



Designation: D1734 – 93 (Reapproved 2022)

Standard Practice for Making Cementitious Panels for Testing Coatings¹

This standard is issued under the fixed designation D1734; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 This practice covers procedures for molding and curing cementitious panels for use in exposure testing of coatings designed for masonry or cementitious surfaces, although these may be suitable for other tests.

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 *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

C109/C109M Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens)

C150 Specification for Portland Cement

C230/C230M Specification for Flow Table for Use in Tests of Hydraulic Cement

C305 Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency

C511 Specification for Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the

Testing of Hydraulic Cements and Concretes

C778 Specification for Standard Sand

C1005 Specification for Reference Masses and Devices for Determining Mass and Volume for Use in Physical Testing of Hydraulic Cements

D4258 Practice for Surface Cleaning Concrete for Coating

D4259 Practice for Preparation of Concrete by Abrasion Prior to Coating Application

D4260 Practice for Liquid and Gelled Acid Etching of Concrete

3. Significance and Use

3.1 Researchers in the field of coatings have recognized the need for a standardized substrate for evaluating coatings intended for use on cementitious surfaces. This practice describes the preparation of such panels.

4. Apparatus

4.1 *Molds*—High density polyethylene molds to make the panels as required.³

4.1.1 *Outdoor Exposure Tests*, for use on outdoor exposure testing racks, the panels shall be 200 by 300 by 15 mm (8 by 12 by 5/16 in.) in size.

4.1.2 *Machine Exposure Tests*, for machine exposure tests, the typical panel is 75 by 150 by 15 mm (3 by 6 by 5/16 in.) in size.

4.1.3 Other sizes to fit specific equipment may be used.

4.2 *Trowel*, rectangular having a steel blade approximately 100 to 150 mm (4 to 6 in.) in length, with straight edges, and 75 to 125 mm (3 to 5 in.) in width is generally recommended.

4.3 *Weights and Weighing Devices*, conforming to the requirements of Specification **C1005**. The weighing device shall be evaluated for precision and bias at a total load of 2000 g.

4.4 *Mechanical Mixer*—An electrically driven mechanical mixer of the type equipped with a paddle and mixing bowl, as specified in Practice **C305**.

¹ This practice is under the jurisdiction of ASTM Committee **D01** on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee **D01.47** on Concrete, Stone and Masonry Treatments.

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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.

³ The sole source of supply of molds known to the committee at this time is the American Cube Mold, Macedonia, OH 44056. If you are aware of alternative suppliers, please provide this information to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,¹ which you may attend.