



Standard Specification for Ground Calcium Carbonate and Aggregate Mineral Fillers for use in Hydraulic Cement Concrete¹

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1. Scope

1.1 This specification applies to ground calcium carbonate (GCC is a type of ground limestone) and other finely divided aggregate mineral filler (AMF) materials for use in concrete mixtures. The specification defines the types of GCC and AMF materials for use in concrete.

1.2 If concrete in service is subject to sulfate exposure, fillers derived from ground limestone should not be used unless mitigation methods are used.

NOTE 1—American Concrete Institute (ACI) technical documents 201.2R, 318, 332, and 350 contain useful information and code requirements dealing with sulfate exposure in service. Soluble sulfate in water can be determined in accordance with Test Method D516 or Test Method D4130. Percent sulfate by mass in soil can be determined by Test Method C1580.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

NOTE 2—Sieve size is identified by its standard designation in Specification E11. The alternative designation given in parentheses is for information only and does not represent a different standard sieve size.

1.4 The text of this standard references notes and footnotes, which provide explanatory information. 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 determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

¹ This specification is under the jurisdiction of ASTM Committee C09 on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee C09.20 on Normal Weight Aggregates.

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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.

C25 Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime

C50/C50M Practice for Sampling, Sample Preparation, Packaging, and Marking of Lime and Limestone Products

C51 Terminology Relating to Lime and Limestone (as used by the Industry)

C110 Test Methods for Physical Testing of Quicklime, Hydrated Lime, and Limestone

C117 Test Method for Materials Finer than 75- μ m (No. 200) Sieve in Mineral Aggregates by Washing

C125 Terminology Relating to Concrete and Concrete Aggregates

C136/C136M Test Method for Sieve Analysis of Fine and Coarse Aggregates

C311/C311M Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete

C566 Test Method for Total Evaporable Moisture Content of Aggregate by Drying

C595/C595M-15 Specification for Blended Hydraulic Cements

C1580 Test Method for Water-Soluble Sulfate in Soil

C1777 Test Method for Rapid Determination of the Methylene Blue Value for Fine Aggregate or Mineral Filler Using a Colorimeter

D75/D75M Practice for Sampling Aggregates

D516 Test Method for Sulfate Ion in Water

D1193 Specification for Reagent Water

D4130 Test Method for Sulfate Ion in Brackish Water, Seawater, and Brines

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

E832 Specification for Laboratory Filter Papers

2.2 ACI Documents:³

ACI 201.2R Guide to Durable Concrete

ACI 318 Building Code Requirements for Structural Concrete and Commentary

ACI 332 Residential Code Requirements for Structural Concrete and Commentary

³ Available from American Concrete Institute (ACI), 38800 Country Club Dr., Farmington Hills, MI 48331-3439, <http://www.concrete.org>.