



Designation: C 503 – 05

Standard Specification for Marble 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 marble for general building and structural purposes.

1.2 Dimension marble shall include stone that is sawed, cut, split, or otherwise finished or shaped into blocks, slabs or tiles, and shall specifically exclude molded, cast and artificially aggregated units composed of fragments, and also crushed and broken stone.

2. Referenced Documents

2.1 *ASTM Standards*:²

C 97 Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone

C 99 Test Method for Modulus of Rupture of Dimension Stone

C 119 Terminology Relating to Dimension Stone

C 170 Test Method for Compressive Strength of Dimension Stone

C 241 Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic

C 880 Test Method for Flexural Strength of Dimension Stone

C 1353 Test Method Using the Taber Abraser for Abrasion Resistance of Dimension Stone Subjected to Foot Traffic

3. Terminology

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

3.1.1 *marble, n*—a crystalline rock composed predominantly of one or more of the following minerals: calcite and dolomite capable of taking a polish (see Terminology **C 119**).

4. Classification

4.1 Dimension marble is classified as follows:

4.1.1 *I Calcite*.

4.1.2 *II Dolomite*.

NOTE 1—See Terminology **C 119** for definitions of calcite and dolomite.

5. Soundness

5.1 Marbles are further classified into four “Soundness” groups. The basis of this classification is the characteristics encountered in fabrication and has no reference whatsoever to comparative merit or value. The classifications merely indicate what method of fabrication is considered necessary and acceptable in each instance, as based on standard trade practice. Marble is classified by its producer.

5.2 The Soundness classifications indicate what repairs may be necessary prior to or during installation, based on standard trade practices.

5.3 The groupings A, B, C, and D, should be taken into account when specifying marble, for all marbles are not suitable for all building applications. This is particularly true of the comparatively fragile marbles classified under Soundness Groups C and D, which may need additional fabrication before or during installation. Only Soundness Group A marble should be used for structural, load bearing purposes.

5.3.1 The four groups are:

5.3.1.1 *Group A*—Sound marbles with uniform and favorable working qualities; containing no geological flaws, voids, spalls, cracks, open seams, pits or other defects.

5.3.1.2 *Group B*—Marble similar in soundness to Group A, but with less favorable working qualities; may have natural faults; and may require a limited amount of one or more of the following: waxing³, sticking⁴, and filling⁵.

5.3.1.3 *Group C*—Marble with some variations in working qualities; geological flaws, voids, and lines of separation are common. It is standard practice to repair these variations by one or more of the following methods: waxing³, sticking⁴,

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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.

³ Waxing refers to the practice of filling minor surface imperfections such as voids or sand holes with melted shellac, cabinetmaker’s wax or certain polyester compounds. It does not refer to the application of paste wax to make the surfaces shinier.

⁴ Sticking describes the butt edge repair of a broken piece now generally done with dowels, cements or epoxies. The pieces are “stuck” together, thus “sticking.”

⁵ Filling—voids, such as those which occur naturally in marble, can be filled with polyester compounds.