



Standard Specification for Compression Testing Machine Requirements for Concrete Masonry Units, Related Units, and Prisms¹

This standard is issued under the fixed designation C1716/C1716M; 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.

1. Scope*

1.1 This specification provides minimum design standards for testing machines used to measure the compressive strength of concrete masonry units, related units, and masonry prisms covered under Test Methods C140 and C1314.

1.2 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of this standard.

1.3 This specification shall be used to determine the maximum allowable specimen size and the maximum allowable load limits on a specific specimen for any test machine. These limits are based on deflection of the bearing surfaces and the machine load frame. These limits may not reflect the actual capacity of the machine and do not supersede the machine manufacturer's recommended operational limits. The user must determine if testing machine capacities, allowable specimen size and maximum allowable load are appropriate for the sample to be tested.

1.4 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.

1.5 *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.*

¹ This specification is under the jurisdiction of ASTM Committee C15 on Manufactured Masonry Units and is the direct responsibility of Subcommittee C15.04 on Research.

Current edition approved June 1, 2016. Published July 2016. Originally approved in 2010. Last previous edition approved in 2014 as C1716/C1716M – 14. DOI: 10.1520/C1716_C1716M-16.

2. Referenced Documents

2.1 ASTM Standards:²

C140 Test Methods for Sampling and Testing Concrete Masonry Units and Related Units

C1093 Practice for Accreditation of Testing Agencies for Masonry

C1314 Test Method for Compressive Strength of Masonry Prisms

E4 Practices for Force Verification of Testing Machines

3. Terminology

3.1 Definitions:

3.1.1 *bearing, adj*—direct contact with the specimen being tested, as in bearing plate, bearing block, and bearing platen.

3.1.2 *block, n*—steel piece 50 mm [2 in.] thick or greater that provides additional load capacity in bending to platens.

3.1.2.1 *Discussion*—Blocks may be used to accommodate testing specimens of various heights in a testing machine.

3.1.3 *composite, adj*—made up of two or more pieces or materials.

3.1.4 *load frame, n*—all components of the testing machine that react against forces applied to the test specimen during testing.

3.1.5 *plate, n*—steel piece less than 50 mm [2 in.] thick.

3.1.5.1 *Discussion*—Plates are used to accommodate test specimens of various heights in a testing machine but do not provide additional load capacity in bending to platens or blocks. Plates can also be used as bearing surfaces.

3.1.6 *platen, n*—the primary bearing surfaces of the testing machine.

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.