



Designation: C 1305 – 06

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

This standard is issued under the fixed designation C 1305; 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 The values stated in SI units are to be regarded as the standard. The inch-pound units given in parentheses are for information only.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

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

2. Referenced Documents

2.1 *ASTM Standards:*²

C 33 Specification for Concrete Aggregates

C 150 Specification for Portland Cement

C 717 Terminology of Building Seals and Sealants

3. Terminology

3.1 *Definitions*—Refer to Terminology **C 717** for definitions of technical terms used in this test standard.

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.

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.

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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.

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 $-26 \pm 1^\circ\text{C}$ ($-15 \pm 2^\circ\text{F}$).

7.2 *Circulating Hot-Air Oven*.

7.3 *Portland Cement*, high early strength conforming to Specification **C 150**, Type III.

7.4 *Fine Aggregate*, conforming to Specification **C 33**.

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.

8. Preparation of Substrates

8.1 Mix 1 part by weight of Type III Portland cement with 2 parts by weight of fine aggregate and stir in approximately 0.7 part by weight of water to produce a uniform mixture.

8.2 Pour the mixture into the mold and allow to cure one day at 100 % relative humidity followed by six days in tap water, both at standard temperature.

NOTE 1—Prepare five sets of two blocks.

8.3 Cut or grind the test surfaces of the mortar blocks to remove laitance and produce a level substrate, free of fins or burrs. If a release coating is used on the mold, only the top surface of the mortar blocks, not exposed to the release coating, shall be used as the test surface.