



Standard Specification for Limestone for Animal Feed Use¹

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1. Scope

1.1 This specification covers limestone supplied for use as a mineral supplement in animal feeds.

NOTE 1—The calcium needed for animal nutrition is customarily supplied by limestone. Such limestone must be sufficiently fine to blend with mixed feeds and yet be free from excessive dusting.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard, except for sieve frames which are given in inch-pound units in accordance with Specification E11.

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

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

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

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)

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 of terms applying to this specification appear in Terminology C51.

4. General Requirements

4.1 The product must be suitable for animal feeding.

5. Chemical Requirements

5.1 Limestone, as identified on feed labels, shall conform to the chemical requirements given in Table 1.

6. Physical Requirements

6.1 Sieve analysis and other physical requirements shall be specified by the purchaser.

7. Test Methods

7.1 *Chemical Analysis*—Unless otherwise agreed upon between the purchaser and the manufacturer, the chemical analysis of the limestone shall be conducted in accordance with Test Methods C25, C1271, or C1301.

7.2 *Particle Size*—Unless otherwise agreed upon between the purchaser and the manufacturer, the sieve analysis of the material shall be determined in accordance with Test Methods C110.

7.2.1 *Procedure*—If the entire sample is not to be dried, obtain lesser portions by riffing or quartering. Dry at between 115 to 120 °C to a constant mass and cool to room temperature. Obtain a 90 to 120-g dry sample by riffing or quartering. If the material tends to cake, break up the agglomerates with a soft rubber pestle. Quantitatively transfer the weighed sample to an 8-in. diameter standard sieve or set of sieves [for example, 2.00 mm, 850 μm, 425 μm, 250 μm, 180 μm, and 150 μm (Nos. 10, 20, 40, 60, 80, and 100)] or other appropriate combination conforming to Specification E11). Conduct the sieve analysis in accordance with Test Methods C110.

8. Sampling, Inspection, etc.

8.1 The sampling, inspection, rejection, retesting, packaging, and marking shall be conducted in accordance with Methods C50.

9. Keywords

9.1 animal; feed; limestone; mineral; supplement

TABLE 1 Chemical Requirements

Limestone Classes (See C51)	Calcium, (as CaCO ₃) min, %	Magnesium (as MgCO ₃), max, %	Magnesium, (as MgCO ₃) min, %	Moisture, max, %
High Calcium	95	5	...	0.5
Magnesian	60	35 ^A	5	0.5
Dolomitic	49	46 ^A	35	0.5
Ground	82	^B	^B	0.5
Limestone				

^A The high magnesium content of these materials usually limits their use to special-purpose feeds.

^B As specified by the purchaser.

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