



**SLOVENSKI STANDARD**  
**SIST EN 469:2020/oprA1:2022**

**01-marec-2022**

---

**Zaščitna obleka za gasilce - Zahtevane lastnosti za zaščitno obleko pri gašenju požara - Dopolnilo A1**

Protective clothing for firefighters - Performance requirements for protective clothing for firefighting activities

Schutzkleidung für die Feuerwehr - Leistungsanforderungen für Schutzkleidung für Tätigkeiten der Feuerwehr

Habillement de protection pour sapeurs-pompiers - Exigences de performance pour les vêtements de protection pour la lutte contre l'incendie

**Ta slovenski standard je istoveten z: EN 469:2020/prA1**

<https://standards.iteh.ai/catalog/standards/sist/88337377-954a-44e4-92b4-e19fa07d1a30/sist-en-469-2020-opra1-2022>

**ICS:**

13.220.10	Gašenje požara	Fire-fighting
13.340.10	Varovalna obleka	Protective clothing

**SIST EN 469:2020/oprA1:2022**

**en,fr,de**

**iTeh STANDARD  
PREVIEW  
(standards.iteh.ai)**

[SIST EN 469:2020/oprA1:2022](https://standards.iteh.ai/catalog/standards/sist/88337377-954a-44e4-92b4-e19fa07d1a30/sist-en-469-2020-opra1-2022)

<https://standards.iteh.ai/catalog/standards/sist/88337377-954a-44e4-92b4-e19fa07d1a30/sist-en-469-2020-opra1-2022>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**EN 469:2020**  
**prA1**

January 2022

ICS 13.340.10

English Version

## Protective clothing for firefighters - Performance requirements for protective clothing for firefighting activities

Habillement de protection pour sapeurs-pompiers -  
Exigences de performance pour les vêtements de  
protection pour la lutte contre l'incendie

Schutzkleidung für die Feuerwehr -  
Leistungsanforderungen für Schutzkleidung für  
Tätigkeiten der Feuerwehr

This draft amendment is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 162.

This draft amendment A1, if approved, will modify the European Standard EN 469:2020. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

<b>Contents</b>	<b>Page</b>
European foreword .....	3
1 Modifications to Clause 3, "Terms and definitions" .....	4
2 Modification to 4.3.4, "Closure system" .....	4
3 Modification to 4.3.5, "External pockets" .....	4
4 Modification to 4.3.11, "Drain mesh" .....	4
5 Modification to 4.3.13, "Devices integrated into firefighting garments" .....	4
6 Modification to 5.3, "Pre-treatment" .....	4
7 Modification to 5.4, "Deterioration of repellency by cleaning" .....	4
8 Modification to Clause 6, "Performance requirements" .....	5
9 Modification to 6.2.1.1, "Flame spread test" .....	6
10 Modification to 6.2.1.3, "Heat transfer - Flame (marked with X1 or X2)" .....	6
11 Modification to 6.2.1.4, "Heat transfer - Radiation (marked with X1 or X2)" .....	6
12 Modification to 6.2.1.6, "Heat resistance" .....	6
13 Modification to 6.2.6.1, "General" .....	6
14 Modification to 6.2.6.3, "Performance of visibility material(s)" .....	7
15 Modification to 8.2, "Manufacturers information" .....	7
16 Modification to C.4, "Selection, Use, Care and Maintenance guidance (SUCAM)" .....	7
17 Modification to Annex D, "Whole garment flame engulfment test using an instrumented manikin" .....	8
18 Modification to Annex F, "Significant technical changes between this document and EN 469:2005" .....	8
19 Modification to Annex G, "Rationale" .....	8
20 Modification to Annex ZA, "Relationship between this European Standard and the Essential Requirements of EU Regulation (EU) 2016/425 aimed to be covered" .....	9

## European foreword

This document (EN 469:2020/prA1:2022) has been prepared by Technical Committee CEN/TC 162 “Protective clothing including hand and arm protection and lifejackets”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

# iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 469:2020/oprA1:2022](https://standards.iteh.ai/catalog/standards/sist/88337377-954a-44e4-92b4-e19fa07d1a30/sist-en-469-2020-opra1-2022)

<https://standards.iteh.ai/catalog/standards/sist/88337377-954a-44e4-92b4-e19fa07d1a30/sist-en-469-2020-opra1-2022>

**EN 469:2020/prA1:2022 (E)****1 Modifications to Clause 3, "Terms and definitions"**

Replace the current definition for term "3.11, drain mesh material", with the following:

"water-permeable material to allow drainage of water".

Replace the current Example under term "3.16, hardware" with the following:

"EXAMPLE Fasteners, rank markings, buttons, zippers, embroideries, braces (see also 3.10 device)".

Replace the current definition for term "3.43, wristlet" with the following:

"elastic part of a garment that encircles the wrist or ankles tightly".

**2 Modification to 4.3.4, "Closure system"**

Replace the first paragraph with the following:

"The closure system regions shall provide the same level of protection as the rest of the garment."

**3 Modification to 4.3.5, "External pockets"**

In paragraph 2, replace the 3rd sentence, with the following:

"Exceptions are allowed for radio pockets and side pockets below the waist which do not extend more than 10° forward of the side seam."

**4 Modification to 4.3.11, "Drain mesh"**

Replace the current text with the following:

"The width of any drain mesh material shall not exceed the 3 cm. The drain mesh material used will also become part of the component assembly and shall meet the requirements of 6.2.1.1 and 6.2.1.6 (see Annex G)".

**5 Modification to 4.3.13, "Devices integrated into firefighting garments"**

Replace the current text with the following:

"Any devices that are incorporated (whether permanently fixed or not), the interfaced areas or areas of interaction shall be designed so that the level of protection is maintained."

**6 Modification to 5.3, "Pre-treatment"**

In paragraph 1, replace the 1st sentence with the following:

"Each test specified in Clause 6, except test in 6.2.1.6 and 6.2.1.7, shall be pre-treated by cleaning."

**7 Modification to 5.4, "Deterioration of repellency by cleaning"**

In paragraph 3, replace the 2nd sentence with the following:

"Then after reimpregnation is applied, the test shall be performed again in order to demonstrate meeting the requirement."

## 8 Modification to Clause 6, "Performance requirements"

In 6.1, replace the current Table 1 with the following:

**"Table 1 — Summary of performance requirements of Clause 6 and 7, levels, grades and marking codes**

Property	Applicable subclause	Pre-treatment according to 5.3	Performance attribute 1 and Marking (where applicable)		Performance attribute 2 and Marking (where applicable)	
Flame spread	6.2.1.1	before and after	Index 3 of EN ISO 14116:2015			
Contact heat (Level)	6.2.1.2	before and after	Not required	X1	10 s time according to EN ISO 12127-1	
Heat transfer (flame) (Level)	6.2.1.3	before and after	HTI <sub>24</sub> ≥ 9,0 s HTI <sub>24-12</sub> ≥ 3,0 s		HTI <sub>24</sub> ≥ 13,0 s HTI <sub>24-12</sub> ≥ 4,0 s	
Heat transfer (radiation)	6.2.1.4	before and after	RHTI <sub>24</sub> ≥ 10,0 s RHTI <sub>24-12</sub> ≥ 3,0 s		RHTI <sub>24</sub> ≥ 18,0 s RHTI <sub>24-12</sub> ≥ 4,0 s	
Residual tensile strength	6.2.1.5	after, and exposure to radiant heat	≥ 450 N			
Heat resistance	6.2.1.6	before	shrinkage ≤ ± 5 % No ignition No melting Requirements also for slide fasteners and hardware			
Heat resistance sewing thread	6.2.1.7	none	No melting at a temperature of (260 ± 5) °C.			
Resistance to penetration of chemicals	6.2.2	only according to 5.4	No penetration to innermost surface, Index of repellency ≥ 80 %			
Tensile strength	6.2.3.1	after	Outer material ≥ 450N Structural seams ≥ 300 N			
Tear strength	6.2.3.2	after	≥ 30 N			
Water penetration (Grade)	6.2.4	after	< 20 kPa	Y1	≥ 20 kPa	Y2
Dimensional change	6.2.5	after	≤ ± 3 % (woven) ≤ ± 5 % (non-woven and knitted)			

Property	Applicable subclause	Pre-treatment according to 5.3	Performance attribute 1 and Marking (where applicable)		Performance attribute 2 and Marking (where applicable)	
Visibility	6.2.6	before and after (according to 6.2.6.3)	Retro-reflective, fluorescent or combined performance material(s) giving all round visibility with: The minimum area of retro-reflective shall be $\geq 0,13 \text{ m}^2$ minimum area of fluorescent or combined $\geq 0,2 \text{ m}^2$ visibility tested according to EN ISO 20471:2013/A1:2016			
Water vapour resistance (Grade)	6.3.1	after	$> 30$ to $\leq 45 \text{ m}^2 \text{ Pa/W}$	Z1	$\leq 30 \text{ m}^2 \text{ Pa/W}$	Z2
Whole garment test (optional)	Clause 7	only single wash	Exposure to heat flux of $84 \text{ kW/m}^2$ for a duration of 8s			

iTeh STANDARD

**9 Modification to 6.2.1.1, "Flame spread test"**

In paragraph 7, replace the 2<sup>nd</sup> sentence with the following:

"Three specimens containing the hardware or the device shall be used."

**10 Modification to 6.2.1.3, "Heat transfer – Flame (marked with X1 or X2)"**

Replace the last sentence with the following:

"The assembly shall be classified according to the lowest single result expressed to one decimal place."

**11 Modification to 6.2.1.4, "Heat transfer – Radiation (marked with X1 or X2)"**

Replace the last sentence with the following:

"The assembly shall be classified according to the lowest single result expressed to one decimal place."

**12 Modification to 6.2.1.6, "Heat resistance"**

In paragraph 3, 1<sup>st</sup> sentence, insert the following after "hardware":

"or devices".

**13 Modification to 6.2.6.1, "General"**

Replace the current text with the following:

"Visibility is optional, but if used, retro-reflective, fluorescent or combined performance material(s) shall give all round visibility and shall as a minimum encircle the arms, legs and torso regions of the protective clothing and conform to the following (see 4.3.8)."



### 14 Modification to 6.2.6.3, "Performance of visibility material(s)"

*In paragraph 1, line 2, replace "7.5.2 and 7.5.3," by the following:*

"7.5.2 and/or 7.5.3,".

### 15 Modification to 8.2, "Manufacturers information"

*Replace the current text in the subclause with the following:*

"The information to be supplied by the manufacturer shall be as specified in EN ISO 13688:2013. In addition, the manufacturer shall provide the following warning notices:

- the information about the use of integrated devices;
- the information that in order to comply with the requirements of this document, the upper and lower body including the neck, arms to the wrists and legs to the ankles, are protected and covered by the clothing, but other parts of the body are not protected and need appropriate PPE in order to be fully protected;
- give for materials which need to be re-impregnated after cleaning for the purpose of maintaining and or restoring liquid resistance performance, the manufacturer shall give the instruction with respect to: (1) the impregnation agents to be used and instructions on how to carry out the impregnation procedure; (2) the number of cleaning cycles during which the liquid resistance impregnation remains effective;
- include a note in the information to the effect that in the event of an accidental splash of chemical or flammable liquids on clothing covered by this document, the wearer should immediately withdraw and remove the garments, which shall then be cleaned or removed from service;
- include a note in the information to the effect that dampness, moisture or wetting inside or outside of the clothing will have an effect on the performance of the garment, which is different from the same garment when in a dry condition;
- if the optional whole garment test in Clause 7 has been performed, the manufacturer shall provide the information of the transferred energy report as detailed in EN ISO 13506-1:2017;
- include wording equivalent to: "More information on selection, use, care and maintenance is given in CEN/TR 14560:2018."

### 16 Modification to C.4, "Selection, Use, Care and Maintenance guidance (SUCAM)"

*Add the following to the end of paragraph 2:*

"and performance requirements".

EN 469:2020/prA1:2022 (E)

## 17 Modification to Annex D, "Whole garment flame engulfment test using an instrumented manikin"

Replace the first paragraph with the following:

"In addition to the tests on materials according to this document, level 2 garments or garment assembly can be tested on an instrumented manikin according to EN ISO 13506-1:2017, with the precondition that the garments meet the requirements of this document and have the appropriate size according to EN ISO 13506-1:2017."

In paragraph 2, insert the following at the end of sentence 3

"(that are not part of the garment assembly)".

## 18 Modification to Annex F, "Significant technical changes between this document and EN 469:2005"

In Table F.1, in the row for Clause 5, in the 2<sup>nd</sup> column, replace "Changed pre-treatment by cleaning" with: "Changed pre-treatment: after cleaning".

In the rows for 6.2.4, replace these rows with the following 2 rows:

6.2.4 Water penetration	Grade 1 and grade 2 for water penetration (Y1 and Y2)
6.2.5 Dimensional change	Dimensional stability changes according to the EN ISO 13688:2013

In the row for Annex D, in column 1 add at the end "and ISO 13506-2:2017" to read:

"Annex D (informative) Updated informative Annex on the optional whole garment flame test for level 2 garments using EN ISO 13506-1:2017 and ISO 13506-2:2017".
--

## 19 Modification to Annex G, "Rationale"

In Table G.1, row "1 Scope", column 2, add "performance" in the 3<sup>rd</sup> sentence to read:

"The Y and Z marking are maintained, but are called performance grades as they don't define the Level 1 or 2."

In row "4.3.5 External Pockets", column 2, replace the 2<sup>nd</sup> paragraph with the following:

"All external pocket flaps shall be stitched down or capable of fastening the pocket closed. They shall be 20 mm wider than the opening (10 mm on each side) to prevent the flap from being tucked into the pocket. Exceptions are allowed for radio pockets and side pockets below the waist which do not extend more than 10° forward of the side seam."

In row "5.3 Pre-treatment", column 2, 1<sup>st</sup> sentence, replace "represents" with "simulates" to read:

"Pre-treatment simulates a part of the care process which can impact some properties."