Designation: C51 – 23

Standard Terminology Relating to Lime and Limestone (as Used by the Industry)[1]

This standard is issued under the fixed designation C51; 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 U.S. Department of Defense.

1. Scope*

1.1 This terminology refers to the terms relating to lime and limestone products as used by the industry.

1.2 Where appropriate, the various terms defined below should be prefixed with one or other of the adjectives "high-calcium," "magnesian," or "dolomitic." (Examples: dolomitic quicklime; high-calcium hydraulic hydrated lime; magnesian or dolomitic limestone.)

1.3 The composition of a limestone should be given in terms of a percentage of the carbonates present. In limestone of interest to the lime industry, it is usually assumed that the material consists almost entirely of carbonates. Where this assumption is not valid, the percentage of noncarbonate material should be determined, and the composition expressed in terms of the carbonate material present.

1.4 For specific application of lime or a limestone product, see the appropriate ASTM specification.

1.5 *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]

C125 Terminology Relating to Concrete and Concrete Aggregates

C207 Specification for Hydrated Lime for Masonry Purposes

C270 Specification for Mortar for Unit Masonry

C602 Specification for Agricultural Liming Materials

C1707 Specification for Pozzolanic Hydraulic Lime for Structural Purposes

3. Terminology

alkaline earth solutions (AES), *n*—an aqueous solution of the oxide or hydroxide of an element of group IIa in the periodic table, such as calcium or magnesium, which can be strongly alkaline.

available lime index, *n*—those constituents of a lime which enter into a desired reaction under the conditions of a specific method or process.

by-product lime, *n*—a variety of calcium or calcium/magnesium compounds, or both, that are usable for specific applications but generally do not meet one or more specifications required of primary lime products.

DISCUSSION—Examples include lime kiln dust and lime hydrator rejects. It is advised that the specific compositions, physical properties, performance characteristics, and anticipated variabilities of such materials be evaluated for the service intended.

calcareous, *adj*—originating from predominately calcium carbonate or one of its derivative forms.

calcia, *n*—the chemical compound calcium oxide (CaO).

cement-lime mortar, *n*—cement-lime mortar primarily consists of hydraulic cement, hydrated lime or lime putty, mason's sand and water.

DISCUSSION—These mortars can be specified by proportions or properties indicated in Specification C270.

dead burned dolomite, *n*—dolomitic limestone that has been heated with or without additives to a temperature sufficiently high and for a long enough time to decompose the carbonate structure so as to form calcium oxide and periclase in a matrix that provides resistance to subsequent hydration and recombination with carbon dioxide.

dolomitic, *adj*—indicates the presence of 35 % to 46 % magnesium carbonate ($MgCO_3$) in the limestone from which the material was formed.

dolomitic limestone, *n*—see **limestone**.

[1] This terminology is under the jurisdiction of ASTM Committee C07 on Lime and Limestone and is the direct responsibility of Subcommittee C07.08 on Editorial and Terminology.

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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.

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