Asphalt shingle selection

by Mark S. Graham

According to NRCA's 2007-08 *Steep-slope Roofing Materials Guide*, 129 asphalt shingle products from nine manufacturers are in the U.S. market. In addition to a particular product's style, color and warranty term, various standards may apply to asphalt shingles that can be used to differentiate between products.

Two product standards apply to fiberglass-reinforced asphalt shingles: ASTM D3018, "Standard Specification for Class A Asphalt Shingles Surfaced With Mineral Granules," and ASTM D3462, "Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced With Mineral Granules." I consider ASTM D3462 generally to be more stringent than ASTM D3018.

ASTM D225, "Standard Specification for Asphalt Shingles (Organic Felt) Surfaced With Mineral Granules," applies to organic-mat reinforced asphalt shingles.

Fire-resistance rating

ASTM E108, "Standard Test Methods for Fire Tests of Roof Coverings," is used to determine the exterior fire resistances of roof coverings. Within ASTM E108, Class A, B and C designations differentiate relative fire resistances. Products classified as Class A are said to resist severe exterior fire exposure; Class C designates relatively light fire resistance.

WEB EXCLUSIVE

For a list of shingle products that comply with the highest classification level for each standard and information about ordering NRCA's guide, log on to www.professionalroofing.net.

Generally, fiberglass-reinforced asphalt shingles are classified as Class A, and organic-mat reinforced asphalt shingles are classified as Class C.

Wind-resistance rating

ASTM D3161, "Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method)," is the long-standing standard for assessing wind resistances of asphalt shingles. Within ASTM D3161, Classes A, D and F designate relative wind resistances. Class A represents a 60-mph wind speed test; Class D represents a 90-mph wind speed test; and Class F represents a 110-mph wind speed test.

ASTM D7158, "Standard Test Method for Wind Resistance of Sealed Asphalt Shingles (Uplift Force/Uplift Resistance Method)," is a relatively new methodology for determining wind resistances of self-sealing asphalt shingles. Within ASTM D7158, Classes D, G and H designate wind resistances. Class D represents a 90-mph basic wind speed; Class G represents a 120-mph basic wind speed; and Class H represents a 150-mph basic wind speed.

The wind-resistance ratings of specific asphalt shingle products vary.

Impact-resistance rating

UL 2218, "Impact Resistance of Prepared Roof Coverings," is used to determine asphalt shingles' impact resistances, which are said to indicate hail resistances. Using UL 2218, products are classified as Class 1 through Class 4 with Class 4 products being the most impact-resistant.

Product selection

Evaluating asphalt shingles based on whether they comply with applicable standards provides a useful means for differentiating between the various products currently on the market and making appropriate product selections.

Review of the information contained in NRCA's guide reveals eight products comply with ASTM D225, 119 products comply with ASTM D3018 and 111 products comply with ASTM D3462.

One hundred and nineteen asphalt shingle products have ASTM E108, Class A fire-resistance ratings; nine others have Class C ratings.

Four products comply with ASTM D3161's Class A (60-mph) wind-resistance classification; 67 products comply with Class F (110 mph). Two products comply with ASTM D7158's Class F (110-mph) wind-resistance classification; 44 others comply with Class H (150 mph).

Two products comply with UL 2218's Class 1 impact-resistance classification; 11 others comply with Class 4.

Overall, only five asphalt shingle products comply with the highest classification level for each standard discussed: ASTM D3462; ASTM E108, Class A; ASTM D3161, Class F; ASTM D7158, Class H; and UL 2218, Class 4.

Information regarding specific asphalt shingle compliances with specific standards is available in NRCA's guide and by contacting individual manufacturers of asphalt shingle products.

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