2016 Annual NRLRC Luncheon Program

February 17, 2016 – Orlando, Florida

Part 2:

Technical observations from the field

Presented by

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Wind design for roof assemblies

Specifying a wind warrantee, in itself,
is not proper wind design

Proper wind design

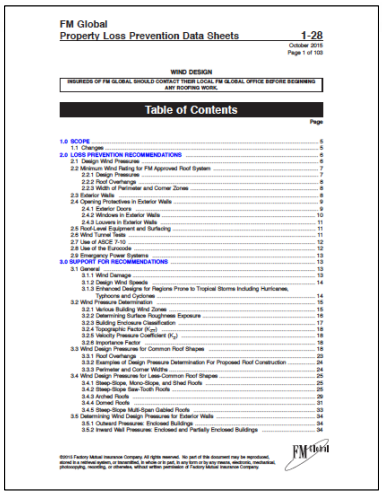
- Determine wind loads
  - IBC Ch. 16-Structural Design
  - ASCE 7-10, "Minimum Design Loads for Buildings and Other Structures"
- Design for resistance
  - FM 4474
  - UL 580 or UL 1897

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

Design wind load determination

FM 1-28 has been updated

www.fmglobaldatasheets.com


FM Global
Property Loss Prevention Data Sheets 1-28

WIND DESIGN

Table of Contents

- 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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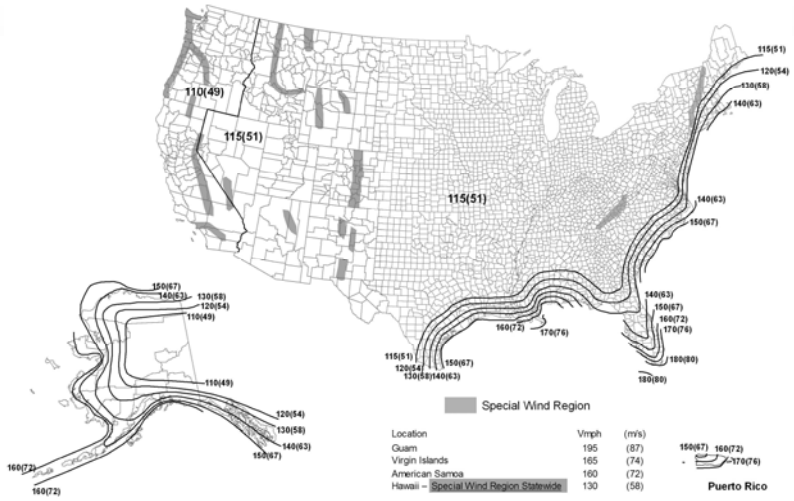
ASCE 7-10 basic wind speed map

Fig. 1607A--V_{ult} for Risk Category II Buildings



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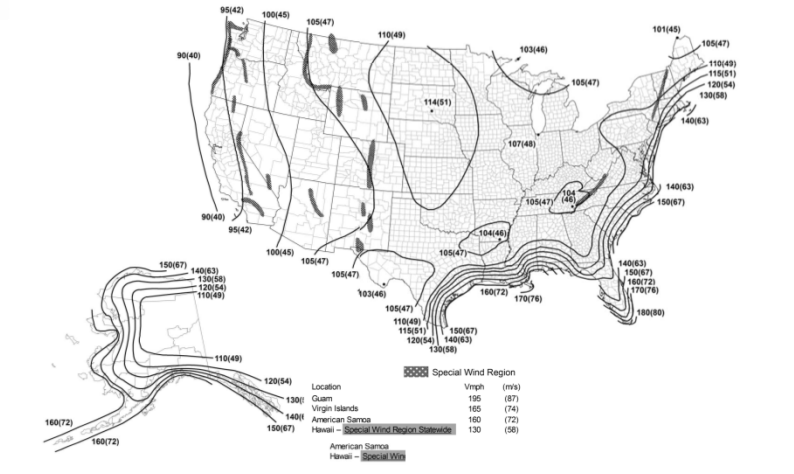
ASCE 7-16 (draft) basic wind speed map

Risk Category II Buildings



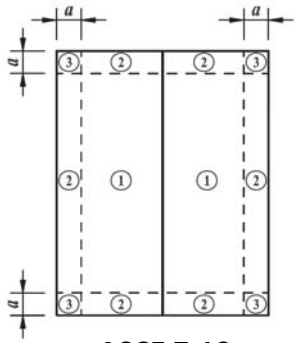
GC_p pressure coefficients

h ≤ 60 ft., gable roofs ≤ 7 degrees

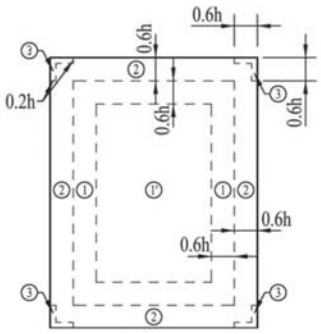
Zone	ASCE 7-10	ASCE 7-16 (draft)
1’	--	-0.9
1	-1.0	-1.7
2 (perimeter)	-1.8	-2.3
3 (corners)	-2.8	-3.2

Zones

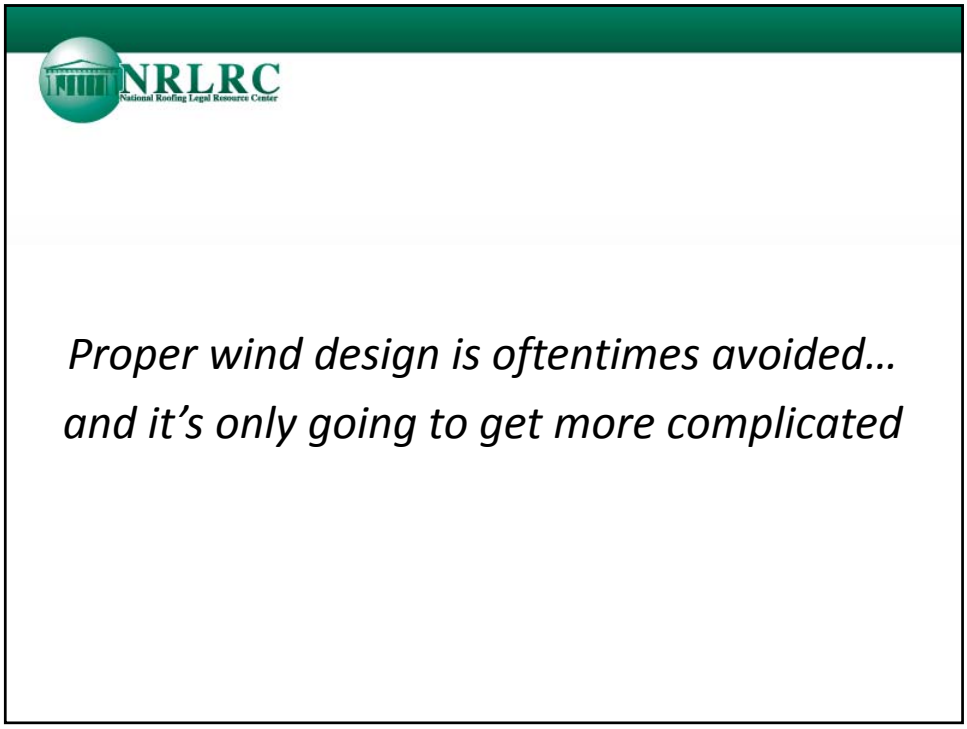
h ≤ 60 ft., gable roofs ≤ 7 degrees



ASCE 7-10



ASCE 7-16 (draft)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Proper wind design is oftentimes avoided…
and it's only going to get more complicated