Designation: D5971/D5971M – 16

Standard Practice for Sampling Freshly Mixed Controlled Low-Strength Material[1]

This standard is issued under the fixed designation D5971/D5971M; 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 practice explains the procedure for obtaining a representative sample of freshly mixed controlled low-strength material (CLSM) as delivered to the project site on which tests are to be performed to determine compliance with quality requirements of the specifications under which the CLSM is furnished (Note 1). This practice includes sampling from revolving-drum truck mixers and from agitating equipment used to transport central-mixed CLSM. This Practice is based on Practice C172 for concrete.

1.2 The values stated in either SI units 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.

NOTE 1—Composite samples are required by this practice unless specifically excepted by procedures governing the tests to be performed, such as tests to determine uniformity of consistency and mixer efficiency. Procedures used to select the specific test batches are not described in this practice. It is recommended that random sampling be used to determine overall specification compliance.

1.3 *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.* (**Warning—**Fresh hydraulic cementitious mixtures are caustic and may cause chemical burns to skin and tissue upon prolonged exposure.[2])

1.4 *This practice offers a set of instructions for performing one or more specific operations. This document cannot replace education or experience and should be used in conjunction with professional judgement. Not all aspects of this practice may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a projects many unique aspects. The word "standard" in the title of this document means only that the document has been approved through the ASTM consensus process.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

C172 Practice for Sampling Freshly Mixed Concrete

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction

D4832 Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders

D6023 Test Method for Density (Unit Weight), Yield, Cement Content, and Air Content (Gravimetric) of Controlled Low-Strength Material (CLSM)

D6103 Test Method for Flow Consistency of Controlled Low Strength Material (CLSM) (Withdrawn 2013)[4]

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of common technical terms in this standard, refer to Terminology D653.

3.1.2 *controlled low-strength material (CLSM), n*—a mixture of soil, aggregates (sand, gravel, or both), cementitious materials, water, and sometimes admixtures, that hardens into a material with a higher strength than the soil, but less than about 8400 kPa [1200 psi].

3.1.2.1 *Discussion*—Used as a replacement for compacted backfill, CLSM can be placed as a slurry, a mortar, or a compacted material and typically has strengths of 350 to 700 kPa [50 to 100 psi] for most applications.

3.2 *Definitions of Terms Specific to This Standard:*

[1] This practice is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.15 on Stabilization With Admixtures.

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[2] Section on Safety Precautions, *Manual of Aggregate and Concrete Testing*, Annual Book of ASTM Standards, Vol 04.02.

[3] 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.

[4] The last approved version of this historical standard is referenced on www.astm.org.

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