



Standard Practice for Sampling, Sample Preparation, Packaging, and Marking of Lime and Limestone Products¹

This standard is issued under the fixed designation C50/C50M; 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.

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

1. Scope

1.1 This practice covers procedures for the collection and reduction of samples of lime and limestone products to be used for physical and chemical tests.

1.2 This practice further covers inspection, rejection, retesting, packing, and marking of lime and limestone products as it may be used in the chemical, agricultural, and process industries.

1.3 The values stated in either SI units or inch-pound units are to be regarded separately as standard. Within the text, the inch-pound units are shown in brackets. 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.

1.4 *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
- C110 Test Methods for Physical Testing of Quicklime, Hydrated Lime, and Limestone
- C400 Test Methods for Quicklime and Hydrated Lime for Neutralization of Waste Acid
- C1271 Test Method for X-ray Spectrometric Analysis of Lime and Limestone

¹ This practice is under the jurisdiction of ASTM Committee C07 on Lime and is the direct responsibility of Subcommittee C07.06 on Physical Tests.

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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.

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

D2234/D2234M Practice for Collection of a Gross Sample of Coal

D3665 Practice for Random Sampling of Construction Materials

E105 Practice for Probability Sampling of Materials

E122 Practice for Calculating Sample Size to Estimate, With Specified Precision, the Average for a Characteristic of a Lot or Process

E141 Practice for Acceptance of Evidence Based on the Results of Probability Sampling

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

3. Terminology

3.1 *accuracy*—a term generally used to indicate the reliability of a sample, a measurement, or an observation and is a measure of closeness of agreement between an experimental result and the true value.

3.2 *bias (systematic error)*—an error that is consistently negative or consistently positive. The mean of errors resulting from a series of observations which does not tend towards zero.

3.3 *chance error*—error that has equal probability of being positive or negative. The mean of the chance errors resulting from a series of observations that tends toward zero as the number of observations approach infinity.

3.4 *combined water*—water that is chemically bonded to calcium or magnesium oxide to form hydrate.

3.5 *error*—the difference of an observation or a group of observations from the best obtainable estimate of the true value.

3.6 *free water*—water that is not chemically bonded to calcium or magnesium oxide.

3.7 *gross sample*—a sample representing one lot of material and composed of a number of increments on which neither reduction nor division has been performed.