



Standard Practice for Installing Clay Flue Lining¹

This standard is issued under the fixed designation C 1283; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This practice covers the minimum requirements for installing clay flue lining as a lining for residential masonry chimneys not exceeding 40 ft (12.2 m) in height.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values stated in parentheses are for informational 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 24 Test Method for Pyrometric Cone Equivalent (PCE) of Fireclay and High Alumina Refractory Materials²
- C 27 Classification of Fireclay and High-Alumina Refractory Brick²
- C 55 Specification for Concrete Brick³
- C 90 Specification for Loadbearing Concrete Masonry Units³
- C 99 Test Method for Modulus of Rupture of Dimension Stone⁴
- C 129 Specification for Nonloadbearing Concrete Masonry Units³
- C 145 Specification for Solid Load-Bearing Concrete Masonry Units³
- C 170 Test Method for Compressive Strength of Dimension Stone⁴
- C 199 Test Method for Pier Test for Refractory Mortars²
- C 216 Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)³
- C 270 Specification for Mortar for Unit Masonry³
- C 315 Specification for Clay Flue Linings³
- C 652 Specification for Hollow Brick (Hollow Masonry Units Made from Clay or Shale)³

¹ This practice is under the jurisdiction of ASTM Committee C-4 on Vitrified Clay Pipe and is the direct responsibility of Subcommittee C04.20 on Methods of Test and Specifications.

Current edition approved Jan. 10, 2000. Published March 2000. Originally published as C 1283–94. Last previous edition C 1283–99.

² *Annual Book of ASTM Standards*, Vol 15.01.

³ *Annual Book of ASTM Standards*, Vol 04.05.

⁴ *Annual Book of ASTM Standards*, Vol 04.07.

C 896 Terminology Relating to Clay Products³

3. Terminology

3.1 *General*—Terminology C 896 should be used for clarification of definitions in this practice.

4. Foundation

4.1 The foundation shall be deep enough so that frost penetration and seasonal volume changes in the soil will not affect its stability.

4.2 The foundation shall be placed, with respect to adjacent structures existing or anticipated, to minimize the possibility of mutual damage by construction operations or by transmission of additional loads to the supporting soils.

4.3 The foundation supports the chimney and shall be sized to carry all superimposed loads. Most building codes, however, disallow the use of chimney walls as structural elements to support other building components unless specific construction allowances are made. When designing the foundation, care shall be taken to account for soil types and conditions.

4.4 Concrete footings and foundations shall conform to local building codes.

4.4.1 In the absence of a local building code, concrete with a minimum 28 day compressive strength of 3000 psi (21 mPa) shall be used.

4.5 Where a chimney or fireplace is added to the outside of the exterior wall of an existing structure, the following shall apply:

4.5.1 The new footing shall be installed at the same level or below the existing footing, provided the level is below the frost line and the new footing is placed on soil with adequate bearing capacity.

4.5.2 The existing drainage provision shall not be obstructed.

5. Chimney Construction

5.1 Materials:

5.1.1 *Flue Linings*— Specification C 315.

5.1.2 *Refractory Mortar*—Test Method C 24, cone 5, and Test Method C 199.

5.1.3 *Concrete Block*— Specification C 90, Specification C 129, Specification C 145.

5.1.4 *Brick*—Specification C 55, Specification C 216, Grade SW.

5.1.5 *Mortar*—Specification C 270.