



Standard Test Method for Exposure of Firestop Materials to Severe Environmental Conditions¹

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INTRODUCTION

Firestops are installed in buildings to prevent the spread of fire. Each firestop design is dependent on its specific arrangement, thickness, density, and shape of materials used in its construction and upon the specific assembly in which it is fire tested. There are at least five types of materials used in firestops. They are endothermic, intumescent, insulative, subliming, and ablative. Some firestops use more than one type in a specific design. The purpose of this test method is to provide a common set of procedures for evaluating the potential behavior of materials used in firestops to various environmental conditions. There are other materials used in firestop systems that are not of the five types listed above, which are not intended to be evaluated by this test method.

1. Scope

1.1 This test method evaluates a change in physical properties, chemical properties, or both, of firestop materials after a standardized environmental exposure. This test method does not evaluate the fire performance of the firestop materials.

1.2 This test method establishes indicators that will aid in determining the use of the tested material in buildings.

1.3 This test method evaluates the properties of component products used within a firestop system, and does not evaluate the properties of assembled firestop systems.

NOTE 1—This test method does not preclude the possibility of exposing complete firestop systems to one or more severe environmental exposures and then exposing the complete firestop system to a fire test.

1.4 This test method is intended to be a screening method in the evaluation of the relative behavior of a specific material before and after a standardized set of severe exposure criteria. Individual tests are not intended to be the only determining factor in evaluating or selecting a firestop material because each test has limitations.

1.5 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 This test method is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.21 on Serviceability.

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1.6 *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:²

- C177 Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus
- C1442 Practice for Conducting Tests on Sealants Using Artificial Weathering Apparatus
- D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension
- D870 Practice for Testing Water Resistance of Coatings Using Water Immersion
- D2041/D2041M Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
- D3045 Practice for Heat Aging of Plastics Without Load
- D3850 Test Method for Rapid Thermal Degradation of Solid Electrical Insulating Materials By Thermogravimetric Method (TGA)
- D4434/D4434M Specification for Poly(Vinyl Chloride) Sheet Roofing

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.