



Designation: C1708/C1708M – 16

Standard Test Methods for Self-leveling Mortars Containing Hydraulic Cements¹

This standard is issued under the fixed designation C1708/C1708M; 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 test methods are appropriate to evaluate the performance of self-leveling mortars containing hydraulic cements that are used to improve the levelness, smoothness, and flatness of existing floors. These materials may be used as an underlayment to receive floor finishes, or as an overlayment to serve as the wear surface. The self-leveling mortars covered by these test methods consist of proprietary blends of hydraulic cements, along with fine aggregate, polymers, fillers, and other additives.

1.2 *Units*—The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard. Some values have only SI units because the inch-pound equivalents are not used in practice.

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. (Warning—Fresh hydraulic cementitious mixtures are caustic and may cause chemical burns to skin and tissue upon prolonged exposure.)*²

2. Referenced Documents

2.1 ASTM Standards:³

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

C125 Terminology Relating to Concrete and Concrete Aggregates

C157/C157M Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete

C191 Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle

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

C348 Test Method for Flexural Strength of Hydraulic-Cement Mortars

C490 Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete

C670 Practice for Preparing Precision and Bias Statements for Test Methods for Construction Materials

C778 Specification for Standard Sand

C928/C928M Specification for Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs

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

C1107/C1107M Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

D1200 Test Method for Viscosity by Ford Viscosity Cup

D5125 Test Method for Viscosity of Paints and Related Materials by ISO Flow Cups

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

3. Terminology

3.1 *Definitions*—For definitions of terms used in these test methods, refer to Terminology C125.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *flow, n—of self-leveling mortars*, the ability of a freshly-mixed, self-leveling mortar to spread under its own weight or flow through an orifice.

3.2.2 *healing, n—of self-leveling mortars*, the ability of a self-leveling mortar to return to its original state of levelness and smoothness after a specified cut is introduced into the surface.

3.2.2.1 *Discussion*—The specified cut is described in 8.4.4.3.

3.2.3 *mortar, self-leveling, n*—mortar containing hydraulic cement that, in the fresh state, exhibits flow sufficient to seek gravitational leveling.

¹ These test methods are under the jurisdiction of ASTM Committee C09 on Concrete and Concrete Aggregates and are the direct responsibility of Subcommittee C09.43 on Packaged Dry Combined Materials.

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² Section on Safety Precautions, Manual of Aggregate and Concrete Testing, *Annual Book of ASTM Standards*, Vol 04.02.

³ 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.

*A Summary of Changes section appears at the end of this standard