When do shingles comply?

by **Mark S. Graham**

ASTM D3462, "Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules," is recognized by the roofing industry as the product standard for fiberglass-reinforced asphalt shingles. The standard also is referenced in model building codes as the minimum acceptance criteria for such products.

During the past several years, there has been considerable debate during meetings of ASTM International, Asphalt Roofing Manufacturers Association (ARMA) and NRCA regarding when asphalt shingles are intended to be tested and comply with ASTM D3462.

ASTM D3462

ASTM D3462 indicates the standard is intended to apply to asphalt shingles "as manufactured," but the standard does not specifically define the term or time period intended. The standard also indicates testing should be conducted "immediately after packaging or at a reasonable time, as agreed upon between the buyer and seller, after manufacturing and before installation." The standard further states asphalt shingles' physical and performance requirements during in-service use are beyond the standard's scope.

Several asphalt shingle manufacturers contend the wording "as manufactured" needs to be taken quite literally to mean testing should be conducted on shingles taken directly from the end of manufacturing lines. These manufacturers insist any shingles taken from a distributor's stock or job-site delivery are not subject to ASTM D3462 testing and compliance evaluations.

A concern with these manufacturers' interpretation of ASTM D3462 is that such an interpretation puts asphalt shingle users in a position where they cannot independently test and verify the products' compliance with the standard and building code requirements.

In September 2002, ARMA issued a technical bulletin, "When does a shingle comply with ASTM D3462?". The bulletin states that from the time of production until installation, asphalt shingles are handled, transported and stored under widely varying conditions—such as temperature, humidity and light—and shingles' physical properties may change during this time period. The bulletin further indicates ASTM D3462's "as manufactured" statement precludes testing of asphalt shingles after some time has elapsed.

A contradiction?

Review of ASTM D3462's test methods reveals a notable conflict between shingle manufacturers' and ARMA's assertions regarding the timing of testing and compliance with ASTM D3462.

For example, testing according to ASTM D3161, "Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-induced Method)," is included as part of ASTM D3462 to determine asphalt shingles' wind resistances. ASTM D3161 requires test decks of asphalt shingles be constructed and heated for a minimum of 16 hours then cooled before testing.

Similarly, ASTM E108, "Test Methods for Fire Tests of Roof Coverings," also is included within ASTM D3462 to determine fire resistance. ASTM E108 requires products age a minimum of 30 days before test deck construction, conditioning and testing.

It is obvious asphalt shingles tested in strict accordance with ASTM D3462 are tested a minimum of 30 days after manufacturing—not at the time of manufacturing. Taking into consideration time for transporting test samples to a laboratory and laboratory workload and internal procedures, it is likely actual testing of asphalt shingles is not completed until one month to two months after manufacturing.

Recommendations

It is clear ASTM D3462's scope needs to be revised to clearly indicate when the standard applies. I encourage asphalt shingle manufacturers, ARMA and those others who participate in ASTM's Committee D08 on Roofing and Waterproofing to work constructively toward resolution of this issue. Revision of ASTM D3462 also should consider users' abilities to independently test and verify compliance with ASTM D3462 if they desire.

Until ASTM D3462 can be properly revised, I encourage users of fiberglass-reinforced asphalt shingles to use the "as agreed upon between the buyer and seller, after manufacturing and before installation" provision provided within the scope of ASTM D3462. Asphalt shingle users should include in their project specifications, contracts and purchase orders specific language indicating compliance with ASTM D3462 is intended at the time of product delivery or, alternatively, before installation.

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