



Standard Test Method for Fire-Resistive Joint Systems¹

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INTRODUCTION

Joint systems are positioned in joints, voids, gaps, or other discontinuities between or bounded by two or more supporting elements. Normally such openings are denoted as “linear” because the length is greater than their width—defined by a typical ratio of at least 10:1 as in practice. Joints are present in buildings as a result of:

- (i) Design to accommodate various movements induced by thermal differentials, seismicity, and wind loads and exist as a clearance separation.
- (ii) Acceptable dimensional tolerances between two or more building elements, for example, between non-loadbearing walls and floors.
- (iii) Inadequate design, inaccurate assembly, repairs or damage to the building.

1. Scope

1.1 This fire-test-response test method measures the performance of joint systems designed to be used with fire rated floors and walls during a fire endurance test exposure. The fire endurance test end point is the period of time elapsing before the first performance criteria is reached when the joint system is subjected to one of two time-temperature fire exposures.

1.2 The fire exposure conditions used are either those specified by Test Method E 119 for testing assemblies to standard time-temperature exposures or Test Method E 1529 for testing assemblies to rapid-temperature rise fires.

1.3 This test method specifies the heating conditions, methods of test, and criteria for the evaluation of the ability of a joint system to maintain the fire resistance where hourly rated fire-separating elements meet.

1.4 Test results establish the performance of joint systems during the fire-exposure period and shall not be construed as having determined the joint systems suitability for use after that exposure.

1.5 This test method does not provide quantitative information about the joint system relative to the rate of leakage of smoke or gases or both. However, it requires that such phenomena be noted and reported when describing the general behavior of joint systems during the fire endurance test but is not part of the conditions of compliance.

1.6 Potentially important factors and fire characteristics not addressed by this test method include, but are not limited to:

1.6.1 The performance of the fire-resistive joint system

constructed with components other than those tested.

1.6.2 The cyclic movement capabilities of joint systems other than the cycling conditions tested.

1.7 The values stated in inch-pound units are to be regarded as the standard. The SI values given in parentheses are for information only.

1.8 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 as requirements of the standard.

1.9 *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 the materials, products, or assemblies under actual fire conditions.*

1.10 *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:

E 84 Test Method for Surface Burning Characteristics of Building Materials²

E 119 Test Methods for Fire Tests of Building Construction and Materials²

E 176 Terminology of Fire Standards²

E 631 Terminology of Building Constructions³

¹ This test method is under the jurisdiction of ASTM Committee E-5 on Fire Standards and is the direct responsibility of Subcommittee E05.11 on Fire Endurance.

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² Annual Book of ASTM Standards, Vol 04.07.

³ Annual Book of ASTM Standards, Vol 04.11.