



Designation: C 476 – 02

## Standard Specification for Grout for Masonry<sup>1</sup>

This standard is issued under the fixed designation C 476; 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 approval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the 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. Grout is specified by (1) proportions or (2) 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.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- C 5 Specification for Quicklime for Structural Purposes<sup>2</sup>
- C 143/C 143M Test Method for Slump of Hydraulic-Cement Concrete<sup>3</sup>
- C 150 Specification for Portland Cement<sup>2</sup>
- C 207 Specification for Hydrated Lime for Masonry Purposes<sup>2</sup>
- C 260 Specification for Air-Entraining Admixtures for Concrete<sup>3</sup>
- C 404 Specification for Aggregates for Masonry Grout<sup>4</sup>
- C 595 Specification for Blended Hydraulic Cements<sup>2</sup>
- C 618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete<sup>2</sup>
- C 989 Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars<sup>3</sup>
- C 1019 Test Method for Sampling and Testing Grout<sup>4</sup>
- C 1157 Performance Specification for Hydraulic Cement<sup>2</sup>

### 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 C 150.

3.1.1.2 *Blended Cements*—Type IS, IS(MS), IS-A, IS-A(MS), IP, or IP-A of Specification C 595 or types GU, HE, MS, or HS of Specification C 1157.

3.1.1.3 *Quicklime*—Specification C 5.

3.1.1.4 *Hydrated Lime*—Type S of Specification C 207.

3.1.1.5 *Coal Fly Ash or Raw Calcined Natural Pozzolan*—Specification C 618. Addition rates shall be in an amount governed by the portland-pozzolan cement category of Specification C 595. The grout produced with blends of portland cement and fly ash or raw calcined natural pozzolan shall have the compressive strength specified (4.2.2).

3.1.1.6 *Granulated Blast Furnace Slag*—Specification C 989. Addition rates shall be as governed by the portland blast furnace slag cement category of Specification C 595. Grouts produced with blends of portland cement and granulated blast furnace slag shall have the compressive strength specified (4.2.2).

3.1.2 *Air-Entraining Admixtures*—Air-entraining admixtures shall conform to Specification C 260.

3.1.3 *Aggregates*—Aggregates shall conform to Specification C 404.

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 the specification shall not be used in grout for use in reinforced masonry without approval from the purchaser.

3.1.6 *Pumping Aids*—Pumping aids are permitted to be used in cases where the brand, quality, and quantity are approved in writing by the purchaser or are definitely stipulated in the specification.

3.1.7 *Antifreeze Compounds*—No antifreeze liquids, salts, or other substances shall be used in grout to lower the freezing point.

3.1.8 *Storage of Materials*—Cementitious materials and aggregates shall be stored in such a manner as to prevent deterioration or intrusion of foreign material or moisture. Any material that has become unsuitable for good construction shall not be used.

<sup>1</sup> 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 and Grout Admixtures for Masonry.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.01.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 04.02.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 04.05.

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