ISO 16073-5:2019-12 (E)

Wildland firefighting p ersonal protective equipment - Requirements and test methods - Part 5: Helmets

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