



Designation: C1097 – 19

# Standard Specification for Hydrated Lime for Use in Asphalt Cement or Bituminous Paving Mixtures<sup>1</sup>

This standard is issued under the fixed designation C1097; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope\*

1.1 This specification covers high calcium, dolomitic and magnesian-hydrated lime for use in asphalt cement or bituminous paving mixtures.

NOTE 1—Hydrated lime, either calcitic, dolomitic, or magnesian, improves bonding of bitumen and aggregates which reduces susceptibility to moisture damage, reduces age hardening by chemically stabilizing polar compounds found in asphalts, and increases initial stiffness of asphalt mixtures.

NOTE 2—No attempt is made to present requirements for any by-product lime.

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:<sup>2</sup>

[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](#)

<sup>1</sup> 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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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[C51 Terminology Relating to Lime and Limestone \(as used by the Industry\)](#)

[C110 Test Methods for Physical Testing of Quicklime, Hydrated Lime, and Limestone](#)

[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 \(AA\)](#)

[D8 Terminology Relating to Materials for Roads and Pavements](#)

[D242/D242M Specification for Mineral Filler for Asphalt Mixtures](#)

[D546 Test Method for Sieve Analysis of Mineral Filler for Asphalt Paving Mixtures](#)

## 3. Terminology

3.1 For definitions of terms used in this specification, refer to Terminology [C51](#) or Terminology [D8](#).

## 4. Chemical Requirements

4.1 Hydrated lime for use in asphalt cement or bituminous paving mixtures shall conform to the following chemical composition:

Calcium and Magnesium Oxides (on an LOI-free basis), min, %	90.0
Carbon Dioxide (taken at point of manufacture), max, %	5.0
Unhydrated Calcium and Magnesium Oxides, max, %	5.0
Free Moisture of Dry Hydrates (taken at point of manufacture), max, %	2.0

4.2 The chemical analysis of the hydrated lime shall be determined in accordance with Test Methods [C25](#), [C1271](#), or [C1301](#).

## 5. Physical Requirements

5.1 Hydrated lime, either dry or slurry form, shall not have more than 3.0 % retained on a 600  $\mu\text{m}$  (No. 30) sieve and not more than 30 % retained on a 75  $\mu\text{m}$  (No. 200) sieve.

\*A Summary of Changes section appears at the end of this standard