

**Kaitserõivad tuletõrjajatele.
Toimivusnõuded kaitserõivastele
tulekustutustöödel**

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 469:2006 sisaldab Euroopa standardi EN 469:2005+AC:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 27.02.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 469:2006 consists of the English text of the European standard EN 469:2005+AC:2006.</p> <p>This document is endorsed on 27.02.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This European Standard specifies minimum levels of performance requirements for protective clothing to be worn during firefighting operations and associated activities such as e.g. rescue work, assistance during disasters. The described clothing is not meant to protect against deliberate chemical and/or gas cleaning operations.</p>	<p>Scope:</p> <p>This European Standard specifies minimum levels of performance requirements for protective clothing to be worn during firefighting operations and associated activities such as e.g. rescue work, assistance during disasters. The described clothing is not meant to protect against deliberate chemical and/or gas cleaning operations.</p>
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Võtmesõnad: fire, fire fighting, hazards, heat prote, labelling, laboratory testing, marking, materials, materials testing, minimum requirements, protective clothing, protective equipment, protective suits, safety requirements, specification (approval), specifications, testing

English Version

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

Vêtements 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 die
Brandbekämpfung

This European Standard was approved by CEN on 22 July 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists 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 Central Secretariat has the same status as the official versions.

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



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Foreword

This European Standard (EN 469:2005) 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 March 2006, and conflicting national standards shall be withdrawn at the latest by March 2006.

This European Standard supersedes EN 469:1995.

This European Standard 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 European Standard.

It is one of several standards for clothing that have been developed to protect persons against heat and/or flames. Some examples of other European Standards include:

- prEN ISO 11611:2003, Protective clothing for use in welding and allied processes (ISO/DIS 11611:2003);
- prEN ISO 11612:2003, Clothing to protect against heat and flame (ISO/DIS 11612:2003);
- ISO 11613:1999, Protective clothing for firefighters — Laboratory test methods and performance requirements;
- EN 1486:1996, Protective clothing for firefighters — Test methods and requirements for reflective clothing for specialized fire fighting;
- EN ISO 14460:1999 (and EN ISO 14460/A1:2002), Protective clothing for automobile racing drivers — Protection against heat and flame — Performance requirements and test methods (ISO 14460:1999);
- ISO 15384:2003, Protective clothing for firefighters — Laboratory test methods and performance requirements for wildland firefighting clothing;
- ISO 15538:2001, Protective clothing for firefighters — Laboratory test methods and performance requirements for protective clothing with a reflective outer surface;
- EN 13911:2004, Protective clothing for firefighters — Requirements and test methods for fire hoods for firefighters.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The purpose of this European Standard is to provide minimum performance requirements for protective clothing for firefighters, whilst fighting fires. Within this European Standard, two performance levels are given for performance requirements 6.2, 6.3, 6.11 and 6.12 - level 1 is the lower level, level 2, the higher level. The level of personal protection chosen should be based on the outcome of a risk assessment. Annex G lists many of the hazards that may be encountered by firefighters and sets out guidelines for carrying out a risk assessment analysis.

During an incident, hazards other than those against which clothing to this European Standard is intended to protect may be encountered e.g. chemical, biological, radiological, and electrical. If the risk assessment identifies that exposure to such hazards is likely, protection by more appropriate personal protective equipment may be required either instead of or in addition to the protective clothing covered by this European Standard.

In this European Standard, some requirements have an influence on ergonomics and additional informative annexes on ergonomic features and physiological / heat stress hazards are included in the form of guidelines because suitable tests for these requirements have not yet been validated internationally. It is important that further requirements for ergonomic aspects of protective clothing become integrated normative parts of European standards such as this and currently work on this is taking place.

The requirement regarding water vapour resistance in 6.12, level 1, is proposed for an amendment (procedure).

For adequate overall protection against the risks to which firefighters are likely to be exposed, additional personal protective equipment to protect the head, face, hands and feet should also be worn, along with appropriate respiratory protection where necessary.

The specified controlled laboratory tests used to determine compliance with the performance requirements of this European Standard do not replicate the situations to which firefighting personnel may be exposed.

This European Standard sets minimum levels of performance requirements. Nothing in this European Standard is intended to restrict any jurisdiction, purchaser or manufacturer from exceeding these minimum requirements.

NOTE It is essential that firefighters are trained in the selection, use, care and maintenance of all personal protective equipment. Attention is drawn to CEN/TR 14560:2003, which sets out guidelines for selection, use, care and maintenance of protective clothing against heat and flame.

1 Scope

This European Standard specifies minimum levels of performance requirements for protective clothing to be worn during firefighting operations and associated activities such as e.g. rescue work, assistance during disasters. The described clothing is not meant to protect against deliberate chemical and/or gas cleaning operations.

This European Standard covers the general clothing design, the minimum performance levels of the materials used, and the methods of test to be used to determine these performance levels. The required performance levels may be achieved by the use of one or more garments.

This European Standard covers the event of an accidental splash of chemical or flammable liquids but does not cover special clothing for use in other high-risk situations e.g. reflective protective clothing. It does not cover protection for the head, hands and feet or protection against other hazards e.g. chemical, biological, radiological and electrical hazards. These aspects may be covered in other European Standards.

2 Normative References

The following referenced documents are indispensable for the application of this European Standards For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 340, *Protective Clothing — General requirements*

EN 367, *Protective clothing — Protection against heat and fire — Method of determining heat transmission on exposure to flame*

EN 471:2003, *High-visibility warning clothing for professional use — Test methods and requirements*

EN 533:1997, *Protective clothing — Protection against heat and flame — Limited flame spread materials and material assemblies*

EN 20811, *Textiles — Determination of resistance to water penetration — Hydrostatic pressure test*

EN 24920:1992, *Textiles — Determination of resistance to surface wetting (spray test) of fabrics*

EN 31092, *Textiles — Determination of physiological properties — Measurement of thermal and water-vapour resistance under steady-state conditions (sweating guarded - hotplate test) (ISO 11092:1993)*

EN ISO 1421:1998, *Rubber- or plastics — Determination of tensile strength and elongation at break (ISO 1421:1998)*

EN ISO 4674-1:2003, *Rubber- or plastics-coated fabrics - Determination of tear resistance - Part 1: Constant rate of tear methods (ISO 4674-1:2003)*

EN ISO 6530:2005, *Protective clothing — Protection against liquid chemicals — Test method for resistance of materials to penetration by liquids (ISO 6530:2005)*

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 13934-1:1999, *Textiles — Tensile properties of fabrics — Part 1: Determination of maximum force and elongation at maximum force using the strip method (ISO 13934-1:1999)*

EN ISO 13937-2:2000, *Textiles - Tear properties of fabrics - Part 2: Determination of tear force of trouser-shaped test specimens (Single tear method) (ISO 13937-2:2000)*

EN ISO 15025:2002, *Protective clothing — Protection against heat and flame — Method of test for limited flame spread (ISO 15025:2000)*

ISO 5077, *Textiles — Determination of dimensional change in washing and drying*

ISO 7941, *Commercial propane and butane — Analysis by gas chromatography*

ISO 17493:2000, *Clothing and equipment for protection against heat — Test method for convective heat resistance using a hot air circulating oven*

CIE 54.2:2001, *Retroreflection — Definition and measurement*

3 Terms and definitions

For the purposes of this European Standard, the following definitions apply.