Differentiating mod bit sheets

Standards provide a means of comparing similar products

by Mark S. Graham

THERE ARE MORE THAN 300 polymer-modified bitumen sheet products currently available in the U.S., and that number doesn't account for the different granule and foil surfacing colors available. Because there are so many products offered, comparing them can be difficult. However, there is a relatively straightforward, technically valid way of comparing and differentiating among polymer-modified bitumen products.

ASTM standards

ASTM International has published six product standards that apply to polymer-modified bitumen products and are useful in evaluating them.

For SBS polymer-modified bitumen sheet products, ASTM D6162, "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements"; ASTM D6163, "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements"; ASTM D6164, "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements"; or ASTM D6298, "Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface," apply.

ASTM D6162, ASTM D6163 and ASTM D6164 include type and grade classifications that provide further differentiation. ASTM D6162 and ASTM D6163 each have three type classifications (Type I, Type II and Type III), and ASTM D6164 has two (Type I and Type II). Generally, higher classifications indicate more mass and higher physical properties.

For example, ASTM D6162, Type III products have larger net mass, peak load and tear strength values than Type I products.

In addition to type classifications, grade classifications describe a product's surface. For ASTM D6162, ASTM D6163 and ASTM D6164, a Grade G classification designates mineral-surfaced products and a Grade S classification indicates smooth-surfaced products.

ASTM D6298 does not contain type or grade classifications.

For APP polymer-modified bitumen sheet products, ASTM D6222, "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements," or ASTM D6223, "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements," apply.

ASTM D6222 and ASTM D6223 also include type and grade classifications similar to those contained in the SBS product standards.

Using the standards

An all too common practice in the construction industry is referencing an ASTM International product standard by its number alone. Using the standard number as well as its type and grade classifications is important to properly differentiate among polymer-modified bitumen products.

For example, ASTM D6163 designates an SBS polymer-modified bitumen sheet product using fiberglass reinforcements. But a product complying with ASTM D6163, Type III, Grade G more specifically designates an SBS polymer-modified bitumen sheet product with enhanced physical properties, fiberglass reinforcements and granule surfacing.

When specifying polymer-modified bitumen products, I encourage designers to specify the standard number and type and grade classifications to identify a product's intended polymer modifier, reinforcement, surfacing and physical properties.

In addition, manufacturers should include the applicable standard number and type and grade classifications in their product literature and product markings.

Roofing contractors also should use standard numbers and type and grade classifications when procuring polymer-modified bitumen products from distributors or manufacturers.

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