



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 *This standard does not purport to address all of the safety problems, 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:

- C 25 Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime²
- C 50 Methods for Sampling, Inspection, Packing, and Marking of Lime and Limestone Products²
- C 51 Terminology Relating to Lime and Limestone²
- C 110 Test Methods for Physical Testing of Quicklime, Hydrated Lime, and Limestone²
- E 11 Specification for Wire-Cloth and Sieves for Testing Purposes³

3. Terminology

3.1 Definitions of terms applying to this specification appear in Terminology C 51.

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

TABLE 1 Chemical Requirements

Limestone Classes (See C 51)	Calcium, min, percent (as CaCO ₃)	Magnesium, max, percent (as MgCO ₃)	Magnesium, min, percent (as MgCO ₃)	Moisture, max, percent
High Calcium	95	5	...	0.5
Magnesian	60	35 ^A	5	0.5
Dolomitic	49	46 ^A	35	0.5
Ground Limestone	82	^B	^B	0.5

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

^B As 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 used in accordance with Test Methods C 25.

7.2 *Fineness*—Unless otherwise agreed upon between the purchaser and the manufacturer, the sieve analysis of the material shall be determined in accordance with Test Methods C 100 .

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, Nos. 10, 20, 40, 60, 80, and 100 or other appropriate combination conforming to Specification E 11). Conduct the sieving by lateral and vertical motion accompanied by a jarring action. Continue for a minimum of 5 min or until an additional 3 min of sieving time fails to change the results of any sieve fraction by 0.5 % of the total sample mass. Take care to avoid overloading any sieve when assaying closely sized materials. Determine the mass of each sieve fraction and report as the percentage of total sample mass.

8. Sampling, Inspection, etc.

8.1 The sampling, inspection, rejection, retesting, packing, and marking shall be conducted in accordance with Methods C 50.

9. Keywords

9.1 animal; feed; limestone; mineral; supplement

¹ This specification is under the jurisdiction of ASTM Committee C-7 on Lime and is the direct responsibility of Subcommittee C07.03 for Industrial Uses.

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² Annual Book of ASTM Standards, Vol 04.01.

³ Annual Book of ASTM Standards, Vol 14.02.