



Designation: C1305/C1305M – 16 (Reapproved 2023)

Standard Test Method for Crack Bridging Ability of Liquid-Applied Waterproofing Membrane¹

This standard is issued under the fixed designation C1305/C1305M; 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 test method covers a laboratory procedure for determining the ability of a waterproofing membrane to bridge a crack in the substrate.

1.2 There are no ISO standards similar or equivalent to this ASTM standard.

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 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, health, and 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

[C33/C33M Specification for Concrete Aggregates](#)

[C150/C150M Specification for Portland Cement](#)

[C717 Terminology of Building Seals and Sealants](#)

[C1375 Guide for Substrates Used in Testing Building Seals and Sealants](#)

¹ This test method 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 Sept. 1, 2023. Published September 2023. Originally approved in 1995. Last previous edition approved in 2016 as C1305/C1305M – 16. DOI: 10.1520/C1305_C1305M-16R23.

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 technical terms used in this test method.

4. Summary of Test Method

4.1 This test method consists of casting five specimens of membrane on mortar substrates containing a preexisting crack and allowing them to age 14 days at standard conditions followed by seven days in an air-circulating oven at 70 °C [158 °F], placing them in a test machine, and subjecting the assembly to ten cycles of movement.

5. Significance and Use

5.1 This test method is used to indicate a waterproofing membrane's ability to maintain its integrity while bridging a preexisting crack in the substrate at low ambient temperatures, when the membrane is least likely to be flexible.

6. Comparison to Other Standards

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

7. Apparatus and Materials

7.1 *Automatic Extension and Compression Machine*, with cold box capable of maintaining -26 ± 1 °C [-15 ± 2 °F].

7.2 *Circulating Hot-Air Oven*.

7.3 *Portland Cement*, high early strength conforming to Specification [C150/C150M](#), Type III.

7.4 *Fine Aggregate*, conforming to Specification [C33/C33M](#).

7.5 *Aluminum Angles*, 75 by 50 by 25 mm [3 by 2 by 1 in.], if needed.

7.6 *Epoxy Cement*, or gun-grade construction mastic, if needed.

7.7 *Masking Tape*.

7.8 *Molds*, six, 50 by 25 by 25 mm [2 by 1 by 1 in.] inside dimensions, or 75 by 88 by 25 mm [0.5 by 1.5 by 1 in.] notches in either side, as shown in [Fig. 1](#), for casting mortar blocks.

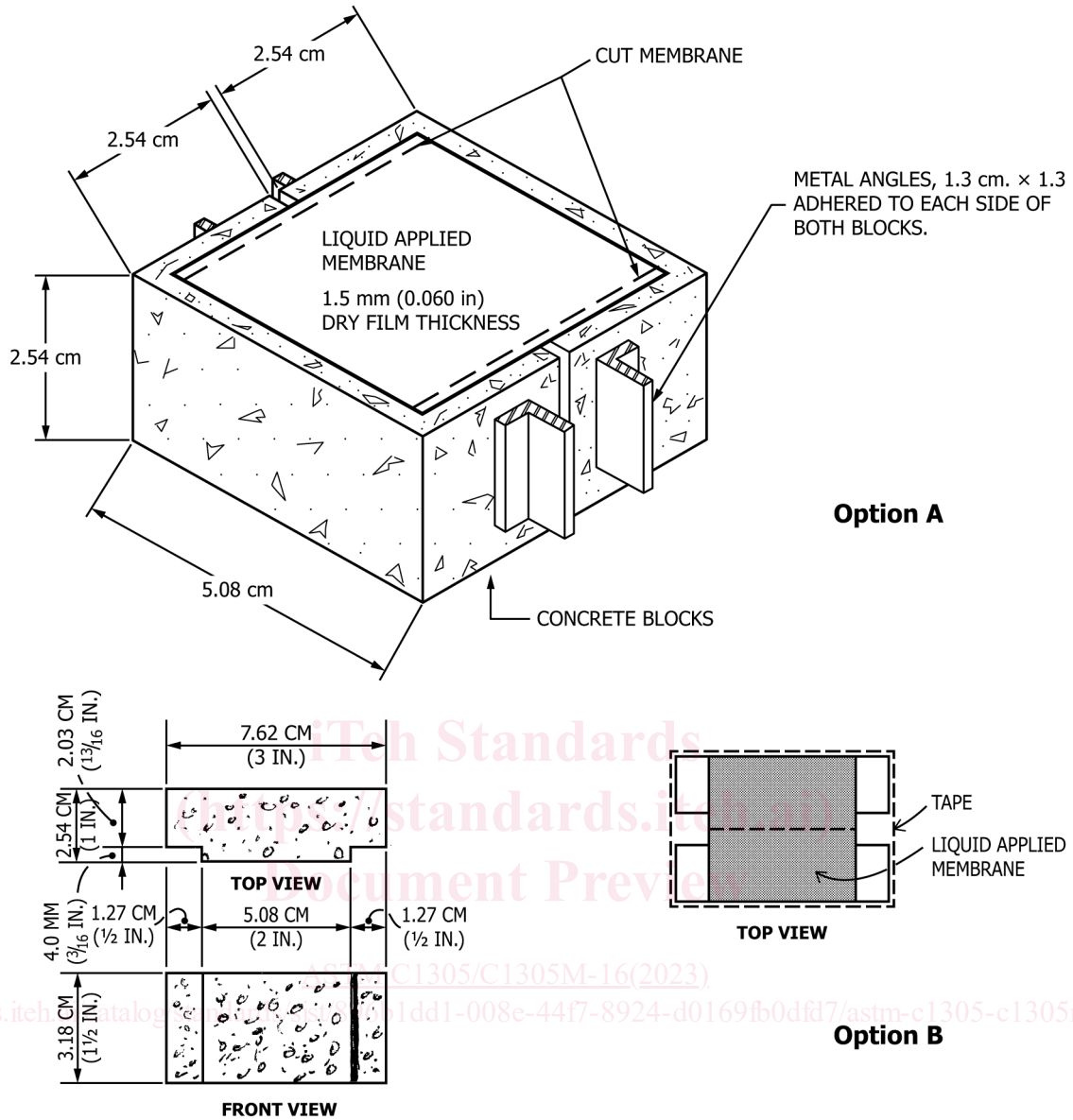


FIG. 1 Test Assembly Options
FIG. 1 Test Assembly Options

8. Preparation of Substrates

8.1 Prepare mortar blocks in sizes required for testing in accordance with the requirements in Guide C1375.

8.2 If required to fit the test assembly into the jaws of the testing machine, aluminum angles may be adhered to the sides of the substrates after the membrane has been applied.³

8.3 Other substrates may be used and shall be prepared to provide a clean, level test surface. Prepare glass and aluminum substrates in accordance with the requirements in Guide C1375. Other preparation requirements shall be as agreed upon between the supplier and the specifier.

³ A general purpose, gun-grade construction mastic or a structural epoxy cement has been found suitable for this purpose.

9. Conditioning/Mixing

9.1 Store all materials to be tested at standard conditions of 23 ± 2 °C [73.4 ± 3.6 °F] and 50 ± 5 % relative humidity for at least 24 h before any test specimens are prepared.

9.2 Follow the manufacturer's instructions for mixing and preparing membrane materials for testing. Thoroughly stir one component samples before using. Mix two component compounds in the ratio, and as recommended by the manufacturer.

10. Procedure

10.1 Five assemblies shall be tested.

10.2 To prepare the test assembly, set two blocks as indicated in Fig. 1, with sides touching, in a sand bed. Level the test surface (top) and bind the blocks together using masking