



Designation: C308 – 18 (Reapproved 2023)

Standard Practice for Working, Initial Setting, and Service Strength Setting Times of Chemical-Resistant Resin Mortars¹

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 (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 These methods are used to estimate 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 standard. The values given in parentheses are mathematical conversions to inch-pound units that are provided for information only and are not considered standard.

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

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.

¹ This practice is under the jurisdiction of Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of D01.46 on Industrial Protective Coatings.

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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.

4. Significance and Use

4.1 These methods offer a means of estimating 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.

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 g $\pm$ 0.5 g.

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

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

6.1 *Temperature:*

6.1.1 All materials used in this method shall be stored for at least 16 h prior to use at the standard test temperature of 23 °C