

# NFPA® 1975

## Standard on Emergency Services Work Clothing Elements

### 2014 Edition



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## NFPA® 1975

### Standard on

## Emergency Services Work Clothing Elements

### 2014 Edition

This edition of NFPA 1975, *Standard on Emergency Services Work Clothing Elements*, was prepared by the Technical Committee on Special Operations Protective Clothing and Equipment and released by the Technical Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment. It was issued by the Standards Council on November 12, 2013, with an effective date of December 2, 2013, and supersedes all previous editions.

This edition of NFPA 1975 was approved as an American National Standard on December 2, 2013.

### Origin and Development of NFPA 1975

The Technical Committee on Protective Equipment for Fire Fighters began work on NFPA 1975 in 1982 in response to requests from the fire service to establish requirements for flame-resistant station uniform clothing. The first edition was acted on by the membership of the Association at the 1985 Annual Meeting in Chicago, Illinois, and was issued with an effective date of June 26, 1985.

Following the 1985 edition, the name of the technical committee was changed to the Technical Committee on Fire Service Protective Clothing and Equipment. Under the direction of that technical committee, a subcommittee was formed to address station/work uniform concerns. The Subcommittee on Station/Work Uniforms began revision of the 1985 edition of NFPA 1975 in 1988, and the second edition was acted on by the membership of the Association at the 1990 Annual Meeting in San Antonio, Texas, and was issued with an effective date of August 17, 1990.

The Subcommittee on Station/Work Uniforms began an early revision (four-year cycle) of the 1990 edition of NFPA 1975 in December 1991. During 1993, the NFPA restructured the manner in which committees were organized, and all standing subcommittees were eliminated. Within the Technical Committee on Fire Service Protective Clothing and Equipment, the former standing subcommittees were reorganized as task groups to address specific technical issues, and the technical committee assumed the entire responsibility for NFPA 1975.

The third edition of NFPA 1975 encompassed revised scope and purpose sections to more clearly identify what a station/work uniform is intended to be and that, because of the limited degree of protection it affords, it is not, of itself, a primary protective garment. However, a station/work uniform garment should not cause or contribute to injury from an unexpected thermal exposure. The concept of “dual-purpose” station/work uniform garments that also are designed and certified as primary protective garments was introduced for situations including, but not limited to, wildland fire fighting or emergency medical services. Revisions to certain definitions also strengthened these areas. A new thermal shrinkage test for fabrics was added to the requirements. An increase of the pre-test conditioning by either washing or dry-cleaning was added to assure that treated flame-resistant fabrics will retain their flame-resistant characteristics over the expected life of the garment. The third edition was acted on by the membership of the Association at the Annual Meeting in San Francisco, California, on May 18, 1994, and was issued with an effective date of August 5, 1994.

In 1995, the NFPA Standards Council reorganized the entire project for fire service protective clothing and equipment. The former single Technical Committee on Fire Service Protective Clothing and Equipment was disbanded and a new Project on Fire and Emergency Services Protective Clothing and Equipment with a Technical Correlating Committee and eight technical committees operating within it was established. The responsibility for NFPA 1975 was assigned to the new Technical Committee on Special Operations Protective Clothing and Equipment.

The fourth edition included a major change whereby flame resistant garments were no longer required exclusively; garments were allowed to be made either from flame resistant fabrics or from cotton or wool fabrics. Flame resistance performance and testing was permitted to be specified by the purchaser where desired and would be above the minimum requirements. The heat resistance and thermal shrinkage resistance requirements were retained. The heat resistance and thermal shrinkage resistance performance requirements were combined into a single requirement. The chapter on certification was reformatted by moving product labels and user information into a new Chapter 3. A new Chapter 4 on design requirements was also added.

The 2004 edition of NFPA 1975 once again addressed the basic protection offered by these garments in non-emergency situations and the “user friendliness” of station/work uniform fabrics. The fifth edition included changes that distinguished between thermally stable materials and materials that could potentially melt onto skin under conditions of accidental flame or high heat exposure, and provided for verification and certification of station/work uniforms constructed from flame resistant fabrics.

During the adoption process of the 1999 edition (fourth edition) of NFPA 1975, a floor amendment at the 1998 NFPA Fall Meeting removed the requirements for flame resistant fabrics and the specified flame resistance test, and instead permitted nominally 100 percent cotton or nominally 100 percent wool fabrics to be used. This led to fabric thermal stability problems, especially with wool fabrics but also with cotton fabrics that could cause or contribute to injury of the wearer. Because of the very nature of emergency services, emergency services personnel can be exposed to unknown and unexpected ignition sources during non-emergency situations when primary protective clothing is not being worn. Also, when emergency services personnel are wearing station/work uniforms constructed from these fabrics under primary protective clothing, the possibility of degradation of these fabrics exists and can lead to more severe injury for the wearer.

In response to these problems, the Technical Committee on Special Operations Protective Clothing and Equipment incorporated new thermal stability performance requirements and a new thermal stability test in the fifth edition of NFPA 1975. In addition, the heat and thermal shrinkage resistance performance requirements and test method in the 1999 edition were retained. The Committee also included optional criteria so that organizations that specify flame-resistant fabrics for station/work uniforms could include reference to this optional requirement and test in purchase specifications so that the actual flame resistance could be verified and certified as compliant. This option also applied to manufacturers who claim that flame-resistant textiles are used in the construction of the station/work uniform. Additional product labeling provided confirmation of compliance with the standard. These changes defined acceptable fabrics for station/work uniforms and distinguished between materials that could potentially melt onto skin under conditions of accidental flame or high heat exposure and those that provide thermal stability.

The 2004 edition (fifth edition) was reformatted into the new style for all NFPA codes and standards and, therefore, the chapter titles and numbering, as well as paragraph numbering, were changed.

For the 2009 edition (sixth edition), the standard’s title was changed to *Standard on Station/Work Uniforms for Emergency Services*. The change accommodated other emergency services who wished to have thermally stable or flame-resistant work uniforms. Also, definitions in Section 3.3 were revised for correctness and unnecessary definitions were deleted; a new requirement was added in Section 4.5 for the manufacturers’ quality assurance program to add accreditation of the entity that audits the quality assurance program; the thermal stability requirements in Chapter 7 and the recording and reporting sections in Chapter 8 were revised to clarify the determination of the pass or fail requirements; and the number of cycles of dry cleaning conditioning in Section 8.1 was revised for consistency with the washing cycles.

For the 2014 edition of NFPA 1975, the terms *station/work uniform* and *station/work uniforms* have been replaced with *work apparel* to increase readability and usability of the document. New definitions for *work apparel* and *work apparel garment* have also been added in Chapter 3. In addition, the performance requirements in Chapter 7 have been reorganized. The base requirements for all work apparel have been incorporated into one section (new Section 7.1) and the optional requirements have been categorized into new sections (Sections 7.2, 7.3, and so forth). The Committee felt this would help clarify that all the provisions in Section 7.1 are required to label work apparel as compliant with NFPA 1975.

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**Committee Scope:** This Committee shall have primary responsibility for documents on the design, performance, testing, and certification of protective clothing and protective equipment manufactured for fire and emergency services organizations and personnel, to protect against exposures encountered during emergency incident operations. This Committee shall also have the primary responsibility for documents on the selection, care, and maintenance of such protective clothing and protective equipment by fire and emergency services organizations and personnel.

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**Committee Scope:** This Committee shall have primary responsibility for documents on special operations protective clothing and protective equipment, except respiratory equipment, that provides hand, foot, torso, limb, head, and interface protection for fire fighters and other emergency services responders during incidents involving special operations functions including, but not limited to, structural collapse, trench rescue, confined space entry, urban search and rescue, high angle/mountain rescue, vehicular extraction, swift water or flooding rescue, contaminated water diving, and air operations.

This Committee shall also have primary responsibility for documents on station/work uniform garments that are not of themselves primary protective garments but can be combined with a primary protective garment to serve dual or multiple functions.

Additionally, this Committee shall have primary responsibility for documents on the selection, care, and maintenance of special operations protective clothing and equipment by fire and emergency services organizations and personnel.

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## Emergency Services Work Clothing Elements

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Information on referenced publications can be found in Chapter 2 and Annex C.

## Chapter 1 Administration

## 1.1 Scope.

**1.1.1** This standard shall specify requirements for the design, performance, testing, and certification of nonprimary protective work apparel and the individual garments comprising work apparel.

**1.1.2\*** Work apparel garments shall not include socks, dress uniforms, and specific types of undergarments including briefs, boxer shorts, boxer briefs, and bras.

**1.1.3** This standard shall also specify requirements for the thermal stability of textiles used in the construction of work apparel.

**1.1.4** This standard shall also specify optional requirements for flame resistance, odor resistance, water resistance, and insect repellency where such options are specified or claimed to be used in construction of work apparel.

**1.1.5\*** This standard shall not specify requirements for clothing that is intended to provide primary protection from given hazard exposures.

**1.1.6\*** Certification of work apparel to the requirements of this standard shall not preclude certification to additional applicable standards for primary protective clothing where the clothing meets all requirements of each standard.

**1.1.7** This standard shall not be construed as addressing all of the safety concerns associated with the use of compliant work apparel garments for their personnel. It shall be the responsibility of the persons and organizations that use compliant work apparel garments to establish safety and health practices and determine the applicability of regulatory limitations prior to use.

**1.1.8** This standard shall not be construed as addressing all of the safety concerns, if any, associated with the use of this standard by testing facilities. It shall be the responsibility of the persons and organizations that use this standard to conduct testing of work apparel garments to establish safety and health practices and determine the applicability of regulatory limitations prior to using this standard for any designing, manufacturing, and testing.

**1.1.9\*** This standard shall not specify requirements for any accessories that could be attached to the certified product but are not necessary for the certified product to meet the requirements of this standard.

**1.1.10** Nothing herein shall restrict any jurisdiction or manufacturer from exceeding these minimum requirements.

## 1.2 Purpose.

**1.2.1** The purpose of this standard shall be to provide emergency services personnel with work apparel that will not contribute to burn injury severity.

**1.2.1.1** To achieve this purpose, this standard shall establish minimum requirements for thermally stable textiles that will not rapidly deteriorate, melt, shrink, or adhere to the wearer's skin, causing greater, more severe burn injuries.

**1.2.1.2** This standard shall also provide optional flame resistance requirements and tests to verify the flame resistance of textiles where the authority having jurisdiction specifies the use of flame resistance textiles for the construction of work apparel, or where the manufacturer represents work apparel textiles as flame resistant.

**1.2.1.3** This standard shall also provide optional odor-resistant requirements and tests to verify the odor-resistant properties of textiles where the authority having jurisdiction specifies the use of odor-resistant textiles for the construction of work apparel, or where the manufacturer represents work apparel textiles as having odor-resistant properties.

**1.2.1.4** This standard shall also provide optional liquid resistance requirements and tests to verify the liquid resistance of textiles where the authority having jurisdiction specifies the use of liquid resistant textiles for the construction of work apparel, or where the manufacturer represents work apparel textiles as having liquid resistant properties.

**1.2.1.5** This standard shall also provide optional insect repellency requirements and tests to verify the insect repellency of textiles where the authority having jurisdiction specifies the use of insect repellent textiles for the construction of work apparel, or where the manufacturer represents work apparel textiles as having insect repellent properties.

**1.2.2** Controlled laboratory tests used to determine compliance with the performance requirements of this standard shall not be deemed as establishing performance levels for all situations to which emergency services personnel might be exposed.

**1.2.3\*** This standard shall not be intended to serve as a detailed manufacturing or purchasing specification but shall be permitted to be referenced in purchase specifications as minimum requirements.

## 1.3 Application.

**1.3.1** This standard shall apply to the designing, manufacturing, testing, and certification of new work apparel and the individual garments comprising work apparel.

**1.3.2** This standard shall apply to nonprimary protective garments that comprise work apparel.

**1.3.3** This standard alone shall not apply to clothing that is intended to provide primary protection from given hazard exposures. (See A.1.1.5.)

**1.3.4** This edition of NFPA 1975 shall not apply to any work apparel manufactured to previous editions of this standard.

**1.3.5** This standard shall not apply to any work apparel manufactured to the requirements of any other organization's standards.

**1.3.6\*** This standard shall not apply to the use of work apparel.

**1.3.7** This standard shall not apply to any accessories that could be attached to the certified product, before or after purchase, but are not necessary for the certified product to meet the requirements of this standard. (See A.1.1.9.)

## 1.4 Units.

**1.4.1** In this standard, values for measurement are followed by an equivalent in parentheses, but only the first stated value shall be regarded as the requirement.

**1.4.2** Equivalent values in parentheses shall not be considered as the requirement as these values might be approximate.

## Chapter 2 Referenced Publications

**2.1 General.** The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

### 2.2 NFPA Publications. (Reserved)

### 2.3 Other Publications.

**2.3.1 AATCC Publications.** American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709.

AATCC 42, *Water Resistance: Impact Penetration Test*, 2007.

AATCC 100, *Antibacterial Finishes on Textile Materials, Assessment of*, 2004.

AATCC 135, *Dimensional Changes of Fabrics After Automatic Home Laundering*, 2010.

AATCC 158, *Dimensional Changes on Dry-Cleaning in Perchloroethylene: Machine Method*, 2011.

**2.3.2 ASTM Publications.** ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM D 751, *Standard Test Methods for Coated Fabrics*, 2006.

ASTM D 1683/D 1683M, *Standard Test Method for Failure in Sewn Seams of Woven Apparel Fabrics*, 2011a.

ASTM D 6413, *Standard Test Method for Flame Resistance of Textiles (Vertical Test)*, 2011a.

ASTM D 6797, *Standard Test Method for Bursting Strength of Fabrics Constant Rate of Extension (CRE) Ball Burst Test*, 2007 (2011).

ASTM E 2149, *Standard Test Method for Determining the Antimicrobial Activity of Immobilized Antimicrobial Agents Under Dynamic Contact Conditions*, 2010.

ASTM F 2894, *Standard Test Method for Evaluation of Materials, Protective Clothing and Equipment for Heat Resistance Using a Hot Air Circulating Oven*, 2012.

**2.3.3 GSA Publications.** U.S. General Services Administration, 1800 F Street, N.W., Washington, DC 20405.

Single copies of GSA publications generally are available at the General Services Administration Business Centers in cities throughout the United States. They also are available from the U.S. Government Printing Office.

Federal Test Method Standard 191A, *Textile Test Methods*, 1978.

**2.3.4 ISO Publications.** International Organization for Standardization, 1, rue de Varembe, Case postale 56, CH-1211 Geneva 20, Switzerland.

ISO 27, *Guidelines for corrective action to be taken by a certification body in the event of misuse of its mark of conformity*, 1983.

ISO/IEC 65, *General requirements for bodies operating product certification systems*, 1996.

ISO 9001, *Quality management systems — requirements*, 2000.

ISO 17011, *General requirements for accreditation bodies accrediting conformity assessment bodies*, 2004.

ISO/IEC 17021, *Conformity assessment — Requirements for bodies providing audit and certification of management systems*, 2006.

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*, 2005.

**2.3.5 Other Publications.** U.S. Department of Defense GL/PD 07-13C, *Purchase Description Coat, Army Combat Uniform*, U.S. Army Natick Research, Development and Engineering Center, Attn: RDNS-WPW-C, Kansas Street, Natick, MA 01760-5019, 2011.

*Merriam-Webster's Collegiate Dictionary*, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

### 2.4 References for Extracts in Mandatory Sections. (Reserved)

## Chapter 3 Definitions

**3.1 General.** The definitions contained in this chapter shall apply to the terms used in this standard. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

### 3.2 NFPA Official Definitions.

**3.2.1\* Approved.** Acceptable to the authority having jurisdiction.

**3.2.2\* Authority Having Jurisdiction (AHJ).** An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.



**3.2.3 Labeled.** Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

**3.2.4\* Listed.** Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

**3.2.5 Shall.** Indicates a mandatory requirement.

**3.2.6 Should.** Indicates a recommendation or that which is advised but not required.

**3.2.7 Standard.** A document, the main text of which contains only mandatory provisions using the word “shall” to indicate requirements and which is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions are not to be considered a part of the requirements of a standard and shall be located in an appendix, annex, footnote, informational note, or other means as permitted in the *Manual of Style for NFPA Technical Committee Documents*.

**3.3 General Definitions.** For the purposes of this standard, the terms defined in this section shall have the meanings stated unless modified by the mandatory requirements of this standard. Where terms are not defined herein, those terms shall have the ordinarily accepted meanings, or the meaning that the text implies. Terms used in the present tense shall include the past and future tense. Terms used in the masculine gender shall include female and neuter genders, terms used in the singular shall include the plural, and terms used in the plural shall include the singular.

**3.3.1 Accessories.** An item or items that could be attached to a certified product but are not necessary for the certified product to meet the requirements of the standard.

**3.3.2 Certification/Certified.** A system whereby a certification organization determines that a manufacturer has demonstrated the ability to produce a product that complies with the requirements of this standard, authorizes the manufacturer to use a label on listed products that comply with the requirements of this standard, and establishes a follow-up program conducted by the certification organization as a check on the methods the manufacturer uses to determine compliance with the requirements of this standard.

**3.3.3 Certification Mark or Label.** The authorized identification symbol or logo of the certification organization.

**3.3.4 Certification Organization.** An independent, third-party organization that determines product compliance with the requirements of this standard with a labeling/listing/follow-up program.

**3.3.5 Compliant.** Meeting or exceeding all applicable requirements of this standard.

**3.3.6 Drip.** To run or fall in drops or blobs.

**3.3.7\* Emblems.** Shields, heraldry, lettering, or printing that designates a product, a governmental entity, or a specific organization, rank, title, position, or other professional status that is painted, screened, embroidered, sewn, glued, bonded, or otherwise attached to a product in a permanent manner.

**3.3.8 Findings.** All materials used in the construction of items, excluding textiles and interlinings.

**3.3.9\* Flame Resistance.** The property of a material whereby combustion is prevented, terminated, or inhibited following application of a flaming or non-flaming source of ignition, with or without subsequent removal of the ignition source.

**3.3.10 Follow-up Program.** The sampling, inspections, tests, or other measures conducted by the certification organization on a periodic basis to determine the continued compliance of labeled and listed products that are being produced by the manufacturer to the requirements of this standard.

**3.3.11 Garment.** See 3.3.28, Work Apparel Garment.

**3.3.12 Inherent Flame Resistance.** Flame resistance that is derived from the essential characteristics of the fiber or polymer.

**3.3.13 Insect Repellancy.** A finish applied to textiles to provide a deterrent against bites from mosquitoes, midges, ants, ticks, and chiggers.

**3.3.14 Interlining.** Any textile that is incorporated into any garment as a layer between outer and inner layers.

**3.3.15 Major Seams.** Classes of seams that designate minimum sewn seam requirements.

**3.3.16 Manufacturer.** The entity that directs or controls any of the following: compliant product design, compliant product manufacturing, or compliant product quality assurance; or the entity that assumes the liability for the compliant product or provides the warranty for the compliant product.

**3.3.17 Melt.** A response to heat by a material resulting in evidence of flowing or dripping.

**3.3.18 Nonprimary Protective Garment.** A garment or clothing that is not designed nor intended to be the barrier of protection from a specific hazard exposure.

**3.3.19 Odor-Resistant.** A finish or an inherent property that minimizes the growth of odors from microbial causes.

**3.3.20 Patches.** See 3.3.7, Emblems.

**3.3.21 Primary Protective Garment.** A garment that is designed, certified, and intended to be the barrier of protection from a specific hostile environment.

**3.3.22\* Product Label.** A marking provided by the manufacturer for each compliant product containing compliant statements, certification statements, manufacturer and model information, or similar data.

**3.3.23 Separate.** A material response evidenced by splitting or delaminating.

**3.3.24 Textile Fabric.** A planar structure material consisting of yarns or fibers.

**3.3.25\* Visibility Markings.** Retroreflective and fluorescent conspicuity enhancements.

**3.3.26 Water Resistance.** A finish or an inherent property that limits the absorption of water.