



Designation: C1489 – 15 (Reapproved 2022)

Standard Specification for Lime Putty for Structural Purposes¹

This standard is issued under the fixed designation C1489; 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.

1. Scope

1.1 This specification covers lime putty products made from hydrated lime or quicklime products. Lime putty is suitable for use in masonry, plaster and stucco applications.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- C5 Specification for Quicklime for Structural Purposes
- 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
- C185 Test Method for Air Content of Hydraulic Cement Mortar
- C206 Specification for Finishing Hydrated Lime

¹ This specification is under the jurisdiction of ASTM Committee C07 on Lime and Limestone 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.

C207 Specification for Hydrated Lime for Masonry Purposes

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)

3. Terminology

3.1 Definitions:

3.1.1 *lime putty*—the product obtained by either slaking quicklime with water according to the direction of the manufacturer or by mixing hydrated lime and water to the desired consistency.

3.1.2 Unless otherwise specified, for definitions of terms used in this standard, refer to Terminology C51.

4. Chemical Composition

4.1 The hydrated lime or quicklime products used to make lime putty shall conform to the following chemical composition requirements:

Calcium and magnesium oxides (LOI-free basis), min %	92
Carbon dioxide (presoaked basis)	
If sample is taken at place of manufacture, max %	5
If sample is taken at other place, max %	7

4.2 Chemical composition of putty product of unknown composition must be determined on a sample dried in a CO₂ free atmosphere.

NOTE 1—An apparatus to produce a dry, CO₂ free air stream is described in the section on Free Moisture in Hydrated Lime of Test Methods C25. Or use an inert atmosphere such as nitrogen.

5. Plasticity

5.1 Lime putty shall have a plasticity of not less than 200 Emley units when tested by the Emley method in the section on Plasticity of Lime Putty in Test Methods C110. Vicat consistency of the putty should be adjusted to a penetration of 20 mm $\pm$ 5 mm prior to running the Emley test. If penetration results are above 25 mm, the consistency of the putty can be increased by allowing the putty to settle and decanting off the excess water or by the use of a suction pad such as the one used for the water retention test in Test Methods C110. If the penetration is below 15 mm, water should be added to the lime putty