

Fully encapsulating coveralls with visor for use with PAPR (Powered Air Purifying Respirator)

Certified for use with the PM Atemschutz e-breath, e-flow Powered Air Purifying Respirator. Lakeland's PAPR coveralls are available in three versions:



MicroMax® TS

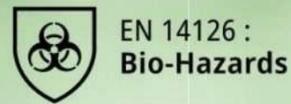
MicroMax® TS fabric uses a high quality 63gsm Microporous PE film laminate providing light, soft and flexible yet highly effective protection against light splashes of hazardous liquids and vapours, infectious agents and hazardous dusts.



EN 13034:
Type 6



EN 14605:
Type 4



EN 14126 :
Bio-Hazards



EN 1149:
Anti-Static



Seams:
Stitched & Taped



ChemMax® 1

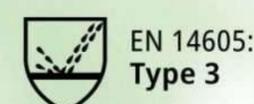
ChemMax® 1 fabric uses a single layer High Density PE barrier film to offer a light and flexible permeation barrier against a broad range of lower hazard liquid chemical splash and spray along with infectious agents and hazardous dusts.



EN 13034:
Type 6



EN 14605:
Type 4



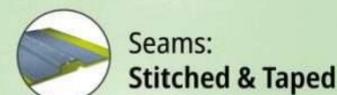
EN 14605:
Type 3



EN 14126:
Bio-Hazards



EN 1149:
Anti-Static



Seams:
Stitched & Taped



ChemMax® 3

Powered by PermaSURE®

ChemMax® 3 fabric uses a multi-layer high barrier film to offer protection against a wide range of high hazard chemical splash and spray along with infectious agents and hazardous dusts. The co-extrusion production process results in a smooth and flexible surface that allows liquids to quickly drain away.



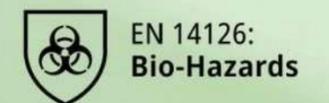
EN 13034:
Type 6



EN 14605:
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EN 14605:
Type 3



EN 14126:
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EN 1149:
Anti-Static



Seams:
Stitched & Taped

PAPR Suit Key Features & Physical Properties

PAPR Suit Key Features

Lakeland PAPR suits all include a range of standard features that enhance effectiveness, protection and comfort.



SMS breathable collar prioritises air in the hood

Wide vision visor for full-round visibility

Hook and loop hose-support straps allowing shoulder or head-mounted air supply

Emergency escape release tape

Clear access window for external access and monitoring access of PAPR control panel

Arm to arm front fastening with double, sealable cover for easy donning

Belt-mounted PAPR breathing unit worn inside the suit with external filters attached through the fabric

Attached nitrile chemical gloves using Lakeland's "push-lock" glove connection system for a full seal. Gloves and rings sold as optional extra

Stitched and taped seams for full impermeable seal

Attached socks with boot over-flap

Physical Properties

Property	EN Standard	MicroMax [®] TS PAPR	ChemMax [®] 1	ChemMax [®] 3
		CE Class	CE Class	CE Class
Abrasion Resistance	EN 530	2	2	6
Flex Cracking	ISO 7854	1	1	4
Trapezoidal Tear	ISO 9073	3	3	4
Tensile Strength	EN 13934	2	2	3
Puncture Resistance	EN 863	2	2	2
Surface Resistance	EN 1149-1	Pass* (<2.5 x 10 ⁹ Ω)	Pass* (<2.5 x 10 ⁹ Ω)	Pass* (<2.5 x 10 ⁹ Ω)
Seam Strength	EN 13935-2	4	4	4

Inward leakage according to EN 12941 (Clause 7.3)

In this test, a subject walks on a treadmill inside a spray cabin. The cabin is filled with sodium chloride or sodium hexafluoride dust whilst probes inside the suit count the particles in the cabin (the "challenge count") and the particles that penetrate inside the suit. A Total Inward Leakage percentage, the percentage of particles that penetrate inside the garment, is calculated. Three Classifications are defined.

EN 12941 Inward leakage classifications		CE Class	CE Class	CE Class
Classification	Inward Leakage %	MicroMax [®] TS PAPR	ChemMax [®] 1	ChemMax [®] 3
TH1	<10%			
TH2	<2%			
TH3	<0.2%	✓	✓	✓
Actual Inward Leakage Results*		0.05%	0.04%	0.03%

* Average results over all tests conducted on each suit

Infectious Agent / Biological Hazard Protection

Tested according to EN14126. This consists of 4 tests assessing resistance against different forms of pathogen contamination of the fabric only. Protective properties of the whole garment are defined by the chemical protective clothing type. We would always recommend a garment with sealed seams such as MicroMax[®] TS for protection against infectious agent hazards.

Test Description	Test No.	MicroMax [®] TS PAPR	ChemMax [®] 1	ChemMax [®] 3
Synthetic blood test*	ISO 16603 -class	6 (max is 6)	6 (max is 6)	6 (max is 6)
Protection against blood and body fluids	ISO 16604:2004	6 (max is 6)	6 (max is 6)	6 (max is 6)
Protection against biologically contaminated aerosols	ISO 22611:2003	3 (max is 3)	3 (max is 3)	3 (max is 3)
Protection against dry microbial contact	ISO 22612:2005	3 (max is 3)	3 (max is 3)	3 (max is 3)
Protection against mechanical contact with substances containing contaminated liquids	ISO 22610:2007	6 (max is 6)	6 (max is 6)	6 (max is 6)

The synthetic blood test ISO 16603 is a screening test for ISO 16604, does not carry a classification and should not be used as an indication of protection. The information is included here purely for comparison purposes only.

Choose your combination of e-breathe PAPR Unit Filter and Lakeland PAPR encapsulating suit

Choosing your PAPR + Suit Selection

Combining a Powered Air Purifying Respirator (PAPR) with a fully encapsulating chemical protective coverall results in both more effective protection in areas where hazardous gases, vapours or particulates may be present and in a far more comfortable experience for the wearer.

1 Step 1: Choose your PAPR filters

Select the right combination of filters for the e-breathe PAPR Unit depending on the present hazards.

The e-breathe PAPR unit supports a full range of filters to protect against gases, vapours and particulates. Choice of filter is guided by colour coding, as defined in EN 14387 and according to the hazard, as shown in the table below. Combinations of filters feature multi-colour coding, as in the example shown below:

A - Brown	Organic gases & vapours. Boiling point >65 °C
B - Grey	Inorganic gases & vapours. Chlorine, Hydrogen Sulphide, Hydrogen Cyanide
E - Yellow	Sulphur Dioxide, Hydrogen Chloride
K - Green	Ammonia & organic ammonia derivatives
CP - White	Dry particles

Example: ecoPad Gas Filter GF-ABEL (Part no 32202143)



Selection of the correct filters is important in ensuring workers are protected. For a full list of filter options see separate datasheet



2 Step 1: Choose your PAPR encapsulating suit



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MicroMax .75	ChemMax .1	ChemMax .3 Powered by PermaSURE®
Suitable for dry particulate, infectious agents, pharmaceutical, blood and body protection	Suitable for lower hazard or lower toxicity chemicals	Suitable for high-hazard, highly toxic chemicals and warfare agents
Refer to Permeation Test Data for comparative effectiveness against different specified chemicals. For ChemMax® 3 use PermaSURE to calculate Safe-Wear Times.		