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AMENDMENT 1
2023-03

PPE ensembles for firefighters undertaking specific rescue activities —

Part 4: Gloves

AMENDMENT 1

Équipements de protection personnelle pour pompiers entreprenant des activités de sauvetage particulières —

Partie 4: Gants

AMENDEMENT 1

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This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Personal protective equipment*, Subcommittee SC 14, *Firefighters' personal equipment*.

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PPE ensembles for firefighters undertaking specific rescue activities —

Part 4: **Gloves**

AMENDMENT 1

Normative references

Add the following International Standard:

ISO 23388:2018, *Protective gloves against mechanical risks*

6.2. Table 1

The requirements for liquid penetration resistance (optional) were changed as follows:

Requirements	Road traffic crash (RTC)	Urban search and rescue (USAR)
Liquid penetration resistance (optional), see 6.9 ISO 13994:2005, Procedure C1	No penetration of any liquid for at least 1 h for the following liquids: 40 % sodium hydroxide at 20 °C; 36 % hydrochloric acid at 20 °C ; 37 % sulfuric acid at 20 °C; 100 % o-xylene at 20 °C	

6.4

Replace the text with the following:

"**6.4 Flame resistance**

The glove component assembly, when tested in accordance with ISO 15025 using the procedures for surface ignition, both after conditioning according to 5.3.2 and after pre-treatment according to 5.3.1 followed by 5.3.2, shall meet the following requirements.

a) No specimen shall exhibit hole formation in any layer.

b) No specimen shall produce flaming or molten debris.

c) The mean value of after-flame time shall be ≤2 s.

d) Any afterglow shall not spread from the carbonized area to the undamaged area after the cessation of flaming.

If suitably sized representative materials cannot be obtained, then the whole glove shall be used for testing.

The flame shall be contacted on the glove at the palm side, back side, and fingertips. If the glove assembly incorporates wristlet material, this material shall be tested separately, applying the flame to the outer surface of the wristlet material. If the glove assembly incorporates seams, specimens of component assembly containing seams shall be tested separately by applying the flame to the seam portion of the component assembly with the seam oriented vertically.

For testing fingertips, use the test method in ISO 15025, procedure A, surface ignition, with the following modifications:

— The gloves shall be mounted in a vertical position so that the longest finger of the glove hangs down lowest. See Figure 2.

— The burner is positioned below the glove so that it is in the plane normal to the palm of the hand and including the longest finger of the glove, plane A. Plane A is perpendicular to the plane of the palm of the glove, plane B.

— The burner is mounted at an angle of 30° ± 3° to plane B, with the tip of the flame contacting the lowest point of the glove or finger.

— The vertical distance between the top of the burner and the lowest point of the glove or finger shall be 20 mm ± 2 mm.

Performance shall be determined using the worst performance from all areas of the glove that are tested.

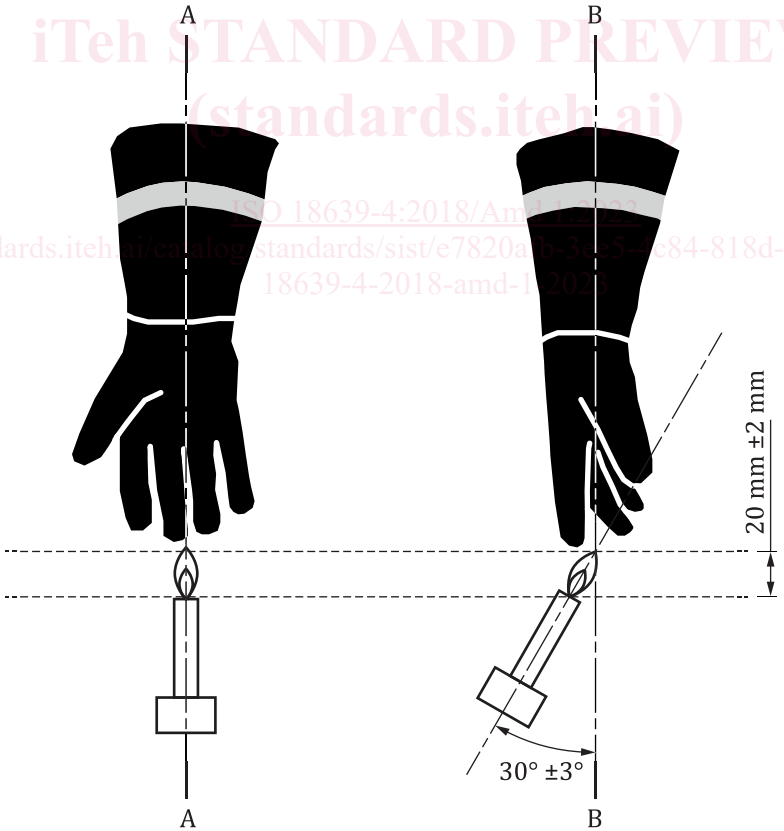

Figure 2 — Position of the glove relative to the burner for testing fingers"

6.9

Replace the text with the following:

"6.9 Liquid penetration resistance (optional)

Specimens of the glove moisture barrier component and its seams, when tested in accordance with ISO 13994:2005 using procedure C1 after the pretreatments specified in 5.3.1 and conditioning specified in 5.3.2, shall be classified according to the levels of performance given in Table 1 for the following liquids:

a) 40 % sodium hydroxide (NaOH) at 20 °C ± 2 °C;

b) 36 % hydrochloric acid (HCl) at 20 °C ± 2 °C;

c) 37 % sulfuric acid (H_2SO_4) at 20 °C ± 2 °C;

d) 100 % *o*-xylene at 20 °C ± 2 °C"

7.3

Replace the text with the following:

"7.3 Tear resistance

Specimens of outer material from the palm area and back of the hand of the glove body component assembly shall be tested in accordance with ISO 23388 :2018, 6.4, after the following pretreatments:

a) after conditioning specified in 5.3.2;

b) after laundering specified in 5.3.1 and then followed by the conditioning specified in 5.3.2. The specimen shall meet the performance requirements given in Table 7."