

A person wearing a full-body green hazmat suit, including a hood and gloves, is using a handheld electronic detector. The detector has a screen and several buttons, with the word "USE" visible at the top. The person is standing on a gravel surface next to a large, treaded tire of a vehicle. In the background, there are military-style tents and a chain-link fence.

# The Respirex Group Military Capabilities



RESPIREX™



# The Respirex Group

## Advanced Technical Textile & Polymer Engineering

The Respirex Group's expertise is built on applied materials science, rigorous engineering, and continuous product innovation. At our Redhill factory, we design and manufacture high-performance technical textile products, using advanced multi-layer chemical barrier laminates through to coated drop-stitch fabrics capable of forming stable, load-bearing platforms when pressurised. These materials are engineered to perform reliably in chemically aggressive and challenging operational environments. Precise digital cutting, high-integrity seam technologies, and controlled manufacturing processes ensure consistency and dependability, while a partnership with an on-site materials testing laboratory verifies fabric performance, seam strength, and chemical resistance in line with recognised international standards.

Beyond our textile expertise, the Group maintains advanced capabilities in polymer development and processing. Our Workmaster facility in Crawley designs and manufactures injection-moulded safety footwear engineered to protect against chemical exposure, high voltages, or flame hazards. Through specialised compound formulation and precision mould tooling, we deliver robust, standards-compliant footwear suitable for defence and critical infrastructure applications.

MFC International specialises in designing and manufacturing mission-ready inflatable systems for military, civil defence, and emergency response operations at our Rhondda Valley manufacturing site. Its portfolio includes high-pressure lifting bags capable of lifting loads of up to 100 tonnes for military engineering, vehicle recovery, and rescue tasks, along with a wide variety of deployable equipment like inflatable shelters, decontamination systems, water rescue craft, rapid-deployment fuel and liquid storage tanks, and specialised inflatable structures. Engineered for rapid deployment, durability, and reliability in demanding environments, our solutions support logistics, humanitarian assistance, disaster response, and tactical field operations for military and government organisations worldwide.

These capabilities embody our vertically integrated approach to protective materials and moulded polymer solutions, supported by engineering discipline, controlled manufacturing, and a commitment to ongoing innovation.

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## RESPIREX™ Liquid-Tight Suits

Liquid-tight chemical splash suits are protective garments designed to shield the wearer from hazardous liquids, splashes and aerosols, while maintaining high levels of mobility and comfort. Unlike fully gas-tight suits, they are intended for environments where the primary hazard is liquid contamination rather than toxic vapours, and are worn with compatible respiratory protection such as a full face mask and filter. Constructed from durable, chemically resistant materials that prevent liquid penetration, they are well suited to military decontamination operations, contaminated equipment handling, casualty management and CBRN support roles. With lower weight and reduced heat burden compared to fully encapsulating systems, splash suits form a flexible and scalable element of CBRN protection, enabling forces to sustain operational tempo while managing chemical risk effectively.



### SC1 Ultra Single-Use Splash Suit

A lightweight, single-use, liquid-tight (Type 3) chemical splash suit, with a flexible neoprene grommet faceseal. Manufactured from Chemprotex™ 300, a 5-layer barrier laminate material that is highly chemically resistant and has been tested against chemical warfare agents and blood borne pathogens.

- Kemblok chemical barrier gloves welded to the sleeve with neoprene outer gloves and elasticated over sleeves
- Sock foot with splash guard outer leg for use with safety boots
- Zip across rear shoulders with Velcro outer flap



### Reusable Butyl Decontamination Suit

A reusable, liquid-tight CBRN protective suit manufactured in olive green Butyl fabric, engineered for high-threat military decontamination and contaminated environment operations.

- Certified Type 3 & 4 (EN 14605) with protection against infective agents and particulates
- Proven resistance to chemical warfare agents including HD, VX and Sarin (>24 hour breakthrough)
- Twin facemask hood seal compatible with leading CBRN full-face masks (e.g. Avon FM50, Scott M95)
- Gas-tight locking cuff system with interchangeable chemical glove options
- High mechanical strength with excellent abrasion, tear and seam resistance





## RESPIREX™ Powered Respirator Suits

Powered respirator suits combine a protective garment with an integrated powered air-purifying respirator (PAPR) to provide continuous filtered airflow, delivering protection against hazardous airborne particles and liquid contaminants while reducing breathing resistance and heat stress. The constant positive pressure enhances comfort, limits inward leakage and supports extended wear in demanding conditions.

For military applications, these systems are well suited to CBRN decontamination, sampling, equipment handling and sustained operations where mobility and endurance are essential, as well as medical roles including casualty reception, triage, treatment and the management of infectious disease. By reducing fatigue during prolonged operational or clinical tasks while maintaining high levels of respiratory and splash protection, powered respirator suits enable personnel to operate safely and effectively in contaminated or biologically hazardous environments.



### RJS Single-Use Liquid-Tight Powered Respirator Suit

A lightweight, versatile, single-use, powered respirator suit available in two configurations.

- Clinical version with bootee (over-shoe) feet and cuff system allowing the use of surgical clothes, ideal for triage and field hospital use
- Responder version with dual gloves and sock feet for use with safety boots worn over the suit, ideal for decontamination
- For use with the CleanAir Chemical 2F powered respirator
- Wide range of compatible filters from P3 particulate to CBRN
- Available in blue or olive green



### PRPS Limited Re-Use Gas-Tight Powered Respirator Suit

A fully encapsulating, gas-tight powered respirator suit designed to provide a high level of respiratory and dermal protection in demanding chemical and particulate environments, while maintaining wearer comfort and operational efficiency.

- Integrated powered respirator system delivering filtered airflow into the suit, reducing breathing resistance and heat stress during extended wear.
- Gas-tight, one-piece encapsulating design providing combined respiratory and body protection without the need for a tight-fitting face mask.
- High-performance chemical barrier materials selected for protection against a wide range of hazardous substances while remaining relatively lightweight.
- Designed for high-risk, high-containment operations, supporting safe working in environments where robust PPE, mobility, and wearer endurance are critical



## RESPIREX™ Gas-Tight Suits

Gas-tight suits are fully encapsulating chemical protective garments designed to provide the highest level of defence against hazardous airborne substances. Certified to EN 943-2 Type 1A ET for emergency teams, they are worn with self-contained breathing apparatus (SCBA) inside the suit, ensuring complete isolation from the external environment. Tested against a broad range of industrial chemicals and chemical warfare agents, they are ideally suited to military CBRN response, specialist reconnaissance, decontamination and EOD support operations where exposure to highly toxic or unknown agents is a credible risk. Combining durability, mobility and extended wear comfort, these suits form a proven, standards-based component of layered CBRN capability, enabling armed forces to operate safely in the most demanding threat environments.



### GTL Single-Use Gas-Tight Suit

A lightweight, single-use, fully encapsulating, **Type 1A - ET** regular robustness gas-tight suit, with a ten year shelf life (seven years maintenance free).

- Heavy-duty gas-tight zip with cover flap
- Flexible laminated chemical visor
- Dual gloves (Neoprene outer and inner barrier glove) permanently attached
- Sock feet with outer splash guard legs for use with F3A rated safety wellingtons
- ESD Version available for use in ATEX atmospheres



### GTR Limited Re-Use Gas-Tight Suit

A limited life, lightweight, fully encapsulating, **Type 1A - ET** regular robustness gas-tight suit, with a ten year shelf life (five years maintenance free).

- Heavy-duty gas-tight zip with cover flap
- Flexible laminated chemical visor
- Dual gloves (Neoprene outer and inner barrier glove) fitted with a gas-tight locking cuff system to allow easy glove replacement
- Choice of sock feet with splash guard outer legs or attached chemical boots
- Range of equipment attachment points



### GTB Heavy Duty Reusable Gas-Tight Suit

A reusable, fully encapsulating, **Type 1A - ET** enhanced robustness gas-tight suit, with a fifteen year shelf life (five years maintenance free).

- Heavy-duty gas-tight zip with cover flap
- Rigid double chemical visor
- Dual gloves (Neoprene outer and inner barrier glove) fitted with a gas-tight locking cuff system to allow easy glove replacement
- Permanently attached chemical safety boots
- Range of equipment attachment points
- Fall arrest option





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## Protective Footwear

The Respirex Group provides a specialist range of military protective footwear engineered to perform in high-threat and mission-critical environments. Our portfolio includes the Hazmax CBRN boot, designed to deliver durable chemical protection in contaminated operational theatres; the CBRN overboot, offering rapid, deployable protection over standard issue combat footwear during incident response and decontamination tasks; and dielectric safety boots developed to safeguard personnel operating in high-voltage and power-generation environments. Manufactured in the UK using advanced polymer engineering and controlled injection moulding processes, these systems are built to withstand chemical exposure, electrical hazards and demanding field conditions. Designed for integration within layered CBRN and force protection strategies, our footwear supports front-line operations, specialist response units, EOD teams and infrastructure protection tasks across the full spectrum of military deployment scenarios.



### CBRN Boots

A high-performance CBRN safety boot developed for military response, combining advanced chemical warfare resistance with full S5 safety protection.

- Resistant to HD Mustard, VX, Novichok A234 and other warfare agents (>24 hr breakthrough)
- EN 13832-3 chemical protective footwear with extensive chemical testing
- Antistatic with 200J steel or optional composite toecap and penetration-resistant midsole
- Heat resistant sole (300°C), with excellent cold insulation and fuel/oil resistant
- Durable vulcanised rubber sole and injection moulded construction with extended service life (10-year shelf life)



### CBRN Overboots

A rapid-don, anti-static chemical protective overboot designed to fit over standard military combat boots, providing immediate CBRN protection.

- Certified EN 13832-3 chemical protective footwear and EN ISO 20347 safety standard
- Greater than 24-hour resistance to HD Mustard, VX and GD warfare agents
- Ambidextrous rear-entry design for single-handed fitting in under five seconds
- Highly durable design that is quick and easy to don and doff
- Specifically engineered to fully encapsulate military issue combat boots



### Insulating (Dielectric) Boots

A high-voltage electrically insulating safety boot engineered for live working environments, providing certified dielectric protection.

- Certified EN 50321-1 Class 2 (17kV AC) with each boot tested at 20kV AC
- Step voltage protection up to 35kV and arc flash protection to ASTM F2621-2019 (40 cal/cm<sup>2</sup>)
- Injection-moulded seamless dielectric compound for superior insulation integrity
- 200J steel toe with slip-resistant vulcanised rubber sole
- Heat resistant (300°C), cold insulated and fuel/oil resistant boot with a 10-year shelf life





MFC International designs and manufactures UK-built inflatable shelter systems engineered for rapid deployment in demanding environments. The range includes inflatable command and support shelters, mass decontamination showers and specialist CBRN response structures, all designed to be operational within minutes with minimal manpower. Lightweight, compact and robust, these systems reduce logistical burden while delivering reliable performance in austere and expeditionary conditions. In addition to standard configurations, MFC International provides bespoke inflatable structures tailored to specific operational requirements, including medical facilities, protected workspaces and specialist engineering applications. Developed using high-strength technical fabrics and precision manufacturing processes, our inflatable systems support force protection, deployable infrastructure, humanitarian response and military engineering tasks across the full spectrum of defence operations.



## Inflatable Shelters

Rapidly deployable inflatable structures that provide immediate covered space for defence operations and field-based support areas.

- Deployable in minutes with minimal crew
- Lightweight and compact for transport
- No continuous inflation required
- Can be linked to form larger complexes
- Optional accessories (heating, lighting, flooring) available



## Decontamination Showers

Inflatable decontamination systems designed for rapid casualty or equipment processing in CBRN and contamination response scenarios.

- Lightweight and quick to erect
- Stable without ongoing inflation
- Suitable for soft or hard ground
- Highly customisable configurations
- Effective contaminated casualty throughput



## Custom Structures & Concealment

MFC International have a long history of developing custom inflatable structures for both military and civilian applications. Previous work includes:

- Shelters for the decks of landing craft
- Shelters with attachment ports for military vehicles
- Shelters with ballistic liners and removable floors to protect maintenance and welding operations
- Vehicle covers and camouflage netting





Lifting bags utilise compressed air to rapidly lift heavy vehicles and machinery and are used to support military engineering, recovery and rescue operations. Our range includes high-pressure lifting bags such as Stakjaks and Powermats, capable of delivering exceptional lifting force in confined spaces; low-pressure lifting bags for controlled elevation over larger surface areas; and high-lift low-pressure systems designed to righting overturned heavy vehicles. Manufactured in the UK using reinforced elastomer technology and stringent quality controls, these systems are engineered for durability in harsh operational environments. Compact, portable and rapidly deployable, MFC lifting bags support vehicle recovery, route clearance, collapsed structure rescue, aircraft ground handling and specialist engineering tasks across expeditionary and domestic military operations.



## High Pressure Lifting Bags

High pressure lifting bags deliver rapid, controlled lifting capability in the most demanding military and emergency response environments.

- High lifting force, minimal insertion height – ideal for vehicle recovery, structural collapse scenarios and confined space operations.
- Precision control under load – compatible with regulated air control systems for safe, incremental lifting.
- Stackable capability (StakJak) – modular design allows multiple bags to be safely combined for increased lift height.
- Ultra-durable construction – reinforced rubber composites designed to withstand harsh terrain and operational abuse.
- Compact and deployable – lightweight, portable systems that integrate easily into military engineering and recovery kits.



## Low Pressure Lifting Bags

Low-pressure pneumatic lifting bag designed to provide stable and controlled lifting for troops, vehicles and equipment in soft terrain conditions.

- Capable of lifting up to 5 tonnes on its own, 10 tonnes in pairs
- Soft footprint protects vulnerable surfaces
- Strong, durable lifting surfaces
- Stable under load with controlled deflation
- Suitable for soft ground like snow, sand or ice



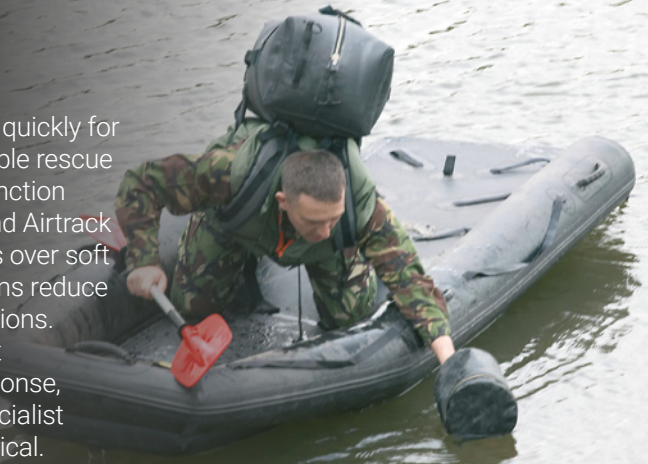
## High-Lift Bags

Heavy-duty 0.5 bar high-lift pneumatic bags designed to safely stabilise and upright large vehicles, aircraft and structurally delicate loads during recovery operations.

- Large contact area for uniform pressure distribution across weak or unstable structures
- High lift capacity (up to 9,000kg) with heights up to 210cm
- Exceptionally stable with slip-resistant top surface and controlled deflation capability
- Durable neoprene-coated nylon construction with webbing loops for positioning and anchorage
- Designed for heavy vehicle recovery, aircraft lifting and road traffic incident response



Inflatable rescue equipment is easily transportable and can be deployed quickly for use in swift water, marshy or unstable terrain. The range includes inflatable rescue sleds that provide a stable platform in swiftwater or floodwater; multi-function craft capable of supporting rescue, transport and light logistics tasks; and Airtrack inflatable walkways that provide stable, rapidly deployable access routes over soft ground or water. Lightweight, compact and quick to deploy, these systems reduce manpower burden while enhancing mobility and safety in austere conditions. Manufactured in the UK using high-strength technical fabrics and robust construction methods, MFC rescue solutions support military flood response, amphibious operations, humanitarian assistance, disaster relief and specialist engineering tasks where reliable access and casualty movement are critical.



## Inflatable Walkways

Inflatable access platform that provides stable, rapid terrain bridging for casualty extraction over water, mud, ice or unstable surfaces.

- Catamaran-style stability on varied surfaces
- Connectible for extended paths or raft formation
- Inflates and deploys in minutes
- Portable with compact storage
- Widely used by rescue and military teams



## Rafts & Sleds

Inflatable rafts and open backed sleds are purpose-built for rapid response in flood, coastal and inland water operations.

- Available in multiple sizes (3–15 person capacity)
- Ideal for swift-water and narrow access operations
- Expanded models suited to equipment transport, casualty recovery and evacuation
- Compact and portable with fast inflation
- Supports urban, rural and coastal crisis response



## Multifunction Craft

The inflatable Multifunction Craft (MFC) delivers a rapidly deployable, highly versatile platform for military forces operating in flood, littoral and shallow-water environments, enabling personnel movement, casualty evacuation and equipment transport where conventional boats cannot operate.

- Inflatable design allows the craft to be deployed and operational within minutes, supporting time-critical operations.
- Compact and lightweight for transport in light vehicles and deployment by small teams in austere environments.
- Shallow-water capability – flat-bottom hull and shallow draft allow operation in water as shallow as 40 cm, with the empty craft floating in around 10 cm.
- Stable operational platform – twin-keel and water ballast system enhance stability and control during personnel transfer or casualty recovery.





Portable water storage systems to support military operations in austere and expeditionary environments. The range includes pillow tanks for potable and non-potable water and bulk water reservoirs that provide reliable storage for deployed camps, humanitarian missions and forward operating bases.

CBRN containment systems are designed for the safe handling, storage and transport of contaminated personnel and equipment. The range includes CBRN body bags, barrel bags and transport bags for contaminated drones and other assets. Engineered from chemically resistant materials with high-integrity sealing, these solutions support controlled containment during decontamination, forensic investigation and incident response operations.



## Pillow Tanks

Flexible water & fuel storage containers engineered to deliver robust, temporary potable or utility water hold-up on forward bases and in deployed logistics.

- Quick and simple to deploy
- Durable, heavy-duty construction
- Integrated relief valve to prevent overfilling
- Portable and lightweight when empty
- Suitable for diverse climates and uses



## Reservoirs & Onion Tanks

Self-supporting liquid storage units that provide immediate, on-site containment for water or other fluids in operational environments.

- Rapid set-up with minimal ground preparation
- Durable, easy-clean materials
- Very low maintenance requirements
- Optional covers to reduce evaporation/contamination
- Can be used for water or waste storage



## CBRN Containment & Body Bags

Respirex's CBRN containment range – including the CBRN Body Bag, Hazbag and Barrel Bag – provides secure, field-proven solutions for the safe containment and transport of contaminated remains, equipment, materials and hazardous waste in high-risk environments.

- Certified chemical protection materials – manufactured using proven barrier fabrics designed to resist a wide range of CBRN agents.
- Secure, leak-tight construction – gas- and liquid-tight seams and closures to prevent secondary contamination.
- Operationally deployable – designed for rapid use by military, specialist response and decontamination teams.
- Multiple containment formats – solutions available for portable equipment, leaking containers and human remains



## serviceTech Aftercare & Support

by RESPIREX

ServiceTech provides comprehensive through-life support to ensure protective equipment remains fully operational, compliant and mission-ready. Our services include equipment audits, specialist repairs, user training, gas-tight suit re-testing and inspection, and the servicing and maintenance of PPE, inflatable shelters, lifting bags and rescue systems. Delivered by experienced technicians in the UK, these services help maintain performance integrity, extend product lifespan and ensure continued compliance with relevant standards. In military environments where reliability is critical and equipment failure is not an option, structured inspection and preventative maintenance regimes are essential. ServiceTech supports operational readiness by reducing downtime, safeguarding personnel and ensuring that protective and deployable systems perform as intended throughout their service life.



### ServiceTech provide the following:

- Pressure testing and servicing gas-tight suits
- Servicing and maintenance for inflatable shelters, decon showers, rescue equipment and associated accessories
- Safety audits on chemical protective clothing
- Reporting on the general condition of equipment
- Advice on suit and equipment cleaning and storage
- Minor repairs to garments, shelters and rescue equipment
- Product training & demonstrations



## RESPIREX™

Living + Breathing Personal Protection

### Chemical protective clothing & accessories

- Gas-tight suits
- Single use and reusable chemical splash suits
- Powered respirator suits
- CBRN Body bags & containment solutions



## MFC International

by RESPIREX

HELPING YOU DELIVER RESCUE UNDER PRESSURE

### Inflatable structures and rescue equipment

- Inflatable shelters
- Inflatable decontamination showers
- Lifting bags
- Inflatable walkways
- Fully inflatable water craft
- Water & fuel storage
- Ballast bags



## workMaster™

by RESPIREX

Specialist Protective Footwear

### Specialist Protective Footwear

- CBRN Protective Footwear
- Chemical Safety Boots
- Dielectric (High Voltage) Safety Boots



## serviceTech

by RESPIREX

### After-sales Care & Support

- Product Training
- On-Site Servicing
- Repairs



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**FIND OUT MORE**

For more details on our range of personal protective clothing call us on  
+44 (0)1737 77 86 00 or visit our website:

[www.respirex.com](http://www.respirex.com)