



Standard Guide for Construction of Solid Fuel Burning Masonry Heaters¹

This standard is issued under the fixed designation E1602; 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.

^{ε1} NOTE—Footnote 5 was editorially updated in April 2010.

1. Scope

1.1 This guide covers the design and construction of solid fuel burning masonry heaters. It provides dimensions for site constructed masonry heater components and clearances that have been derived by experience and found to be consistent with the safe installation of those masonry heaters.

1.2 Values given in SI units are to be regarded as standard. Inch/pound units may be rounded (see [IEEE/ASTM SI-10](#)). All dimensions are nominal unless specifically stated otherwise. All clearances listed in this guide are actual dimensions.

1.3 This guide applies to the design and construction of masonry heaters built on-site with the components and materials specified herein. It does not apply to the construction/installation requirements for component systems that have been safety tested and listed. The requirements for listed masonry heater systems are specified in the manufacturer's installation instructions.

1.4 The design and construction of solid fuel burning masonry heaters shall comply with applicable building codes.

2. Referenced Documents

2.1 *ASTM Standards*:²

[C11 Terminology Relating to Gypsum and Related Building Materials and Systems](#)

[C43 Terminology of Structural Clay Products](#) (Withdrawn 2009)³

[C71 Terminology Relating to Refractories](#)

[C270 Specification for Mortar for Unit Masonry](#)

[C401 Classification of Alumina and Alumina-Silicate Castable Refractories](#)

¹ This guide is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.54 on Solid Fuel Burning Appliances.

Current edition approved April 1, 2010. Published July 2010. Originally approved in 1994. Last previous edition approved in 2003 as E1602 – 03. DOI: 10.1520/E1602-03R10.

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.

³ The last approved version of this historical standard is referenced on www.astm.org.

[E136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C](#)

[IEEE/ASTM SI-10 Standard for Use of the International System of Units \(SI\): The Modern Metric System](#)

2.2 *UL Standards*:⁴

[UL 103 Chimneys, Factory Built Residential Type and Building Heating Appliances](#)

3. Terminology

3.1 Terms used in this guide are as defined in Terminology [C11](#), Definitions [C43](#), Terminology [C71](#), and Classification [C401](#).

3.2 *Definitions of Terms Specific to This Standard*:

3.2.1 *approved*—acceptable to the authority having jurisdiction.

3.2.2 *authority having jurisdiction*—the organization, office, individual, or agent thereof, who is responsible for approving construction, materials, equipment, installation, procedure, and so forth. In most cases in which a building permit is required, the authority is typically the building official or his agent. Where a building permit is not required, the authority is typically the owner or his agent.

3.2.3 *bypass damper*—a valve or plate that provides a direct path to the chimney flue for the flue gases or portion thereof.

3.2.4 *capping slab*—a horizontal refractory barrier covering the top of the masonry heater.

3.2.5 *cleanout opening*—an access opening in a flue passageway of the masonry heater or chimney that is designed to allow access to the flue for purposes of inspecting for and removal of ash, soot, and other extraneous matter that may become trapped.

3.2.6 *damper*—an adjustable valve or plate for controlling draft or the flow of gases, including air.

3.2.7 *firebox (firechamber)*—that portion of the masonry heater that is designed for containing and burning the fuel charge.

⁴ Available from Underwriters Laboratories (UL), 333 Pfingsten Rd., Northbrook, IL 60062-2096, <http://www.ul.com>.