SLOVENSKI STANDARD
SIST EN 13911:2017

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Nadomešča:

SIST EN 13911:2004

Zaščitna obleka za gasilce - Zahteve in preskusne metode za zaščitne kapuce za gasilce

Protective clothing for firefighters - Requirements and test methods for fire hoods for firefighters

Schutzkleidung für die Feuerwehr - Anforderungen und Prüfverfahren für Feuerschutzhauben für die Feuerwehr

Vêtements de protection pour les sapeurs-pompiers - Exigences et méthodes d'essai pour les cagoules de protection contre le feu pour sapeurs-pompiers

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ICS:

13.220.10	Gašenje požara	Fire-fighting
13.340.20	Varovalna oprema za glavo	Head protective equipment

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EUROPEAN STANDARD

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English Version

Protective clothing for firefighters - Requirements and test methods for fire hoods for firefighters

Vêtements de protection pour les sapeurs-pompiers - Exigences et méthodes d'essai pour les cagoules de protection contre le feu pour sapeurs-pompiers

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

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European foreword

This document (EN 13911:2017) 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 European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2018, and conflicting national standards shall be withdrawn at the latest by February 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13911:2004.

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

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

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Introduction

This standard specifies the minimum safety requirements and test methods for a firehood worn by a firefighter following a user risk assessment. When worn with protective clothing, breathing apparatus and helmet, the design features and performance requirements of the firehood are intended to provide protection to the exposed areas of the head and neck against heat and flame.

Firehoods can be used in different end uses, both over and underneath the facemask and with different shapes of helmets. It is the user's responsibility to choose the right firehood appropriate to the garment, helmet, and facemask recommended by the hood manufacturer.

1 Scope

This standard specifies minimum safety requirements and test methods for a firehood to be worn during firefighting operations to protect against heat and fire. This standard only applies in situations when protective clothing (EN 469), breathing apparatus (EN 136 and EN 137), and helmet (EN 443) are also worn.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 136:1998, *Respiratory protective devices — Full face masks — Requirements, testing, marking*

EN 137:2006, *Respiratory protective devices — Self-contained open-circuit compressed air breathing apparatus with full face mask — Requirements, testing, marking*

EN 443:2008, *Helmets for fire fighting in buildings and other structures*

EN 469:2005, *Protective clothing for firefighters — Performance requirements for protective clothing for firefighting*

EN ISO 5077:2008, *Textiles — Determination of dimensional change in washing and drying (ISO 5077:2007)*

EN ISO 6942:2002, *Protective clothing — Protection against heat and fire — Method of test: Evaluation of materials and material assemblies when exposed to a source of radiant heat (ISO 6942:2002)*

EN ISO 9151:2016, *Protective clothing against heat and flame — Determination of heat transmission on exposure to flame (ISO 9151:2016, Corrected version 2017-03)*

EN ISO 13688:2013, *Protective clothing — General requirements (ISO 13688:2013)*

EN ISO 13938-1:1999, *Textiles — Bursting properties of fabrics — Part 1: Hydraulic method for determination of bursting strength and bursting distension (ISO 13938-1:1999)*

EN ISO 14116:2015, *Protective clothing — Protection against flame — Limited flame spread materials, material assemblies and clothing (ISO 14116:2015)*

EN ISO 15025:2016, *Protective clothing — Protection against flame — Method of test for limited flame spread (ISO 15025:2016)*

ISO 17493:2016, *Clothing and equipment for protection against heat — Test method for convective heat resistance using a hot air circulating oven*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
ageing
changing of the product performance over time during use or storage

For example:

— cleaning, maintenance or disinfecting processes;

— exposure to visible and/or ultra-violet radiation;

— exposure to high or low temperatures or to changing temperatures;

— exposure to chemicals including humidity;

— exposure to biological agents such as bacteria, fungi, insects or other pests;

— exposure to mechanical action such as abrasion, flexing, pressure and strain;

— exposure to contaminants such as dirt, oil, splashes of molten metal, etc;

— exposure to wear and tear

3.2
cleaning
process by which PPE is made serviceable and/or hygienically wearable by removing any dirt or contamination

3.3
conditioning
keeping samples under standard conditions of temperature and relative humidity for a minimum period of time

3.4
firehood
the firehood covers the neck and the area of the head which is not protected by the facemask

Note 1 to entry: The firehood ensures the junction between the helmet and garment.

3.5
garment
single item of clothing which may consist of single or multiple layers

3.6
component assembly
combination of all materials of a multi-layer garment presented exactly as the finished garment construction

3.7
interface area
area where individual items meet and/or overlap

3.8
seam
permanent fastening between two or more pieces of material

3.9
pre-treatment
standard way of preparing the samples before testing

Note 1 to entry: This might include e.g. a number of cleaning cycles, submitting the sample to heat, mechanical action or any other relevant exposure and is finished by conditioning.

3.10
yoke
area of the firehood interfacing with the coat

3.11
facial opening
opening in the front of the firehood interfacing with the breathing apparatus facemask

3.12
elasticity
property of a material by which it tends to recover its original size and shape immediately after the removal of the force causing deformation

3.13
material
substances excluding hardware and labels, of which an item of clothing is made

4 Design and Materials

4.1 Introduction

Materials used in the construction of the firehood which are likely to come into contact with the skin of the wearer shall comply with 4.2 of EN ISO 13688:2013.

The design requirements specified shall be verified by visual inspection during the procedures in Annex B, unless otherwise specified in 4.2. The manufacturer shall provide information on the specific items for those that compatibility is claimed.

4.2 General

The firehood shall be close fitting and able to be worn without discomfort or significant restriction to head movement. The firehood shall fit around or under the breathing apparatus facemask for which compatibility is claimed without reducing the field of view interfering with the breathing function of the mask and give no discomfort to the wearer.

Overstretching will reduce the heat protective performance of the firehood and should be avoided by design.

NOTE Excess material in the construction of the firehood may hamper the wearer and compromise the wearing of other personal protective equipment.

4.3 Facial opening

The firehood shall have a facial opening designed to fit around or under a breathing apparatus facemask for which compatibility is claimed. Assess by visual observation.

4.4 Yoke interface area

The firehood shall have a yoke creating an interface with the protective clothing. Assess by visual inspection the interface area between firehood and garment.

4.5 Sizing

The firehood may be manufactured in various sizes. It shall be sufficiently elastic to be compatible with various head sizes and shapes. Assess by visual inspection.

NOTE The yoke is not always symmetrical on the back, upper shoulders and front (upper chest)

4.6 Labels

The label(s) for the marking requirement shall be positioned in the area defined as the yoke of the firehood. Assess by visual inspection.

4.7 Ventilation Window (optional)

In order to reduce heat-stress and allow body heat accumulated to escape from the top head area of the protective firehood, a single ventilation opening can be optionally introduced in the protective firehood.

The centre of the ventilation opening shall be at the top point of the firehood, when the firehood is placed flat on the table.

The size of the ventilation opening shall not exceed 100 cm^2 and shall be positioned within a radius of 6 cm around the top point of the firehood.

The ventilation opening has to be made out of non-melting flame resistant materials (e.g. knitted mesh) and shall comply with 6.1.2, except the requirement of hole formation as specified in index 3 of EN ISO 14116:2015 and 6.1.6 out of the performance requirements specified in Clause 6.

The holes in the ventilation opening material shall not exceed 10 mm in any direction, when the fabric is measured flat in the new state.

5 Sampling and pre-treatment

5.1 The number and size of specimens for the different tests shall be in accordance with the respective standard.

5.2 Before each test specified in Clause 6, the test materials and test specimens shall be pre-treated by cleaning. In addition, the tests in 6.1.2 and 6.1.4 shall be carried out both before the pre-treatment and after the pretreatment, if cleaning is allowed. The test in 6.1.8 shall be carried out only after 5 cleaning cycles according to manufacturer's instructions.

The cleaning shall be in line with the manufacturer's instructions on the basis of standardized processes. If the number of cleaning cycles is not specified, the tests shall be carried out – in case of laundering after 5 laundering cycles (one laundering cycle consisting of one washing and one drying), or – in case of dry cleaning after 5 cycles of dry cleaning. This shall be reflected in the information supplied by the manufacturer.

If the manufacturer's instructions indicate that both cleaning methods are allowed, the test specimen shall undergo the laundering procedure only.

5.3 Ageing In the case that the firehood should be submitted to some treatment to maintain its limited flame spread property the manufacturer shall indicate the maximum number of cleaning cycles that can be carried out before applying the treatment indicated to restore the garment