



Designation: C476 – 16

Standard Specification for Grout for Masonry¹

This standard is issued under the fixed designation C476; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This specification covers two types of grout, fine and coarse grout, for use in the construction of masonry structures. Each type (fine and coarse) is further classified as conventional grout (requiring mechanical consolidation by puddling or vibration when placed) and self-consolidating grout (not requiring mechanical consolidation when placed). Conventional grout is specified by (1) proportions or (2) strength requirements. Self-consolidating grout is specified by strength requirements.

1.2 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 this specification.

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

- C5 Specification for Quicklime for Structural Purposes
- C143/C143M Test Method for Slump of Hydraulic-Cement Concrete
- C150/C150M Specification for Portland Cement
- C207 Specification for Hydrated Lime for Masonry Purposes
- C260/C260M Specification for Air-Entraining Admixtures for Concrete
- C404 Specification for Aggregates for Masonry Grout
- C494/C494M Specification for Chemical Admixtures for Concrete

¹ This specification is under the jurisdiction of ASTM Committee C12 on Mortars and Grouts for Unit Masonry and is the direct responsibility of Subcommittee C12.05 on Grout & Grout Admixtures for Masonry.

Current edition approved July 15, 2016. Published July 2016. Originally approved in 1961. Last previous edition approved in 2010 as C476 – 10. DOI: 10.1520/C0476-16.

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.

- C595/C595M Specification for Blended Hydraulic Cements
- C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
- C989/C989M Specification for Slag Cement for Use in Concrete and Mortars
- C1019 Test Method for Sampling and Testing Grout
- C1157/C1157M Performance Specification for Hydraulic Cement
- C1611/C1611M Test Method for Slump Flow of Self-Consolidating Concrete

3. Materials

3.1 Materials used as ingredients in grout shall conform to the requirements specified in 3.1.1 – 3.1.8.

3.1.1 *Cementitious Materials*—Cementitious materials shall conform to one of the following specifications:

3.1.1.1 *Portland Cement*—Type I, IA, II, IIA, III, and IIIA of Specification C150/C150M.

3.1.1.2 *Blended Cements*—Type IS, IS(MS), IS-A, IS-A(MS), IP, or IP-A of Specification C595/C595M or types GU, HE, MS, or HS of Specification C1157/C1157M.

3.1.1.3 *Quicklime*—Specification C5.

3.1.1.4 *Hydrated Lime*—Type S of Specification C207.

3.1.1.5 *Coal Fly Ash or Raw Calcined Natural Pozzolan*—Specification C618. Addition rates shall be in an amount governed by the portland-pozzolan cement category of Specification C595/C595M. The grout produced with blends of portland cement and fly ash or raw calcined natural pozzolan shall have the compressive strength specified (4.2.1.2 or 4.2.2.1).

3.1.1.6 *Granulated Blast Furnace Slag*—Specification C989/C989M. Addition rates shall be as governed by the portland blast furnace slag cement category of Specification C595/C595M. Grouts produced with blends of portland cement and granulated blast furnace slag shall have the compressive strength specified (4.2.1.2 or 4.2.2.1).

3.1.2 *Air-Entraining Admixtures*—Air-entraining admixtures shall conform to Specification C260/C260M.

3.1.3 *Aggregates*—Aggregates shall conform to Specification C404.

3.1.4 *Water*—Water shall be clean and potable.

3.1.5 *Admixtures*—Integral waterproofing compounds, accelerators, or other admixtures not mentioned definitely in

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