IBC 2006

by Mark S. Graham

In January, the International Code Council (ICC) published the *International Building Code, 2006 Edition* (IBC 2006). IBC 2006 contains a number of roofing-related revisions from the previous edition; you must be aware of these.

Asphalt shingles

The code has been revised to require asphalt shingles used on buildings located in areas where the basic wind speed is 110 mph (49 m/sec) to be tested in accordance with ASTM D3161, "Standard Test Method for Wind-resistance of Asphalt Shingles (Fan-Induced Method)," Class F (110 mph). As an alternative, the loads on and wind resistance of asphalt shingles now are permitted to be determined according to UL 2390, "Test Method for Measuring the Wind Uplift Coefficients for Asphalt Shingles," and ASTM D6381, "Standard Test Method for Measurement of Asphalt Shingle Mechanical Uplift Resistance."

Also, asphalt shingle packaging needs to bear a label indicating compliance with ASTM D3161 or listing from an approved testing agency, such as Underwriters Laboratories Inc., referencing UL 2390/ASTM D6381.

Ice-dam protection

For roll roofing, asphalt shingles, metal shingles, wood shingles and wood shakes, the code's requirements for an ice-dam protection membrane have been revised. In IBC's 2000 and 2003 editions, an ice-dam protection membrane is required "… in areas where the average daily temperature in January is 25 F (-4 C) or less … ." In IBC 2006, the specific temperature requirement has been omitted and an ice-dam protection membrane now is required in locations where there has been a history of ice forming along roofs' eaves, causing water backup.

Insulation standards

A requirement has been added for above-deck thermal insulation to comply with applicable ASTM International material standards. Specifically, ASTM C552, "Standard Specification for Cellular Glass Thermal Insulation"; ASTM C578, "Standard Specification for Rigid Cellular Polystyrene Insulation"; ASTM C728, "Standard Specification for Perlite Thermal Insulation Board"; ASTM C1289 (Type I or II only), "Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board"; ASTM C1289 (Type III, IV, V or VI only); and ASTM C208, "Specification for Cellulosic Fiber Insulating Board," are cited as requirements for cellular glass, polystyrene, perlite, polyisocyanurate, and composite and wood fiberboard rigid board roof insulation products, respectively.

Aggregate

Restrictions have been placed on the use of aggregate on roof surfaces. In "hurricane-prone regions," its use no longer is permitted. Hurricane-prone regions are regions of the U.S. along the Atlantic Ocean and Gulf of Mexico coasts where the basic wind speed is 90 mph (40 m/sec) or greater and in American Somoa, Guam, Hawaii, Puerto Rico and U.S. Virgin Islands.

For other U.S. regions, aggregate may not be permitted based on conditions specifically defined in a table in the code. For example, for most U.S. regions (those that have a minimum 90-mph [40-m/sec] basic wind-speed region and Exposure Category "B"), the maximum mean building height where the use of aggregate is permitted is 110 feet (34 m). (For additional information, see "What will happen to aggregate?" August 2004 issue, page 61.)

Single-ply standards

The ASTM product standards for KEE (ketone ethylene ester) and TPO membranes—ASTM D6754, "Standard Specification for Ketone Ethylene Ester Based Sheet Roofing," and ASTM D6878, "Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing"—have been added to the code as material requirements for roof systems using these products.

Closing thoughts

IBC 2006 is a minor update and revision from the code's previous editions; however, some changes directly will affect the design and installation of roof systems.

Roof system designers, roofing material manufacturers and roofing contractors must be familiar with the specific codes and editions of these codes that are applicable in the areas they conduct business. IBC 2006 and its companion code applicable to one- and two-family residences, *International Residential Code, 2006 Edition*, are available from NRCA InfoExpress at (866) ASK-NRCA (275-6722) or online at shop.nrca.net.

Mark S. Graham is NRCA's associate executive director of technical services.