



Designation: C 5 – 79 (Reapproved 1997)

Standard Specification for Quicklime for Structural Purposes¹

This standard is issued under the fixed designation C 5; 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 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.

2. Referenced Documents

2.1 ASTM Standards:

[C 25 Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime](#)²

[C 50 Practice for Sampling, Inspection, Packing, and Marking of Lime and Limestone Products](#)²

[C 51 Terminology Relating to Lime and Limestone \(As Used by the Industry\)](#)²

[C 110 Test Methods for Physical Testing of Quicklime, Hydrated Lime, and Limestone](#)²

[E 11 Specification for Wire-Cloth Sieves for Testing Purposes](#)³

3. Terminology

3.1 *Definitions*—Unless otherwise specified, for definitions of terms used in this standard, refer to Terminology C 51C 51.

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.

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 X1.4.2 and adjusted to standard consistency in accordance with Test Methods C 110C 110, shall show no pops or pits when tested in accordance with Test Methods C 110C 110.

6.3 Lime putty prepared as above shall have a plasticity figure of not less than 200.

7. Sampling, Inspection, etc.

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

8. Test Methods

8.1 Conformance to chemical requirements shall be determined in accordance with Test Methods C 25C 25.

8.2 Conformance to plasticity and residue requirements shall be determined in accordance with Test Methods C 110C 110.

9. Keywords

9.1 building (structural); calcium oxide; dolomitic lime; high calcium lime; lime putty; magnesium oxide; plasticity; quicklime; residue; slaking

¹ This specification is under the jurisdiction of ASTM Committee C-7 on Lime and is the direct responsibility of Subcommittee C07.02 on Structural Lime.

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² *Annual Book of ASTM Standards*, Vol 04.01.

³ *Annual Book of ASTM Standards*, Vol 14.02.