



Designation: C308 – 00(Reapproved 2005)

# Standard Test Methods for Working, Initial Setting, and Service Strength Setting Times of Chemical-Resistant Resin Mortars<sup>1</sup>

This standard is issued under the fixed designation C308; 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.

## 1. Scope

1.1 These test methods cover the determination of the working, initial setting, and service strength setting times of chemical-resistant resin mortars.

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:*<sup>2</sup>

C279 Specification for Chemical-Resistant Masonry Units

C307 Test Method for Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacing

C904 Terminology Relating to Chemical-Resistant Nonmetallic Materials

## 3. Terminology

3.1 *Definitions*—For definitions of terms used in these test methods, see Terminology C904.

## 4. Significance and Use

4.1 These test methods offer a means of determining the working time, initial setting time and service strength setting time of chemical-resistant resin mortars. The results obtained should serve as a guide in, but not as the sole basis for, selection of a chemical-resistant mortar for a particular application.

<sup>1</sup> These test methods are under the jurisdiction of Committee C03 on Mortars and Carbon Brick.

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<sup>2</sup> 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. Apparatus

5.1 *Weighing Equipment*—Shall be capable of weighing materials or specimens to  $\pm 0.3\%$  accuracy.

5.2 *Mixing Equipment:*

5.2.1 *Porcelain Enameled Pan*—Measuring approximately 250 mm long by 400 mm wide by 50 mm deep (10 in. by 16 in. by 2 in.).

5.2.2 *Bricklayer's Triangular Trowel*—Approximately 100 mm (4 in.) in length.

5.3 *Bricks*—As per Specification C279, Type III.

5.4 *Vicat Apparatus*—The Vicat apparatus shall consist of a frame, A (see Fig. 1), bearing a movable rod, B, weighing 300 g, one end, C, the plunger end, being 10 mm in diameter for a distance of at least 50 mm and the other end having a removable steel needle, D, for initial setting time determination, 1 mm in diameter and 50 mm in length. The rod, B, is reversible, and can be held in any desired position by a set screw, E, and has an adjustable indicator, F, which moves over a scale (graduated in millimetres) attached to the frame, A. In addition to the above, the Vicat apparatus shall conform to the following requirements:

5.4.1 *Weight of Plunger*— $300 \pm 0.5$  g.

5.4.2 *Diameter of Larger End of Plunger*— $10 \pm 0.05$  mm.

5.4.3 *Diameter of Needle*— $1 \pm 0.05$  mm.

5.4.4 *Graduated Scale*—The graduated scale, when compared with a standard scale accurate to within 0.1 mm at all points, shall not show a deviation at any point greater than 0.25 mm.

## 6. Temperature

6.1 All materials used in this method shall be stored for at least 16 h prior to use at the standard test temperature of  $23 \pm 2^\circ\text{C}$  ( $73 \pm 4^\circ\text{F}$ ). The standard temperature for the working and initial setting time tests shall be  $23 \pm 2^\circ\text{C}$  ( $73 \pm 4^\circ\text{F}$ ). Other test temperatures are acceptable upon agreement between the manufacturer and user provided that they are reported with the test data.

## 7. Preparation of Mortar

7.1 Prepare a 1000-g sample of mortar, using proportionate amounts of filler and liquid as recommended by the manufacturer. If the proportions specified are by volume, weigh the