



Designation: C937 – 02

Standard Specification for Grout Fluidifier for Preplaced-Aggregate Concrete¹

This standard is issued under the fixed designation C937; 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 Department of Defense.

1. Scope

1.1 This specification covers fluidifier for grout used for preplaced-aggregate (PA) concrete.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information purposes only.

1.3 The following precautionary caveat pertains only to the test method portion, Section 8, of this standard: *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*:²

- C33 Specification for Concrete Aggregates
- C150 Specification for Portland Cement
- C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
- C637 Specification for Aggregates for Radiation-Shielding Concrete
- C938 Practice for Proportioning Grout Mixtures for Preplaced-Aggregate Concrete
- C939 Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)
- C940 Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory
- C941 Test Method for Water Retentivity of Grout Mixtures for Preplaced-Aggregate Concrete in the Laboratory

¹ This specification is under the jurisdiction of ASTM Committee C09 on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee C9.41 on Concrete for Radiation Shielding.

Current edition approved Dec. 10, 2002. Published February 2003. Originally approved in 1980. Last previous edition approved in 1997 as C937-97. DOI: 10.1520/C0937-02.

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.

TABLE 1 Expansion Limits

Alkali Content of Cement, % Expressed as Na ₂ O	Expansion Limits, %
0.80 or more	7 to 14
0.40 to 0.79	5 to 12
0.39 or less	3 to 9

C942 Test Method for Compressive Strength of Grouts for Preplaced-Aggregate Concrete in the Laboratory

C943 Practice for Making Test Cylinders and Prisms for Determining Strength and Density of Preplaced-Aggregate Concrete in the Laboratory

C953 Test Method for Time of Setting of Grouts for Preplaced-Aggregate Concrete in the Laboratory

3. Ordering Information

3.1 The purchaser shall specify the material desired as "grout fluidifier for preplaced-aggregate concrete." The material shall meet the requirements of this specification.

4. Materials

4.1 Grout ingredients shall conform to the following requirements:

4.1.1 Portland cement shall meet the requirements of Specification C150 for the type to be used.

4.1.2 Pozzolan shall meet the requirements of Specification C618.

4.1.3 Fine aggregate shall meet the requirements of Specification C33 except that grading shall conform to Specification C637, Table number 2, Grading 1 for Fine Aggregate.

5. Physical Requirements Physical Requirements

5.1 The fluidifier, when tested in grout as specified herein, shall conform to the following requirements:

Reduction in mixing water, min, % of control (Test Method C941)	3
Expansion, 3 h after mixing, (Test Method C940)	See Table 1
Bleeding, 3 h after mixing, (Test Method C940), max, %	2
Increase in water retentivity (Test Method C941), min, % of control	60
Initial setting time, min, h (Test Method C953)	4
Final setting time, max, h (Test Method C953)	24