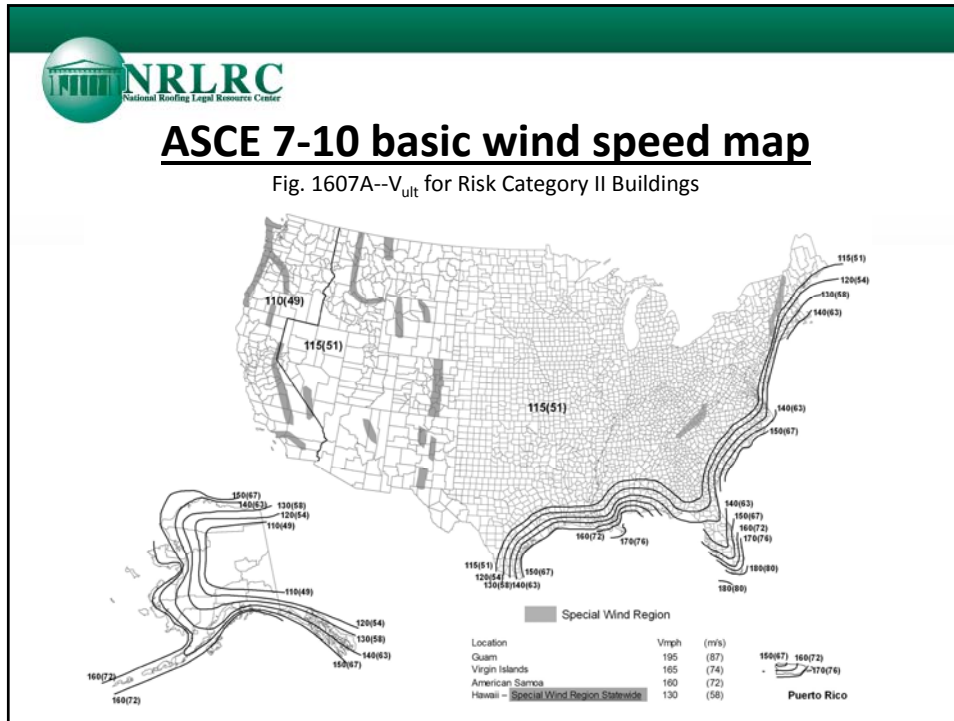
ASCE 7-16 (public review draft)


- Revised basic wind speed map
- Changes (and new) pressure coefficients
- Revised perimeter and corner zones

Expect higher field, perimeter and corner uplift pressures

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3






GC_p pressure coefficients

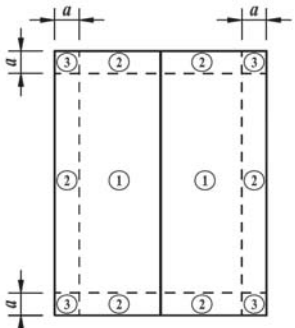
$h \leq 60$ ft., gable roofs ≤ 7 degrees

Zone	ASCE 7-10	ASCE 7-16 (draft)
1'	--	-0.9
1	-1.0	-1.7
2 (perimeter)	-1.8	-2.3
3 (corners)	-2.8	-3.2

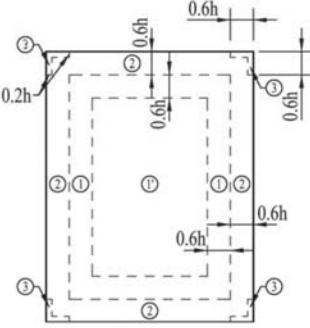


Zones

$h \leq 60$ ft., gable roofs ≤ 7 degrees



ASCE 7-10



ASCE 7-16 (draft)



*Proper wind design is oftentimes avoided...
and it's only going to get more complicated*