

Second edition  
2018-06

**AMENDMENT 1**  
2021-09

---

---

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

**AMENDMENT 1**

*Habillement 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*

*AMENDEMENT 1*

ISO 15384:2018/Amd 1:2021

<https://standards.iteh.ai/catalog/standards/iso/eb11b671-7353-425c-ac28-e6321b580a03/iso-15384-2018-amd-1-2021>



Reference number  
ISO 15384:2018/Amd.1:2021(E)

© ISO 2021

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

ISO 15384:2018/Amd 1:2021

<https://standards.iteh.ai/catalog/standards/iso/eb11b671-7353-425c-ac28-e6321b580a03/iso-15384-2018-amd-1-2021>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 14, *Firefighters' personal equipment*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 162, *Protective clothing including hand and arm protection and lifejackets*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



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

## AMENDMENT 1

*Page 5, 4.4, second paragraph*

The following paragraph was rephrased by adding "This requirement does not relate to dedicated radio pockets" at the end, from:

"Where fitted, Pocket flaps shall overlap the pocket opening by no less than 10mm on either side. The overlap shall be sufficient to prevent the entry of heat and other hot materials into the pocket."

to

"Where fitted, pocket flaps shall overlap the pocket opening by no less than 10mm on either side. The overlap shall be sufficient to prevent the entry of hot materials into the pocket. This requirement does not relate to dedicated radio pockets."

*Page 6, 5.3*

*The following paragraphs have been deleted:*

"Before each test specified in Clauses 6 and 7, the test materials and test specimens shall be pre-treated by cleaning. If the manufacturer's instructions indicate that cleaning is not allowed, i.e. single use garments, then testing shall be carried out on new material. In addition, limited flame spread and heat transfer (radiation) shall be carried out in accordance with 6.1 and 6.2 before and after the pre-treatment."

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 after five cleaning cycles (a cleaning cycle is one wash and one dry cycle). This shall be reflected in the information supplied by the manufacturer.

If cleaning method is not specified, the samples shall be subjected to a washing with a normal load in a front-loading horizontal drum machine using non-phosphate reference detergent N°3 in soft water in accordance with the procedures of ISO 6330 at 60 °C normal wash (6N). The dry procedure shall be F tumble dry at normal temperature (max 80 °C) measured at the outlet temperature.

If the garment can be washed and dry-cleaned it shall only be washed. If only dry-cleaning is allowed the garment shall be dry-cleaned in accordance with the manufacturer's instructions.

NOTE Manufacturer's instructions typically indicate one or several of the various methods and processes of ISO 15797, ISO 3175-2 or equivalent as standardized processes for cleaning."

and replaced with:

"Before each test specified in Clauses 6 and 7, the test materials and test specimens shall be pre-treated by cleaning. In addition, limited flame spread and heat transfer (radiation) shall be carried out in accordance with Clauses 6.1 and 6.2 before and after the pre-treatment."

Test specimens shall be subjected to five cleaning cycles (see 3.3) in accordance with the following procedures. If the garment can be washed and dry-cleaned it shall only be cleaned according to ISO 6330 using the front-loading horizontal drum machine and reference detergent 3 (ECE reference detergent 98). Washing shall be carried out by procedure 6N ( $60 \pm 3$ ) °C and drying by procedure F (machine Type A1) exhaust temperature normal (minimum 40 °C, maximum 80 °C). If only dry cleaning is allowed the garment shall be dry-cleaned in accordance with ISO 3175-2."

*Page 6, 5.4*

The following paragraph has been deleted:

"Prior to all tests and after having performed the pre-treatment specified in 5.3, the specimens shall be preconditioned in line with ISO 139, with the following modification: relative humidity ( $65 \pm 5$ ) %. Test the specimens within 5 min following their removal from the conditioning atmosphere."

and replaced with:

"Unless otherwise specified in the specific test methods, all specimens shall be conditioned for a minimum of 24 h prior to testing, in accordance with ISO 139 using a temperature of ( $20 \pm 2$ ) °C and a relative humidity of ( $65 \pm 5$ ) %. Unless otherwise specified in the specific test method, test the specimens within 5 min following their removal from the conditioning atmosphere."

*Page 7, 6.1.1*

The following paragraph has been changed by adding "but excluding" before hardware, from:

"Each material in the component assembly, including rank markings, retroreflective and fluorescent materials, hardware shall be tested separately using 6.1.2 and tested assembled as indicated using 6.1.3, before and after the pre-treatment specified in 5.3. All the individual results of the specimens of a test shall meet the performance requirement."

<https://standards.iteh.ai/catalog/standards/iso/eb11b671-7353-425c-ac28-e6321b580a03/iso-15384-2018-amd-1-2021>

"Each material in the component assembly, including rank markings, retroreflective and fluorescent materials, but excluding hardware shall be tested separately using 6.1.2 and tested assembled as indicated using 6.1.3, before and after the pre-treatment specified in 5.3. All the individual results of the specimens of a test shall meet the performance requirement."

*Page 8, 7.2*

Editorial correction due to incorrect rate of traverse:

"When tested in accordance with method B of ISO 4674-1, at a rate of traverse of 5 mm/s, the outer material shall give a tear strength in both machine and cross direction  $>25$  N."

has been replaced with:

"When tested in accordance with method B of ISO 4674-1 the outer material shall give a tear strength in both machine and cross direction  $>25$  N."