

ISO 17420-5:2021 (E)

Respiratory protective devices — Performance requirements — Part 5: Special application fire and rescue services - Supplied breathable gas RPD and filtering RPD

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms, definitions, abbreviations and symbols
3.1	Terms and definitions
3.2	Abbreviated terms
4	Classification overview
4.1	General
4.2	Supplied breathable gas RPD
4.3	Filtering RPD
5	General requirements for RPD
6	Basic requirements for supplied breathable gas RPD and filtering RPD
7	Special application for fire and rescue services filtering and supplied breathable gas RPD
7.1	Special application for fire and rescue services RPD – Requirement matrices
7.1.1	General
7.1.2	Supplied breathable gas fire and rescue services RPD
7.1.3	Filtering fire and rescue services RPD
7.2	Requirements for special application fire and rescue services RPD
7.2.1	Thermal Requirements
7.2.1.1	Temperature of operation – Supplied breathable gas RPD
7.2.1.2	Temperature of operation – Filtering RPD
7.2.1.3	Temperature of operation – level 0 – Supplied breathable gas RPD
7.2.1.4	Temperature of operation – level 0 – Assisted filtering RPD
7.2.1.5	Temperature of operation – level 1 – Supplied breathable gas RPD
7.2.1.6	Temperature of operation – level 1 – Assisted filtering RPD
7.2.1.7	Temperature of operation – level 2- FF4 (type R1) – Supplied breathable gas RPD
7.2.1.8	Temperature of operation – level 3-FF5 (type R2) – Supplied breathable gas RPD
7.2.1.9	Temperature of operation – level 2 and flammability – Supplied breathable gas RPD
7.2.1.10	Temperature of operation – level 3 and flammability – Supplied breathable gas RPD
7.2.1.11	Thermal shock – Supplied breathable gas RPD
7.2.2	Resistance to flame
7.2.2.1	Six burner dynamic – Filtering RPD
7.2.2.2	Fabric material flame resistance performance – Supplied breathable gas RPD
7.2.3	Radiant heat
7.2.3.1	General
7.2.3.2	Radiant heat – level 1 – Supplied breathable gas RPD and filtering RPD
7.2.3.3	Radiant heat – level 2 – Supplied breathable gas RPD
7.2.3.4	Radiant heat – level 3 – Supplied breathable gas RPD
7.2.4	Resistance to hot particles (embers/sparks/ash) – Supplied breathable gas RPD and filtering RPD
7.2.5	Chemical resistance of materials
7.2.5.1	Supplied breathable gas RPD
7.2.5.2	Filtering RPD

- 7.2.6 Hazardous materials – Supplied breathable gas RPD
 - 7.2.7 Contact with hot and cold surfaces generated by the RPD
 - 7.2.7.1 Contact with hot and cold surfaces – Supplied breathable gas RPD
 - 7.2.7.2 Contact with hot surfaces generated by the RPD – Filtering RPD
 - 7.2.8 Avoidance of frictional sparks – Supplied breathable gas RPD and filtering RPD
 - 7.2.9 Visor after chemical exposure – Supplied breathable gas RPD and filtering RPD
 - 7.2.10 Mechanical requirement
 - 7.2.10.1 Connections – Supplied breathable gas RPD
 - 7.2.10.2 Connections — Filtering RPD
 - 7.2.10.3 Abrasion resistance of visor
 - 7.2.11 Requirements for audible warning devices – Supplied breathable gas RPD
 - 7.2.12 Practical performance requirements
 - 7.2.12.1 Passing through a square hatchway
 - 7.2.12.2 Removing the RPD from the position as donned
 - 7.2.13 Eye irritation (external)
 - 7.2.14 Operation during submersion – Supplied breathable gas RPD
 - 7.2.15 Resistance to water splash – Filtering RPD
 - 7.2.16 Communication performance (speaking and hearing) – Supplied breathable gas RPD and filtering RPD
 - 7.2.17 Requirements for RPD used in explosive atmospheres and electromagnetic compatibility – Supplied breathable gas RPD and filtering RPD
 - 7.2.17.1 Use in explosive atmospheres
 - 7.2.17.2 Electromagnetic compatibility
 - 7.2.18 RPD class FF1
 - 7.2.18.1 General
 - 7.2.18.2 Filter capacity and performance for RPD class FF1
 - 7.2.18.2.1 Filter capacity and filter performance for the test gas CO
 - 7.2.18.2.2 Filter capacity for the test gases other than CO and particle filter efficiency
 - 7.2.19 Exposure to dust
 - 7.3 Pre-conditioning of supplied breathable gas RPD and filtering RPD
 - 7.3.1 General
 - 7.3.2 Exposure to vibration and shock – Supplied breathable gas RPD and filtering RPD
 - 7.3.3 Exposure to impact from drop – Filtering RPD and replaceable filters
 - 7.3.4 Exposure to impact from drop — Supplied breathable gas RPD
 - 7.3.5 Enhanced resistance to corrosion — Constant exposure
- 8 **Testing**
- 8.1 General
 - 8.2 Inspection
 - 8.3 Testing of leak tightness using positive pressure
 - 8.4 Testing of hose permeation
 - 8.4.1 Hose material
 - 8.4.2 Sampling air
 - 8.4.3 Test equipment
 - 8.4.3.1 General
 - 8.4.3.2 Exposure chamber
 - 8.4.3.3 Detection system
 - 8.4.3.3.1 Challenge concentration monitoring system
 - 8.4.3.3.2 Sampling air concentration monitoring system
 - 8.4.3.3.3 Challenge delivery system
 - 8.4.3.3.4 Sampling air supply system
 - 8.4.3.4 Preparation
 - 8.4.3.4.1 Hose assembly – Gas test set up
 - 8.4.3.4.2 Hose assembly – Liquid droplet test set up
- 9 **Marking**
- 10 **Information supplied by the manufacturer**