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Standard Guide for Industrial Laundering of Flame, Thermal, and Arc Resistant Clothing¹

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1. Scope

1.1 This guide provides recommendations for the care and maintenance of clothing that is flame, thermal, and arc resistant.

1.2 These recommendations address the Industrial Laundering process.

NOTE 1—The National Institute for Occupational Safety and Health (NIOSH) recommends leaving clothing soiled with hazardous chemicals at work to be laundered by the employer; or if such clothing is washed at home, to launder separately from the family wash.

1.2.1 This guide does not apply to dry cleaning of flame, thermal, and arc resistant clothing. For more information on dry cleaning, follow label instructions or contact your garment supplier.

NOTE 2—Dry cleaning indicates cleaning by a professional dry cleaner.

1.2.2 This guide does not apply to home laundering of flame, thermal, and arc resistant clothing. For more information on home laundering, follow label instructions or contact your garment supplier.

NOTE 3—Home laundering indicates laundering in a home laundering machine.

1.3 It is important that potentially flammable contaminants are removed from garments during the wash process. If flammable contaminants are not removed, the flame resistance of the garment will be compromised. (See Note 1.)

NOTE 4—Effective cleaning and proper maintenance of the protective characteristics of flame, thermal and arc resistant protective clothing should include consideration of the services a professional processor can supply.

1.4 It is important that the processes and materials used to launder flame resistant garments are compatible with the FR materials to ensure that the FR protection of the garment is not compromised during the laundering process.

1.5 It is the responsibility of the end user to determine if their laundering method is the appropriate care and maintenance procedure for their application. (See Appendix X1 and X1.1.)

1.6 This guide does not apply to specialized protective garments such as specialized firefighter turnout gear and proximity firefighter ensembles.

1.7 This guide also identifies inspection criteria that are significant to the performance of flame, thermal, and arc resistant clothing.

2. Referenced Documents

2.1 ASTM Standards:²

D123 Terminology Relating to Textiles

F1494 Terminology Relating to Protective Clothing

2.2 Other References:

Textile Laundering Technology Handbook -2005 Edition by Dr. Charles Riggs, Ph.D. and Michael Klipper
NIOSH, Protecting Workers' Families, A Research Agenda Report of the Workers' Family Protection Task Force – February, 2002

3. Terminology

3.1 Definitions:

3.1.1 *care and maintenance, n*—effective cleaning to remove soil and maximize use life of garments while maintaining (not removing) protective properties and procedures for inspection, repair, and removal from service.

3.1.2 *end user, n*—the entity or organization whose employees ultimately wear the flame, thermal, and arc resistant clothing.

3.1.3 *finish, n*—a chemical or mechanical modification, or both, of the fabric for a specific performance result.

3.1.4 *finishing technique, n*—the mechanical means by which the garment is put in its final state (for example, pressing, drying, tunneling).

¹ This guide is under the jurisdiction of ASTM Committee F23 on Personal Protective Clothing and Equipment and is the direct responsibility of Subcommittee F23.80 on Flame and Thermal.

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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.