FIRE & RESCUE PRODUCT CATALOGUE

RESPIREX™

GAS-TIGHT SUITS

BACKGROUND:

Gas-tight suits protect emergency responders and chemical workers from dangerous and toxic chemicals in liquid or gaseous form. They are used in areas that are considered immediately dangerous to life and health (IDLH).

Type 1A suits are designed for Self-Contained Breathing Apparatus (SCBA) worn inside the suit, which provides the greatest protection to the emergency responder and simplifies decontamination after an incident.

All gas-tight suits are leak-tightness tested during manufacture.

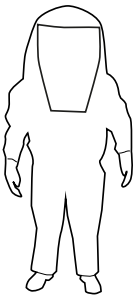
APPLICATIONS:

- HAZMAT Incidents
- CBRN Incidents
- Chemical Manufacture, Handling & transport
- Petrochemical
- Shipping
- Bomb disposal

SUIT FAMILIES

Respirex manufacture three distinct families of Type 1A (ET) gas-tight suits; the best suit for your particular application will depend on the usage environment and how often suits are worn

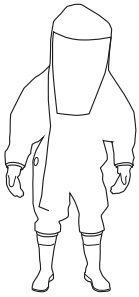
GTL - *Single-Use, Regular Robustness Suit*



USE 1x

Material:	Chemprotex™ 400
Life:	7 Years Maintenance Free 10 Year Shelf Life
Features:	Fixed Kemblok™ gloves with outer neoprene glove, sock feet with splashguard outer leg. ESD Option for ATEX environments.

GTR - *Limited Life, Regular Robustness Suit*



USE 5x*

Materials:	Chemprotex™ X, Tychem® TK
Life:	5 Years Maintenance Free* 10 Year Shelf Life
Features:	Gas-tight locking cuff system for easy glove changes, detachable Hazmax™ FPA boots or sock feet with outer splashguard leg. Options for pass through & equipment attachment points **Suits may be reused up to 5 times, depending on damage and contamination*

GTB - *Reusable, Enhanced Robustness*

FULLY REUSABLE†

Materials:	Viton®/Butyl/Viton® (VBV), Viton® Laminate
Life:	15 Year Shelf Life Re-test after each use or annually
Features:	Gas-tight locking cuff system for easy glove changes, detachable Hazmax™ FPA boots or sock feet with outer splashguard leg. Options for pass through, equipment attachment points, suit ventilation and fall arrest. *†Suits can be reused until they are no longer repairable, or cannot be decontaminated*

GTL™ LIGHTWEIGHT SUIT

A lightweight, fully encapsulating, Type 1A - ET single-use regular robustness gas-tight suit, designed to protect the emergency responder against toxic, corrosive gases, liquids and solid chemicals.

- Ten year shelf life (seven years maintenance free)
- Compatible with the Permasure® Toxicity Modeller for calculation of safe working time with a given chemical based on real world conditions
- Fully encapsulating design to allow breathing apparatus to be worn inside the suit
- Heavy-duty 122cm (48") long gas-tight zip, fitted to the right hand side of the suit; a flap with a hook and loop fastener fitted to cover the teeth of the zip
- Adjustable internal support belt and bat-wing sleeves for optimum wearer comfort
- Flexible, multi-laminated, anti-mist visor giving clear undistorted vision
- Chemically protective, laminated glove welded to the suit material with an elasticated over-sleeve to prevent splash entering the supplied Neoprene outer gloves
- Integral sock feet with outer splash guard legs for use with F3A rated safety wellingtons (e.g. Hazmaz™ FPA)
- Pressure test & inspection required at year seven

Testing & Certification:

TYPE 1A, EN 943-2:2019(ET)
Protective clothing against liquid and gaseous chemicals, aerosols and solid particles - Requirements for suits for Emergency Teams

EN 1073-2:2002, Class 3 (NPF >9090)
Protective clothing against radioactive contamination

FINABEL 0.7.C
Chemical Warfare Agents

EN 14126:2003
Protective Clothing Against Infective Agents

SOLAS 1974/1988
Reg. II-2, 19.3.6.1

GTL™ LIGHTWEIGHT SUIT

FABRIC OPTIONS

Chemprotex™ 400

A high performance chemical barrier material manufactured by laminating spunbonded polythene to a 7-layer barrier film with a protective outer coating.

SUIT OPTIONS

GTL ESD Suit for ATEX zones

Tested in accordance with IEC 60079-32-2:2015 and CEN/CLC/TR 16832:2015 the GTL ESD suit is suitable for use in the following ATEX environments:

Dust Ex atmospheres: **ZONES 20, 21 & 22***
Gas Ex atmospheres: **ZONES 0, 1 & 2**

The ESD version of the GTL suit incorporates attached antistatic butyl outer gloves and covered exhalation valves. **N.B.** The GTL ESD suit requires the use of ESD F3A safety wellingtons (e.g. Hazmaz™ ESD FPA)

** A risk assessment will be required in conductive dust environments*

Suit/Brigade ID

Customer Identification names & codes can be added to the base of the visor or on the back of the suit.

GTR LIMITED LIFE SUIT

Fully encapsulating Type 1A - ET regular robustness gas-tight suit manufactured in a choice of high performance, multi-layer layer, non-woven, chemical barrier fabrics.

- Fully encapsulating design to allow breathing apparatus to be worn inside the suit
- Heavy duty 122cm (48") long gas-tight zip, fitted to the right hand side of the suit - flap with a hook and loop fastener fitted to cover the teeth of the zip
- Adjustable internal support belt and bat-wing sleeves for optimal wearer comfort
- Flexible, multi-laminated, anti-mist visor giving clear undistorted vision
- Detachable gloves fitted using gas-tight locking cuff
- Bonded inner & outer gloves provide chemical and mechanical protection
- Supplied with detachable Hazmax™ FPA safety boots for speed of donning and increased user comfort; sock feet with outer splash guard legs available as an option
- Ten year shelf-life
- Maintenance free for the first five years unless used
- Pressure test annually from year five or after each use

Testing & Certification:

T. 1 (ET)

TYPE 1A, EN 943-2:2019(ET)
Protective clothing against liquid and gaseous chemicals, aerosols and solid particles - Requirements for suits for Emergency Teams

EN 1073-2:2002, Class 3 (NPF >9090)
Protective clothing against radioactive contamination

FINABEL 0.7.C
Chemical Warfare Agents

EN 14126:2003
Protective Clothing Against Infective Agents

SOLAS 1974/1988
Reg. II-2, 19.3.6.1

GTR LIMITED LIFE SUIT

FABRIC OPTIONS

Chemprotex™ X (NEW FOR 2023)

Two layers of the Chemprotex™ 400 barrier film sandwiched around a spunbonded polythene core.

Flex	Tear	Puncture	>480mins	Permasure®
3/6	6/6	2/6	15/15	P

DuPont™ Tychem® TK

A high strength, tear resistant, 100% nonwoven polyester staple fabric sandwiched between two proprietary non-halogenated barrier films.

Flex	Tear	Puncture	>480mins
1/6	6/6	2/6	15/15

DuPont™ and Tychem® are trademarks or registered trademarks of E.I. du Pont de Nemours and Company

SUIT OPTIONS

Anchor Hook

External equipment attachment point

DSU Attachment

External equipment attachment point for a Distress Signal Unit (DSU)

Pass-Through

Allows the connection of a second cylinder or an air-line to the second man attachment on the breathing apparatus during decontamination.

Torch Ring Attachment

External equipment attachment point

Personal Line Attachment

External equipment attachment point

Suit/Brigade ID

Customer Identification names & codes can be added to the base of the visor or on the back of the suit.

GTB™ REUSABLE SUIT

The GTB is a Type 1A - ET enhanced robustness gas-tight suit suitable for emergency responders and in industrial applications such as HF alkylation facilities. The fully encapsulating suit covers the breathing apparatus and facemask, simplifying decontamination. Manufactured in either Viton®/Butyl/Viton® (VBV), our hardest wearing material, or Laminate Viton®, our lightest reusable Type 1A-ET suit fabric, with excellent chemical permeation resistance.

- Heavy-duty gas-tight zip fitted to the right hand side of the suit (running from the thigh to the top of the head), protected by double storm flaps with a hook and loop fastener
- Large double-layer rigid visor, provides clear undistorted vision
- Detachable gloves fitted using gas-tight locking cuff
- Bonded inner & outer gloves provide chemical and mechanical protection
- Supplied with detachable Hazmax™ FPA safety boots for speed of donning and increased user comfort, sock feet with outer splash guards available as an option
- Adjustable internal waist belt allows wearers of varying sizes to use the suit comfortably
- Fifteen year shelf life
- Pressure test required annually or after each use

Testing & Certification:

TYPE 1A, EN 943-2:2019(ET)
Protective clothing against liquid and gaseous chemicals, aerosols and solid particles - Requirements for suits for Emergency Teams

EN 1073-2:2002, Class 3 (NPF >9090)
Protective clothing against radioactive contamination

FINABEL 0.7.C*
Chemical Warfare Agents

EN 14126:2003
Protective Clothing Against Infective Agents

**Viton®/Butly/Viton® only*

GTB™ REUSABLE SUIT

FABRIC OPTIONS

Viton®/Butyl/Viton®

A polyester fabric coated one side with orange fireproof DuPont™ Viton® with a black fireproof butyl undercoat and one side with black fireproof Viton® with a black fireproof butyl undercoat.

Flex | Tear | Puncture | >480mins

Chlorotex (NEW FOR 2023)

A high-performance laminate material with a CSM (Chlorosulfonated Polyethylene) rubber orange inner and red outer surface and an internal chemical barrier film.

Flex | Tear | Puncture | >480mins

SUIT OPTIONS

Anchor Hook

External equipment attachment point

Torch Ring Attachment

External equipment attachment point

DSU Attachment

External equipment attachment point for a Distress Signal Unit (DSU)

Personal Line Attachment

External equipment attachment point

Pass-Through

Allows connection of a second cylinder or air-line to the second man attachment on the SCBA

Suit/Brigade ID

Customer Identification names & codes can be added to the base of the visor or on the back of the suit.

Suit Ventilation (GTVB)

Adjustable ventilation system for the arms and legs of the suit, fed from the wearers BA set.

Fall Arrest

For use with an internal fall arrest harness with a back D ring fixing and used in conjunction with a retractable type fall arrester

LIQUID-TIGHT SUITS

BACKGROUND:

Limited-life Type 3 liquid tight chemical splash suits provide an economical solution for dealing with a wide range of chemical and CBRN hazards. Particularly suitable for applications where suits are needed infrequently, where the type of hazard is unknown, or where decontamination facilities are limited - they are widely used by fire brigades, police, civil defence, transport and shipping companies.

APPLICATIONS:

- HAZMAT Incidents
- CBRN Incidents
- Chemical Manufacture, Handling & transport
- Shipping
- Decontamination

Chemprotex™ 300 Fabric

A lightweight and highly flexible chemical barrier material manufactured by laminating spunbonded polythene to a 5-layer barrier film with a protective outer coating.

Flex	Tear	Puncture	>480mins	Permasure®
1/6	4/6	2/6	12/15	P

GLS 300 A

The GLS 300A suit in **Chemprotex™ 300** is a single use fully encapsulating gas-tight chemical protection suit covering both the wearer and the breathing apparatus. The suit combines the benefits of a lightweight high-performance chemical barrier fabric with a gas-tight construction to method 2 of ISO 17491-1. It incorporates attached antistatic chemical gloves, sock feet and a lightweight gas-tight zip.

- Large laminated anti-mist visor gives clear undistorted vision
- Twin exhalation valves to side of hood to ensure that the suit maintains a comfortable working pressure
- Lightweight gas-tight zip fitted to rear of suit, closing at the top and covered with a double storm flap with hook and loop fastener
- Chemically protective anti-static glove attached to the suit
- Integral socks in Chemprotex™ 300 material with splash-guard outer legs allowing the wearing of customer's own boots. (Boots not included)
- Must be worn with ESD footwear to ensure a conductive path to ground [when used in potentially explosive atmospheres]

Testing & Certification:

T. 3 — **TYPE 3,** EN14605:2005+A1 2009
Liquid-Tight Chemical Protective Clothing

T. 4 — **TYPE 4,** EN14605:2005+A1 2009
Spray-Tight Chemical Protective Clothing

T. 5 — **TYPE 5,** EN13982-1:2004+A1:2010
Particulate Protective Clothing

T. 6 — **TYPE 6,** EN13034:2005+A1 2009
Limited Spray-Tight Chemical Protective Clothing

METH 2 — **METHOD 2**, ISO 17491-1:2012
Internal pressure test

ATEX Tested for use in explosive environments:

Ex

Dust Ex atmospheres: ZONES 20, 21 & 22
Gas Ex atmospheres: ZONES 1 & 2

Tested in accordance with EN IEC 60079-32-2: (2015) and CEN/CLC/TR 16832:2015

Permasure® App Compatible

Permasure®
App
Compatible

SC1 SPLASH SUIT

Lightweight, Type 3 liquid-tight chemical splash contamination suit, designed for use with breathing apparatus worn outside the suit, or with a face mask and filter.

- Compatible with the Permasure® Toxicity Modeller for calculation of safe working time with a given chemical based on real world conditions
- One-piece construction in **Chemprotex™ 300**
- Integral hood, with Neoprene rubber face grommet, to seal around the wearer's face mask
- 91cm (36") Nylon zip, fitted across the shoulders in the rear of the suit, with double external zip-flaps sealed with double-sided tape
- Kemblok™ chemically protective laminated glove, welded to the suit material
- Supplied with separate neoprene outer gloves for mechanical protection
- Integral socks, with plain outer leg, allowing the wearing of customer's own safety boots (boots not included)

Testing & Certification:

T. 3 — **TYPE 3,** EN14605:2005+A1 2009
Liquid-Tight Chemical Protective Clothing

T. 4 — **TYPE 4,** EN14605:2005+A1 2009
Spray-Tight Chemical Protective Clothing

T. 5 — **TYPE 5,** EN13982-1:2004+A1:2010
Particulate Protective Clothing

T. 6 — **TYPE 6,** EN13034:2005+A1 2009
Limited Spray-Tight Chemical Protective Clothing

FINABEL 0.7.C
Chemical Warfare Agents

EN 14126:2003
Protective Clothing Against Infective Agents

EN 1073-2:2002
Protective clothing against radioactive contamination

EN1149-1:2006
Antistatic protective clothing

SOLAS 1974/1988
Reg. II-2, 19.3.6.1

SPLASHMASTER™ COVERALL

Lightweight, Type 3 liquid-tight, limited-life coverall, designed for use with a with a face mask and filter or appropriate face and head protection.

- Compatible with the Permasure® Toxicity Modeller for calculation of safe working time with a given chemical based on real world conditions
- One-piece construction in blue **Chemprotex™ 300**
- Integral elasticated hood
- Adjustable throat flap for improved seal around the base of the facemask
- Nylon zip, fitted vertically from groin to neck with twin flaps and hook and loop fastener to seal
- Unique zip-flap arrangement ensures liquid tight performance without the need for taping the flap
- Elasticated legs
- Elasticated wrists with thumb loop

Testing & Certification:

TYPE 3, EN14605:2005+A1 2009
Liquid-Tight Chemical Protective Clothing

TYPE 4, EN14605:2005+A1 2009
Spray-Tight Chemical Protective Clothing

TYPE 5, EN13982-1:2004+A1:2010
Particulate Protective Clothing

TYPE 6, EN13034:2005+A1 2009
Limited Spray-Tight Chemical Protective Clothing

EN 14126:2003
Protective Clothing Against Infective Agents

EN1149-5:2018
Antistatic protective clothing

Permasure®
App
Compatible

POWERED AIR SUITS

BACKGROUND:

Powered air systems provide continuous filtered air to the user increasing wearer comfort and allowing the user to work for longer due to the reduced physical burden.

The loose-fitting hood design of powered respirator suits (and hoods) provides high protection without the need for a tight-fitting face piece, which means:

- Many wearers feel less constricted
- They can be used by wearers with facial hair
- Training needs are reduced
- Face-fit testing is not required
- The unobstructed view of the wearers face provides reassurance to casualties and aids communication

APPLICATIONS:

- CBRN Incidents
- Casualty Triage & Decontamination
- Infectious Diseases

PRPS³ SUIT

The Powered Respirator Protective Suit (PRPS) is a one-piece gas-tight chemical protective suit for use by emergency response personnel after a CBRN incident. The suit was developed in conjunction with the UK National Health Service and is now widely used in the UK and overseas.

- Manufactured from DuPont™ Tychem® TK, a high performance, multi-layer chemical barrier material
- Respiratory system comprising a battery powered **CleanAir® Chemical 2F powered respirator** 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
- **Two CleanAIR® CBRN (A2B2E2K2P3) filters** provide protection against chemical and biological warfare agents
- Heavy duty gas-tight zip fitted across the chest enclosed by double external storm flaps with hook and loop fastener
- Dual glove system comprising protective outer gloves bonded to inner Kemblok™ laminate gloves
- Gas-tight locking cuff mechanism
- Highly chemically resistant Hazmax™ FPA safety boots permanently attached to suit
- Improved operational duration over gas-tight SCBA suits
- Pressure test every three years or after each use

Options:

- Reusable PVC training suit - PRPS(T)
- Choice of lightweight dexterity gloves for medical tasks or heavy-duty gloves for increased physical protection

Testing & Certification:

TYPE 1C*, EN 943-2:2002
Protective clothing against liquid and gaseous chemicals, aerosols and solid particles

FINABEL 0.7.C
Chemical Warfare Agents

EN 14126:2003
Protective Clothing Against Infective Agents

EN12941:1998+A2:2008
Respiratory protective devices

**The Powered Respirator Protective Suit (PRPS) has been assessed by a notified body as satisfying Annex II of the PPE regulation (EU) 2016/425 using technical standards EN 943-2 'Protective clothing against liquid and gaseous chemicals,including liquid aerosols and solid particles Part 2: Performance requirements for"gas-tight" (Type 1) chemical protective suits for emergency teams (ET)' and EN 12941 'Respiratory protective devices - Powered filtering devices incorporating a helmet or a hood - Requirements, testing, marking'.*

CLEANAIR® CHEMICAL 2F POWERED RESPIRATOR

Worn inside the RJS suit, with the filters mounted externally the Chemical 2F powered respirator combines sophisticated electronics with a durable easy-clean construction. The auto-closing inlets prevent contamination entering the suit while the filters are being changed, while the smart flow control system maintains a constant airflow regardless of filter loading or battery charge.

Rechargeable or primary (single-use, 10 year shelf life) batteries are available and a remote audio and visual alarm fitted in the suit hood indicates when safe working time has elapsed or if there is an issue with the respirator. CleanAIR® **CBRN (A2B2E2K2P3) filters** are supplied as standard, providing protection against chemical and biological warfare agents, but a range of other filters are available.

BENEFITS OF POWERED RESPIRATOR SUITS

Can be used by wearers with **facial hair and/or glasses**

Improved operational duration over gas-tight suits with SCBA

No requirement for **face-fit testing**

Up to six times the resource efficiency compared with gas-tight SCBA suits thanks to the lower physiological loading and increased duration

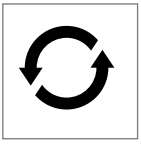
Training needs are reduced

Significantly **lighter and more comfortable**, with easier breathing and less equipment in body contact than with a gas-tight suit with SCBA

Powered respirator provides **cooling air over the head** and through the suit, making the wearer more comfortable and better able to focus on tasks

The lower weight and increased user comfort results in a **lower physiological load** than a conventional gas-tight suit

A **Large visor** provides reassurance to casualties and victims by maintaining non verbal communication through facial expression and aids speech recognition.



Uncontaminated or fully decontaminated **suits can be re-used** following a gas-tight re-test and re-certification

PROTECTIVE FOOTWEAR

BACKGROUND:

Workmaster™ boots from Respirex are manufactured at our state of the art production facility in the UK and incorporate a number of significant innovations.

Our boots are available with a high-grip vulcanised rubber soles which significantly improves the slip resistance and the durability of the sole compared to conventional materials. It is also fuel and oil resistant and resistant to contact with hot surfaces.

We have a range of specialist materials including the highly chemically resistant Hazmax™ compound and our HV3 Dielectric compound for boots certified for live working up to 26,500 Volts.

Our full range of boots (including food and construction industry footwear) can be found at www.workmasterboots.com

APPLICATIONS:

HAZMAX™ BOOTS

- Hazmat Incidents
- Spill clean-up
- Chemical Handling
- Decontamination

DIELECTRIC BOOTS

- Electric Vehicles
- Shipping

HAZMAX™ FPA BOOT

Hazmax™ FPA boots combine the unrivalled chemical protection of our famous Hazmax™ safety boots, with enhanced heat resistance conforming to the EN 15090:2012 HI_3 F3A Fire fighter boot standard.

- Resistant to flame and radiant heat (20kW/m^2)
- Heat insulation of the sole (250°C for 40 minutes)
- Proprietary Hazmax™ chemically resistant compound certified to EN 13832-3
- Black vulcanised rubber sole for maximum grip - 30% better than a conventional safety boot sole

Testing & Certification:

EN20345:2011 S5 SRC HI HRO CI FO
Safety Footwear

EN13832-3:2018 A,K,O,P,Q,R,T
Footwear protecting against prolonged contact with chemicals.

EN 15090:2012, Class 2 - Type F3A (HI3, CI, SRC)
Footwear for Fire-fighters

HAZMAX™ ESD FPA BOOT

A version of the Hazmax™ FPA boot with lower electrical resistance for use in ATEX applications. ESD properties meet the requirements of EN 61340-5-1:2016 (0.1MΩ to 100MΩ) and EN 61340-5-1:2007 (0.1MΩ to 35MΩ)

HAZMAX™ & HAZMAX™ ESD BOOTS

Hazmax™ and Hazmax™ ESD boots are conventional chemical resistant safety wellingtons for use in applications where high levels of radiant heat resistance are not required - e.g. spill clean-up, decontamination etc

HAZMAX™ MAXI OVERBOOTS

Chemically protective anti-static overboots designed for use over conventional leather firefighter boots and safety boots. The unique rear entry, wrap around design is quick to fasten even with gloved hands and remains secure

ISOTEC BOOT

A heat-resistant safety boot conforming to the EN 15090 HI_3 F3A fire boot standard for flame resistance, radiant heat (20kW/m^2) and heat insulation of the sole (250°C for 40 minutes). These boots are designed for use in areas where there is a risk of sparks from welding or grinding or for close proximity fire fighting.

- Certified to the Marine Equipment Directive (MED) 2014/90/EU Item 3.4 - Fire-fighter's outfit: Boots
- Chemically resistant boot certified to EN 13832-3 level 5
- Black vulcanised rubber sole for maximum grip - 30% better than a conventional safety boot sole

Testing & Certification:

EN20345:2011 S5 SRC CI HRO
Safety Footwear

EN13832-3:2018 K N Q
Footwear protecting against prolonged contact with chemicals.

EN 15090:2012 Type F3A
Footwear for Fire-fighters

CBRN OVERBOOT

A chemically protective anti-static overboot with an ambidextrous quick-don design. Tested against a broad range of hazardous chemicals and chemical warfare agents, the boot design allows it to be fastened single-handedly in less than five seconds.

- Single ambidextrous design allows the boot to be worn on either the right or left foot to speed donning & doffing
- Manufactured from black chemically resistant Hazmax™ FPA compound and certified to EN 13832-3:2018 (Footwear protecting against chemicals)
- Quick & easy to decontaminate
- Designed to fit and completely cover standard military issue combat boots

Testing & Certification:

EN20347:2012 A FO SRA
Safety Footwear

EN13832-3:2018 A K O P Q R T
Footwear protecting against prolonged contact with chemicals.

DIELECTRIC MAXI OVERBOOT

A Class 1 electrically insulating dielectric overboot with a vulcanized rubber sole for superior slip resistance. The Workmaster™ Maxi Dielectric overboot is designed to be worn over safety boots and allows live working at up to 7.5kV with every boot tested at 20kV for ASTM F1117.

As an option boots are available tested for Class 1 DC use, making them ideal for use in electric vehicle incidents.

- Injection moulded using our proprietary Dielectric compound for a seamless boot with excellent electrical insulation properties
- Ingenious rear entry design ensures the boot is quick and easy to fit and remove
- Single piece injection moulded construction with integral moulded fastener ensures there are no seams or mounting/ fastener holes to leak
- Vulcanized rubber sole for greatly improved slip resistance in wet and oily conditions (SRC)
- Durable, cut-resistant vulcanised rubber sole, significantly extends working life, even in harsh terrain
- Heat resistant sole EN 20347:2011 HRO, 60 seconds at 300°C
- Fuel and oil resistant sole

Testing & Certification:

EN20345:2011 SB SRC CI HRO FO
Safety Footwear

Class 1 AC, EN13832-3:2018
Electrically Insulating Footwear

KEMBLOK™ GLOVES

BACKGROUND:

Kemblok™ gloves use multiple layers of chemical barrier materials to provide excellent protection against a broad range of chemicals. They are ideal as glove liners to provide enhanced chemical protection for heavier gloves providing mechanical protection, or as a chemical protective glove in applications where only a chemical barrier is required (e.g. laboratories or spill clean up).

APPLICATIONS:

- Transferring chemicals and loading process equipment
- Filling, blending & charging of raw materials
- Opening & draining pumps, valves or lines
- Handling application and cleaning tools
- Chemical Testing
- Degreasing
- Emergency response
- Spills & leakages

KEMBLOK™ GLOVES

Permasure®
App
Compatible

Manufactured using a seven-layer chemical barrier laminate material, Kemblok™ gloves provide excellent protection against a wide range of chemicals, viruses and micro-organisms.

- Protection against chemicals and micro-organisms to EN ISO 374-1:2016
- Can be worn as a liner under heavier gloves providing mechanical protection
- Lightweight & comfortable
- Compatible with the PermaSURE® toxicity modelling smart-phone app which calculates safe working times for over 4,000 chemicals
- Ergonomic ambidextrous design
- Working temperature -40°C to 70°C
- Silicone and latex free
- REACH compliant
- Available in three sizes (Small, Medium & Large)

Testing & Certification:

EN ISO 374-1:2016 - Type A
Protective gloves against chemicals & micro-organisms. Permeation Level 6 with reagents A, D, E, G, H & L

EN ISO 374-5:2016
Protective gloves against chemicals & micro-organisms. With EN ISO 374-2:2014 AQL Performance Level 3 including Viral Penetration

EN 420:2003+A1:2009
Clause 5.2, Finger Dexterity Level 5

CBRN ACCESSORIES

BACKGROUND:

In addition to chemical resistant suits, boots and gloves, Respirex manufactures a range of ancillary equipment for use in CBRN incidents. These include gas-tight drum containment bags, CBRN body bags and a range of inflatable decontamination showers manufactured by our sister company MFC International.

APPLICATIONS:

- HAZMAT Incidents
- CBRN Incidents

CHEMICAL DRUM BAG

A gas-tight containment bag, designed to cover a typical 200 litre (600mm ø x 880mm) drum used for chemical storage and transportation. The bag is designed to safely contain and transport drums that are leaking or emitting hazardous vapours.

Manufactured in Chemprotex™ X, a high performance multi-layer chemical-barrier fabric, the drum containment bag is lightweight an extremely durable.

- Heavy duty gas-tight zip around three sides of the bag for ease of access.
- Positioning straps to assist with placement of the bag over the drum (N.B. they are not to be used lifting/moving the bag when full)
- Manufactured with a Chemprotex™ X shell, which provides excellent protection against a broad range of chemicals
- Provides a physical barrier to particulate, liquid, vapour and gas materials
- Antistatic - Conductive strip on base provides path to ground.
- Durable material with double skinned base for abrasion protection
- For use with a chemical filter with a RD40x1/7" thread (supplied separately)allowing vapours/gasses to safely vent out of the bag and preventing a build-up of pressure.
- Shut off cap over filter port prevents outflow from the bag during handling when no filter is required
- Durable, lightweight material for ease of transport, handling and storage
- Internal gas-tightness pressure test to ISO 17491-1:2012 Method 2 conducted prior to despatch to confirm the bag is gas-tight

Permasure® App Compatible

Testing:

METH 2

METHOD 2, ISO 17491-1:2012
Internal pressure test

CBRN BODY BAG

A gas-tight body bag, designed to contain chemically contaminated mortalities and body parts after a CBRN incident.

- Manufactured in Chemprotex™ X, a high performance multi-layer chemical-barrier fabric, the CBRN body bag is lightweight and extremely durable.
- Clear viewing window for casualty identification (Adult/ Large bag only)
- A4 Waterproof pouch (over viewing widow on large bag) to enable the viewing window to be obscured if necessary and allowing identification paperwork to be attached to the body bag
- (16x) Sturdy optional carrying straps allow four people in PPE to assist with lifting and carrying
- Durable material with double skinned base for abrasion protection
- Heavy duty gas-tight zip around three sides of the bag for ease of access.
- Absorbent pads in the bottom of the bag capable of holding more than five litres of fluid
- Disposal by means of either cremation or burial
- Manufactured with a Chemprotex™ X shell, which provides excellent protection against a broad range of chemicals
- For use with a CBRN filter with a RD40x1/7" thread (supplied separately)allowing gasses produced by the body as part of the decomposition process to safely pass out of the bag.
- Shut off valve over CBRN filter exhaust prevents outflow from the bag during handling
- Durable, lightweight material for ease of transport, handling and storage
- Internal gas-tightness pressure test to ISO 17491-1:2012 Method 2 conducted prior to despatch to confirm the bag is gas-tight Provides a physical barrier to particulate, liquid, vapour and gas materials

Permasure® App Compatible

Testing:

METH 2

METHOD 2, ISO 17491-1:2012
Internal pressure test

SINGLE PERSON DECONTAMINATION SHOWER

Lightweight and quick to deploy, the inflatable Single Decontamination Shower from MFC International allows for rapid response in a decontamination scenario. Fully inflatable, the shower can be set up in a matter of minutes, and will stay standing without continuous inflation. With no mechanical framework the shelters are lightweight to transport and compact to store. Showers can be used on hard or soft standing, and guy ropes are provided for securing in position during inclement weather.

Raised floor panels prevent contact with contaminated shower wash-off, which is collected in a chemically resistant sump. Sleeves for pumped extraction of contaminated water are included as standard. Single Decontamination Showers come with a viewing window and optional chemically resistant nitrile rubber gloves to allow assisted decontamination by a third party stood outside of the unit.

FOUR PERSON DECONTAMINATION SHOWER

The inflatable Four Person Decontamination Unit has entrance and exit zippered roll-up doors with a separate curtain fitted behind. A detachable internal partition is also provided. The shower system has two separate water feeds allowing the front half of the shower to be fed with water treated with a cleanser or neutralising agent, while the back half can be used to rinse off with clean water.

Raised floor panels prevent contact with contaminated shower wash-off, which is collected in a chemically resistant sump. Sleeves for pumped extraction of contaminated water are included as standard.

MASS DECONTAMINATION SHOWER

Fully inflatable, the Mass Decontamination Unit can be set up in a matter of minutes, and will stay standing without continuous inflation. With no mechanical framework the shelters are relatively lightweight to transport and compact to store.

The mass Decontamination shower is internally partitioned into three lanes (male, female & assisted casualty), with pre and post decon changing areas.

Raised floor panels prevent contact with contaminated shower wash-off, which is collected in a chemically resistant sump. Sleeves for pumped extraction of contaminated water are included as standard.

CHEMICAL PERMEATION DATA

CHEMICAL	CAS NO.	EN 374 & EN 13832 LETTER CODE	CHLOROTEX	VITON®/BUTYL/ VITON®	DUPONT® TYCHEM® TK	CHEMPROTEX™ X	CHEMPROTEX™ 400	CHEMPROTEX™ 300	KEMBLOK™	HAZMAX™
Acetic acid (Glacial)	64-19-7	N		6	6	6	6	6	6	6
Acetone	67-64-1	B	6	6	6	6	6	6	6	4
Acetonitrile	75-05-08	C	6	6	6	6	6	6	6	5
Ammonia 33%	1336-21-6	O			6	6	6	6	6	6
Ammonia Gas	7664-41-7		6	6	6	6	6	6	6	6
Carbon Disulphide	75-15-0	E	6	6	6	6	6	6	6	3
Chlorine Gas	7782-50-5		6	6	6	6	6	6	6	4
Dichloromethane	75-09-02	D	6	3	6	6	6	6	6	3
Diethylamine	109-89-7	G	6	3	6	6	6	1	6	4
Ethyl Acetate	141-78-6	I	6	5	6	6	6	6	6	5
Formaldehyde 37%	79-11-8	T		6	6	6	6	6	6	6
n-Hexane	110-54-3		6	6	6	6	6	6	6	5
Hydrofluoric Acid 48%	7664-39-3	S		6	6	6	6	6	6	6
Hydrogen Chloride Gas	7647-01-0		6	6	6	6	6	6	6	6
Methanol	67-56-1	A	6	6	6	6	6	6	6	6
Nitric Acid 50%	7697-37-2	M		6	6	6	6	6	6	6
Sodium Hydroxide 40%	1310-73-2	K	6	6	6	6	6	6	6	6
Sodium Hypochlorite 16%	7681-52-9	R				6	6	6	6	6
Sulphuric Acid 50%	7664-93-9	L				6	6	6	6	6
Sulphuric Acid 96%	7664-93-9		6	6	6	6	6	6	6	6
Tetrahydrofuran	109-99-9	H	6	2	6	6	6	2	6	4
Toluene	108-88-3	F	6	6	6	6	6	4	6	5

Normalised breakthrough results for each material are given with the EN Class number (EN 16523), see key below for breakthrough times. Full details and further permeation results are at respirex.com

Class 6	>480 mins	Class 5	>240mins	Class 4	>120mins		<10mins
Class 3	>60 mins	Class 2	>30 mins	Class 1	>10 mins		Not tested

Chemicals in **bold** are the 15 standard test chemicals defined in EN943-2:2019

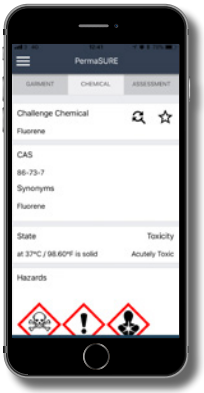
PERMASURE® TOXICITY MODELLER

PermaSURE® is a toxicity modelling app for Respirex™ Kemblok™ gloves and chemical protective suits made from Chemprotex™ fabrics. Using the latest modelling techniques, the PermaSURE® app calculates your safe working time based on the chemical you are working with, the PPE you are using and the working temperature.

The advantages of PermaSURE® are:

- It models low-level, but potentially-significant, permeation before breakthrough
- It takes account of the toxicity of the substance when calculating a safe working time

Full details on PermaSURE® are available at respirex.com



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www.respirex.com