NFPA 1970-2025 Edition
Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)
TIA Log No.: 1813
Reference: Various in Chapters 4, 7, 8, and 9
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www.nfpa.org/1970

1. Add a new 4.6.2.4 and associated Annex material to read as follows:

4.6* Recognized Component Supplier Quality Assurance Program.
4.6.2 Instructions.
4.6.2.4* When a supplier discontinues offering a protective garment material for any reason, the supplier shall indicate one or more of its other materials that are of similar composition and construction that can serve as a suitable replacement in the repair of protective garments following the respective material discontinuation.
A.4.6.2.4 It is recognized that specified replacement materials might not be identical in composition or have other construction characteristics that do not fully replicate the discontinued material, such as possible changes in finish technology. However, it is recommended that the replacement material provide the best possible match in general material attributes, such as fiber types, general composition, and fabric weight.

2. Revise paragraphs 7.4.9, A.7.4.9(new), 7.4.9.1(new), 7.7.6, 7.10.10, A.7.10.10 and A.7.10.10.1 to read as follows:

7.4.9* Principal helmet textile-based ~~Helmet ear cover~~ fabric materials, including ear cover and shroud outermost, moisture barrier (where used), and innermost layers, ~~textile-based~~ suspension system materials, and ~~textile-based~~ retention system materials shall be recognized components and meet the levels of restricted substances as specified in Section 8.21, Acceptable Levels of Restricted Substances in Specified Protective Element Recognized Components.
A.7.4.9 Leather is specifically excluded because of uncertainties in the applicability of the test methods for measuring various restricted substances. Principal textile-based materials exclude fabric trim/binding, webbing securements, reinforcements, hook and loop, thread, elastic, labels, and other items that do not constitute a significant portion of the helmet ear cover, shroud, suspension system, or retention system.
7.4.9.1 A moisture barrier that does not include a textile layer shall still be a recognized component that meets levels of restricted substances as specified in Section 8.21, Acceptable Levels of Restricted Substances in Specified Protective Element Recognized Components.

7.7.6* Glove principal textile-based fabric materials, including outer shells, moisture barriers, innermost linings, and wristlets, shall be recognized components that meet levels of restricted substances as specified in Section 8.21, Acceptable Levels of Restricted Substances in Specified Protective Element Recognized Components.
A.7.7.6 Leather is specifically excluded because of uncertainties in the applicability of the test methods for measuring various restricted substances. Principal textile-based fabric materials include fourchettes but do not include reinforcement layers, thread, elastic, labels, hook and loop fastener tape, ~~or~~ and other ~~portions of the glove that do not cover the majority of the hand~~ items that do not constitute a significant portion of the glove outer shells, moisture barriers, innermost linings, or wristlets. Other components such as thread, elastic, and labels are also excluded.

7.10.10* Footwear upper principal textile-based fabric material layers, including any exterior layer(s), moisture barrier layers(s), and innermost lining(s), shall be recognized components that meet levels of restricted substances as specified in Section 8.21, Acceptable Levels of Restricted Substances in Specified Protective Element Recognized Components.
A.7.10.10 Leather and rubber are ~~is~~ specifically excluded because of uncertainties in the applicability of the test methods for measuring various restricted substances. Principal textile-based fabric material layers exclude laces, labels, zippers, removable insoles, pull straps, thread, elastic, hook, and loop fastener tape, ~~and~~ reinforcement layers, or other items that do not constitute a significant portion of the footwear exterior layer(s), moisture barrier layer(s), or innermost linings.
7.10.10.1 If the moisture barrier layers do not include a textile layer, they shall still be recognized components that meet levels of restricted substances as specified in Section 8.21, Acceptable Levels of Restricted Substances in Specified Protective Element Recognized Components.

3. Revise Table 8.21(d) to read as follows.

Table 8.21(d) List of Restricted Dyes

Dye Chemical	CAS Number
…	
~~C.I. Disperse Red 60~~	~~12223-37-9 and 17418-58-5~~
…	

4. Revise paragraph 9.4.10.2.1 to read as follows:

9.4.10* Light Degradation Resistance Test.
9.4.10.2.1 Samples for conditioning shall be at least a 380 mm (15 in.) square and consist of a composite constructed using one layer of 7.5 oz woven 93 percent meta-aramid, 5 percent para-aramid, 2 percent antistat fiber with a nonfluorinated finish, the moisture barrier being tested, and ~~one layer of 3.8 oz ± 0.3 oz, aramid needle punched nonwoven, quilted to a 3.4 oz ± 0.2 oz, aramid woven plain weave~~ a layer of 7.8 oz/yd^2 ± 0.3 oz/yd^2 thermal barrier material consisting of a woven plain weave face cloth quilted to two layers of aramid nonwoven. The three-layer composite sample shall be stitched around the entire periphery.

5. Add new paragraphs 9.7.2.3.3(new), 9.7.2.3.4(new), and 9.7.2.6.1(new) thru 9.7.2.6.3(new) to read as follows:

9.7.2 Evaporative Resistance Test 1.
9.7.2.3 Specimens.
9.7.2.3.3 The thickness of each specimen shall be measured in accordance with ASTM D1777, *Standard Test Method for Thickness of Textile Materials*, within 4 hours of removal from conditioning as described in ASTM D1776 /D1776M, *Standard Practice for Conditioning and Testing Textiles*.
9.7.2.3.4 The weight of each specimen shall be measured in accordance with the method in ASTM D3776/D3776M, *Standard Test Methods for Mass Per Unit Area (Weight) of Fabric*, within 4 hours of removal from conditioning as described in ASTM D1776 /D1776M, *Standard Practice for Conditioning and Testing Textiles*.

9.7.2.6 Report.
9.7.2.6.1 The average intrinsic evaporative resistance of the sample shall be reported and recorded in units of Pa·m^2/W.
9.7.2.6.2 The thickness of each specimen shall be reported.

9.7.1.6.3 The unit area weight of each specimen shall be reported.

6. Revise paragraphs 9.10.2.2.2, A.9.10.2.2.2(new), 9.10.2.2.3, A.9.10.2.2.3(new), 9.10.2.2.4, and A.9.10.2.2.4(new) to read as follows:

9.10.2 Test for Total Fluorine.

9.10.2.2 Selection of Samples for Evaluation.

9.10.2.2.1 Protective garment samples shall include outer shells, moisture barriers, thermal barriers, and wristlet/garment-glove interface components.

9.10.2.2.2* Protective helmet samples shall include the following: ~~ear cover fabric material layers, textile-based suspension materials, and textile-based retention system materials.~~

(1) Principal textile-based ear cover and shroud materials, including the outermost, moisture barrier (where used), and innermost layers

(2) Principal textile-based suspension system materials

(3) Principal textile-based retention system materials

(4) Any nontextile moisture barrier layers

A.9.10.2.2.2 Leather is specifically excluded because of uncertainties in the applicability of the test methods for measuring various restricted substances. Principal textile-based materials exclude fabric trim/binding, webbing securements, reinforcements, hook and loop, thread, elastic, labels, and other items that do not constitute a significant portion of the helmet ear cover, shroud, suspension system, or retention system.

9.10.2.2.3* Protective glove samples shall include glove principal textile-based fabric materials, including outer shells, moisture barriers, innermost linings, wristlets, and any nontextile moisture barrier materials.

A.9.10.2.2.3 Leather is specifically excluded because of uncertainties in the applicability of the test methods for measuring various restricted substances. Principal textile-based fabric materials include fourchettes but do not include reinforcement layers, thread, elastic, labels, hook and loop, and other items that do not constitute a significant portion of the glove outer shells, moisture barriers, innermost linings, or wristlets.

9.10.2.2.4* Protective footwear samples shall include all footwear upper principal textile-based fabric material layers, including any exterior layer(s), moisture barrier layers(s), innermost lining(s), and any nontextile barrier layers.

A.9.10.2.2.4 Leather and rubber are specifically excluded because of uncertainties in the applicability of the test methods for measuring various restricted substances. Principal textile-based fabric material layers exclude laces, labels, zippers, removable insoles, pull straps, thread, elastic, hook and loop, reinforcement layers, and other items that do not constitute a significant portion of the footwear exterior layer(s), moisture barrier layer(s), or innermost lining(s).

9.10.2.2.5 Protective hood interface component samples shall include all hood fabric materials, including the outer layer, inner layers (where different), and particulate-blocking layers, as applicable.

Substantiation: *1. Specific Changes Addressing the Responsibility for a Supplier of Recognized Components to Specify Replacement Materials when Existing Materials are Discontinued (revisions to 4.6.2.4 [new] and A.4.6.2.4 [new]).*

Many fire departments rely on repairs to the protective garments when damaged to gain the maximum serviceable life of these products. When properly undertaken in accordance with NFPA 1851, these repairs extend garment life and allow continued use instead of purchasing brand new garments. However, NFPA 1851 requires that repairs be conducted with like material, which may not be possible when a material is discontinued. The information to determine "like" materials is best established by the material supplier. The proposed change provides a remedy to

this situation by having the material/component supplier identify suitable alternative materials when it discontinues a material.

2. Specific Changes Addressing Required Helmet, Glove, and Footwear Materials for Restricted Substances Testing (revisions to 7.4.9, A.7.4.9 [new], 7.4.9.1 [new], 7.7.6, A.7.7.6, 7.10.10, A.7.10.10, and 7.10.10.1).

Clarifications are needed to define applicable helmet, glove, and footwear materials for restricted substance testing. Rubber is being excluded based on the same concerns provided for leather. This reason is that specified test methods have not been fully validated for testing rubber products and it was simply an oversight by the committee.

3. Specific Changes Addressing the Removal of Two Restricted Dyes from the List of Restricted Substances (revision to Table 8.21(d)).

The C.I. Disperse Red 60 does not appear on either the OEKO-TEX 100 or AFFIRM Restricted Substance Lists.

4. Specific Changes Addressing the Specification of the Outer Shell and Thermal Barrier Layers Used in the Sample Composite for the Light Degradation Resistance Test (revisions to 9.4.10.2.1).

The specified thermal barrier is no longer readily available. Similarly, the specification for the outer shell is not complete. The proposed changes mirror the specification of composites used in related testing as found in 9.4.3.7.1 for liquid penetration resistance testing and 9.4.5.7.1 for viral penetration resistance testing.

5. Specific Changes Addressing Additional Measurements in Evaporative Resistance Test 1 that are Applied to Total Heat Loss Testing (revisions to 9.7.2.3.3 [new], 9.7.2.3.4 [new], and 9.7.2.6).

A concerted effort was made in the 2025 revision of NFPA 1970 to include intermediate measurements that are helpful for characterizing results related to composite testing where small variations in thickness and weight can affect test results and compliant performance. These measurements were not added to the new evaporative resistance test.

6. Specific Changes Addressing Required Helmet, Glove, and Footwear Materials for Total Fluorine Testing (revisions to 9.10.2.2.2, A.9.10.2.2.2 [new], 9.10.2.2.3, A.9.10.2.2.3 [new], 9.10.2.2.4, and A.9.10.2.2.4 [new]).

Clarifications are needed to define applicable helmet, glove, and footwear materials for total fluorine testing. Leather and rubber are being excluded due to uncertainties in the applicability of the test methods for measuring various non-textile materials. The proposed changes align with the changes that have been proposed for the required restricted substances materials.

Emergency Nature: The standard contains an error or an omission that was overlooked during the regular revision process. The proposed TIA intends to offer to the public a benefit that would lessen a recognized (known) hazard or ameliorate a continuing dangerous condition or situation.

The proposed changes, with the exception of Item 1 above, are all clarifications or adjustments that will provide consistent application of current NFPA 1970 requirements that were either overlooked in the development process or identified once attempts were made to establish compliance with the standard. Without these changes, it would be difficult for testing laboratories or certification organizations to consistently apply and interpret these specific requirements, which further could result in holding up certification for some manufacturers. In item 1, the proposed change provides a solution for an ongoing problem facing organizations attempting to repair or have their repair of garments performed by others, where changing availability of materials inhibit the ability to service garments in accordance with NFPA 1851.

Anyone may submit a comment by the closing date indicated above. Please identify the TIA number, state whether you SUPPORT or OPPOSE the TIA along with your comment, and forward to the Secretary, Standards Council. SUBMIT A COMMENT