This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

Designation: D4990 – 97a (Reapproved 2020)

Standard Specification for Coal-Tar Glass Felt Used in Roofing and Waterproofing[1]

This standard is issued under the fixed designation D4990; 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 glass felt impregnated with coal-tar intended to be used with coal-tar pitch conforming to the appropriate requirements of Specification D450/D450M in construction of built-up roofs and in the construction of waterproofing systems.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 The following safety hazards caveat pertains only to the Test Methods portion, Section 8, of this specification: *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D146/D146M Test Methods for Sampling and Testing Bitumen-Saturated Felts and Woven Fabrics for Roofing and Waterproofing

D450/D450M Specification for Coal-Tar Pitch Used in Roofing, Dampproofing, and Waterproofing

D1079 Terminology Relating to Roofing and Waterproofing

3. Terminology

3.1 *Definitions*—For definitions of terms used in this specification, refer to Terminology D1079.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *net dry mass*—the mass of the coal-tar-impregnated glass felt exclusive of wrapping and packing material, after drying to constant weight and after removing all detached comminuted surfacing material as described in 8.2.

4. Classification

4.1 Coal-tar-impregnated glass felt covered by this specification is of one type.

5. Materials and Manufacture

5.1 The felt shall be a thin, porous sheet of uniformly distributed glass fibers, with or without the addition of reinforcing stranded glass yarns, and bonded with a water-resistant resinous binder.

5.2 In the process of manufacture, the felt shall be impregnated with coal-tar which shall be permitted to contain a mineral stabilizer so that the individual glass fibers are coated and the coal-tar is evenly distributed throughout.

5.3 The impregnated glass felt shall be surfaced lightly with a suitable finely comminuted material to prevent sticking in the roll. The nature and quantity of the surfacing material shall not interfere with adhesion between the plies of a membrane.

6. Physical Properties, Dimensions, and Masses

6.1 The material shall conform to the physical properties, dimensions, and masses prescribed in Tables 1 and 2.

6.2 The finished product shall not crack nor be so sticky as to cause tearing or other damage upon being unrolled at temperatures between 10 and 60 °C (50 and 140 °F).

6.3 After extraction of the coal-tar in accordance with Section 16 of Test Methods D146/D146M, the desaturated felt shall remain flat and unbuckled, shall retain its original shape and dimensions, and individual fibers shall remain firmly set in place.

6.4 The pliability specimen shall be conditioned in air at 25 ± 1 °C (77 ± 2 °F) for at least 1 h and tested in a room maintained at the same temperature (immersion in water not

[1] This specification is under the jurisdiction of ASTM Committee D08 on Roofing and Waterproofing and is the direct responsibility of Subcommittee D08.04 on Felts, Fabrics and Bituminous Sheet Materials.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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