

**WCBC UPDATE**  
**2008 Roofing Provisions**  
**Wisconsin Roofing**  
**Contractors Association**  
**14 May, 2008**

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# What Is the Session About?

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- **Significant Changes to the Roofing Provisions of the Wisconsin Commercial Building Code [WCCB] and helpful tools**
- **Note the use of 2006 Editions of:**
  - **International Building Code (IBC), International Energy Conservation Code (IECC), International Mechanical Code (IMC), International Fuel Gas Code (IFGC) & the International Existing Building Code (IEBC)**

# What's in the "new" WCBC

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**Soil Erosion**

**Ch. Comm 60**

**Administration**

**Ch. Comm 61**

**Building**

**Ch. Comm 62**

**Energy**

**Ch. Comm 63**

**Mechanical**

**Ch. Comm 64**

**Fuel Gas**

**Ch. Comm 65**

**Existing Building**

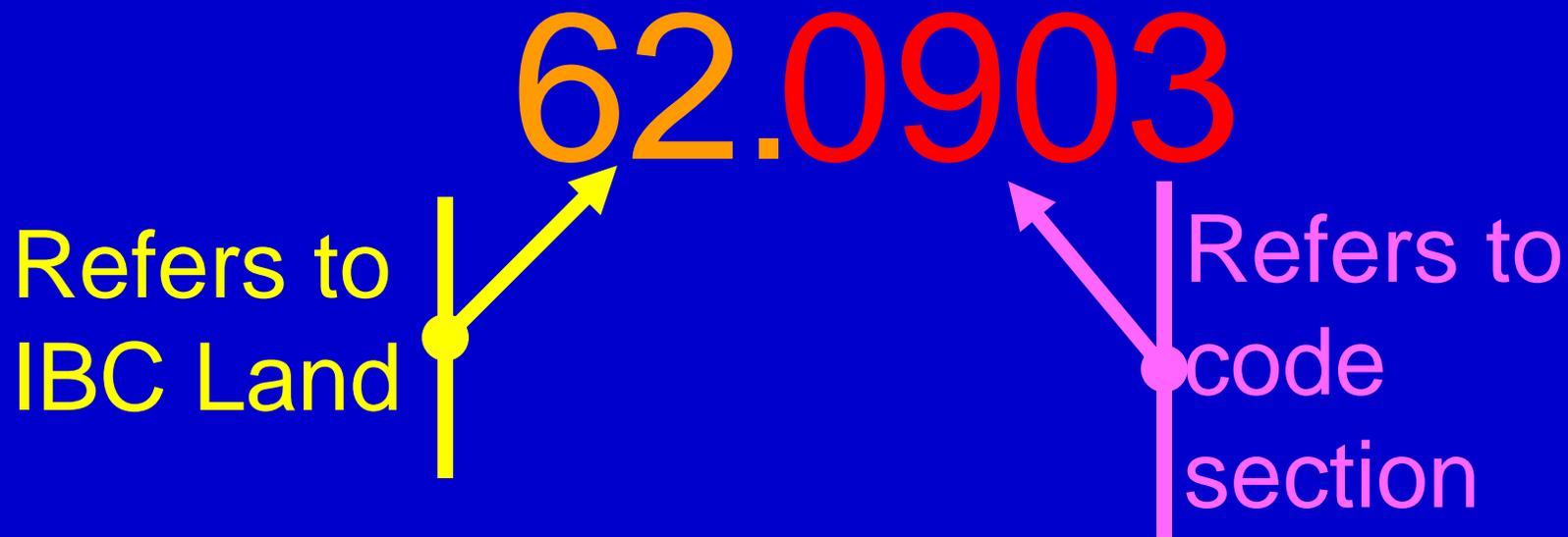
**Ch. Comm 66**

**INSERT PAGES**

# WCBC Navigating Wisconsin Modifications

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- There is a *Method to the Madness* of the Admin. Rule Numbering



# Insert Pages

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- **An insert page (or pages) was created for each group of Wisconsinisms that occur on any set of two facing ICC pages.**
- **Pages titles correspond to the ICC Code & Chapter being modified**

# Insert Pages (cont)

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- **Following the title, a sentence tells users the page numbers of the model code where the insert is to be placed.**
- **Insert Pages are also numbered (i.e. Page 1 of 2) so users will know if there is more than 1 page to be inserted at that location .**

INSERT PAGES  
IBC CHAPTER 2

To be inserted between pages 10 & 11.

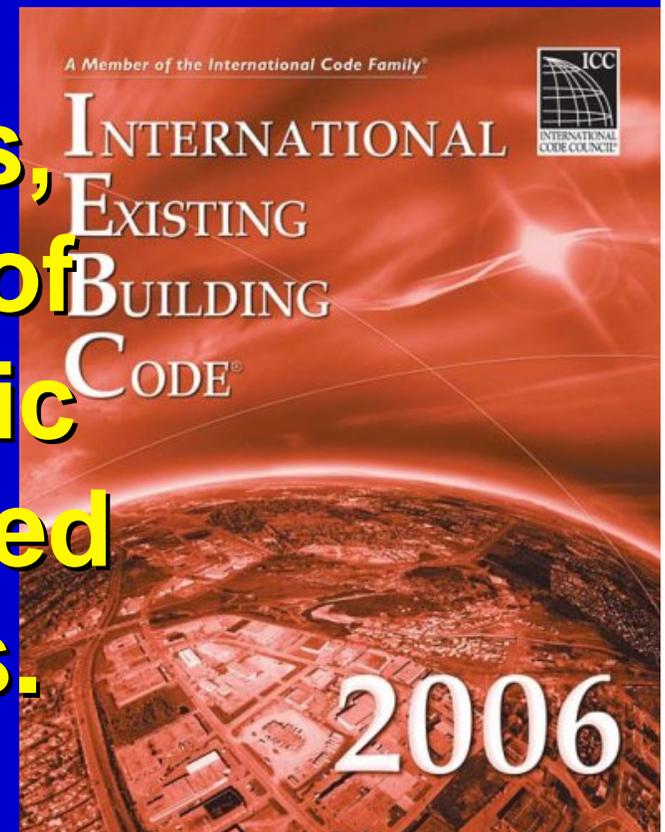
**Comm 62.0202 Definitions.**

**Comm 62.0202(1) ADDITIONS.** These are department definitions for this chapter in addition to the definitions in IBC section 202:

(a) "Air retarder" means a material or combination of materials collectively having a maximum air leakage rate of 0.06 cfm/ft.<sup>2</sup> at 0.30 in. H<sub>2</sub>O, when tested in accordance with ASTM E 783, installed to resist air leakage into the exterior envelope.

# General Changes to the WI Comm. Bldg. Code (WCBC)

- Must use the IEBC [Comm 66] for repairs, alterations, changes of use, additions, historic buildings and relocated commercial buildings.



# **General Changes to WCBC (cont.)**

- **Although many of the current Wisconsinisms are dropped, be aware that the associated requirements likely still exist in the newer edition of the code.**

# WCBC & Roofing

- Although there are hundreds of references to roof within the WCBC, the references drop significantly when it comes to the specifics of roofing.
- Roofing (50), Roof Covering (62), Roof Covering Assembly or Roof Ass'y. (33).

# WCBC & Roofing (cont)

- The majority of the pertinent references are within Chapter 15 of the IBC [Roof Assemblies and Rooftop Structures]
- Focus is on the “noteworthy” changes in that Chapter, tangential provision in other Chapters and a segue to the Structural provisions of Ch. 16.

# WCBC/IBC CH. 15

# **WCBC/IBC Chapter 15**

## **Noteworthy Changes**

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- **Added an exception [do not need to follow UL 580 or ASTM E1592] for attachment of those metal panel roof systems that are designed as the structure per s. 2209.1 [1504.3.2]**

# WCBC/IBC Chapter 15

## Noteworthy Changes

- Added provisions restricting the use of gravel/stone on the roofs of some taller buildings [1504.8 & T-1504.8]

### ➤ MAXIMUM MEAN ROOF HEIGHT

EXPOSURE CATEGORY		
B	C	D
110 FT.	35 FT.	15 FT.

# WCBC/IBC Chapter 15

## 1504.8 & T-1504.8 (cont.)

- Exposure categories are explained in IBC s. 1609.4.3
- Categories are based on the ground surface roughness in proximity to the building



# WCBC/IBC Chapter 15 Wind Exposure (cont.)

- **B = Urban & suburban areas, wooded or other areas with numerous closely spaced obstructions within 2600' (or greater of 20 x bldg. hght.) of the building**



# WCBC/IBC Chapter 15

## Wind Exposure (cont.)

- **D = Flat unobstructed areas like lakes & smooth mudflats within 5000' (or greater of 20 x bldg. hght.) of the building. The category extends in 600' from shore (or greater of 20 x hght)**
- **C = Not D or Not B**

# WCBC/IBC Chapter 15

## Noteworthy Changes

- Added details for underlayment when roof slope is 4:12 or more [1507.2.8 - shingles]



# **WCBC/IBC Chapter 15**

## **Noteworthy Changes**

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- **Added req's for crickets/saddles at larger penetrations to shingled roofs like chimneys. This only applies when the penetration is over 30" wide [1507.2.9.4]**

# IBC s. 1507.2.9.4

Cap flashing (shown bent upward)

Cricket (plywood triangles underneath)

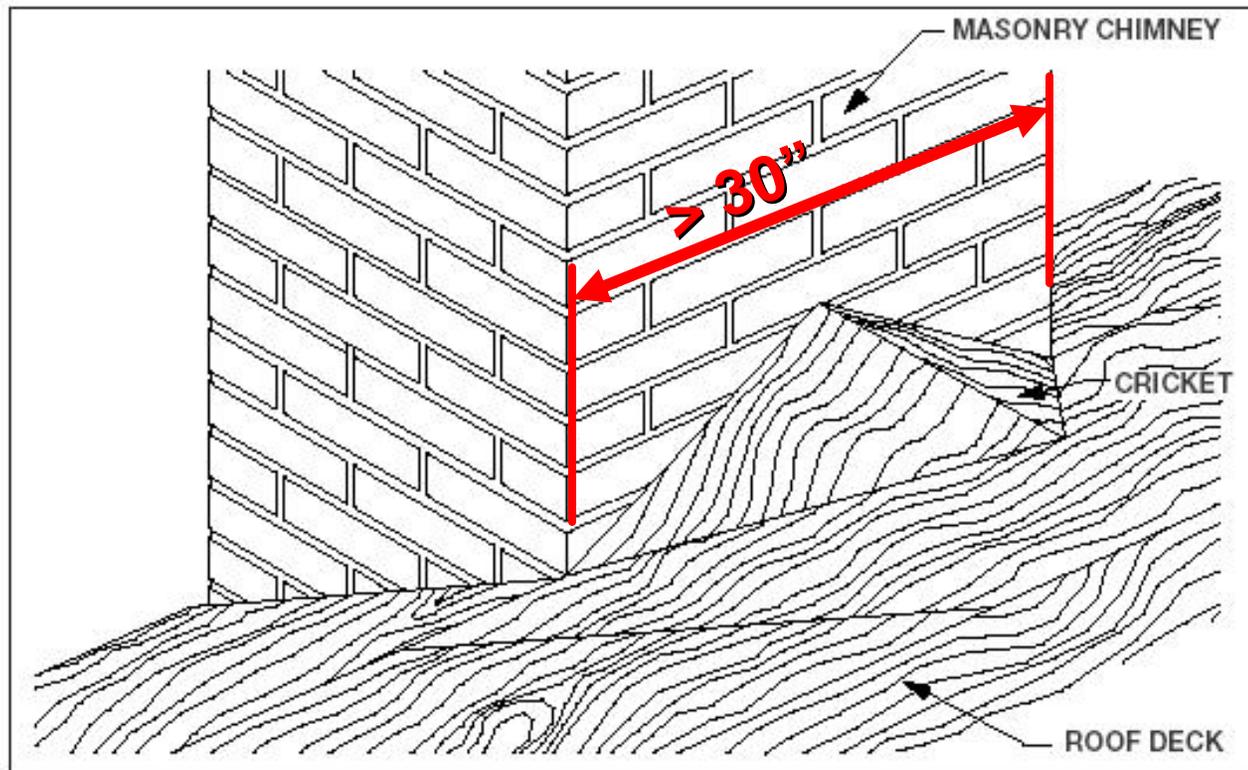
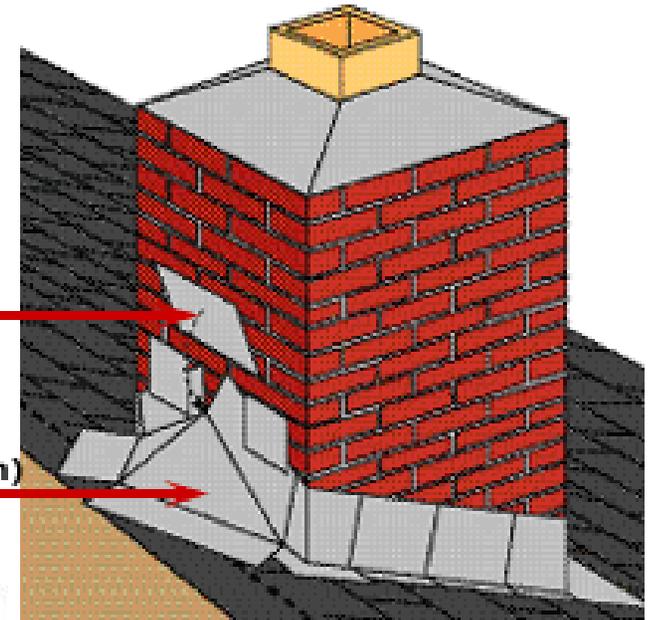
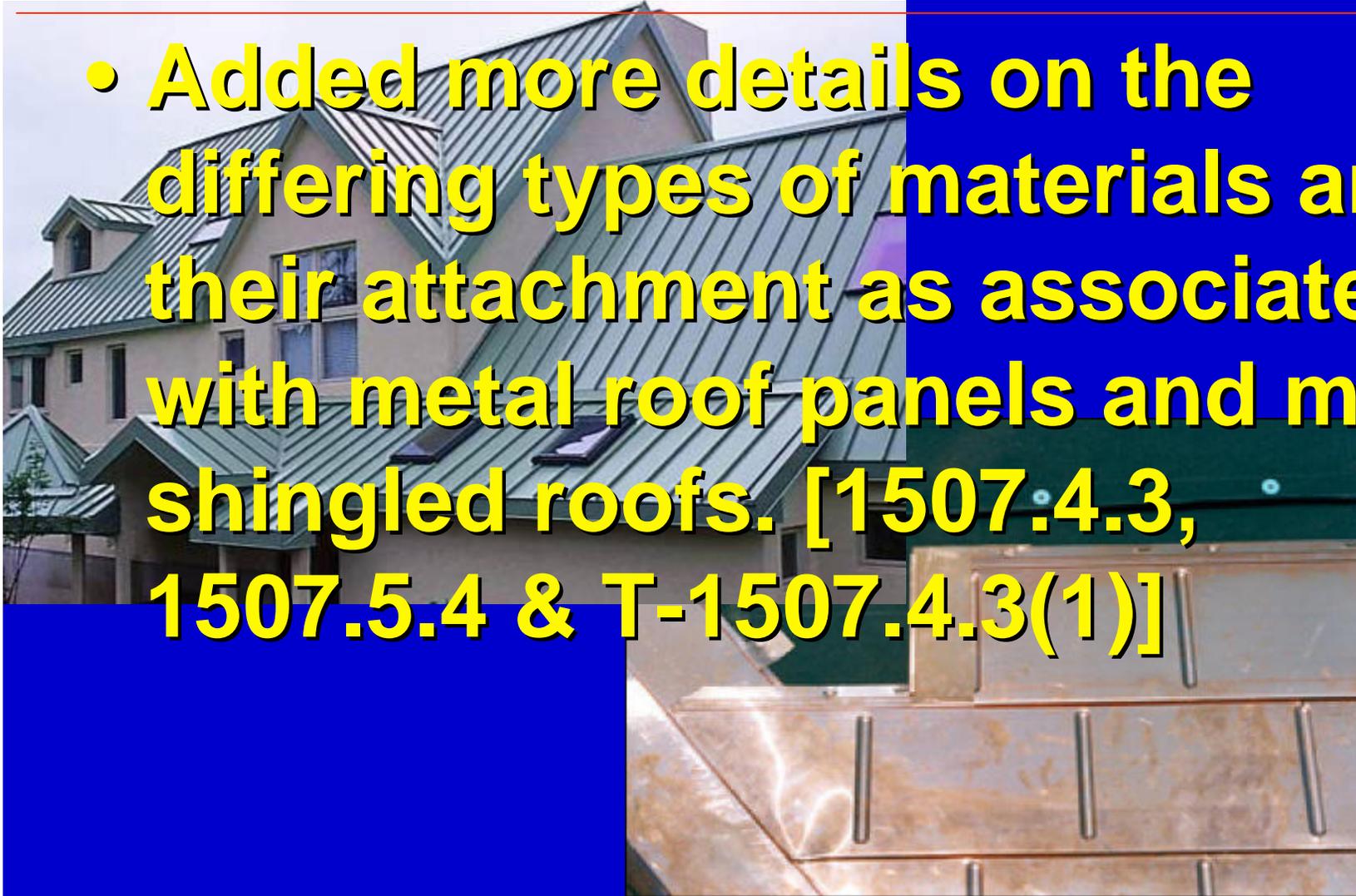


Figure 18: Example of a wood cricket built on the upslope side of a chimney

# WCBC/IBC Chapter 15

## Noteworthy Changes

- Added more details on the differing types of materials and their attachment as associated with metal roof panels and metal shingled roofs. [1507.4.3, 1507.5.4 & T-1507.4.3(1)]



# **WCBC/IBC Chapter 15**

## **Noteworthy Changes**

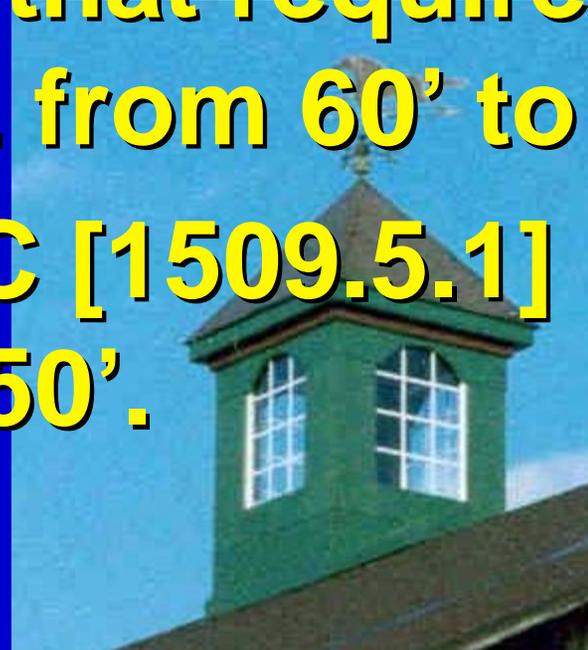
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- **Retained our Wisconsinism to allow some roofs to be designed with a slope of less than 2%. [Comm 62.1507(1), (2), (3) & (4)]**
- **Thermoset single-ply membrane roofs, Thermoplastic single-ply membrane roofs, Sprayed polyurethane foam roofs, & Liquid applied roofs.**

# WCBC/IBC Chapter 15

## Noteworthy Changes

- **Section 1509.5 [Towers, Spires, Domes, Cupolas]** modified to bump the trigger that requires Type I or II const. from 60' to 85'
- **The trigger for NC [1509.5.1]** went from 25' to 50'.



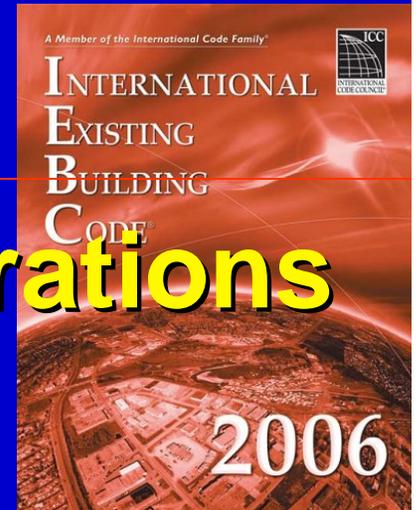
# WCBC/IBC Chapter 15

## Noteworthy Changes

- **1510 Reroofing – Added an exception to the tear off restriction – Will not have to tear off for the addition of a new protective coating on spray foam roofs**



# WCBC/IBC Ch 15 & IEBC Reroofing (cont.)



- **Repairs [IEBC Ch 5] & Alterations [IEBC Ch 6]**
- **For Repairs, use the same materials as being repaired, or use the materials as permitted by the IBC [IEBC s. 501.2].**

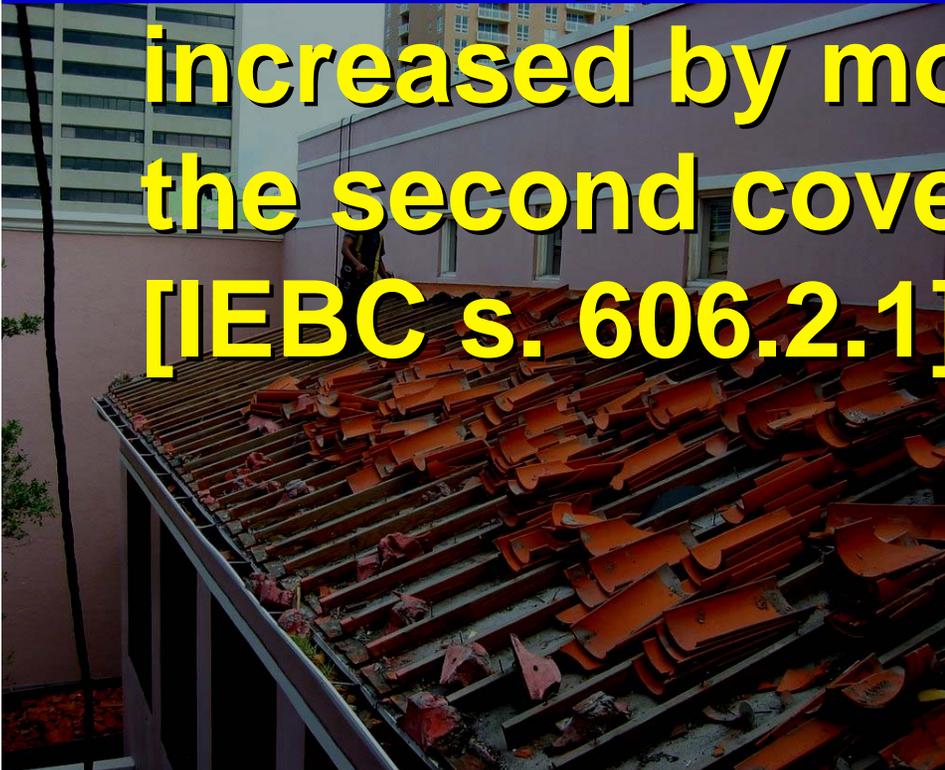
# WCBC/IEBC Reroofing (cont.)

- Reroofing - Altns [IEBC Ch 6]
- Use the same materials as permitted by the IBC [IEBC s. 602.3].



# WCBC/IEBC Reroofing (cont.)

- Reroofing - Altns [IEBC Ch 6]
- Regarding Structural, remember the exceptions when the DL is not increased by more than 5% or if the second cover is less than 3# [IEBC s. 606.2.1]



# WCBC/IEBC Reroofing (cont.)

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- The Reroofing must meet the energy conservation [IECC] requirements of the WCBC [Comm 66.0607] except where the roof insulation is not exposed and the energy use of the building is not increased.

# Prescriptive Compliance [Other than Residential]

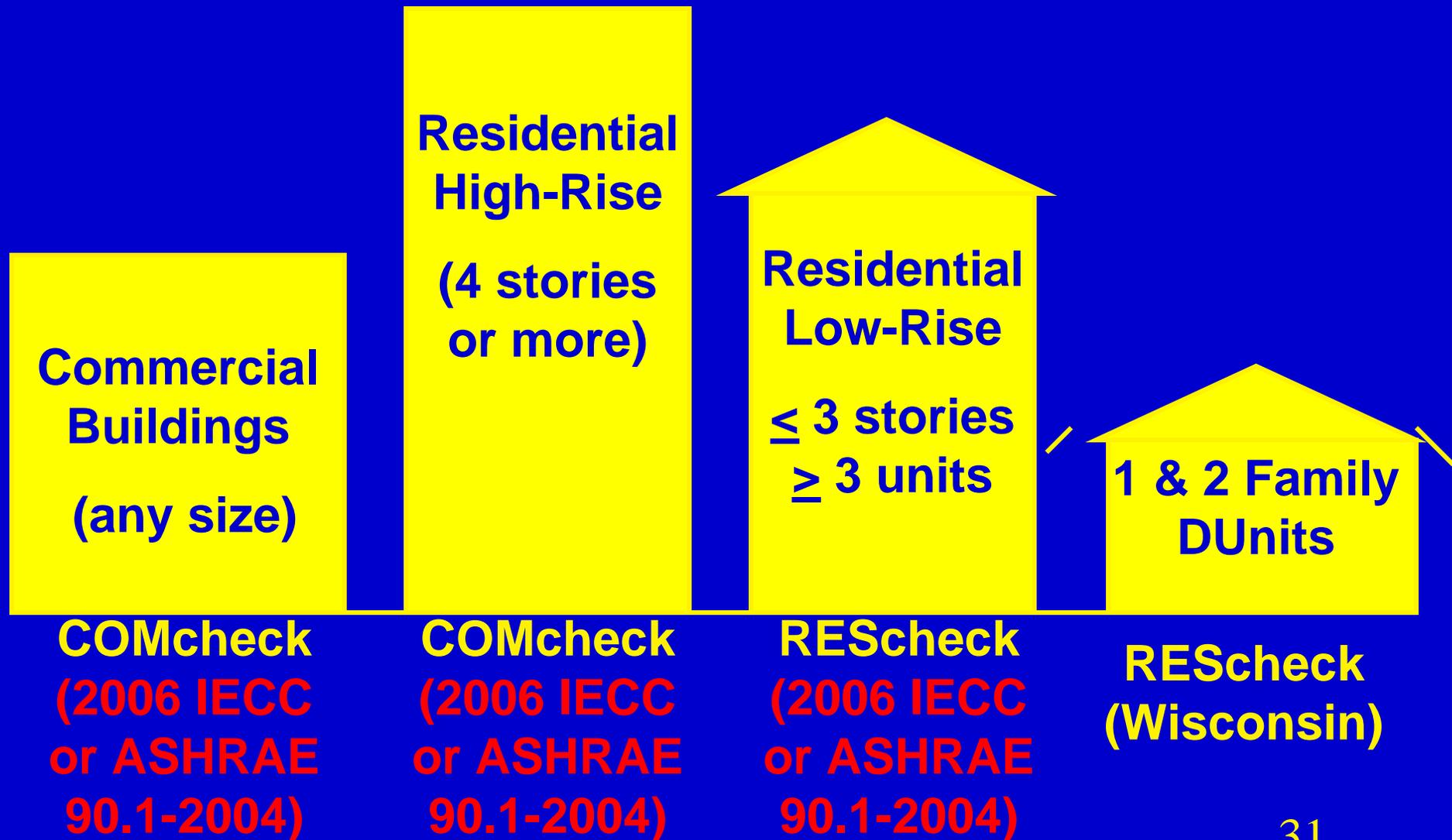
## IECC Table 502.2(1) – Prescriptive Opaque Envelope Requirements

TABLE 502.2(1)  
BUILDING ENVELOPE REQUIREMENTS – OPAQUE ASSEMBLIES

CLIMATE ZONE	1	2	3	4 except Marine	5 and Marine 4	6	7	8
<b>Roofs</b>								
Insulation entirely above deck	R-15 ci	R-15 ci	R-15 ci	R-15 ci	R-20 ci	R-20 ci	R-25 ci	R-25 ci
Metal buildings (with R-5 thermal blocks <sup>a,b</sup> )	R-19 + R-10	R-19	R-19	R-19	R-19	R-19	R-19 + R-10	R-19 + R-10
Attic and other	R-30	R-30	R-30	R-30	R-30	R-30	R-38	R-38
<b>Walls, Above Grade</b>								
Mass	NR	NR	R-5.7 ci <sup>c,e</sup>	R-5.7 ci <sup>c</sup>	R-7.6 ci	R-9.5 ci	R-11.4 ci	R-13.3 ci
Metal building <sup>b</sup>	R-13	R-13	R-13	R-13	R-13 + R-13	R-13 + R-13	R-13 + R-13	R-13 + R-13
Metal framed	R-13	R-13	R-13	R-13	R-13 + R-3.8 ci	R-13 + R-3.8 ci	R-13 + R-7.5 ci	R-13 + R-7.5 ci
Wood framed and other	R-13	R-13	R-13	R-13	R-13	R-13	R-13	R-13 + R-7.5 ci

See IECC t-402.1.1 for Residential (R – 49)

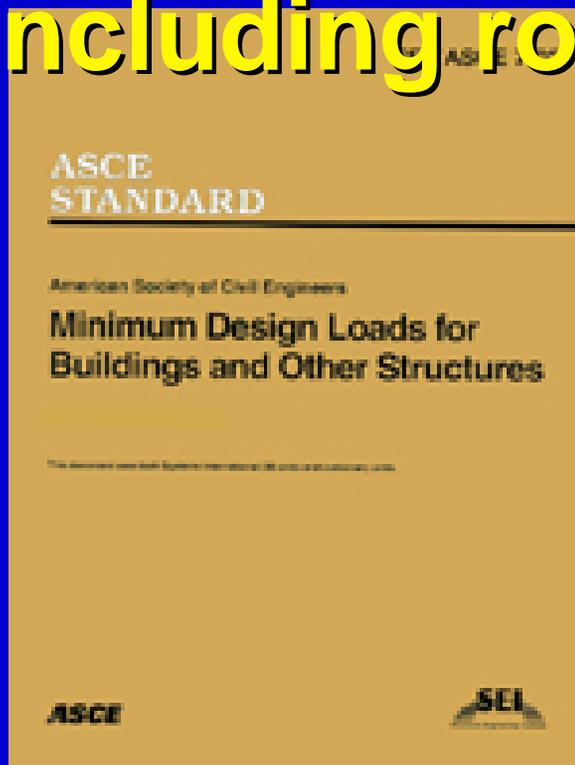
# Computerized Compliance Application (Code Criteria)



**WSCBC/IBC**  
**CH. 16**

# WCBC/IBC Noteworthy Changes [cont.]

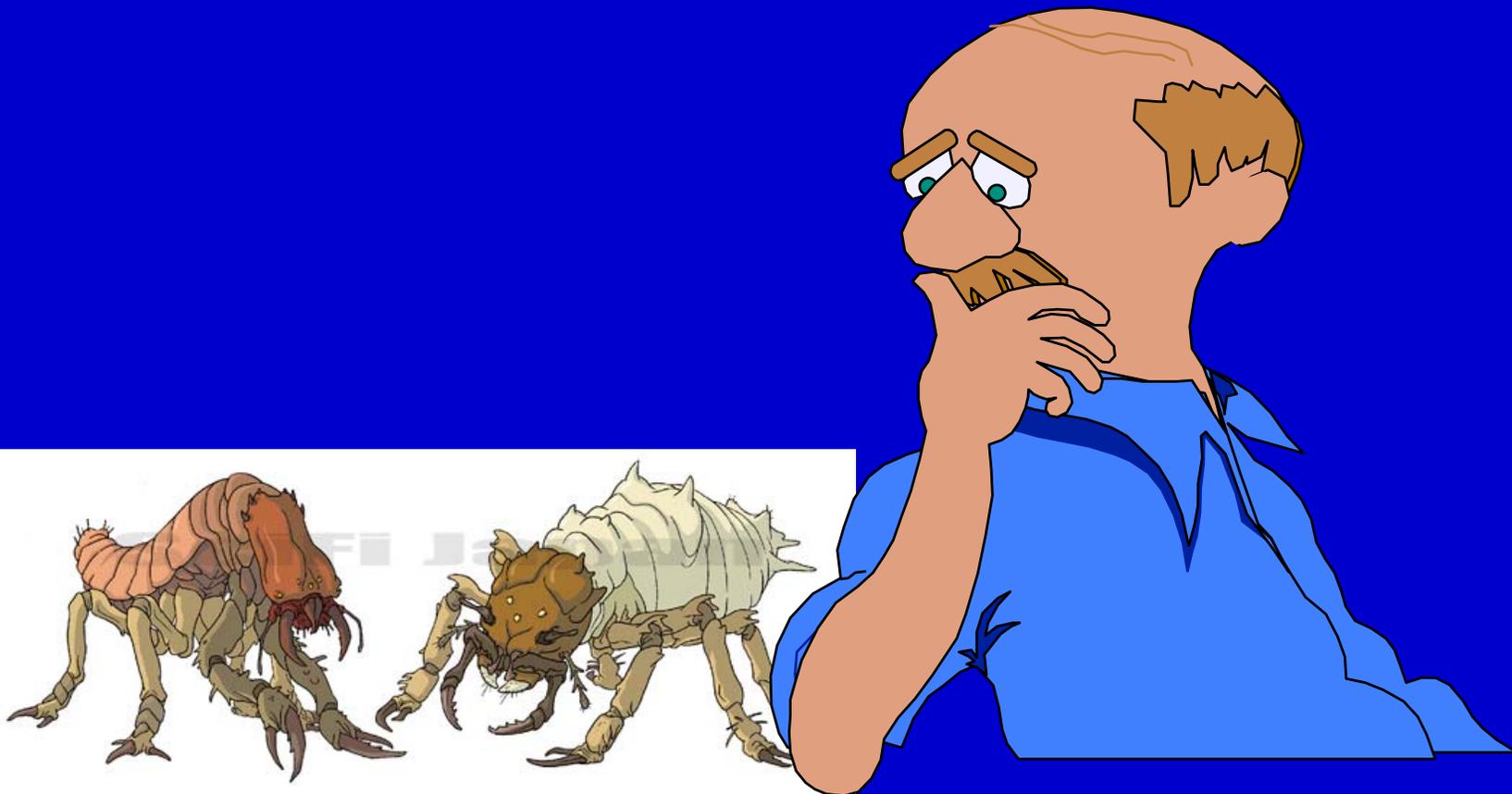
- Expanded use of provisions from ASCE-7 throughout Structural Chapters (including roof loads).



**WSCBC/IBC**  
**CH. 26**

# WCBC/IBC Chapter 26

## Heavy Termite Infestation - Hmm?





# Late Breaking News WCBC/IBC Chapter 26

**Roofing and Foam Plastic  
Insulation – No changes to  
the WCBC, but recently  
added a Q&A on FM Class 1  
assemblies (4450 or 4470)  
[IBC ss. 2603.3 & 2603.4.1.5]**



# Questions ???

