



Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete¹

This standard is issued under the fixed designation C1602/C1602M; 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 This specification covers the compositional and performance requirements for water used as mixing water in hydraulic cement concrete. It defines sources of water and provides requirements and testing frequencies for qualifying individual or combined water sources. In any case where the requirements of the purchaser differ from these in this specification, the purchaser's specification shall govern.

1.2 This specification does not purport to cover methods of storage, transportation, or blending of water, or to address the development and maintenance of quality control programs sponsored or managed by the manufacturer.

1.3 The values stated in either SI units, shown in brackets, 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.

1.4 The text of this specification references notes and footnotes that provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

1.5 *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 to determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

C31/C31M Practice for Making and Curing Concrete Test

¹ This specification is under the jurisdiction of ASTM Committee C09 on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee C09.40 on Ready-Mixed Concrete.

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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.

Specimens in the Field

C33/C33M Specification for Concrete Aggregates

C39/C39M Test Method for Compressive Strength of Cylindrical Concrete Specimens

C94/C94M Specification for Ready-Mixed Concrete

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

C114 Test Methods for Chemical Analysis of Hydraulic Cement

C125 Terminology Relating to Concrete and Concrete Aggregates

C192/C192M Practice for Making and Curing Concrete Test Specimens in the Laboratory

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

C403/C403M Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance

C494/C494M Specification for Chemical Admixtures for Concrete

C1603 Test Method for Measurement of Solids in Water

2.2 ACI Documents:³

ACI 318 Building Code Requirements for Structural Concrete and Commentary

3. Terminology

3.1 *For definitions of terms used in this specification, refer to Terminology*

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *combined water, n*—a mixture of two or more sources of water blended together, before or during introduction into the mixture, for use as mixing water in the production of concrete.

3.2.2 *hydration stabilizing admixtures, n*—set retarding admixtures, conforming to Specification **C494/C494M** Type B or D, that can predictably reduce the hydration rate of cement for applications requiring the management of time of setting of returned concrete, reducing the hydration rate of cement fines

³ Available from American Concrete Institute (ACI), P.O. Box 9094, Farmington Hills, MI 48333.

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