

ASTM D6083

STANDARD TEST CONDITIONS FOR LIQUID APPLIED ACRYLIC ROOF COATINGS

Early in 1998, ASTM International published the D6083-97 specification titled “Standard Specification for Liquid Applied Acrylic Coating Used in Roofing.” The goal of the ASTM Committee D-08 on Roofing, Waterproofing, and Bituminous Materials, was to establish a *minimum* benchmark standard for 100% acrylic elastomeric latex coatings used in roofing systems. ASTM D6083 addresses two important shortcomings in the industry that greatly impacted how facilities professionals could assess whether a specific acrylic roof coating met minimum property and performance criteria:

- The absence of one unifying set of performance requirements left manufacturers presenting product data that varied in scope and emphasis.
- The frequent reference to specific test protocols that did not fully define testing conditions so that data generated under such protocols could not be directly compared.

Manufacturers routinely list Tensile Strength and Elongation values for their coating products. High performance acrylic coatings have substantial strength and flexibility—or so-called “toughness”. Prior to ASTM D6083, manufacturers frequently referenced ASTM D412 “Standard Test Methods for Rubber Properties in Tension,” but ASTM D412 unfortunately does not clearly specify key testing and equipment conditions such as the gage length and cross head speed of the Instron machine, or the exact temperature and humidity conditions for the test. Conducting the ASTM D412 tensile strength and elongation tests at different conditions can significantly affect reported results. Because of this, facilities professionals would sometimes end up comparing “apples to oranges” when trying to decide on an acrylic roof coating that best suited their needs.

ASTM D6083 clarifies test conditions, especially regarding tensile strength and elongation that comprise toughness. The sample shape is precisely defined (and different than ASTM D412), temperature and humidity are fixed, and cross head speed and gage length are standardized. This means that all test results from ASTM D6083 are directly comparable, unlike those from ASTM D412, and facilities professionals now have a means to compare “apples to apples.”

One needs to appreciate that as manufacturers convert their data sheets to ASTM D6083, the values reported for the same product will differ from previous ASTM D412 results. This is perfectly understandable given that different test conditions are employed. Most important is to understand that different products from the same manufacturer or different products from different manufacturers can now be directly compared, provided ASTM D6083 results are used.

The informed facilities professional can also appreciate that ASTM D6083 sets a minimum standard for certain physical and performance properties. In specific applications, performance beyond these minimums is required and specific ASTM D6083 test results become an important indicator of this additional performance requirement.

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