



Standard Specification for Granite Dimension Stone¹

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1. Scope

1.1 This specification covers the material characteristics, physical requirements, and sampling appropriate to the selection of granite for general building and structural purposes. Refer to Guides [C1242](#) and [C1528](#) for the appropriate selection and use of granite dimension stone.

1.2 Granite dimension stone shall include stone that is sawed, cut, split, or otherwise finished or shaped, and shall specifically exclude molded, cast, or otherwise artificially aggregated units composed of fragments, crushed and broken stone.

1.3 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

[C97/C97M](#) Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone

[C99/C99M](#) Test Method for Modulus of Rupture of Dimension Stone

[C119](#) Terminology Relating to Dimension Stone

[C170/C170M](#) Test Method for Compressive Strength of Dimension Stone

[C241/C241M](#) Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic

[C1242](#) Guide for Selection, Design, and Installation of Dimension Stone Attachment Systems

[C880/C880M](#) Test Method for Flexural Strength of Dimension Stone

¹ This specification is under the jurisdiction of ASTM Committee [C18](#) on Dimension Stone and is the direct responsibility of Subcommittee [C18.03](#) on Material Specifications.

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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.

[C1353](#) Test Method for Abrasion Resistance of Dimension Stone Subjected to Foot Traffic Using a Rotary Platform, Double-Head Abraser

[C1528](#) Guide for Selection of Dimension Stone

3. Terminology

3.1 *Definitions*—All definitions are in accordance with Terminology [C119](#).

4. Classification

4.1 Granite dimension stone under this specification shall be granite used for:

4.1.1 Exterior and interior cladding of buildings and structures;

4.1.2 Curbstone, paving, and landscape features;

4.1.3 Structural components having established dimensions;

4.1.4 Grade separations and retaining walls; and

4.1.5 Monuments.

5. Physical Properties

5.1 Granite supplied under this specification shall conform to the physical requirements prescribed in [Table 1](#). See [5.1.2](#) for possible variations from this table.

5.1.1 The minimum compressive strength, flexural strength, and modulus of rupture shall be based upon the minimum average strength of specimens tested in four conditions: wet or dry and parallel or perpendicular to rift.

5.1.2 The physical properties given in [Table 1](#) represent properties of granite that have a history of successful use for general building and structural purposes. Granite with strength or abrasion resistance less than the minimum values prescribed in [Table 1](#) may be used provided that competent engineering authority has evaluated relevant characteristics of the granite. This evaluation shall consider both structural effects and material characteristics such as durability, permanent volume change, modulus of elasticity, thermal expansion, and the like.

5.2 Granite 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 Granite shall be free of minerals that may cause objectionable staining under normal environments of use.

5.4 The desired color and texture, with their permissible natural variations in material characteristics for all material to



TABLE 1 Physical Requirements

NOTE 1—The material property values in Table 1 were established using samples prepared according to the individual test methods. Finishes, other than those specified in the individual test methods, may result in a deviation from established values.

Physical Property	Test Requirements	Test Method(s)
Absorption by weight, max, %	0.40	C97/C97M
Density, min, lb/ft ³ [kg/m ³]	160 [2560]	C97/C97M
Compressive strength, min, psi [MPa]	19 000 [131]	C170/C170M
Modulus of rupture, min, psi [MPa]	1500 [10.3]	C99/C99M
Abrasion resistance, min, $H_a^{A,B,C}$	25	C241/C241M/C1353
Flexural strength, min, psi [MPa]	1200 [8.3]	C880/C880M

^APertains only to stone subject to foot traffic.

^BThe supplier of the No. 60 Alundum abrasive, Norton, has indicated that the formula for Norton treatment 138S has been changed. The new abrasive is currently more aggressive, resulting in lower abrasive hardness values (H_a) than when the standard was initially established. As such, care should be taken when interpreting H_a values from tests using the new abrasive, particularly with regard to current ASTM stone standard specification requirements for abrasion resistance, which were developed when the original abrasive was still in use. Committee C18 is actively studying alternatives to address this issue.

^CAbrasion Resistance Test Method C1353 will eventually replace Test Method C241/C241M and it is not necessary to perform both tests. Availability of the proper equipment and materials by the testing laboratory may determine which test is performed.

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 granite specified.

6. Sampling

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

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