

# ISO 18639-5:2018-11 (E)

## PPE ensembles for firefighters undertaking specific rescue activities - Part 5: Helmet

<b>Contents</b>		<b>Page</b>
Foreword .....		v
Introduction .....		vi
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	2
4	Physical requirements .....	3
4.1	Material and construction .....	3
4.2	Projections .....	3
4.3	Retention system .....	3
4.4	Accessories and non-integral additional protective devices .....	3
4.5	Inspection .....	3
5	Sampling and pre-treatment .....	4
5.1	Sampling and helmet adjustment .....	4
5.1.1	Samples .....	4
5.1.2	Helmet adjustment .....	4
5.2	Pre-conditioning .....	4
5.2.1	General .....	4
5.2.2	'Thermal plus' conditioning .....	4
5.2.3	'Thermal minus' conditioning .....	4
5.2.4	Wet conditioning .....	4
5.2.5	Normal temperature .....	4
6	Performance requirements .....	4
6.1	General .....	4
6.2	Road traffic crash (RTC) .....	5
6.3	Urban search and rescue (USAR) .....	5
6.4	Shock absorption .....	5
6.4.1	General .....	5
6.4.2	Crown impact .....	5
6.4.3	Lateral impacts (front, rear, side) .....	6
6.5	Penetration resistance .....	6
6.5.1	General .....	6
6.5.2	Test method .....	6
6.6	Retention system strength .....	6
6.6.1	General .....	6
6.6.2	Test method .....	6
6.7	Flame resistance .....	7
6.7.1	Helmet shell .....	7
6.7.2	Accessories and non-integral additional protective devices .....	7
6.8	Lateral crushing .....	7
6.8.1	General .....	7
6.8.2	Test method .....	7
6.9	Thermal resistance .....	8
6.9.1	General .....	8
6.9.2	Test method .....	8
6.10	Conductive headform .....	8

6.10.1	General .....	8
6.10.2	Test method .....	8
6.11	Practical performance .....	8
6.12	Protection against high speed particles (optional) .....	8
6.12.1	General .....	8
6.12.2	Test method .....	9
7	Marking .....	9
8	User information .....	9
Annex A (normative)	Conditioning and testing schedule .....	13
Annex B (informative)	Example of failure modes and effect analysis (FMEA) .....	14
Bibliography	.....	19