



Standard Guide for Selection, Removal, and Shipment of Manufactured Masonry Units Placed in Usage¹

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1. Scope

1.1 This guide covers procedures to facilitate the process of selecting, removing, and shipping of manufactured masonry units that have been placed in usage and are intended for testing. This guide also covers procedures for reporting as part of this process.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are provided for information purposes only.

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:

C 43 Terminology of Structural Clay Products²

C 1180 Terminology of Mortar and Grout for Unit Masonry²

C 1209 Terminology of Concrete Masonry Units and Related Units²

C 1232 Terminology of Masonry²

E 122 Practice for Choice of Sample Size to Estimate a Measure of Quality for a Lot or Process³

3. Terminology

3.1 Definitions:

3.1.1 *units placed in usage*—manufactured masonry units that have been installed in a masonry assembly.

3.1.2 For definitions of other terms used in this guide, refer to Terminologies C 43, C 1180, C 1209, and C 1232.

4. Significance and Use

4.1 Manufactured masonry units that have been placed in usage are sometimes removed as part of an assessment of the condition of the units. Such units are commonly prepared for shipment to a laboratory where the specimens are assessed with

visual techniques, petrographic techniques, or standard test methods. The process of selecting, removing, and shipping the specimens can have an effect on test results. This guide provides procedures for selecting, removing, and shipping units.

4.2 The selection and removal processes described in this guide are intended for walls. Selection and removal of masonry specimens from locations other than walls requires user judgment in order to obtain appropriate specimens.

4.3 This guide also covers reporting of the selection, removal, and shipping processes. This information allows the interested parties to assess the impact of these processes on test results.

4.4 This guide does not define the use of the results of tests conducted on removed specimens. This guide does not determine whether manufactured masonry units placed in usage met specification requirements at the time of purchase.

5. Selection and Removal

5.1 Selection of Test Specimens:

NOTE 1—When specimens placed in usage are to be removed for testing in accordance with test methods that include requirements for sampling and selection of specimens, those requirements shall be replaced with 5.1 of this guide.

5.1.1 *Visual Assessment*—Prior to selecting specimens for removal, perform a visual survey of the exposed surface to assess the condition of the units.

5.1.1.1 Record observations from the visual survey on drawings that represent the appearance of the masonry wall. Use either original construction elevation drawings or drawing sheets prepared for this purpose.

5.1.1.2 Conduct the visual assessment either over the whole building or on a representative sample of the whole. Examine locations with different exposures, such as walls exposed to rain and walls protected from rain.

NOTE 2—When the whole facade is not surveyed, a representative sample is necessary. Practice E 122 provides information on this process.


5.1.2 *Sampling*—Select specimens representative of the masonry units used in the whole, or a selected part of the whole. Consider aspects such as the orientation of the units (for example, stretcher, header, or soldier); location in the structure (for example, parapet, corbel, or quoin); or where different masonry units are blended to produce a range of color or

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² *Annual Book of ASTM Standards*, Vol 04.05.

³ *Annual Book of ASTM Standards*, Vol 14.02.

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architectural effect within the wall. Sample by one or more of the following techniques:

5.1.2.1 *Random Sampling*—Within the whole, or in a selected part of the whole, select units based on a random sampling process. Designate a horizontal and vertical location numbering system associated with specimen locations and randomly select numbers, or use a similar random sampling method.

5.1.2.2 *Location-specific Sampling*—Select units specific to a particular installed location, such as units at a shelf angle, or units in a parapet wall. The selection of specimens within the specific location shall be based on a random sampling process, as described in 5.1.2.1.

5.1.2.3 *Condition-specific Sampling*—Select units specific to a physical condition of the units, such as units visually assessed to be deteriorated, or units visually assessed to be undamaged. The selection of specimens within the specific condition should be based on a random sampling process, as described in 5.1.2.1.

NOTE 3—Sampling is useful for identification of differences in masonry units placed in different locations or exposures, that is, the difference between masonry units placed on different elevations, or the difference between masonry units exposed to environmental or atmospheric conditions and those not exposed. Under these circumstances, sampling should be representative of each usage condition. For example, select masonry units visually considered to be in the best physical condition, in the worst physical condition, and the most representative of the overall physical condition.

5.2 *Identification*—Identify each specimen on the wall with a permanent marker and photograph before removal. Do not mark on more than 10 % of any face of the specimen. Reference the marked specimen to the specific location where the specimen was obtained.

5.3 *Specimen Removal*—Remove full-size masonry units. Remove specimen by sawcutting or by chiseling through mortar joints. Take care to avoid damage during removal. Do

not use electric or hydraulic impact equipment that damages the specimen.

NOTE 4—While removing the units, do not detrimentally affect the structural or serviceability performance of the remaining masonry.

NOTE 5—Masonry units with a nominal thickness of 4 in. (100 mm) are normally removed with a power-driven rotary saw with a diamond-tipped blade having a diameter of 12 to 14 in. (300 to 350 mm).

5.4 *Shipment:*

5.4.1 Protect each individual masonry specimen on all sides with suitable material, such as 1-in. (25-mm) thick packaging foam or bubble wrap.

5.4.2 Completely encase one or more specimens and packaging material in crates consisting of ¾-in. (19-mm) thick plywood, or as suitable to protect the specimens during shipment. Completely fill all space within the crate to prevent movement of the specimens within the crate. Clearly mark the crates, “Handle With Care.”

6. Report

6.1 Report the following information about the selection, identification, removal, and shipment of the specimens.

6.1.1 The results of the visual assessment (see 5.1.1). Include survey sheets indicating the location where the specimens were removed.

6.1.2 The sampling technique (see 5.1.2).

6.1.3 The condition of each specimen.

6.1.4 The method of specimen removal (see 5.3).

6.1.5 The method of shipment (see 5.4).

6.1.6 The specimen identification (see 5.2) shall be used for cross-reference in the report as well as for cross-reference with subsequent test reports.

7. Keywords

7.1 masonry; masonry units; removal; sampling; selection process; shipment; units places in usage

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