
**Wildland firefighting personal
protective equipment —
Requirements and test methods —**

**Part 5:
Helmets**

*Équipement de protection individuelle pour la lutte contre les feux
d'espaces naturels — Exigences et méthodes d'essai —*

Partie 5: Casques

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

ISO 16073-5:2019

<https://standards.iteh.ai/catalog/standards/iso/4640736a-3b93-4421-a843-4e783ad0f7fd/iso-16073-5-2019>



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

ISO 16073-5:2019

<https://standards.iteh.ai/catalog/standards/iso/4640736a-3b93-4421-a843-4e783ad0f7fd/iso-16073-5-2019>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

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
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Design and general requirements	2
4.1 General	2
4.2 Helmet shell	2
4.3 Vertical clearance	2
4.4 Horizontal clearance	2
4.5 Wearing height	2
4.6 Mass	2
4.7 Shell conspicuity	2
4.8 Retroreflective material	3
4.9 Neck protector	3
4.10 Retention system	3
4.11 Accessories attached on the helmet	3
5 Performance requirements	4
5.1 Shock absorption	4
5.1.1 Crown impact	4
5.1.2 Off-crown impacts	4
5.2 Resistance to penetration	4
5.3 Retention system strength	4
5.4 Lateral rigidity	4
5.5 Flame resistance	4
5.6 High-temperature stability	4
5.7 High radiant heat environments	4
5.8 Electrical insulation	5
5.9 Optional low-temperature tests	5
6 Test requirements	6
6.1 Samples	6
6.2 Conditioning for testing	6
6.2.1 Preconditioning chamber	6
6.2.2 Preconditioning	6
6.2.3 Low temperature conditioning	7
6.2.4 High temperature conditioning	7
6.2.5 Wet conditioning	7
6.3 Headforms	7
6.3.1 Construction	7
6.3.2 Selection of size	7
6.3.3 Measurement of clearances and wearing height	7
6.4 Shock absorption test	8
6.4.1 Principle	8
6.4.2 Apparatus	9
6.4.3 Test procedures	10
6.5 Penetration resistance test	10
6.5.1 Apparatus	10
6.5.2 Test procedure	11
6.6 Retention system strength test	11
6.6.1 Principle	11
6.6.2 Apparatus	11
6.6.3 Procedure	12

6.7	Lateral rigidity test.....	13
6.8	Flame resistance test.....	13
6.8.1	General.....	13
6.8.2	Apparatus.....	13
6.8.3	Test procedure.....	13
6.9	Electrical insulation test.....	13
7	Marking and labelling.....	14
7.1	General marking requirements	14
7.2	Label durability and legibility.....	14
7.3	Compliance marking requirements	14
8	Manufacturer's information.....	15
Annex A (normative) Conditioning and testing schedule.....		17
Annex B (informative) Guidelines for personal protective equipment (helmet) design		18
Annex C (normative) Thermal stability of helmets at elevated temperatures.....		19
Annex D (informative) Recommendations for the materials and construction of helmets		21
Bibliography		22

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

ISO 16073-5:2019

<https://standards.itih.ai/catalog/standards/iso/4640736a-3b93-4421-a843-4e783ad0f7fd/iso-16073-5-2019>

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).

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).

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.

This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Protective equipment*, Subcommittee SC 14, *Firefighters personal equipment*.

This first edition of ISO 16073-5, together with ISO 16073-1 to ISO 16073-8, cancels and replaces ISO 16073:2011.

The main changes are as follows:

- the content has been reviewed and separated into several parts;
- the respiratory protection has been deleted from the document.

A list of all parts in the ISO 16073 series can be found on the ISO website.

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.