



# Standard Performance Specification for Flame Resistant and Arc Rated Textile Materials for Wearing Apparel for Use by Electrical Workers Exposed to Momentary Electric Arc and Related Thermal Hazards<sup>1</sup>

This standard is issued under the fixed designation F1506; 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 performance specification identifies minimum flame resistance, construction, durability, and labeling requirements of textiles and subassemblies used in the manufacture of protective clothing worn by electrical workers to protect against exposure to momentary electric arc flash and related thermal hazards.

1.1.1 This performance specification does not address coated or laminated fabrics commonly used for rainwear applications in an arc hazard environment.

1.2 This performance specification defines minimum garment manufacturing and labeling requirements to allow users to select garments with appropriate electric arc ratings for protection from their determined electric arc flash hazard environment.

1.2.1 A prior determination of the electric arc flash hazard environment is required in order to select appropriate protective garments. This prior determination is outside the scope of this specification.

1.2.2 The care and maintenance requirements for electric arc flash protective garments are outside the scope of this standard.

1.3 *This standard should be used to evaluate and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions. It should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions.*

1.3.1 The results of this evaluation may be used as elements of a fire-risk assessment that takes into account all of the factors that are pertinent to an assessment of the fire hazard of a particular end use.

1.4 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.5 The following precautionary caveat pertains only to the test methods portion, Section 7, of this performance specification: *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:*<sup>2</sup>

D123 Terminology Relating to Textiles

D434 Test Method for Resistance to Slippage of Yarns in Woven Fabrics Using a Standard Seam (Withdrawn 2003)<sup>3</sup>

D1424 Test Method for Tearing Strength of Fabrics by Falling-Pendulum (Elmendorf-Type) Apparatus

D2262 Test Method for Tearing Strength of Woven Fabrics by the Tongue (Single Rip) Method (Constant-Rate-of-Traverse Tensile Testing Machine) (Withdrawn 1995)<sup>3</sup>

D2724 Test Methods for Bonded, Fused, and Laminated Apparel Fabrics

D3786 Test Method for Bursting Strength of Textile Fabrics—Diaphragm Bursting Strength Tester Method

D5034 Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

D6413 Test Method for Flame Resistance of Textiles (Vertical Test)

F1449 Guide for Industrial Laundering of Flame, Thermal, and Arc Resistant Clothing

F1959/F1959M Test Method for Determining the Arc Rating of Materials for Clothing

<sup>1</sup> This performance specification is under the jurisdiction of ASTM Committee F18 on Electrical Protective Equipment for Workers and is the direct responsibility of Subcommittee F18.65 on Wearing Apparel.

Current edition approved Nov. 1, 2015. Published November 2015. Originally approved in 1994. Last previous edition approved in 2010 as F1506–10a. DOI: 10.1520/F1506-15.

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).