



Designation: E 1822 – 02a

An American National Standard

Standard Test Method for Fire Testing of Stacked Chairs¹

This standard is issued under the fixed designation E 1822; 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.

1. Scope

1.1 This is a fire-test-response standard.

1.2 This test method provides a means of determining the burning behavior of stacking chairs used in public occupancies by measuring specific fire-test responses when a stack of chairs is subjected to a specified flaming ignition source under well ventilated conditions.

1.3 This test method is limited to stacked chairs.

1.4 Test data are obtained describing the burning behavior following application of a specific ignition source, from ignition until all burning has ceased, a period of 1 h has elapsed, or flashover under test conditions appears inevitable.

1.5 This test method does not provide information on the fire performance of stacked chairs under fire conditions other than those conditions specified in this test method. In particular, this test method does not apply to smoldering ignition by cigarettes. See 5.11 for further information.

1.6 The rate of heat release of the burning test specimen is measured by an oxygen consumption method. See 5.11.4 for further information.

1.7 Other measurements are the production of light-obscuring smoke and the concentrations of certain toxic gas species in the combustion gases. See 5.11.5 for further information.

1.8 The burning behavior is documented visually by photographic or video recordings.

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 Fire testing of products and materials is inherently hazardous, and adequate safeguards for personnel and property shall be employed in conducting these tests. This test method may involve hazardous materials, operations, and equipment.

1.11 Use the SI system of units in referee decisions; see Practice E 380. The units given in parentheses are for information only.

1.12 *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:

D 123 Terminology Relating to Textiles²

E 84 Test Method for Surface Burning Characteristics of Building Materials³

E 176 Terminology of Fire Standards³

E 380 Practice for Use of the International System of Units (SI) (the Modernized Metric System)⁴

E 800 Guide for Measurement of Gases Present or Generated During Fires³

E 1354 Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter³

E 1474 Test Method for Determining the Heat Release Rate of Upholstered Furniture and Mattress Components or Composites Using a Bench Scale Oxygen Consumption Calorimeter³

E 1537 Test Method for Fire Testing of Real Scale Upholstered Furniture Items³

E 1590 Test Method for Fire Testing of Real Scale Mattresses³

2.2 ISO Standards:

ISO 3261 Fire Tests—Vocabulary⁵

ISO 4880 Burning Behaviour of Textiles and Textile Products—Vocabulary⁵

ISO 9705 Fire Tests—Full Scale Room Test for Surface Products⁵

2.3 UL Standards:

UL 1056 Fire Test of Upholstered Furniture⁶

UL 1895 Fire Test of Mattresses⁶

2.4 CA Standards:

CA TB 129, Flammability Test Procedure for Mattresses for

² Annual Book of ASTM Standards, Vol 07.01.

³ Annual Book of ASTM Standards, Vol 04.07.

⁴ Annual Book of ASTM Standards, Vol 14.02.

⁵ Available from International Standardization Organization, P.O. Box 56, CH-1211, Geneva 20, Switzerland.

⁶ Available from Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062.

¹ This test method is under the jurisdiction of ASTM Committee E05 on Fire Standards and is the direct responsibility of Subcommittee E05.15 on Furnishings and Contents.

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