



Designation: C315 – 07(Reapproved 2011)

## Standard Specification for Clay Flue Liners and Chimney Pots<sup>1</sup>

This standard is issued under the fixed designation C315; 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 ( $\epsilon$ ) 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 specification establishes the criteria for acceptance, prior to installation, of clay flue liners and chimney pots used for conveying hot gases in masonry chimneys.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 For installation of clay flue liners, see Practice C1283.

### 2. Referenced Documents

2.1 *ASTM Standards*:<sup>2</sup>

C67 Test Methods for Sampling and Testing Brick and Structural Clay Tile

C301 Test Methods for Vitrified Clay Pipe

C896 Terminology Relating to Clay Products

C1283 Practice for Installing Clay Flue Lining

### 3. Terminology

3.1 *Definitions*:

3.1.1 Clay, fire clay, shale, and surface clay are as defined in Terminology C896.

3.1.2 *chimney pot*—a pipe used at the top of the chimney to increase draft and carry off smoke.

### 4. Classification

4.1 *Types*—Flue liners acceptable under this specification shall be designated as rectangular nonmodular, rectangular modular, round or oval.

### 5. Materials and Manufacture

5.1 Flue liners and chimney pots shall be manufactured from fire clay, shale, surface clay, or a combination of these

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<sup>2</sup> 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.

materials that when formed and fired to suitable temperatures, shall yield a product that is strong, durable, serviceable, and conforms to this specification.

### 6. Physical and Chemical Requirements

6.1 *Absorption*:

6.1.1 The absorption of clay flue liners and chimney pots shall not exceed 8.0 % when tested in accordance with Test Methods C301.

6.1.2 *Test Specimens*—Five dry test specimens shall be obtained from the five flue liners or chimney pots to be tested and shall measure as closely as possible to 4 by 4 in. (100 by 100 mm) per side. All rough edges shall be ground off and loose particles removed.

6.1.3 If any of the test specimens fail to meet the requirements, the manufacturer shall be allowed to retest on two additional specimens for each one that failed. The flues and pots will be acceptable if all the subsequent specimens for retest meet the requirements.

6.2 *Acid Resistance*:

6.2.1 This is a test used to determine the resistance of clay flue liners and chimney pots to the action of acids encountered in chimneys. This test shall be performed only when specified.

6.2.2 The flue liner and chimney pots shall be acceptable if the acid soluble material does not exceed 0.25 % when tested in accordance with Test Methods C301.

6.2.3 *Test Specimens*—Select one test specimen from each size of flue liner or chimney pot. The specimens shall measure about 2 by 2 in. (51 by 51 mm) per side and weigh not more than 200 g. They shall be sound pieces with all edges freshly broken, free of cracks or shattered edges, and shall be thoroughly cleaned.

6.3 *Freeze-Thaw Cycle Test*:

6.3.1 When flue liners or chimney pots are tested in accordance with Test Methods C67, Section 9 on structural clay tile, there shall be no breakage and the percentage of weight loss shall not exceed 0.5 %.

6.3.2 *Test Specimens*—Five dry test specimens shall be obtained from the five flue liners or chimney pots to be tested and shall measure as closely as possible to 4 by 4 in. (100 by 100 mm) per side. All rough edges shall be ground off and loose particles removed.