



Standard Practice for Evaluation of Laboratories Testing Hydraulic Cement¹

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1. Scope

1.1 This practice covers the technical training and experience of laboratory testing personnel and identifies the minimum technical requirements for laboratory equipment used in testing of hydraulic cement as prescribed by ASTM.

1.2 This practice provides minimum criteria for evaluating the capability of a laboratory to perform chemical or physical tests listed in the various specifications on hydraulic cement (see Note 1).

NOTE 1—Relevant hydraulic cement specifications are C 91, C 150, C 595, C 845, and C 1157.

1.3 The SI units are to be regarded as the standard.

1.4 *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 91 Specification for Masonry Cement²
- C 109/C 109M Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or 50-mm Cube Specimens)²
- C 114 Test Methods for Chemical Analysis of Hydraulic Cement²
- C 115 Test Method for Fineness of Portland Cement by the Turbidimeter²
- C 125 Terminology Relating to Concrete and Concrete Aggregates³
- C 150 Specification for Portland Cement²
- C 151 Test Method for Autoclave Expansion of Portland Cement²
- C 185 Test Method for Air Content of Hydraulic Cement Mortar²
- C 187 Test Method for Normal Consistency of Hydraulic Cement²

C 191 Test Method for Time of Setting of Hydraulic Cement by Vicat Needle²

C 204 Test Method for Fineness of Hydraulic Cement by Air Permeability Apparatus²

C 219 Terminology Relating to Hydraulic Cement²

C 230 Specification for Flow Table for Use in Tests of Hydraulic Cement²

C 266 Test Method for Time of Setting of Hydraulic-Cement Paste by Gillmore Needles²

C 305 Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency²

C 451 Test Method for Early Stiffening of Portland Cement (Paste Method)²

C 595 Specification for Blended Hydraulic Cements²

C 778 Specification for Standard Sand²

C 845 Specification for Expansive Hydraulic Cement²

C 1005 Specification for Weights and Weighing Devices for Use in the Physical Testing of Hydraulic Cements²

C 1157 Performance Specification for Blended Hydraulic Cement²

E 4 Practices for Force Verification of Testing Machines⁴

2.2 Other Documents:

ACI 116R Cement and Concrete Terminology⁵

ASTM Manual of Cement Testing²

3. Terminology

3.1 Definitions:

3.1.1 *inspection, n*—a process of measuring, examining, testing, gaging, or using other procedures to ascertain the quality or state, detect errors or defects, or otherwise appraise materials, products, services, systems, or environments when compared to preestablished criteria.

3.1.2 Additional definitions may be found in Terminologies C 125 and C 219, Practices E 4, and ACI 116R.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *evaluation authority, n*—an independent entity, apart from the organization being evaluated, that can provide an unbiased evaluation of the organization and shall have the capability to assess the technical activities of testing laboratories (see Discussion).

¹ This practice is under the jurisdiction of ASTM Committee C-1 on Cement and is the direct responsibility of Subcommittee C01.95 on Coordination of Standards.

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² Annual Book of ASTM Standards, Vol 04.01.

³ Annual Book of ASTM Standards, Vol 04.02.

⁴ Annual Book of ASTM Standards, Vol 03.01.

⁵ Available from American Concrete Institute, P.O. Box 19150, Detroit, MI 48219.