Designation: ~~C1471/C1471M – 05 (Reapproved 2014)ε1~~ C1471/C1471M – 05 (Reapproved 2021)

Standard Guide for ~~the~~ the Use of High Solids Content Cold Liquid-Applied Elastomeric Waterproofing Membrane on Vertical Surfaces[1]

This standard is issued under the fixed designation C1471/C1471M; 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.

~~ε[1] NOTE—Units information was editorially corrected in July 2014.~~

1. Scope

1.1 This guide describes the use of a high solids content, cold liquid-applied elastomeric waterproofing membrane that meets the performance criteria specified in Specification ~~C836~~C836/C836M, subject to intermittent hydrostatic pressure in a waterproofing system intended for installation on vertical cast-in-place concrete surfaces.

1.2 The committee with jurisdiction over this standard is not aware of any comparable standards published by other organizations.

1.3 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 ~~non-conformance~~nonconformance with the standard.

1.4 *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~~ safety, health, and ~~health~~environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *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]

C117 Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

C717 Terminology of Building Seals and Sealants

~~C836~~C836/C836M Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course

~~C898~~C898/C898M Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Separate Wearing Course

D4263 Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method

[1] This guide 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.

Current edition approved ~~July 1, 2014~~Dec. 1, 2021. Published ~~August 2014~~December 2021. Originally approved in 2000. Last previous edition approved in ~~2005~~2014 as ~~C1471~~C1471/C1471M – 05 (2014)ε[1] ~~-05.~~. DOI: ~~10.1520/C1471_C1471M-05R14E01.~~10.1520/C1471_C1471M-05R21.

[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. Terminology

3.1 *Definitions*—Refer to Terminology C717 for definitions of terms used in this standard.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *drainage composite*—geocomposite consisting of a geotextile filter fabric and a drainage core of various thicknesses and shapes.

4. Significance and Use

4.1 This grade provides considerations for the design and installation of liquid-applied waterproofing systems. The intent is to provide information and guidelines for consideration by designers. Typical uses for these systems include, among others, planters and foundation walls with drainage systems.

4.2 This guide is intended to be considered in conjunction with Guide ~~C898~~C898/C898M to provide total system guidelines.

5. Comparison to Other Standards

5.1 The committee with jurisdiction over this standard is not aware of any comparable standards published by other organizations.

6. General

6.1 *General*—The major components to be considered for a ~~below grade~~ below-grade building wall waterproofing system are the structural wall or substrate to be waterproofed, waterproofing membrane, membrane protection, drainage, and backfill. Additional components to be considered are membrane terminations, penetrations, joints, and thermal insulation.

6.2 *Compatibility*—It is essential that all components and contiguous elements be compatible, and that they be coordinated to form an integrated waterproofing system.

6.3 *Continuity*—It is essential that the waterproofing membrane, including all joints and transitions, is continuous. Special attention must be paid to changes in plane, transitions from one substrate to another, terminations, and abutting waterproofing systems. Expansion and control joints in abutting vertical and horizontal surfaces must maintain the continuity of the system. It is recommended that, during system development and documentation, isometric drawings be made of ~~three-dimensional~~ three-dimensional connections and transitions.

7. Substrate

7.1 *General*—The building wall substrate referred to in this guide is reinforced, cast-in-place concrete.

7.2 *Strength*—The strength of concrete is a factor to be considered with respect to liquid-applied membranes so far as it relates to surface finish, bond strength, and continuing integrity (absence of cracks and other concrete defects that could affect the integrity of the membrane).

7.3 *Density and Moisture Content*—The density and moisture content of concrete when cured are interrelated. Excessively high moisture content can affect adhesion of the membrane to a substrate, as moisture may condense at the ~~membrane-to-concrete~~ membrane-to-concrete interface and cause membrane delamination. Lower moisture contents are achieved with the use of hard, dense stone aggregate. This type of coarse aggregate will generally provide structural concrete with moisture content from 3 to ~~5%~~5 % when cured. The concrete substrate should have a minimum density of 2100 kg/m^3 [130 lb/ft^3] and a maximum moisture content of ~~8%~~8 % when cured.

7.4 *Admixtures*—Polymeric, latex, or other organic chemical based admixtures or modifiers can coat the concrete particles and reduce the adhesion of the membrane to the substrate. If the concrete substrate will contain any admixtures, the membrane manufacturer should be consulted and should approve the use of the membrane with the specific proposed admixtures.

7.5 *Release and Curing Agents*—Form release agents and form oils are often used to facilitate the removal of the concrete form