

Standard Specification for Limestone Dimension Stone¹

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

1. Scope

- 1.1 This specification covers the material characteristics, physical requirements, and sampling appropriate to the selection of limestone for general building and structural purposes.
- 1.2 Dimension limestone shall include stone that is sawed, cut, split, or otherwise finished or shaped and shall specifically exclude molded, cast, or otherwise artificially aggregated units of composed fragments, and also crushed and broken stone.

2. Referenced Documents

2.1 ASTM Standards:

- C 97 Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone²
- C 99 Test Method for Modulus of Rupture of Dimension Stone²
- C 119 Terminology Relating to Dimension Stone²
- C 170 Test Method for Compressive Strength of Dimension Stone²
- C 241 Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic³
- C 1353 Test Method Using the Taber Abrasor for Abrasion Resistance of Dimension Stone Subjected to Foot Traffic²

3. Terminology

3.1 Definitions—All definitions are in accordance with Terminology C 119.

- 3.1.1 *limestone, n*—a sedimentary rock composed principally of calcium carbonate (the mineral calcite) or the double

carbonate of calcium and magnesium (the mineral dolomite) or a mixture of the two.

4. Classification

- 4.1 Dimension limestone shall be classified into three categories, generally descriptive of those limestones having densities in approximate ranges, as follows:

- 4.1.1 *I (Low-Density)*—Limestone having a density ranging from 110 through 135 lb/ft³ (1760 through 2160 kg/m³).
- 4.1.2 *II (Medium-Density)*—Limestone having a density greater than 135 and not greater than 160 lb/ft³ (2160 through 2560 kg/m³).
- 4.1.3 *III (High-Density)*—Limestone having a density greater than 160 lb/ft³ (2560 kg/m³).

5. Physical Requirements

- 5.1 Limestone supplied under this specification shall conform to the physical requirements listed in Table 1.
- 5.2 Limestone shall be sound, durable, and free of spalls, cracks, open seams, pits, or other defects that are likely to impair its structural integrity in its intended use.
- 5.3 The desired color and texture, with their permissible natural variations in material characteristics for all material to be produced for the project, shall be established by control samples. Select representative samples by viewing a sufficient number of physical samples prior to production that show the complete range of variations in color and texture of the limestone specified.

6. Sampling

- 6.1 Samples, if required, for testing to determine the characteristics and physical properties shall be representative of the limestone to be used.

¹ This specification is under the jurisdiction of ASTM Committee C-18 on Dimension Stone and is the direct responsibility of Subcommittee C18.03 on Material Specifications.

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² *Annual Book of ASTM Standards*, Vol 04.07.