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SONICS
BIO-SHELL



THE GREATEST BARRIER BETWEEN YOU AND THE WORLD'S DEADLIEST THREAT

The SONICS Bio-Shell is a CBRN protective suit consisting of a unique slim, lightweight fabric that allows for significant weight/bulk reduction and enhanced CBRN protection. Leveraging GORE® CPCSU-2 Flex Fit technology, the Bio-Shell represents a step change in CBRN protection, with up to 50% reduction in weight compared to traditional carbon based protective clothing. Its protective properties also combat a much broader threat, acting as a barrier against conventional chemical warfare agents in vapor form, toxic industrial chemicals, aerosolized particulates, liquid under force (ie. when kneeling or wearing combat equipment) and biological hazards such as blood-bourne pathogens like Ebola and HIV. The Bio-Shell's core layer is constructed using the very latest GORE® CHEMPAK® Selectively Permeable Membrane (SPM). The protective SPM fabric is made from a lightweight, breathable film, which allows moisture vapor to escape, resulting in significant reduction in thermal burden and fatigue. The Bio-Shell also features a number of integrated stretch panels incorporated in key areas to facilitate improved mobility, ensuring its wearer can complete operational tasks such as evasion, combat manoeuvres, operating a vehicle or aircraft and first responder recovery duties. The Bio-Shell includes a separable outer garment that can be customised to any military or organisation's pattern/ colour preference.



BIO-SHELL FEATURES & BENEFITS

PERFORMANCE ATTRIBUTE	BIO-SKIN SPM PROTECTIVE SYSTEM	CARBON BASED PROTECTIVE SYSTEMS	BENEFITS
Lightweight	Typical fabric system weight is 270g/m2	Typical fabric system weight is 630g/m2	Improved wearer comfort and reduced thermal burden increases mission effectiveness and operation wear-time
Protection after exposure to wet sweat	**YES**	**LIMITED** - Carbon is compromised when saturated	Longer mission effectiveness and prolonged userwear
Protection against wind driven sand/rotorwash	**YES** - SPM is air impermeable, the membrane barrier system blocks the penetration of aerosols and particulates	**LIMITED** - Air permeable material allows aerosols and particulates to penetrate	Longer mission effectiveness and prolonged userwear
Protection against liquid penetration even with pressure	**YES** - SPM barrier based material prevents liquid penetration even under pressure	**NO** - Carbon based systems cannot prevent liquid penetration	Increased user protection, enabling user to operate in more ardous & demanding conditions
Protection after exposure to Battle Field Contaminates (BFC's) like petroleum, oils or lubricants	**YES** - Protection even after exposure to BFC's	**NO** - Carbon based systems will not protect after exposure to BFC's and must be replaced.	Increased user protection, enabling user to operate in more ardous & demanding conditions. Negates the need to replace contaminated suits.
Protection against a broad range of Toxic Industrial Chemicals (TIC's)	**YES** - SPM passes the National Fire Protection Standard 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents (Class 3)	**NO** - Fails the National Fire Protection Standard 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents (Class 3)	Increased user protection, enabling user to operate in more ardous & demanding conditions
Protection against non-traditional agents (NTA's)	**YES** - References for classified test results can be provided upon request	**UNKNOWN** - Protection provided is suspect based on test methodology employed by U.S. DoD	Increased user protection, enabling user to operate in more ardous & demanding conditions
Protection against blood bourne pathogens such as Ebola and HIV	**YES** - SPM passes the National Fire Protection Standard 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents (Class 3) - Viral Penetration	**NO** - Fails the National Fire Protection Standard 1994 Standard on Protective Ensembles for First Responders to CBRN Terrorism Incidents (Class 3) - Viral Penetration	Increased user protection, enabling user to operate in more ardous & demanding conditions
Maintain protection even after being removed from storage bag	**YES** - No degradation of SPM protection when exposed to atmosphere. No deteriation after >10 years	**LIMITED** - Carbon based protection system can degrade after exposure to atmosphere, once removed from vacuum sealed packaging. Typical life once exposed to oxygen <30 days	Extened user window and reduced operational costs
Vapour protection in windy conditions	**YES** - Air impermeable barrier protects even in windy conditions	**LIMITED** - Independent studies indicate protection decreases when wind speeds increase	Increased personal protection longer mission effectiveness and prolonged user-wear
Ability to offer broad protection to a range of CBRN threats with no compromise in thermal burden	**YES** - Thermal burden of moisture vapour barrier is equivalent to air permeable carbon systems whilst also providing protection against a broad range of threats in vapour, liquid and aerosol forms	**NO** - Protection only against traditional chemical warfare agent vapours	Increased user protection, enabling user to operate in more ardous & demanding conditions
Laundering ability	**YES** - SPM can be laundered up to 15 times	**Yes** - however reduces performance of garment	Prolonged suits performance, enabling cleaning & re-use of equipment, resulting in through life cost savings
Decontamination ability	**YES** - Can be easily decontaminated	**Yes** - however reduces performance of garment	Prolonged suits performance, enabling cleaning & re-use of equipment, resulting in through life cost savings
Cost	Through life costs are significantly lower, due to extended life decontamination and laundering ability	Initial unit cost will be cheaper, but volume rate of consumption will be significantly higher	Prolonged suits performance, enabling cleaning & re-use of equipment, resulting in through life cost savings

INTELLIGENTLY DESIGNED FOR MAXIMUM COMFORT AND PROTECTION

Integrated stretch panels in critical areas deliver improved mobility, reduced heat stress, and increased system level protection.







Removable outer garment allows specific role identification/mission configuration

Dual flap cover delivers quick protection scalability (easy donning) with improved system protection against particulate, liquid and vapor ingress.

Inner cuffs at the wrists and ankles enhance integration with protective gloves and footwear. Cuffs are easily losed with hook and loop closure straps.

Reinforced elbow and knee regions to ensure continuity of protection during operations.

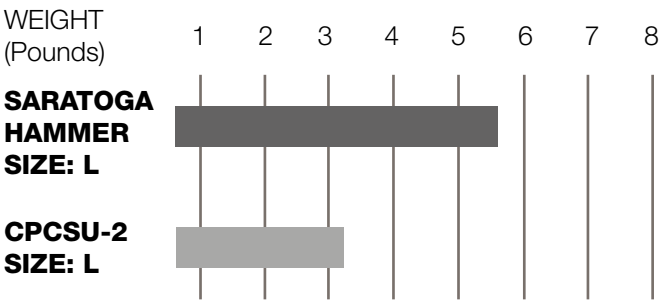




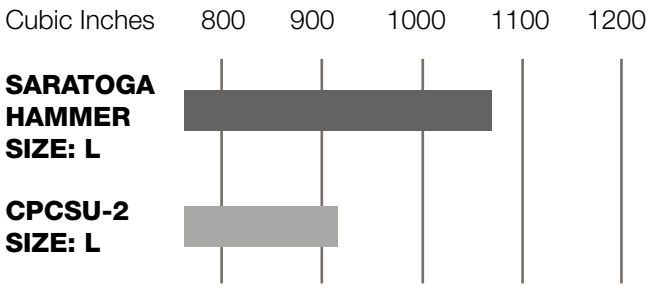
OUTER GARMENT COLORS/PATTERNS

50% LIGHTER THAN TRADITIONAL CARBON BASED PROTECTIVE CLOTHING

WEIGHT COMPARISON

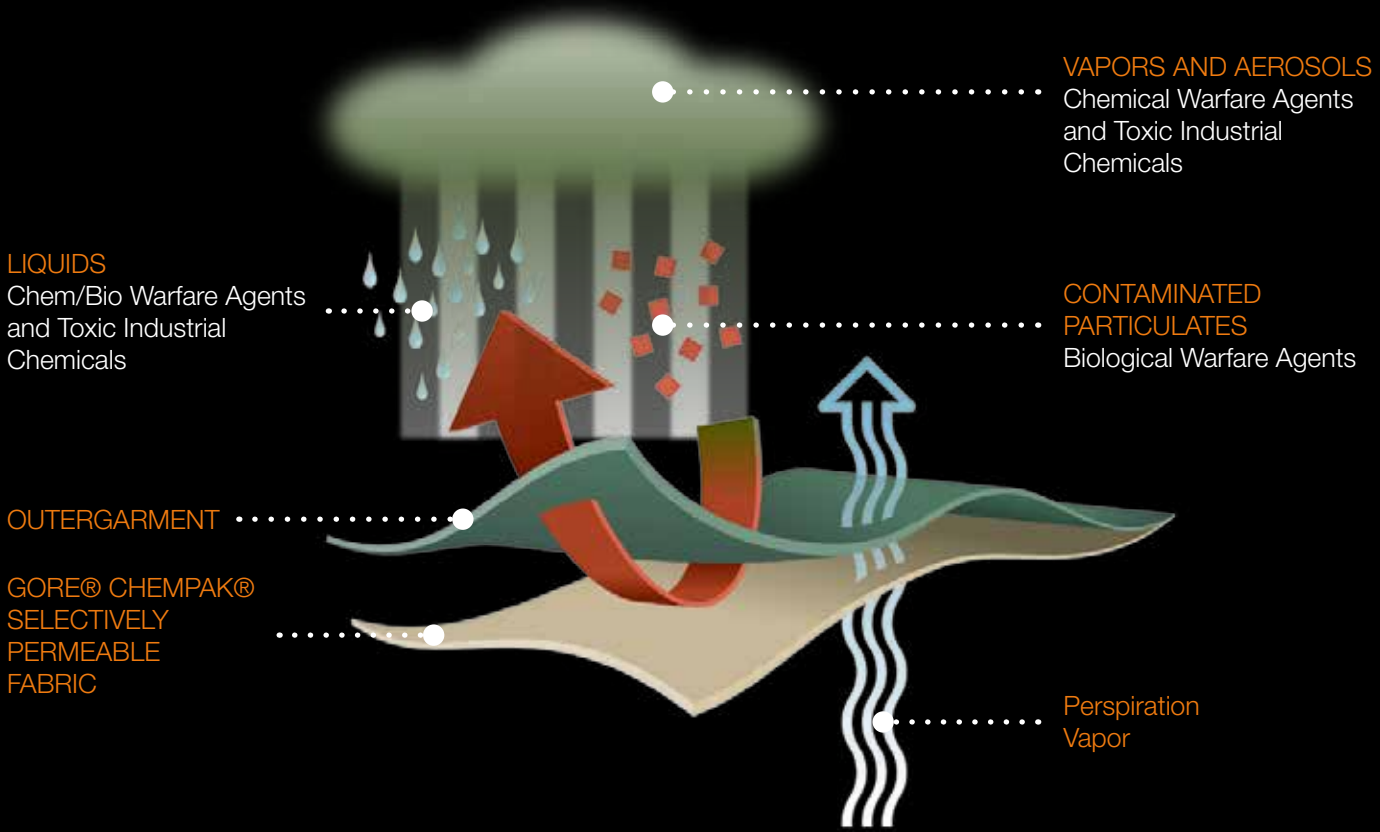


NATICK VOLUME TEST (OUT OF BAG)





THE SCIENCE BEHIND THE PROTECTION



THE COMPLETE SYSTEM

It is recommended that the Bio Shell is worn with full respiratory, hand and foot protection at all times.

IMPROVED PROTECTION HOOD (IPH)

The Improved Protective Hood (IPH) represents the next generation of chemical biological protective hoods. It is designed to fit snug to the head and incorporates an internal neck dam. The hood features reduce the flow of contaminated air into the head region and eliminate the need for additional neck protection. The IPH is made using both the non-stretch and stretch GORE® CHEMPAK® Selectively Permeable Membrane. Incorporation of the stretch fabric allows for an optimum fit while not impacting freedom of movement. The use of moisture vapor breathable fabrics in the hood enhances the thermal performance of the ensemble. The IPH also benefits from an extended service life as the SPM performance does not degrade when removed from the barrier bag or when the fabric is exposed to chemical agents.



SONICS OVER GLOVE

The SONICS chemical resistant butyl Over Gloves are manufactured with a unique solution-dipped process, providing unparalleled protection for users. Tight molecular structures are the key to its chemical impermeability. State-of-the-art microprocessors provide accurate controls, from mixing proprietary compound to dipping, drying and curing to attain the necessary strength. Available in several models for varying levels of protection, the SONICS standard range protects against a wide range of chemicals and is available in four thicknesses to meet specific needs for protection and dexterity. The rough grip finish, which gives increased dexterity and improved grip, is available in lightweight, medium and heavyweight butyl chemical protective gloves in sizes x-small through x-large. The SONICS Butyl Gloves are packaged in individual, safety sealed bags for a 5-year shelf life.



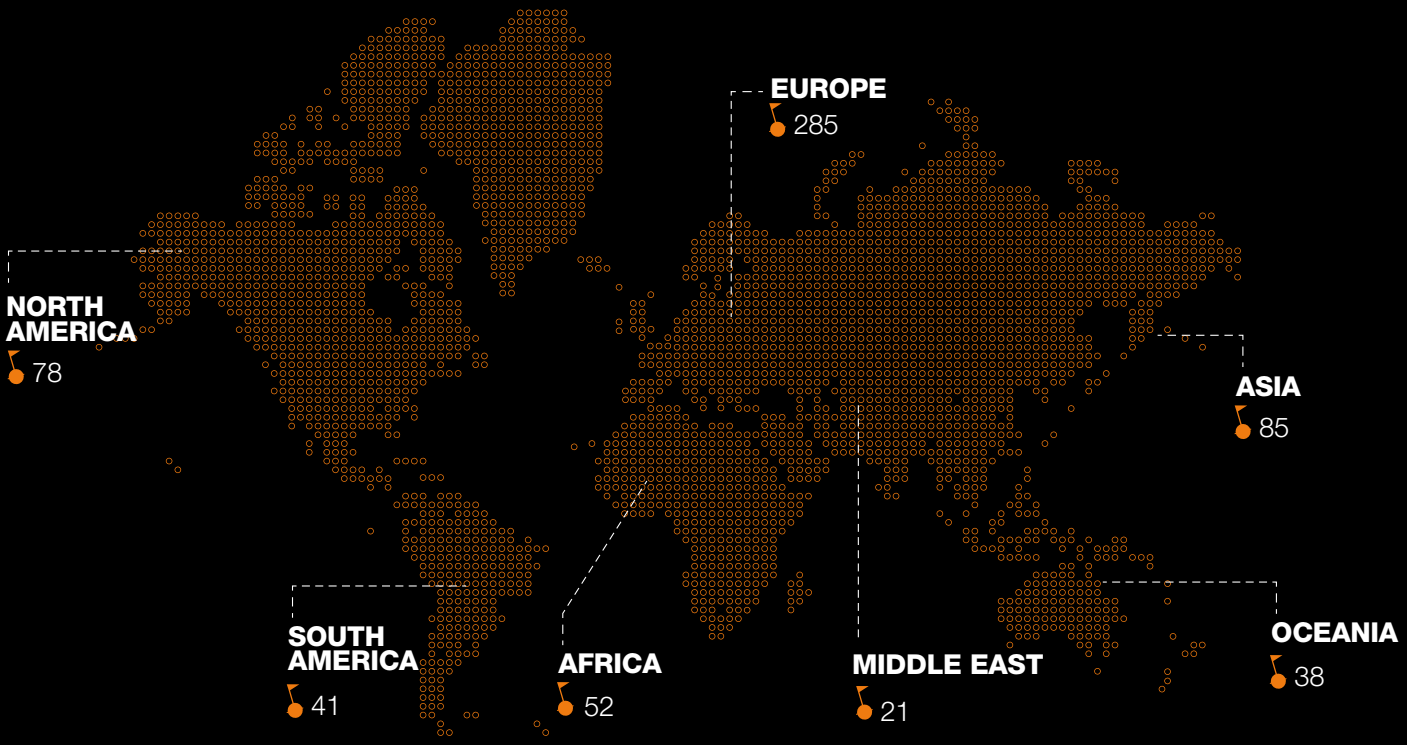
SONICS OVER BOOT

The SONICS CBRN Over Boot is a chemically protective boot designed for rapid deployment. Engineered to be worn over a standard boot, it features a rear entry design to ensure it is quick and easy to fit. The seamlessly constructed boot is manufactured from Hazmax™ chemically resistant compound and is certified to the EN 13832-3 standard for chemically resistant footwear. The ambidextrous design allows it to be worn on either foot and the button design ensures that the boot is quick and easy to fasten with a single gloved hand. Resistant to fuel and oil, the Hazmax™ compound is also flame retardant, conforming to EN15090 and fully REACH compliant. The sole provides slip resistance to the EN 13287 SRA and SATRA TM144 standards whilst offering good grip on soft ground and is easy to decontaminate. Machine washable at up to 40 ˚c the SONICS Over Boot has a ten-year shelf life.



THE WORLD'S LARGEST SAFETY SURVIVAL FOOTPRINT

GLOBAL DEPLOYMENT ANY WHERE ANY TIME.



8
World class manufacturing sites

3000
Survitec employees

100
Wholly owned service stations

500
3rd party service stations

3500
Qualified service technicians



AIR



LAND



SEA

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SONICS

Introducing SONICS, the Survitec Operational Network of Integrated CBRN Systems, a complete end to end prime contractor and systems integrator service for CBRN. SONICS is an independent, flexible service framework that consolidates your every CBRN requirement into a fully integrated system. This includes a total solution designed to ensure maximum readiness for civil, military and government organisations, comprising of product/system design, testing, qualification and accreditation, supply chain management, training needs analysis and personnel training, servicing and maintenance, and obsolescence management

Get in touch today:

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