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Standard Test Method for Compressive Strength of Dimension Stone[1]

This standard is issued under the fixed designation C 170/C 170M; 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 Department of Defense.

1. Scope

1.1 This test method covers the sampling, preparation of specimens, and determination of the compressive strength of dimension stone.

1.2 *Units*—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.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

C 119 Terminology Relating to Dimension Stone

E 4 Practices for Force Verification of Testing Machines

3. Terminology

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

4. Significance and Use

4.1 This test method is useful in indicating the differences in compressive strength between the various dimension stones. This test method also provides one element in comparing stones of the same type.

5. Apparatus

5.1 Any testing machine conforming to Practices E 4 and to the speed of testing requirements prescribed in Section 9 of this test method may be used.

5.2 In vertical testing machines, the spherical bearing block shall be suspended from the upper head of the machine in such a manner that the contact plate remains in a central position (spherical surfaces in full contact) when not loaded. The spherical surfaces shall be well lubricated, and the center of curvature shall lie in the surface of contact with the specimen.

6. Sampling

6.1 The sample shall be selected to represent a true average of the type or grade of stone under consideration and shall be of the quality supplied to the market in finished form under the type designation to be tested. The sample may be selected by the purchaser or his authorized representative from quarried stone or taken from the natural ledge and shall be of adequate size to permit the preparation of the desired number of test specimens. When perceptible variations occur, the purchaser may select as many samples as are necessary for determining the variation in compressive strength.

7. Test Specimens

7.1 The test specimens may be cubes or cylinders and shall be cut from the sample with saws or core drills. The diameter or lateral dimension (distance between opposite vertical faces) shall be not less than 2 in. ~~(50.8 mm)~~[50 mm] (Explanatory Note 1),

[1] This test method is under the jurisdiction of ASTM Committee C18 on Dimension Stone and is the direct responsibility of Subcommittee C18.01 on Test Methods.
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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.