



Standard Descriptive Nomenclature for Constituents of Concrete Aggregates¹

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

1. Scope

1.1 This descriptive nomenclature provides brief descriptions of some of the more commonly occurring, or more important, natural and artificial materials of which mineral aggregates are composed. The descriptions provide a basis for understanding these terms as applied to concrete aggregates. When appropriate, brief observations regarding the potential effects of using the natural and artificial materials in concrete are discussed.

NOTE 1—These descriptions characterize minerals and rocks as they occur in nature and blast-furnace slag or lightweight aggregates that are prepared by the alteration of the structure and composition of natural material. Information about lightweight aggregates is given in Specifications C330, C331, and C332.

1.2 This standard does not include descriptions of constituents of aggregates used in radiation shielding concrete. See Descriptive Nomenclature C638.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

C125 Terminology Relating to Concrete and Concrete Aggregates

C227 Test Method for Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method)

C289 Test Method for Potential Alkali-Silica Reactivity of Aggregates (Chemical Method)

C330 Specification for Lightweight Aggregates for Structural Concrete

C331 Specification for Lightweight Aggregates for Concrete Masonry Units

¹ This descriptive nomenclature is under the jurisdiction of ASTM Committee C09 on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee C09.65 on Petrography.

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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.

C332 Specification for Lightweight Aggregates for Insulating Concrete

C638 Descriptive Nomenclature of Constituents of Aggregates for Radiation-Shielding Concrete

3. Terminology

3.1 For definitions of terms in this standard, refer to Terminology C125.

4. Significance and Use

4.1 This descriptive nomenclature provides information on terms commonly applied to concrete aggregates. This standard is intended to assist in understanding the meaning and significance of the terms.

4.2 Many of the materials described frequently occur in particles that do not display all the characteristics given in the descriptions, and most of the described rocks grade from varieties meeting one description to varieties meeting another with all intermediate stages being found.

4.3 The accurate identification of rocks and minerals can, in many cases, be made only by a qualified geologist, mineralogist, or petrographer using the apparatus and procedures of these sciences. Reference to these descriptions may, however, serve to indicate or prevent gross errors in identification. Identification of the constituent materials in an aggregate may assist in characterizing its engineering properties, but identification alone cannot provide the sole basis for predicting behavior of aggregates in service. Aggregates of any type or combination of types may perform well or poorly in service depending upon the exposure to which the concrete is subjected, the physical and chemical properties of the matrix in which they are embedded, their physical condition at the time they are used, and other factors. Constituents that may occur only in minor amounts in the aggregate may or may not decisively influence its performance. Information about concrete aggregate performance in concrete has been published by ASTM.³

³ Klieger, P., and Lamond, J. F., editors, *Significance of Tests and Properties of Concrete and Concrete-Making Materials*, ASTM STP 169C, 1994.