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Protective clothing for firefighters — Laboratory test methods and performance requirements for wildland firefighting clothing

Vêtements de protection pour sapeurs-pompiers — Méthodes d'essai en laboratoire et exigences de performance pour vêtements portés pendant la lutte contre les feux d'espaces naturels



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Foreword

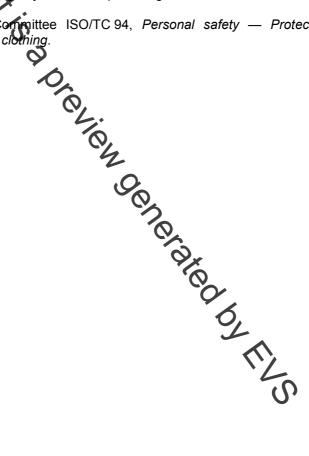
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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15384 was prepared by Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 13, *Protective clothing*.



Introduction

The purpose of this International Standard is to provide minimum performance requirements for protective clothing designed for use for extended periods during wildland fire fighting and associated activities.

Wildland fire fighting involves work primarily in summer temperatures, for many hours in which the firefighter may develop high levels of metabolic heat. Consequently, the protective clothing should be light, flexible and commensurate with the firefighter may be exposed in order to be effective without introducing heat stress to the wearer.

Accordingly, a risk assessment should be undertaken to determine if the clothing covered by this International Standard is suitable for its interded use and the expected exposure. This International Standard does not cover clothing for use in risk situations where clothing complying with ISO 11613 or ISO 15538 is more suitable, nor does this International Standard cover clothing to protect against chemical, biological, electrical or radiation hazards.

The risk assessment should include what additional personal protective equipment is necessary for head, hand and feet. In some situations, respiratory protection may also be required.

Firefighters should be trained in the use, care and maintenance of the protective clothing covered by this International Standard, including an understanding of its limitation.

Nothing in this International Standard is intended to restrict any jurisdiction, purchaser or manufacturer from exceeding these minimum requirements.

A list of International Standards related to ISO 15384 is given in the Bibliography.

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Protective clothing for firefighters — Laboratory test methods and performance requirements for wildland firefighting clothing

1 Scope

This International Standard specifies methods of test and minimum performance requirements for protective clothing to be worn in willland firefighting and associated activities. This clothing is not intended to provide protection during fire entrapment. This International Standard applies to the general design of the garment, the minimum level of performance for the materials employed and the methods of test to determine these levels.

This International Standard is not applicable to clothing for use in risk situations where clothing complying with ISO 11613 or ISO 15538 is more suitable, nor does this International Standard cover clothing to protect against chemical, biological, electrical or radiation hazards.

This International Standard is not applicable to protection of the head (it may cover the neck), eyes, hand, feet and respiratory system. These aspects may be dealt with in other International Standards.

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2 Normative references

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

ISO 139, Textiles — Standard atmospheres for conditioning and resting

ISO 3146, Plastics — Determination of melting behaviour (melting temperature or melting range) of semi-crystalline polymers by capillary tube and polarizing-microscope methods

ISO 3175-1, Textiles — Dry cleaning and finishing — Part 1: Method for assessing the cleanability of textiles and garments

ISO 3758, Textiles — Care labelling code using symbols

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

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

ISO 6330:2000, Textiles — Domestic washing and drying procedures for textile testing

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 11092, Textiles — Physiological effects — Measurement of thermal and water-vapour resistance under steady-state conditions (sweating guarded-hotplate test)

¹⁾ To be published. (Revision of ISO 4674:1977)

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

ISO 13934-2, Textiles — Tensile properties of fabrics — Part 2: Determination of maximum force using the grab method

ISO 15025:2000, Protective clothing — Protection against heat and flame — Method of test for limited flame spread

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

EN 471:1994, High-visibility warning clothing

CIE 54.2-2001, Retroreflection definition and measurement

3 Terms and definitions

For the purposes of this document, the **fol**owing terms and definitions apply.

3.1

cleaning cycle

wash and a drying cycle or dry-cleaning cycle

3.2

closure system

method of fastening the openings in the garment including combinations of more than one method of achieving a secure closure, for example a slide fastener covered by an overlap fastened down with a touch and close fastener

NOTE This term does not cover seams.

3.3

component assembly

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

3.4

coverall

protective coverall

one piece garment that completely covers the wearer's torso, arms and legs \mathbf{Q}

3.5

firefighter's protective clothing

specific garments providing protection for the firefighther's upper and lower torso, neck, arms and legs, but excluding the head, eyes, hands and feet

3.6

garment

protective garment

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

EXAMPLE Coat or shirt, trouser, or coverall

3.7

hardware

non-fabric items used in protective clothing including those made of metal or plastic

EXAMPLE Fasteners, rank marking, buttons, etc.