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Designation: E 1537 – 01

An American National Standard

Standard Test Method for Fire Testing of Upholstered Furniture[1]

This standard is issued under the fixed designation E 1537; 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 The purpose of this test method is to determine the burning behavior of upholstered furniture used in public occupancies by measuring specific fire-test responses when the specimen of furniture is subjected to a specified flaming ignition source under well-ventilated conditions.

1.3 Data are obtained describing the burning behavior from a specific ignition source until all burning has ceased, a period of 1 h has elapsed, or flashover appears inevitable.

1.4 This test method does not provide information on the fire performance of upholstered furniture in fire conditions other than those conditions specified. In particular, this test method does not apply to smoldering ignition by cigarettes. See X1.6 for further information.

1.5 The rate of heat release of the burning specimen is measured by an oxygen consumption method. See X1.6.4 for further information.

1.6 The production of light obscuring smoke is measured and the concentrations of certain toxic gas species in the combustion gases are determined. See X1.6.5 for further information.

1.7 The burning behavior is visually documented by photographic or video recordings, whenever possible.

1.8 The system of units to be used in referee decisions is the SI system of units, see Practice E 380 only. The units given in parentheses are for information only.

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 *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 Textiles[2]

E 84 Test Method for Surface Burning Characteristics of Building Materials[3]

E 176 Terminology of Fire Standards[3]

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 Fires[3]

E 1354 Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter[3]

2.2 *ISO Standards:*

ISO 3261 Fire Tests—Vocabulary[5]

ISO 4880 Burning Behaviour of Textiles and Textile Products—Vocabulary[5]

ISO 9705 Fire Tests—Full Scale Room Test for Surface Products[5]

2.3 *UL Standard:*

UL 1056 Fire Test of Upholstered Furniture[6]

2.4 *CA Standard:*

CA Technical Bulletin 133 Flammability Test Procedure for Seating Furniture for Use in Public Occupancies[7]

2.5 *BSI Standard:*

BS 5852: Part 2: Fire Tests for Furniture, Part 2. Methods of Test for the Ignitability of Upholstered Composites for Seating by Flame Sources[8]

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[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 Furnishing and Contents.

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[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 American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036.

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

[7] Available from State of California, Department of Consumer Affairs, 3485 Orange Grove Avenue, North Highlands, CA 95660.

[8] Available from British Standards Institution, 2 Park St., London W1A 2B5, UK.

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