



Designation: C602 – 13a

Standard Specification for Agricultural Liming Materials¹

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

1. Scope*

1.1 This specification covers agricultural liming materials, such as quicklime (burnt lime), hydrated lime, limestone, (calclitic and dolomitic), marl, shells, and by-products including slag, lime kiln dust and other materials.

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

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.*

2. Referenced Documents

2.1 *ASTM Standards:*²

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

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

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

C125 Terminology Relating to Concrete and Concrete Aggregates

C1271 Test Method for X-ray Spectrometric Analysis of Lime and Limestone

C1301 Test Method for Major and Trace Elements in Limestone and Lime by Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP) and Atomic Absorption (AA)

D3176 Practice for Ultimate Analysis of Coal and Coke

E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

¹ This specification is under the jurisdiction of ASTM Committee C07 on Lime and is the direct responsibility of Subcommittee C07.02 on Specifications and Guidelines.

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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.

3. Terminology

3.1 *Definitions:*

3.1.1 *agricultural liming material*—a product whose calcium and magnesium compounds are capable of neutralizing soil acidity.

3.1.2 *air-cooled blast-furnace slag and granulated blast-furnace slag*—air-cooled blast-furnace slag and granulated blast furnace slag as defined in Terminology C125.

3.1.3 *calcium carbonate equivalent (C.C.E.)*—the acid-neutralizing capacity (of an agricultural liming material) of the material expressed as weight percent of calcium carbonate.

4. Chemical Classifications

4.1 Agricultural liming materials shall be classified in terms of calcium carbonate equivalent (C.C.E.), as shown in Table 1.

NOTE 1—Marl and some by-product liming materials are used for neutralizing soil acidity, but due to their varying composition, their chemical limits are not included. In some economic circumstances limestone, lime kiln dust, slag, and shells of less than 80 % C.C.E. may be used.

5. Sieve Analysis Classifications for Agricultural Limestone

5.1 Agricultural limestone shall be classified according to the minimum percentages passing the 2.36-mm (No. 8) and 250- μ m (No. 60) sieves conforming to Specification E11, as shown in Table 2.

NOTE 2—These classifications apply where the agricultural limestone is obtained by the normal crushing procedure and the product contains the fines of fracture. In some economic circumstances, coarser products are used. The 250- μ m (No. 60) sieve was selected because research has shown that this sieve gives a more accurate representation of the particle size distribution of most agricultural limestones presently produced than a finer or coarser sieve. The 2.36-mm (No. 8) sieve is used to control the upper limit on the amount of coarse limestone particles that may be in the product.

6. Sieve Analysis Classifications for Agricultural Slag

6.1 *Air-Cooled Blast-Furnace Slag*—Air-cooled blast-furnace slag shall be classified the same as agricultural limestone as described in Section 5.

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