



Designation: C5 – 18

Standard Specification for Quicklime for Structural Purposes¹

This standard is issued under the fixed designation C5; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

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

1. Scope

1.1 This specification covers all classes of quicklime such as crushed lime, granular lime, ground lime, lump lime, pebble lime, and pulverized lime, used for structural purposes.

1.2 The values stated in inch-pound units are to be regarded as 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

[C25 Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime](#)

[C50/C50M 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](#)

[C1489 Specification for Lime Putty for Structural Purposes](#)

[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 Limestone and is the direct responsibility of Subcommittee C07.02 on Specifications and Guidelines.

Current edition approved Oct. 1, 2018. Published November 2018. Originally approved in 1913. Last previous edition approved in 2010 as C5 – 10. DOI: 10.1520/C0005-18.

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*—Unless otherwise specified, for definitions of terms used in this standard, refer to Terminology [C51](#).

4. Chemical Composition

4.1 The quicklime shall conform to the following requirements as to chemical composition, calculated on a nonvolatile basis:

| | Calcium Lime | Magnesium Lime |
|--|--------------|----------------|
| Calcium oxide, min, % | 75 | |
| Magnesium oxide, min, % | | 20 |
| Calcium and magnesium oxide, min, % | 95 | 95 |
| Silica, alumina, and oxide of iron, max, % | 5 | 5 |
| Carbon dioxide, max, %: | | |
| If sample is taken at place of manufacture | 3 | 3 |
| If sample is taken at any other place | 10 | 10 |

5. Residue

5.1 The quicklime shall contain no more than 15 weight % of residue as determined by the Test Methods [C110](#) Slaking Rate of Quicklime test procedure.

6. General Requirements

6.1 Quicklime shall be slaked and aged in accordance with the printed directions of the manufacturer. The resulting lime putty shall be stored until cool.

6.2 Lime putty prepared in accordance with Appendix [X1.4.2](#) must conform to the requirements of Specification [C1489](#).

7. Sampling, Inspection, and So Forth

7.1 The sampling, inspection, rejection, retesting, packaging, and marking shall be conducted in accordance with Methods [C50/C50M](#).

8. Test Methods

8.1 Conformance to chemical requirements shall be determined in accordance with Test Methods [C25](#).

8.2 Conformance to residue requirements shall be determined in accordance with Test Methods [C110](#).