



Designation: D 1734 – 93 (Reapproved 2003)

## Standard Practice for Making Cementitious Panels for Testing Coatings<sup>1</sup>

This standard is issued under the fixed designation D 1734; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the 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 and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:

**C 109/C 109M** Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50 mm] Cube Specimens)<sup>2</sup>

**C 150** Specification for Portland Cement<sup>2</sup>

**C 230/C 230M** Specification for Flow Table for Use in Tests of Hydraulic Cement<sup>2</sup>

**C 305** Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency<sup>2</sup>

**C 511** Specification for Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes<sup>2</sup>

**C 778** Specification for Standard Sand<sup>2</sup>

**C 1005** Specification for Reference Masses and Devices for Use in Physical Testing of Hydraulic Cements<sup>2</sup>

**D 4258** Practice for Surface Cleaning Concrete for Coating<sup>3</sup>

**D 4259** Practice for Abrading Concrete<sup>3</sup>

**D 4260** Practice for Acid Etching Concrete<sup>3</sup>

### 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.<sup>4</sup>

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  $\frac{9}{16}$  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  $\frac{9}{16}$  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 **C 1005**. 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 **C 305**.

4.5 **Flow Table**, as described in Specification **C 230/C 230M**.

### 5. Materials

5.1 **White Portland Cement**, conforming to the requirements of Type I of Specification **C 150**.

<sup>1</sup> 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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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.01.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 06.02.

<sup>4</sup> 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,<sup>1</sup> which you may attend.