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Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric, Silyl-Terminated Polymer Based Waterproofing Membrane for Use with Separate Wearing Course¹

This standard is issued under the fixed designation D8463/D8463M; 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 describes the required properties and test methods for a one or two-component, cold liquid-applied elastomeric-type membrane comprised of silyl-terminated polyether polymer, silyl-terminated polyurethane polymer, or a blend of the two polymers for waterproofing building decks and walls subjected to hydrostatic pressure in building areas to be occupied by personnel, vehicles, or equipment. This specification applies only to a membrane system that will be covered with a separate wearing course, traffic course, or backfill.

NOTE 1—See Guides C898/C898M and C1471/C1471M for proper application of membrane.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in nonconformance with the standard.

1.3 *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.*

¹ This specification is under the jurisdiction of ASTM Committee D08 on Roofing and Waterproofing and is the direct responsibility of Subcommittee D08.22 on Waterproofing and Dampproofing Systems.

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2. Referenced Documents

2.1 ASTM Standards:²

- C794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
- C836/C836M Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
- C898/C898M Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Separate Wearing Course
- C1305/C1305M Test Method for Crack Bridging Ability of Liquid-Applied Waterproofing Membrane
- C1375 Guide for Substrates Used in Testing Building Seals and Sealants
- C1471/C1471M Guide for the Use of High Solids Content Cold Liquid-Applied Elastomeric Waterproofing Membrane on Vertical Surfaces
- C1522 Test Method for Extensibility After Heat Aging of Cold Liquid-Applied Elastomeric Waterproofing Membranes
- D522/D522M Test Methods for Mandrel Bend Test of Attached Organic Coatings
- D1079 Terminology Relating to Roofing and Waterproofing
- D2240 Test Method for Rubber Property—Durometer Hardness
- D2939 Test Methods for Emulsified Bitumens Used as Protective Coatings (Withdrawn 2012)³
- D5385/D5385M Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
- D6511/D6511M Test Methods for Solvent Bearing Bituminous Compounds

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.

³ The last approved version of this historical standard is referenced on www.astm.org.



E96/E96M Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials

E154/E154M Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

3. Terminology

3.1 *Definitions*—Refer to Terminology **D1079** for definitions of the terms used in this specification.

4. Classification

4.1 Types:

4.1.1 *Type I*—A one-component, cold liquid-applied waterproofing membrane suitable for immediate application after mixing. Type I products may be used with an accelerator that can expedite the cure, but is not essential for curing of the membrane.

4.1.2 *Type II*—A two-component, cold liquid-applied waterproofing membrane. Combining two components is essential for curing of the membrane.

5. Materials and Manufacture

5.1 A Type I, single-component waterproofing material shall consist of a dispersion containing a silyl-terminated polymer as the principal polymer to which various pigments and other additives have been added to give the required physical properties. It shall be of a consistency which allows for application to a substrate by means of brush, roller, squeegee, or spray.

5.2 A Type II, two-component waterproofing material shall consist of a dispersion containing a silyl-terminated polymer as the principal polymer to which various pigments and other additives have been added to give the required physical properties. Upon mixing, it shall be of a consistency which allows for application to a substrate by means of brush, roller, squeegee, or spray.

6. Physical Properties

6.1 *Material*—Membrane materials shall cure after application by spreading or spraying to form an elastomeric film capable of maintaining a seal against liquid water.

6.2 While the product may be field installed with reinforcing fabric, the tests in this standard are only performed on the liquid-applied material.

6.3 The physical properties of the membrane shall conform to the requirements described in **Table 1**. Where there is not a minimum or maximum requirement, the physical property shall be reported.

7. Sampling

7.1 Sampling shall be performed in accordance with the Sampling section of Test Methods **D6511/D6511M**.

8. Specimen Preparation

8.1 *Standard Laboratory Conditions*—Standard conditions for all tests, unless otherwise specified, shall be $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ [$73.4^{\circ}\text{F} \pm 3.6^{\circ}\text{F}$] and $50 \pm 5\%$ relative humidity.

TABLE 1 Physical Requirements of High Solids Content, Cold Liquid-Applied Elastomeric, Silyl-Terminated Polymer Based Waterproofing Membrane Types I and II

Property	Requirement	Test Method
Hardness, Type 00, min	50	D2240 as modified in 9.2
Weight loss, max, %	5	D6511/D6511M as modified in 9.3
Low-temperature crack bridging	No failure in any specimens	C1305/C1305M
Film thickness (vertical surface), min, mm [in.]	1.5 ± 0.1 [0.060 ± 0.005]	C836/C836M , paragraph 6.8
Adhesion-in-peel on mortar after water immersion, min, N [lbf]	13 [3]	C794–06 as modified in 9.5
Adhesion-in-peel on “green mortar” after water immersion, min, N [lbf]	13 [3]	C794–06 as modified in 9.5.1
Extensibility after heat aging	No cracks, tears, or holes in any specimens	C1522
Resistance to burial		
Weight loss after burial	Max 10 % weight loss	E154/E154M , Section 13
Permeance after burial, max, ng/Pa·s·m ² [perms]	57.2 [1.0] Report film thickness	E96/E96M Procedures A and BW as modified by E154/E154M , Section 13
Resistance to water	No blistering or reversion	D2939
Cure-through at low temperature	Pass	See 9.10
Low-temperature flexibility	No cracking	D522/D522M
Permeance, max, ng/Pa·s·m ² [perms]	57.2 [1.0] Report film thickness	E96/E96M Procedures A and BW
Stability, min, months	6	See 11.4