Designation: E814 – 13a

An American National Standard

Standard Test Method for Fire Tests of Penetration Firestop Systems[1]

This standard is issued under the fixed designation E814; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

INTRODUCTION

Characteristically fire spreads from one building compartment to another by the collapse of a barrier, or by openings through which flames or hot gases may pass, or by transfer of sufficient heat to ignite combustibles beyond the barrier. Test Methods E119 describe the method to be used to measure the fire-resistive performance of these barriers.

However, various techniques of providing for the distribution of services within a structure sometimes require that openings be made in fire-resistive walls and floors to allow the passage of such penetrating items as cables, conduits, pipes, trays, and ducts through to the adjacent compartment. Fire-stop material is installed into these openings to resist the spread of fire.

The performance of through-penetration firestops should be measured and specified according to a common standard that describes the method of fire exposure and rating criteria.

1. Scope

1.1 This test method is applicable to firestop systems of various materials and construction. Firestop systems are intended for use in openings in fire-resistive walls and floors that are evaluated in accordance with Test Methods E119.

1.2 Tests conducted in conformance with this test method record firestop system performance during the test exposure; but such tests shall not be construed to determine suitability of the firestop system for use after test exposure.

1.3 This test method also measures the resistance of firestop systems to an external force stimulated by a hose stream. However, this test method shall not be construed as determining the performance of the firestop system during actual fire conditions when subjected to forces such as failure of cable support systems and falling debris.

1.4 The intent of this test method is to develop data to assist others in determining the suitability of the firestops for use where fire resistance is required.

1.5 This test method does not apply to membrane penetrations of a floor-ceiling assembly or roof-ceiling assembly that are tested as part of the assembly in accordance with Test Methods E119.

1.6 This test method does not apply to membrane penetrations of load-bearing walls.

1.7 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.

1.8 *This standard is used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire-hazard or fire-risk assessment of materials, products, or assemblies under actual fire conditions.*

1.9 *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.*

1.10 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 requirements of the standard.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

[1] This test method is under the jurisdiction of ASTM Committee E05 on Fire Standards and is the direct responsibility of Subcommittee E05.11 on Fire Resistance.

Current edition approved Dec. 1, 2013. Published December 2013. Originally approved in 1981. Last previous edition approved in 2013 as E814 – 13. DOI: 10.1520/E0814-13A.

[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.

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. United States