



Designation: D4723 – 07^{ε2}

Standard Classification Index of and Descriptions of Textile Flammability Test Methods¹

This standard is issued under the fixed designation D4723; 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 NOTE—Editorial changes were made in 6.2.2.1 in March 2007.

² NOTE—Reference to ASTM F6545 in 6.1.1.2 was corrected to D6545 editorially in January 2011.

1. Scope

1.1 This index provides lists of test methods used in the United States of America and Canada for measuring and describing the properties of textiles and textile products or assemblies in response to heat and flame under controlled laboratory conditions. Military specifications are not included in the listing. Related but separately published sampling plans are not included.

1.2 Indices:

1.2.1 An index of test methods per end use application is found in 6.1.

1.2.2 An index of test methods by publishing agency or the authority having jurisdiction is found in 6.2. The World Wide Web address of the publisher is listed so that the reader can gather specific information on the standard or regulation.

1.2.3 Although some research test methods are not included, the listing is reasonably complete for textile items of commerce.

1.3 All published ASTM textile methods are included as well as methods useful for, but not necessarily intended exclusively for, textiles.

1.4 Some documents are included solely because they may be useful for reference or research purposes.

1.5 ASTM assumes no responsibility for the suitability of the listed test methods and performance specifications to describe or appraise the fire hazard of materials, products, or assemblies under actual fire conditions. Inclusion in this listing does not constitute endorsement by ASTM.

1.6 This standard can not be used to provide quantitative measure.

2. Referenced Documents

2.1 ASTM Standards:²

D123 Terminology Relating to Textiles

D883 Terminology Relating to Plastics

D4391 Terminology Relating to The Burning Behavior of Textiles

E176 Terminology of Fire Standards

F1494 Terminology Relating to Protective Clothing

3. Terminology

3.1 *Definitions*—For definitions of terms relating to burning behavior, refer to Terminology D4391. For definitions of other textile terms, refer to Terminology D123. For definitions of terms related to plastics refer to Terminology D883. For definitions related to fire science refer to Terminology E176. For definitions of terms relating to protective clothing refer to Terminology F1494.

4. Significance and Use

4.1 The information indexed provides the user with the identification of test methods, performance specifications, and related documents pertaining to the flammability or response to heat of textiles and materials.

5. Basis of Classification

5.1 The classification indices provides information about the end use of the test method, its identification number with no edition date, the publishing agency, and its World Wide Web (www) address so that detailed information can be obtained from the publisher.

6. Test Methods by End Use Application and by Publishing Agency

6.1 Index of Test Methods by End Use Application:

6.1.1 Clothing and Textiles:

¹ This classification is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.52 on Flammability.

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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.

6.1.1.1 *Consumer Wearing Apparel:*

ASTM F1230
 16 CFR 1610
 16 CFR 1611
 NFPA 705
 CAN/CGSB 4.2 No. 27.3 /ISO 6941
 CAN/CGSB 4.2 No. 27.4 /ISO 6940
 CAN/CGSB 4.162

6.1.1.2 *Children's Sleepwear:*

ASTM D6545
 16 CFR 1615
 16 CFR 1616

6.1.1.3 *Protective Clothing:*

ASTM F1506
 ASTM F4108
 ASTM F1891
 NFPA 1971
 NFPA 1975
 NFPA 1976
 NFPA 1977
 NFPA 1991
 NFPA 1992
 NFPA 1994
 NFPA 1999
 NFPA 2122
 CAN/CGSB 4.2 No. 781.1
 CAN/CGSB 155.1
 CAN/CGSB 155.2

6.1.1.4 *Textile Flammability and Heat Transfer Methods:*

ASTM F1518
 ASTM F3411
 ASTM F3659
 ASTM F6413
 ASTM F7024
 ASTM F1291
 ASTM F1868
 CAN/CGSB 4.2 No. 27.1
 CAN/CGSB 4.2 No. 27.2
 CAN/CGSB 4.2 No. 27.5
 CAN 4 S109
 CAN/CGSB 4.2 No. 27.10
 CAN/CGSB 4.2 No. 27.11
 ULC S109

6.1.2 *Home and Commercial Furnishings:*

6.1.2.1 *Blankets and Bed Clothing:*

ASTM F4151
 UL 964
 SAE ARP 5627

6.1.2.2 *Curtains and Drapes:*

BFD 1X-1 Boston Fire Department
 Fire Department Advisory Safety Provisions of New York Board of Standards and Appeals Bulletin 44
 Port Authority of New York and New Jersey
 CA Title 19
 NFPA 701
 NFPA 705
 UL 214
 CAN/CGSB 4.2 No. 27.3 /ISO 6941
 CAN/CGSB 4.2 No. 27.4 /ISO 6940
 CAN/CGSB 4.162

6.1.2.3 *Wall Coverings:*

ASTM F84
 ASTM F1354
 ASTM F1740
 ASTM F2257
 BFD 1X-1 Boston Fire Department
 NFPA 265

NFPA 286
 NFPA 271
 UL 1040
 UL 1715
 UL 1975
 NFPA 271
 CAN/CGSB S102
 CAN 4-S124
 ULC S102

6.1.2.4 *Office Panel Systems:*

ASTM F84
 NFPA 255
 UL 723

6.1.2.5 *Carpet, Rugs, and Flooring:*

ASTM F2859
 ASTM F648
 16 CFR 1630
 16 CFR 1631
 NFPA 253
 CAN/CGSB 4.2 No. 27.6
 CAN/CGSB 4.155
 CAN/CGSB 4.162
 CAN 4-S1022
 CAN 4-S 117.1
 CAN 4-S117
 ULC S-102.2

6.1.2.6 *Upholstered Furniture:*

ASTM F5238
 ASTM F1352
 ASTM F1353
 ASTM F1537
 ASTM F1822
 ASTM F1354
 ASTM F1474
 ASTM F1550
 ASTM F1870
 BFD 1X-1 Boston Fire Department
 Fire Department Advisory Safety Provisions of New York Board of Standards and Appeals
 Port Authority of New York and New Jersey
 CA TB 116
 CA TB 117
 CA TB 133
 UFAC
 NFPA 260
 NFPA 261
 NFPA 271
 NFPA 272
 UL 962
 UL 1286

6.1.2.7 *Mattresses and Mattress Pads:*

ASTM F5238
 ASTM F7016
 ASTM F7140
 ASTM F1590
 ASTM F1354
 ASTM F1474
 ASTM F1550
 ASTM F1870
 16 CFR 1632
 16 CFR 1633
 CA TB 106
 CA TB 121
 CA TB 129
 CA TB 603
 NFPA 271
 NFPA 272
 CAN/CGSB 4.2 No. 27.7
 CAN/CGSB 4.162

6.1.3 *Outdoor and Sporting Equipment:*

6.1.3.1 Tents:

ASTM F437
 ASTM F1955
 CPAI-84
 NFPA 701
 UL 214

6.1.3.2 Sleeping Bags:

CPAI-75

6.1.4 Materials (General and Other Uses):

6.1.4.1 Materials (General):

ASTM F162
 ASTM F662
 ASTM F906
 ASTM F1354
 ASTM F1623
 ASTM F2102
 ASTM F2257
 16 CFR 1500.44
 NFPA 270
 NFPA 271
 ULC S135

6.1.4.2 Building Materials:

ASTM F84
 ASTM F970
 ASTM F1354
 NFPA 255
 NFPA 285
 CAN/CGSB 4.2 No. 27

6.1.4.3 Plastics:

ASTM F635
 ASTM F1929
 ASTM F2843
 ASTM F2863
 ASTM F3104
 ASTM F3675
 ASTM F3801
 ASTM F4723
 ASTM F4804
 ASTM F4986
 ASTM F5048
 ASTM F5207
 UL 1975

6.1.4.4 Aerospace Materials:

ASTM F501
 FAA Materials Fire Test Handbook
 SAE ARP 5627

6.1.4.5 Motor Vehicles:

ASTM F4723
 MVSS 302

6.1.5 Toxicity:

ASTM F1678
 NFPA 269

6.1.6 Terminology Documents and Guides for Various Flammability Methods:

ASTM F4391
 ASTM F883
 ASTM F176
 ASTM F1494
 CAN/CGSB 4.2 No. 27
 CAN/CGSB 4.175 /ISO 4880

6.2 Index of Test Methods by Publishing Agency/Authority Having Jurisdiction and Their World Wide Web (www) Address:

6.2.1 USA Documents:

6.2.1.1 ASTM Standards: (www.astm.org)

F635 Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
D123 Standard Test Method for Flammability of Apparel Textiles
 D1518 Standard Test Method for Thermal Transmittance of Textile Materials
 D1929 Standard Test Method for Determining Ignition Temperature of Plastics
 D2843 Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics
 D2859 Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials
 D2863 Standard Test Method for Measuring the Minimum OXYGEN Concentration to Support Candle-Like Combustion of Plastics (Oxygen INDEX)
 D3014 Standard Test Method for Flame Height, Time of Burning, and Loss of Mass of Rigid Thermoset Cellular Plastics in a Vertical Position
 D3411 Standard Method of Test for Flammability of Textile Materials (Withdrawn 1982)
 D3659 Standard Test Method for Flammability of Apparel Fabrics by Semi-Restraint Method (Withdrawn 2001)
 D3675 Standard Test Method for Surface Flammability of Flexible Cellular Materials Using a Radiant Heat Energy Source
 D3801 Standard Test Method for Measuring the Comparative Burning Characteristics of Solid Plastics in a Vertical Position
 D4151 Standard Test Method for Flammability of Blankets
 D4372 Standard Specification for Flame-Resistant Materials Used in Camping Tentage (Withdrawn 2002)
D4391 Standard Terminology Relating to The Burning Behavior of Textiles
 D4804 Standard Test Method for Determining the Flammability Characteristics of Nonrigid Solid Plastics
 D4986 Standard Test Method for Horizontal Burning Characteristics of Cellular Polymeric Materials
 D5048 Standard Test Method for Measuring the Comparative Burning Characteristics and Resistance to Burn-Through of Solid Plastics Using 125-mm Flame
 D5132 Standard Test Method for Horizontal Burning Rate of Polymeric Materials Used in Occupant Compartments of Motor Vehicles
 D5207 Standard Practice for Confirmation of 20-mm (50-W) and 125-mm (500-W) Test Flames for Small-Scale Burning Tests on Plastic Materials
 D5238 Standard Test Method for Smoldering Combustion Potential of Cotton-Based Batting
 D6413 Standard Test Method for Flame Resistance of Textiles
 D6545 Standard Test Method for Flammability of Textiles Used in Children's Sleepwear
 D7016 Standard Test Method for Evaluate Edge Binding Components Used in Mattresses After Exposure to an Open Flame
 D7024 Standard Test Method for Steady State and Dynamic Thermal Performance of Textile Materials
 D7140 Standard Test Method to Measure Heat Transfer Through Textile Thermal Barrier Materials
 E84 Standard Test Method for Surface Burning Characteristics of Building Materials
 E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
 E162 Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source
 E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
 E906 Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products
 E970 Standard Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source
 E1537 Standard Test Method for Fire Testing of Upholstered Furniture
 E1352 Standard Test Method for Cigarette Ignition Resistance of Mock-Up Upholstered Furniture Assemblies
 E1353 Standard Test Methods for Cigarette Ignition Resistance of Components of Upholstered Furniture
 E1354 Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter
 E1474 Standard Test Method for Determining the Heat Release Rate of Upholstered Furniture and Mattress Components or Composites Using a Bench Scale Oxygen Consumption Calorimeter