

# PRPS

## POWERED RESPIRATOR PROTECTIVE SUIT



# RESPIREX™

Civil Resilience

Fire Authority

Health Authority

Military

The Respirex Powered Respirator Protective Suit (PRPS) is a one piece gas tight chemical protective suit for use by emergency response personnel after a CBRN incident

- Manufactured from DuPont™ Tychem® TK, a high performance, lightweight, multi-layer chemical barrier material
- Respiratory system comprising a battery powered 3M™ Jupiter™ air filter unit fitted with a visual display unit mounted inside the suit at the base of the visor, and audible alarm
- Battery pack provides 1 hour operational use, plus 15 minutes for decontamination
- Twin JRF-85 gas & particle filters to provide protection against chemical and biological warfare agents
- Semi-rigid laminated visor
- Heavy duty gas tight zip fitted across the chest enclosed by double external storm flaps with Velcro closure
- Dual glove system comprising Neoprene outer gloves bonded to inner Silver Shield laminate gloves
- Gas tight locking cuff mechanism
- Highly chemically resistant Hazmax™ safety boots permanently attached to suit
- Supplied with lightweight disposable Hazbag to quarantine the suit after use
- Available in a range of sizes (see over)

### Features and Benefits

- Powered respirator and loose-fitting hood provide cooling air over the head and through the suit, making the wearer more comfortable and better able to focus on tasks
- The loose-fitting hood design provides high protection without the need for a tight-fitting face piece, which means:
  - Many wearers feel less constricted
  - Can be used by wearers with facial hair
  - Training needs are reduced
  - Face-fit testing is not required
- The clear wide-view visor provides reassurance to casualties and victims by allowing easier, friendly 'whole-face' communication
- Compared to a gas-tight suit with SCBA, the PRPS suit and respirator is significantly lighter and more comfortable, with easier breathing and less equipment in body contact
- The lower weight and increased user comfort results in a lower physiological load than a conventional gas-tight suit
- Improved operational duration over gas-tight SCBA suits
- Up to six times the resource efficiency compared with gas-tight SCBA suits thanks to the lower physiological loading and increased duration
- Uncontaminated or 'decontamination-guaranteed' suits can be re-used following gas-tight re-test and re-certification

### Options

- Reusable PVC training suit - PRPS(T)
- Primary (single-use) lithium battery for immediate operational use, and rechargeable battery for training use
- Optional rehydration system and hard-hat
- Choice of lightweight dexterity gloves for medical tasks or heavy-duty gloves for increased physical protection

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3M™ and Jupiter™ are trademarks of 3M Company*

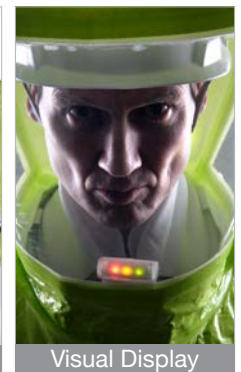
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**One Hour Duration  
Lightweight Suit  
No Face Mask Required**



Internal Respirator



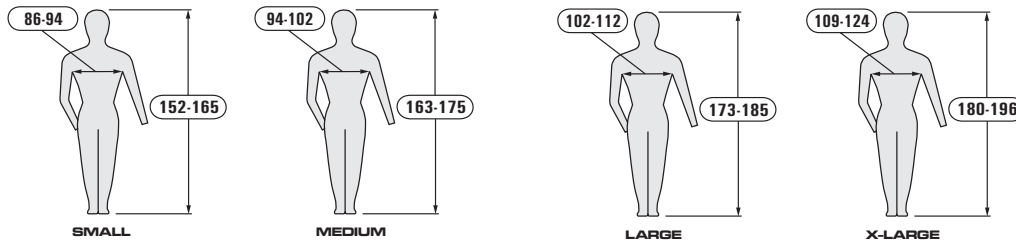
Visual Display

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# PRPS

## POWERED RESPIRATOR PROTECTIVE SUIT

### Sizing



### Material Performance

Tested In Accordance With	Performance Requirement	Typical Performance level	Performance Class Required For EN 943-2: 2002	Performance Class Achieved
EN 530:1994 Method 2 (inc. pressure drop)	Abrasion Resistance	> 2,000 Cycles	4	6
EN ISO 7854:1997 Method B (inc. pressure drop)	Flex Cracking Resistance	> 1,000 cycles	1	1
EN ISO 9073-4:1997	Trapezoidal Tear Resistance	Machine Direction 164.4 N Cross Direction 215.3 N	3	5
EN ISO 13934-1:1999	Tensile strength	Machine Direction 519.6 N Cross Direction 482.9 N	4	4
EN 863:1995	Puncture Resistance	49 N	2	2
EN ISO 6529:2001	Permeation Resistance when tested against 96% Sulphuric acid*	>480 min	1	6
EN 13274-4:2001 Method 3	Resistance to ignition	No part ignited or continued to burn on removal from the flame	1	1
EN 13274-4:2001 Method 3 (inc. pressure drop)	Resistance to flame	No part ignited or continued to burn on removal from the flame		
ISO 5082:1982 Annex A2	Seam Strength	607 N	5	5

For permeation data please refer to the separate Respirix Materials Permeation Guide and the DuPont™ Tychem® TK material datasheet.

For boot performance, please refer to the separate Hazmax™ Boot data sheet.

### Respirator and Filter Performance

#### Respiratory Protection:

3M™ specification TS0084 (based on EN12941:1998 TH3, nominal PF= 500). Following clauses excluded or modified: battery duration; maximum mass; strength of hoses and couplings; strength of couplings to hood; marking.

#### Battery:

(BAT-21) Lithium, single-use, duration: 3.5 hours.

#### Filters:

(JFR-85-CE) A2B2E2K2P SL + chemical warfare (CW) agents: military challenges, similar to those defined in the NATO Respirator Triptych D/103:1991. See 3M JFR-85 Technical Bulletin for details. IP53, per EN60529 (dust and spraying water).

#### M MDF (Manufacturer's Minimum Design Flow):

135 l/min; max flow: 230 l/min.

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