Designation: D 6694 – 01

Standard Specification for Liquid-Applied Silicone Coating Used in Spray Polyurethane Foam Roofing[1]

This standard is issued under the fixed designation D 6694; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers a liquid-applied solvent dispersed elastomeric coating used as a roofing membrane for spray polyurethane foam (SPF) insulation whose principal polymer in the dispersion contains more than 95 % silicone.

1.2 This specification does not provide guidance for application.

1.3 The following precautionary caveat pertains only to the test method portions, Sections 5 and 6.

1.4 SI units are used throughout this document. Inch-pound units are in parentheses.

1.5 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory requirements prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

C 794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants[2]

D 16 Terminology for Paint and Related Coatings, Materials, and Applications[3]

D 412 Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers—Tension[4]

D 522 Test Methods for Mandrel Bend Test of Attached Organic Coatings[3]

D 624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers[4]

D 903 Test Method for Peel or Stripping Strength of Adhesive Bonds[5]

D 1079 Terminology Relating to Roofing, Waterproofing, and Bituminous Materials[6]

D 1644 Test Method for Nonvolatile Content of Varnishes[3]

D 2196 Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield) Viscometer[3]

D 2370 Test Method for Tensile Properties of Organic Coatings[3]

D 2697 Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings[3]

E 96 Test Methods for Water Vapor Transmission of Materials[7]

G 151 Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Sources[7]

G 154 Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials[8]

3. Terminology

3.1 Definitions in Terminologies D 16 and D 1079 shall apply to this specification.

4. Materials and Manufacture

4.1 *Composition*—The product, as manufactured, shall be in liquid form for application to SPF surfaces by brushing, squeegeeing, rolling, or spraying. The product shall be composed of dispersion containing as the principal polymer more than 95 % silicone polymers to which various pigments and other additives have been added to give the required physical properties.

5. Liquid and Physical Properties

5.1 Although the product is supplied as a liquid, its performance is based on the functional properties of the cured material in film form. The coating is formed into a film fully adhered to the substrate.

5.2 *Liquid Property Requirements*—The liquid coating shall comply with the property requirements in Table 1.

5.3 *Cured Film Physical Property Requirements*:

5.3.1 *Specimen Preparation (Dry Time) (Table 2)*—Films are prepared by applying two coats, with a minimum of an 8-h drying period between coats, to a polyethylene sheet substrate (from Test Method D 2370, 8.2.2) to give a total dry film thickness of 0.50 ± 0.5 mm (20 ± 2 mils). The film is allowed to thoroughly dry at 23 ± 2°C (73.4 ± 3.6°F) and 50 ± 10 %

[1] This specification is under the jurisdiction of ASTM Committee D08 on Roofing, Waterproofing, and Bituminous Materials and is the direct responsibility of Subcommittee D08.06 on Spray Polyurethane Foam Roof Systems.

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[2] *Annual Book of ASTM Standards*, Vol 04.07.

[3] *Annual Book of ASTM Standards*, Vol 06.01.

[4] *Annual Book of ASTM Standards*, Vol 09.01.

[5] *Annual Book of ASTM Standards*, Vol 15.06.

[6] *Annual Book of ASTM Standards*, Vol 04.04.

[7] *Annual Book of ASTM Standards*, Vol 04.06.

[8] *Annual Book of ASTM Standards*, Vol 14.04.

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