



CHICAGO ROOFING CONTRACTORS ASSOCIATION
Maintaining High Standards of Professionalism
www.crca.org

CRCA's 27th Annual Trade Show
Oakbrook Terrace, IL – January 22, 2010

Do you have the green light?

Mark S. Graham

Associate Executive Director, Technical Services
National Roofing Contractors Association



Topics

- Roofing-related changes in IBC 09
- ICC revision process
- Pending IBC changes

Sec 1502-Definitions

- *Aggregate* defined
- *Ballasted* defined
- *Penthouse* revised, “...occupying not more than one-third of the roof area.” deleted.
- *Roof assembly* definition limited to Ch 15.

Sec. 1503-Weather protection

- Sec. 1503.1-General: “..maintained...” deleted
- Sec. 1503.4-Roof Drainage:
 - Secondary drainage required (1504.4.1)
 - Scuppers (1503.4.2), 4 in. minimum
- Sec. 1503.6-Crickets and saddles:
 - At penetrations greater than 30 inches
 - In IBC 2006, applied to shingles only

Sec. 1504—Performance requirements

- Sec. 1504.1-Wind resistance revised:
 - Asphalt shingles revised
- Sec. 1504.2-Tile revised editorially
- Sec. 1504.3-Non-ballasted roofs revised editorially
 - Other roof systems (1504.3.1) FM 4450 and FM 4470 deleted and FM 4474 added
- Sec. 1504.4-Ballast revised editorially and compliance with Sec. 1504.8 added

1504.8 Aggregate: Aggregate used as a surfacing for roof coverings and aggregate, gravel or stone used as ballast shall not be used on the roof of a building located in a hurricane-prone region as defined in Section 1609.2, or on any other building with a mean roof height exceeding that permitted by Table 1504.8 based upon the exposure category and basic wind speed at the site.

TABLE 1504.8
MAXIMUM ALLOWABLE MEAN ROOF HEIGHT PERMITTED FOR
BUILDINGS WITH AGGREGATE ON THE ROOF IN AREAS
OUTSIDE A HURRICANE-PRONE REGION

BASIC WIND SPEED FROM FIG 1609	MAXIMUM MEAN ROOF HEIGHT (ft)		
	Exposure Category		
	B	C	D
85	170	60	30
90	110	35	15
95	75	20	NP
100	55	15	NP
105	40	NP	NP
110	30	NP	NP
115	20	NP	NP
120	15	NP	NP
Greater than 120	NP	NP	NP

Sec. 1505-Fire Classifications

- Sec. 1505.2-Class A exceptions revised:
 - Brick, masonry or exposed concrete remain
 - Ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete tile or slate installed on noncombustible decks or ferrous, copper or metal sheets installed without a roof deck on noncombustible framing.
- Sec. 1505.3-Class B exception removed:
 - Metal sheets and shingles no longer in exception.

Sec. 1507.2—Asphalt Shingles

- Sec. 1507.2.5-Asphalt Shingles editorially revised
- Sec. 1507.2.7-Attachment revised:
 - Steep applications increased from 20:12 to 21:12
 - Wind resistance (1507.2.7.1) revised:
 - ASTM D7158 grade shingles
 - ASTM D3161 permitted by Exception
- Sec. 1507.2.8.2-Ice barrier editorially revised
- Sec. 1507.2.9.2-Valleys, metal valleys increased from 16 inches to 24 inches

Asphalt shingle classifications

IBC 2009 Table 1507.2.7.1(1) and Table 1507.2.7.2(2)

MAXIMUM BASIC WIND SPEED FROM FIG 1609	ASTM D7158 ^a	ASTM D3161
85	D, G or H	A, D or F
90	D, G or H	A, D or F
100	G or H	A, D or F
110	G or H	F
120	G or H	F
130	H	F
140	H	F
150	H	F

^a The standard calculations contained in ASTM D7158 assume Exposure Category B or C and building height of 60 feet or less. Additional calculations are required for conditions outside of these assumptions

1507.4—Metal roof panels

- 1507.4.4-Attachment revised:
 - Copper, brass, bronze and copper alloy fasteners added for copper roofs
 - 300 series stainless fasteners remain
- 1507.5.4-Ice barrier editorially revised

1507.6—Mineral-surfaced roll roofing

1507.7—Slate

Sec. 1507.8—Wood shingles

Sec. 1507.9—Wood shakes

- Underlayment and ice barrier requirements editorially revised

Sec. 1507.11--Modified bitumen

- Sec. 1507.11.2 Material standards added
ADTM D6509 (APP base sheet)

Sec. 1507.12 Thermoset single ply

Sec. 1507.13—Thermoplastic single ply

- ASTM D448 for ballast
- Comply with Sec. 1504.4 (ANSI/SPRI RP-4 and Sec. 1504.8)

Sec. 1507.14--SPF

- 1507.14.2 Material standards editorially revised
 - “...Type III or Type IV...” of ASTM C1029

Sec. 1507.15—Liquid-applied coatings

- 1507.15.2 Material standards added:
 - ASTM D6083 (acrylic coating)
 - ASTM D6694 (silicone coating for SPF)
 - ASTM D6947 (Moisture-cured polyurethane for SPF)

Review of IBC 2009's significant roofing-related changes

- Roof drainage/secondary drains/scuppers
- Ballasted roof restrictions
- Fire classifications
- Asphalt shingle classifications
- Metal valleys for asphalt shingles

Development of IBC 2012

- Code development hearing
 - Oct. 24-Nov. 11, 2009, Baltimore, Maryland
- Final action
 - May 14-23, 2010, Dallas, Texas (IBC, IRC, IFC, IPC)
 - Oct. 28-Nov 1, 2010, Charlotte, NC (IECC)
- 2012 codes published
 - Fall 2011 publication

Approved at code development hearing

Applicable to the IBC for 2012

- Sec. 1504.5--ES-1: Clarification of applicability
- Sec. 1505--Fire classification: Fire call for adhered PV
- Sec. 1507--Roof coverings: Underlayment /high winds
- Sec. 1507.14--SPF: Coatings table
- Sec. 1508--Insulation: Mineral fiber added
- Sec. 1509.6--PV: Design for fire and wind
- Sec. 1510--Reroofing: Existing adhered ice barrier

Approved at code development hearing

Applicable to IFC for IFC 2012

- Vegetative roof systems

Pending addition to IFC 2012

ICC Code Change Proposal F8-09/10

SECTION 316.0

ROOF GARDENS AND LANDSCAPED ROOFS

316.1 General. Rooftop gardens and landscaped roofs shall be installed and maintained in accordance with this code and Sections 1505.0 and 1507.16 of the *International Building Code*.

316.2 Rooftop garden or landscaped roof size. Rooftop garden or landscaped roof areas shall not exceed 15,625 ft² in size in any single area with a maximum dimension of 125 ft. in length or width. A minimum 6 ft. clearance consisting of a Class A (per ASTM E108 or UL790) rated roof system shall be provided between adjacent rooftop garden or landscaped roof areas.

316.3 Rooftop structure and equipment clearance. For all vegetated roofing systems abutting combustible vertical surfaces, a Class A (per ASTM E108 or UL790) rated roof system shall be achieved for a minimum 6 ft. wide continuous boarder placed around rooftop structures and all rooftop equipment, including but not limited to mechanical and machine rooms, penthouses, skylights, roof vents, solar panels, antenna supports and building services equipment.

Pending addition to IFC 2012 - cont.

ICC Code Change Proposal F8-09/10

316.4 Vegetation. Vegetation shall be maintained as described in Sections 316.4.1 and 316.4.2.

316.4.1 Irrigation. Supplemental irrigation shall be provided as necessary to maintain levels of hydration to keep green plants alive and to keep dry foliage to a minimum.

316.4.2 Dead foliage. Excess biomass such as overgrown vegetation, leaves and other dead and decaying material shall be removed at regular intervals not less than two times per year.

Pending addition of IBC 2012

ICC Code Change Proposal F8-09/10

905.3.8 Roof Gardens and landscaped roofs. Buildings or structures with roof gardens or landscaped roofs that are equipped with a standpipe shall extend the standpoint to the roof level on which the garden roof or landscaped roof is located.

Pending addition to IFC 2012

ICC Code Change Proposal F9-09/10

SECTION 318.0 [Relocate to 316 of F8-09/10]

ROOF GARDENS AND LANDSCAPED ROOFS

318.1 Maintenance plan. The fire code official is authorized to require a maintenance plane for vegetation placed on roofs due to the size of a roof garden, materials used, or when a fire hazard may exist to the building or exposures due to the lack of maintenance.

318.2 Maintenance equipment. Fueled equipment stored on roofs and used for care and maintenance of vegetation on roofs shall be stored in accordance with Section 313.

These code change proposals are subject to approval, modification or disapproval at the ICC Final Action Hearing, May 14-23, 2010, in Dallas, Texas

International Green Construction Code (IGCC)

IGCC timeline

- Development
- First draft published on March 15, 2010
- Public comment due by May 14, 2010
- Public comments posted by July 2, 2010
- ICC public hearing Aug. 13-44, 2010 in Rosemont
- Final draft published by Nov. 3
- Code change submission by Jan. 3, 2011
- ICC code change hearing May 15-21, 2011
- ICC final action Nov. 3-6, 2011
- Publication by March 2012

Questions?



Mark S. Graham

Associate Executive Director, Technical Services
National Roofing Contractors Association
10255 West Higgins Road, 600
Rosemont, Illinois 60018-5607

(847) 299-9070

1-800-323-9545

(847) 299-1183

www.nrca.net

mgraham@nrca.net

