ISO 11999-5:2015-11 (E)

PPE for firefighters - Test methods and requirements for PPE used by firefighters who are at risk of exposure to high levels of heat and/or flame while fighting fires occurring in structures - Part 5: Helmets

Contents

Page

Foreword v

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Helmet requirements 2
4.1 General 2
4.1.1 Fit 2
4.1.2 Protrusions and sharp edges 2
4.1.3 Reinforcement 3
4.1.4 Replacement components and accessories 3
4.1.5 Neck protector and ear covers 3
4.1.6 Shikoro 3
4.1.7 Optional components 3
4.1.8 Material selection 4
4.1.9 Resistance to cleaning agent 4
4.1.10 Protected area 4
4.1.11 Field of vision 5
4.1.12 Helmet mass 6
4.2 Samples and helmet adjustment 6
4.2.1 Samples 6
4.2.2 Helmet adjustment 6
4.3 Pre-conditioning 10
4.3.1 Pre-conditioning for Type 1 helmets 10
4.3.2 Pre-conditioning for Type 2 helmets 11
4.4 Performance requirements 12
4.4.1 Requirement table for Type 1 and Type 2 helmets 12
4.4.2 Radiant heat requirements for Type 1 helmets 14
4.4.3 Protection against molten metals for Type 1 helmets (optional) 14
4.4.4 Heat resistance 14
4.4.5 Flame resistance 15
4.4.6 Flame engulfment for Type 1 helmets (optional) 15
4.4.7 Thermal protective performance (TPP) for Type 2 helmets 15
4.4.8 Force impact resistance 16
4.4.9 Ballistic resistance for Type 1 helmets (optional) 16
4.4.10 Impact energy attenuation for Type 2 helmets 16
4.4.11 Penetration resistance 16
4.4.12 Lateral crushing for Type 1 helmets 16
4.4.13 Retention system effectiveness for Type 1 helmet (optional) 16
4.4.14 Retention system strength 17
4.4.15 Suspension system retention for Type 2 helmets 17
4.4.16 Shell retention for Type 2 helmets 17
4.4.17 Electrical properties 17
4.4.18 Hardware corrosion resistance for Type 2 helmets 18
4.5 Test methods 18
4.5.1 Radiant heat 18

4.5.2 Protection against molten metals for Type 1 helmets (optional) 18
4.5.3 Heat resistance 18
4.5.4 Flame resistance 19
4.5.5 Flame engulfment for Type 1 helmets (optional) 19
4.5.6 Thermal protective performance for Type 2 helmets ear covers 20
4.5.7 Force impact resistance 20
4.5.8 Ballistic resistance for Type 1 helmets (optional) 20
4.5.9 Impact energy attenuation for Type 2 helmets 21

4.5.10 Penetration resistance 21
4.5.11 Lateral crushing for Type 1 helmets 21
4.5.12 Retention system effectiveness for Type 1 helmets (optional) 21
4.5.13 Retention system strength 21
4.5.14 Suspension system retention for Type 2 helmets 22
4.5.15 Shell retention for Type 2 helmets 22
4.5.16 Electrical properties 22
4.5.17 Hardware corrosion resistance for Type 2 helmets 23

5 Marking 23
5.1 Marking for Type 1 helmets 23
5.2 Marking for Type 2 helmets 24