




AlphaTec® Body Protection Guide

AlphaTec®

Ansell

CONTENTS

GUIDE TO EUROPEAN STANDARDS FOR CHEMICAL PROTECTIVE CLOTHING

To assist you with the selection of appropriate protection solutions based on the exposure risk, the EU developed six types of chemical protective clothing (CPC).

Certification of a particular type offers an indication of your suit's protection against a particular hazard (gas, liquid or dust). As a manufacturer, it is our responsibility to ensure that Ansell meets the requirements of these standards, where applicable. Please be aware that conformance to these type standards does not mean that your suit is 100% impervious to your hazard. Under these tests, suits are only required to meet the minimum performance requirements specified. In the case of the Type 5 particulate test, for example, suits are allowed individual leakages of up to 30%, providing the average for the suits tested is less than 15%. For more information contact your Ansell representative.

Current European types of chemical protective clothing		
Symbol*	**EN "Types"**	**Definition**
TYPE 1	**EN 943-1 and 2** Type 1	**Gas-tight chemical protective clothing** Protective clothing against liquid and gaseous chemicals, aerosols and solid particulates
TYPE 1a	Type 1a	**› Gas-tight, self-contained breathing apparatus inside the suit**
TYPE 1a-ET	Type 1a-ET	**› Type 1a for emergency teams**
TYPE 1b	Type 1b	**› Gas-tight, self-contained breathing apparatus outside the suit**
TYPE 1b-ET	Type 1b-ET	**› Type 1b for emergency teams**
TYPE 1c	Type 1c	**› Gas-tight, with breathable air supplied via continuous flow airline respirator**
TYPE 2	**EN 943-1** Type 2	**Non-gas-tight chemical protective clothing** Suits which retain positive pressure to prevent ingress of dusts, liquids and vapours **Note:** As of edition 2015 of EN 943-1, Type 2 is no longer specified.
TYPE 3	**EN 14605** Type 3	**Liquid-tight suits** Suits which can protect against strong and directional jets of liquid chemicals
TYPE 4	**EN 14605** Type 4	**Spray-tight suits** Suits which offer protection against saturation of liquid chemicals
TYPE 5	**EN ISO 13982-1** Type 5	**Dry-particulate protection** Suits which provide protection to the full body against airborne solid particulates
TYPE 6	**EN 13034** Type 6	**Reduced-spray suits** Suits which offer limited protection against a light spray of liquid chemicals
Additional standards		
Symbol*	**EN "Types"**	**Definition**
EN 1073	**EN 1073-1****	Ventilated protective clothing against radioactive particulate contamination
	EN 1073-2**	Non-ventilated protective clothing against radioactive particulate contamination
EN 14126	**EN 14126**	Protective clothing against infective agents (Type suffixed with "-B" – i.e. Type 3-B) indicates approval to this European norm
EN 1149-5	**EN 1149-5**	Protective clothing with electrostatic properties***
DIN 32781	**DIN 32781**	Protective clothing – protective suits against pesticides
EN ISO 27065	**EN ISO 27065**	Protective clothing – protective suits for operators applying liquid pesticides
EN ISO 14116	**EN ISO 14116**	Protective clothing – limited flame spread materials, material assemblies and clothing
EN 12941	**EN 12941**	Respiratory protective devices – powered filtering devices incorporating a helmet or a hood
EN 14594	**EN 14594**	Respiratory protective devices – continuous flow compressed airline breathing apparatus

Disclaimer: Ansell garments are available for most applications. However, please note that a detailed assessment of the nature of the hazard and the working environment should be undertaken prior to the selection of appropriate PPE. Ansell provides the information in this product catalogue to assist you with selecting the correct product, but responsibility for the correct choice of PPE remains with the user.

* Type approvals do not necessarily apply to accessories. Always refer to the garment label and instructions-for-use document which will indicate the protection level offered.

** Gives no protection against ionising radiation.

*** Always ensure the garment and wearer are properly grounded.

PROTECTIVE CLOTHING ACCORDING TO EN 14126:2003
PROTECTION FROM INFECTIVE AGENTS

Protective Clothing against infective agents has two main functions...

- to prevent infective agents from reaching the (possibly injured) skin
- to prevent the spreading of infective agents to other people and other situations, e.g. eating or drinking, when the person has taken their protective clothing off

In many work situations, i.e. microbiological laboratories, the infective agents can be contained and the risk of exposure limited to the occurrence of an accident.

However, in other types of work, i.e. sewage & waste water treatment, caring for infected animals, emergency clean-up; the organisms cannot be contained, exposing the worker continuously to the risk of infection by biological agents. In these situations the biological agents the worker is exposed to may not be known.

Applications where workers can be exposed to biological agents

- Waste water treatment works, sewage systems work
- Agriculture
- Food Industry
- Healthcare, hospitals, emergency services
- Clinical, veterinary laboratories
- Refuse disposal plants
- Activities where there is contact with animals and/or products of animal origin

Micro-organisms are a very heterogeneous group in that they come in all shapes and sizes, and their living conditions, survival abilities etc. vary widely. A distinction is made between four risk groups according to the risk of infection for humans. Details of these risk groups, along with their containment measures are found in European Directive 2000/54/EEC (on the protection of workers from the risk related exposure to biological agents at work).

EN 14126:2003

Due to the heterogeneity of micro-organisms, it is not possible to define performance criteria of protective clothing on the basis of risk groups, nor on the type of micro-organism. Also it may not be possible to define exactly the organisms the worker is exposed to. Hence the test methods in EN 14126:2003 focus on the medium containing the micro-organism, such as liquid, aerosol or a solid dust particle.

This protective clothing is category III according to the PPE Regulation 2016/425 and required to be subjected to 5 test methods as specified in the standard EN 14126:2003. The corresponding protective clothing "Type" is then prefixed with the letter "B" (e.g. Type 3-B) and the biohazard symbol is displayed.

EN 14126 Approved Product Range

AlphaTec® Product	Protection against biologically contaminated dust	Protection against biologically contaminated liquids	Tasks	Risk Groups
AlphaTec® 1800 Ts PLUS	✓	✓	A/B	1-2
AlphaTec®2000 STANDARD	✓	✓*	A/B	1-2
AlphaTec® 2000 Ts PLUS	✓	✓	A/B	1-3
AlphaTec® 2300 PLUS	✓	✓	A/B/C	1-4
AlphaTec® 2500 STANDARD & PLUS	✓	✓	A/B	1-3
AlphaTec® 3000, 4000, 5000 & MICROCHEM® 6000	✓	✓	B/C	1-4

Risk Group & Task Definition

Risk Group

1. Biological agent unlikely to cause sickness in humans
2. Biological agent that could cause sickness in humans and represent a danger to employees; substance dispersal amongst the population is unlikely; effective preventitive measures or treatment is normally possible
3. Biological agent that can cause severe illness in humans and represent a serious risk for employees; a risk of dispersal amongst the population may occur but effective preventive measures or treatment are normally possible
4. Biological agent that causes severe illness in humans and represents a serious risk for employees; the risk of dispersal amongst the population is high under some circumstances; effective preventive measures or treatment are not normally possible.

Tasks

A. Routine inspection = no contact with contaminated material or objects;
B. Handling and disposal of possibly contaminated material, objects or animals;
C. Performed tasks require application of cleaning and disinfecting chemicals

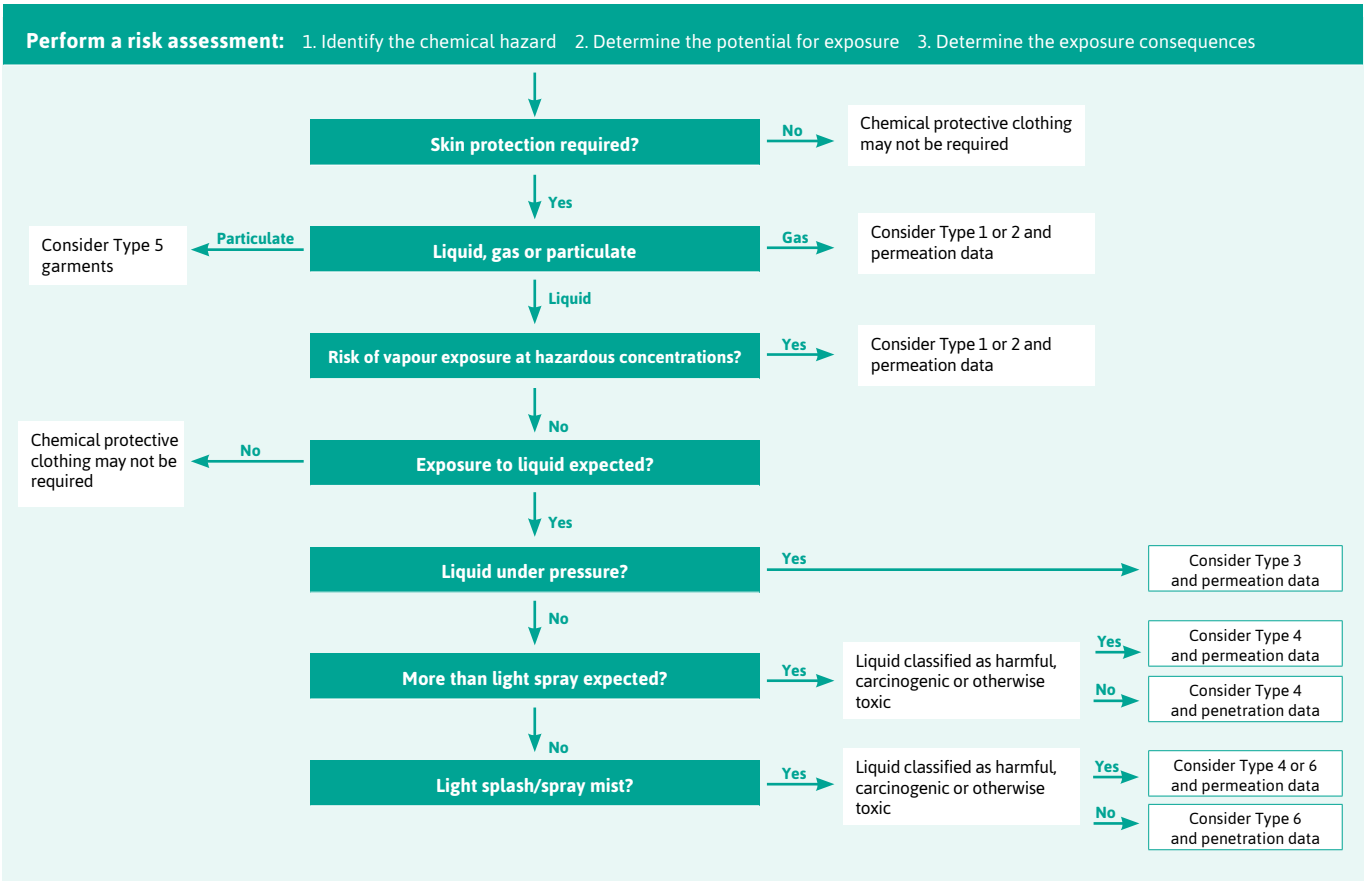
* AlphaTec® 2000 STANDARD includes bound seams which carry a higher risk of liquid ingress under pressure than the taped seams of AlphaTec® 2000 Ts PLUS. Therefore this should be taken into consideration when carrying out a risk assessment for PPE usage to ensure that the right garment is selected and is fit for purpose.

It is the user's responsibility to select an appropriate garment, gloves, boots, and other equipment for the particular use and to understand all warnings and information provided.
For further information on AlphaTec® products please visit **www.ansell.com**

SELECTING THE CORRECT CHEMICAL PROTECTIVE CLOTHING

Ansell has devised this simple flowchart as a basic tool to assist users and health and safety managers in selecting the correct type of chemical protective clothing.

It is important that the suitability of protective clothing for a particular use is determined by a trained expert in occupational health and safety. Many chemicals can cause serious and permanent injury to an unprotected or improperly protected user. Therefore, special emphasis has to be placed on the careful selection of chemical protective clothing when the potential for exposure to such chemicals has been identified.



Factors to consider

Advice on the suitability of chemical protective clothing for a task is very often based on reported permeation breakthrough times. The standard test methods used for measuring the breakthrough time (i.e. EN 16523, ISO 6529, ASTM F 739) are often regarded as representing the "worst-case scenario", since the chemical is held in direct contact with the barrier material. Intermittent contact or splashes of the chemical, in real life, may in fact lengthen the breakthrough time. Also, laboratory-generated chemical permeation data may not always reflect conditions in the workplace. Temperature, pressure, flexing etc. could all potentially have an impact on the breakthrough time. When choosing chemical protective clothing, consideration has to be given to permeation and penetration, and the physical performance attributes of the product (abrasion, tear, tensile, strength etc.). Other physical properties to consider are the strength of seams and closures (i.e. zips) as well as flexibility, weight and comfort factors (i.e. thermal insulation, breathability etc.). The best chemically resistant material will be ineffective if torn, cut, punctured or otherwise damaged.

Important note: This guide is simplified and as such the suitability of chemical protective clothing for a particular use should only be determined by a trained expert in occupational health and safety. It is the responsibility of the user to assess the types of hazards and the risks associated with exposure and to verify the information provided for the product to make a final decision on the appropriate personal protective equipment needed for their specific circumstance.

FINDING THE RIGHT CHEMICAL PROTECTION SOLUTION

By following our step-by-step guideline, you can easily identify the right suit for your chemical task.

1. Identify the "primary" exposure hazard(s)

Chemical(s)	Particulate contamination	Biological/infective agents
		
• Gas/vapour • Liquids • Solids • Pure or mixtures	• Airborne • Radioactive particulates	• Blood-borne • Airborne/solid

2. Determine the potential for exposure and consequence

and then identify the type or types to be considered.

"Type"	Type 1/2	Type 3	Type 4	Type 5	Type 6
Exposure level	Gas/vapour	Liquid spray under pressure (jet spray)	Liquid spray (shower/saturation)	Airborne particulates	Light spray/mist

3. Consider the 'secondary' hazard(s)

Heat and flame	Static discharge	Low visibility	Physical demands	Comfort
				

4. Review technical data

Review product technical data in relation to physical, barrier and comfort properties – match to assessment outcomes from stages 1–3.

5. Make your product selection

Identify the correct protection segment and category to find the right protection solutions matched to your safety needs and work environment.

Protection category	Protection segment
 **Gas and vapour protection** A range of Type 1 and Type 1-ET gas-tight chemical protective suits for hazmat emergency response providing protection from dangerous and toxic liquid and gaseous chemicals.	Limited/single use Re-usable
 **Ventilated/air-fed protection** Our PAPR, AIRline and AVANT AIRline suit range combines respiratory protection with our exceptional chemical barrier technologies.	Limited/single use Re-usable
 **Liquid spray and splash protection** An extensive range of Type 3, Type 4 and Type 5 protective suits and partial body accessories utilising our exceptional chemical barrier technologies to provide protection against a wide range of organic and inorganic liquid chemicals, particulates and biohazards.	Limited/single use Re-usable
 **Particulate or low hazard liquid protection** A broad range of lightweight, breathable Type 5 and Type 6 protective suits and partial body accessories providing protection from dry particulates, low-concentration liquid chemicals and biological agents.	Limited/single use
 **Chemical flame retardant protection** Always to be worn over a thermal FR protective garment, our range of chemical protective suits provides EN ISO 14116 Index 1 limited flame spread protection along with liquid chemicals and particulates.	Limited/single use
 **Contaminated water diving protection** An extensive portfolio of dry diving suits manufactured from a range of materials which include vulcanised rubber and PU suits which provide class-leading protection for divers in contaminated water.	Re-usable

PARTICULATE OR LOW HAZARD LIQUID PROTECTION

LIMITED/SINGLE USE SOLUTIONS

AlphaTec® 1500

MODELS 138 & 113

AlphaTec® 1500 coveralls have been designed for workers involved in the stripping, clear up or handling of asbestos, general maintenance, construction and contract cleaning.

DESCRIPTION

- **Protection** – Proven to filter 100% of particles >3 microns*
- **Comfort** – Air and water vapour permeable ("breathable") to help reduce the risk of heat stress
- **Silicone-free** – Critical in spray-painting applications
- **Optimised body fit** – Improves wearer comfort and safety
- 3-piece hood
- Elasticated wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap

*KAKEN particle penetration test

IDEAL INDUSTRIES AND APPLICATIONS

- Asbestos-related work
- Handling powders
- General maintenance
- Construction

PERFORMANCE RATINGS

TYPE 5 TYPE 6 EN 1073-2

SIZES

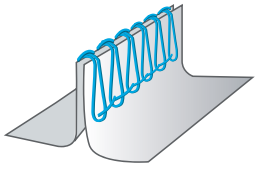
S-5XL

COLOURS (Model 138)

COLOURS (Model 113)

- Featuring silver reflective tape for enhanced visibility

STITCHED SEAMS



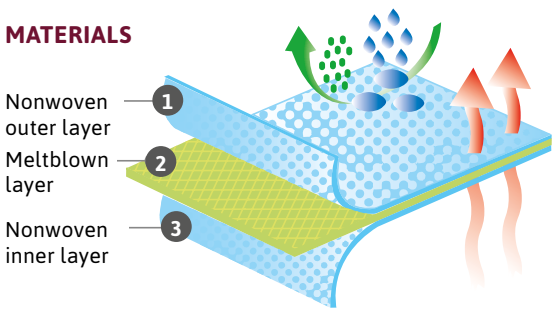
FEATURES

Elasticated 3-piece hood

2-way front zip

Silver reflective tape (Model 113)

MATERIALS



AlphaTec® 1500 PLUS

MODEL 111

AlphaTec® 1500 PLUS is a highly breathable anti-static SMS fabric which utilises the latest developments in micro fibre technology to ensure good filtration efficiency.

DESCRIPTION

- **Protection** – Proven to filter 100% of particles >3 microns*
- **Comfort** – Air and water vapour permeable ("breathable") to help reduce the risk of heat stress
- **Silicone-free** – Critical in spray-painting applications
- **Anti-static** – Tested according to EN 1149-5
- **Optimised body fit** – Improves wearer comfort and safety
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap
- Finger loops

*KAKEN particle penetration test

IDEAL INDUSTRIES AND APPLICATIONS

- Asbestos-related work
- Handling powders
- General maintenance
- Construction
- Pharmaceutical industries
- Wood and metal processing
- Touch-up paint spraying
- Fibre-glass/resin applications/ceramic fibres

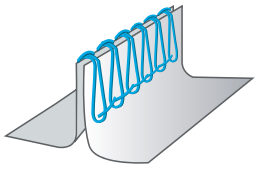
PERFORMANCE RATINGS

SIZES

S-5XL

COLOURS

STITCHED SEAMS



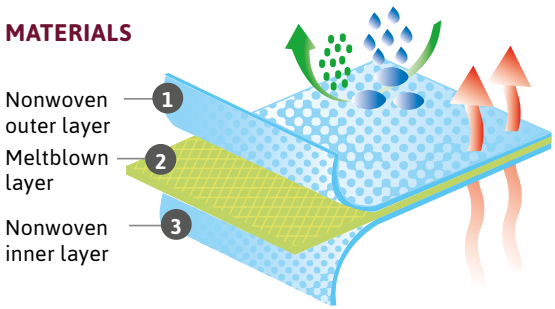
FEATURES


Elasticated 3-piece hood


Finger loops


2-way front zip

MATERIALS



AlphaTec® 1500 PLUS

TECHNICAL DATA

Test Method	Result	EN Class (EN 14325:2004)
EN 530 Abrasion	>10 Cycles	1 of 6
EN ISO 7854 Flex Cracking	>15,000 Cycles	4 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>20 N	2 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)		
EN ISO 13934-1 Tensile Strength (Machine Direction)	<60 N	1 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>30 N	
EN 863 Puncture Resistance	>5 N	1 of 6
EN 1149-5 Electrostatic Properties (Surface Resistance)	<2.5 x 10^9	-
ISO 13935-2 Seam Strength	>75 N	3 of 6
Comfort Test Method	**Result (white fabric)**	**Result (blue fabric)**
ISO 5636-5 Air Permeability: Gurley Method (s 100 cm^{-2})	1.27	1.27
EN 31092/ISO 11092 Water Vapour Resistance (R_{et}) (m^2·Pa/W)	2	1.9
EN 31092/ISO 11092 Thermal Resistance (R_{ct}) (m^2·K/W)	0.019	0.021
Water Vapour Permeability Index (WVPI)	0.582	0.657
Clothing Insultation (clo) value	0.125	0.134
Fabric Repellence & Penetration Resistance to Liquid Chemicals	**Result (%)**	**EN Class (EN 14325:2004)**
Repellence of Liquids - 30% Sulphuric Acid	>95	3 of 3
Repellence of Liquids - 10% Sodium Hydroxide	>95	3 of 3
Resistance to penetration by liquids - 30% Sulphuric Acid	>1	3 of 3
Resistance to penetration by liquids - 10% Sodium Hydroxide	>1	3 of 3

AlphaTec® 1600 PLUS

MODEL 111

Lightweight, breathable and oil repellent single use SMS coverall. Exceptional oil repellency and comfort.

DESCRIPTION

- **Protection** – Superior repellency for enhanced protection against liquids, particularly oils and alcohols compared to traditional 'SMS' technology
- **Comfort** – Lightweight, breathable materials to help minimise the risk of heat stress
- **Silicone-free** – For use in paint spraying and critical environments
- **Low-linting** – To reduce the risk of contamination in critical areas
- **Anti-static** – Tested according to EN 1149-5
- **Optimised body fit** – With knitted cuffs for increased wearer comfort
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Solvent degreasing and parts cleaning
- Loading and handling of low hazard liquids and process equipment
- Blending, filtering and compounding raw materials
- Inspecting machinery and equipment for defects
- Preparing and mixing paints
- Energy utilities

PERFORMANCE RATINGS

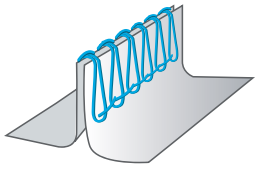
TYPE 5 | TYPE 6 | EN 1073-2 | EN 1149-5

SIZES

S-5XL

COLOURS

STITCHED SEAMS



TECHNOLOGIES

RIPEL™
Liquid Repellence Technology

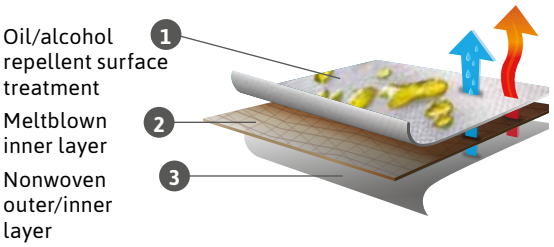
FEATURES

Elasticated hood, wrists, waist and ankles

Lint-free knitted cuffs

Oil/alcohol repellent

MATERIALS



AlphaTec® 1600 PLUS

TECHNICAL DATA

Test Method	Result	EN Class (EN 14325:2004)
EN 530 Abrasion	>10 Cycles	1 of 6
EN ISO 7854 Flex Cracking	>100,000 Cycles	6 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>20 N	1 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)		
EN ISO 13934-1 Tensile Strength (Machine Direction)	<60 N	1 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>30 N	
EN 863 Puncture Resistance	>5 N	1 of 6
EN 1149-5 Electrostatic Properties (Surface Resistance)	Pass	-
ISO 13935-2 Seam Strength	>50 N	2 of 6
Comfort Test Method	**Result**	
ISO 5636-5 Air Permeability: Gurley Method (s 100 cm^{-2})	<2	
EN 31092/ISO 11092 Water Vapour Resistance (R_{et}) (m^2·Pa/W)	<2	
EN 31092/ISO 11092 Thermal Resistance (R_{ct}) (m^2·K/W)	<0.025	
Water Vapour Permeability Index (WVPI)	<0.75	
Clothing Insultation (clo) value	<0.17	
Fabric Repellence & Penetration Resistance to Liquid Chemicals	**Result (%)**	**EN Class (EN 14325:2004)**
Repellence of Liquids - 30% Sulphuric Acid	>95	3 of 3
Repellence of Liquids - 10% Sodium Hydroxide	>95	3 of 3
Resistance to penetration by liquids - 30% Sulphuric Acid	>1	3 of 3
Resistance to penetration by liquids - 10% Sodium Hydroxide	>1	3 of 3

AlphaTec® 1800 STANDARD

MODEL 111

AlphaTec® 1800 is a lightweight, breathable material and is particularly suited to warmer working environments. Provides a good barrier to low hazard liquid spray and fine particulates.

DESCRIPTION

- **Protection** – Proven barrier to low-concentration liquid chemicals, liquid and particulate biological hazards
- **Comfort** – Air and water vapour permeable ("breathable") to help reduce the risk of heat stress
- **Silicone-free** – Critical in spray-painting applications
- **Anti-static** – Tested according to EN 1149-5
- **Optimised body fit** – Improves wearer comfort and safety
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap
- Vending pack available
- Finger loops

IDEAL INDUSTRIES AND APPLICATIONS

- Pharmaceutical industries
- Paint spraying
- Boat and ship building
- Mining
- General maintenance
- Powder handling

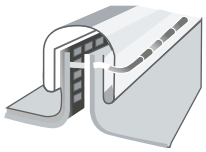
PERFORMANCE RATINGS

SIZES

S-5XL

COLOURS

BOUND SEAMS



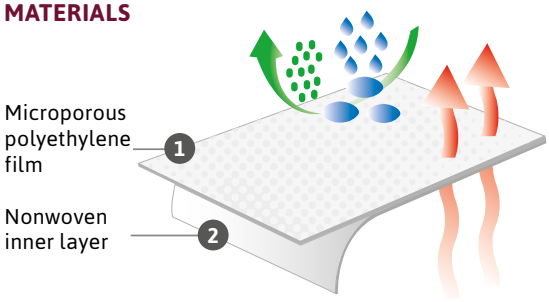
FEATURES

3-piece hood

Finger loops

2-way front zip

MATERIALS



AlphaTec® 1800 Ts PLUS

MODELS 103, 111, 122 & 156

AlphaTec® 1800 Ts PLUS provides the wearer with entry level, low hazard liquid and particulate protection. Ideal for a wide range of general industrial and pharmaceutical applications.

DESCRIPTION

- **Protection** – Proven barrier to low-concentration liquid chemicals, liquid and particulate biological hazards
- **Comfort** – Moisture vapour permeable ("breathable") to help reduce the risk of heat stress
- **Silicone-free** – Critical in spray-painting applications
- **Optimised body fit** – Improves wearer comfort and safety
- **Thumb loops** – Help to prevent sleeve movement when working above your head
- **Chinstrap** – Helps to reduce the risk of cross contamination
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Pharmaceutical industries
- Paint spraying
- Boat and ship building
- Mining
- General maintenance
- Powder handling

PERFORMANCE RATINGS

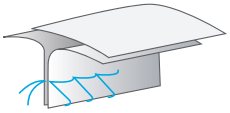
TYPE 4-B | TYPE 5-B | TYPE 6-B | EN 14126 | EN 1073-2 | EN 1149-5

SIZES

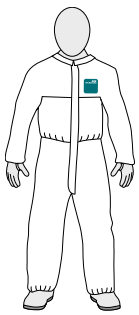
S-5XL

COLOURS

STITCHED AND TAPED SEAMS

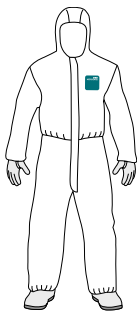


MODELS



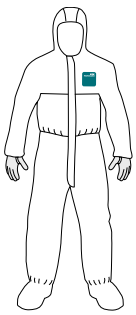
Model 103

- Collar



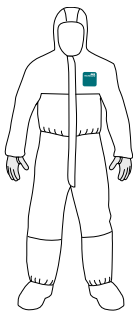
Model 111

- 3-piece hood



Model 122

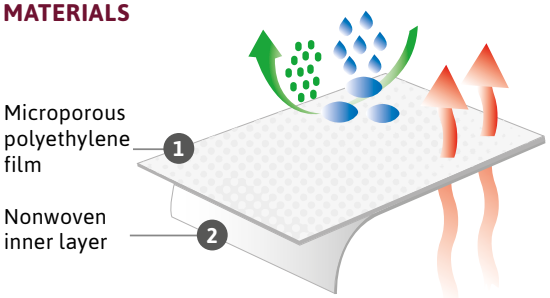
- Attached boot with ankle ties and anti-slip soles



Model 156

- Attached socks with boot overflaps

MATERIALS



AlphaTec® 1800 COMFORT

MODEL 195

AlphaTec® 1800 COMFORT, model 195, was developed in collaboration with the market leader in wind generation power systems.

DESCRIPTION

- **Protection** – Proven barrier to low-concentration liquid chemicals and airborne particulates
- **Comfort** – Air and moisture vapour permeable ("breathable") SMS hood, full back and underarms to help reduce the risk of heat stress
- **Silicone-free** – Critical in spray painting applications
- **Low-linting** – Reduced risk of contamination in critical areas
- **Anti-static** – Tested and certified in accordance with EN 1149-5
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap
- Finger loops

IDEAL INDUSTRIES AND APPLICATIONS

- Composites
- General maintenance
- Paint spraying
- Surface preparation
- Boat and ship building
- Wind turbine manufacturing

PERFORMANCE RATINGS

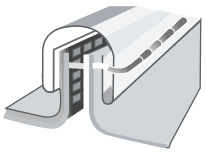
TYPE 5 TYPE 6 EN 1073-2 EN 1149-5

SIZES

S-5XL

COLOURS

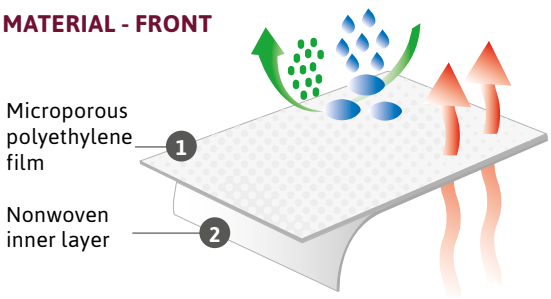
BOUND SEAMS



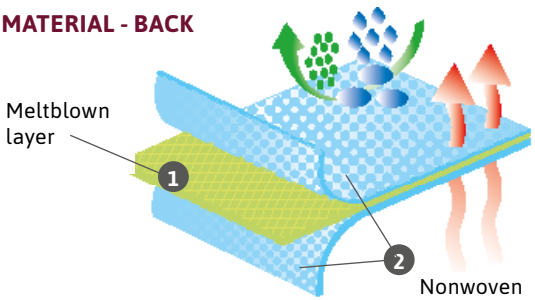
FEATURES

Full length breathable back

MATERIAL - FRONT



MATERIAL - BACK



AlphaTec® 1800

TECHNICAL DATA

AlphaTec® 1800 is extensively tested in accordance with statutory requirements, including physical performance attributes and barrier to hazardous substances. The following tables outline the results obtained in independent laboratories according to European test methods.

Test Method	EN Class (EN 14325)
EN 530 Abrasion	1 of 6
EN ISO 7854 Flex Cracking	3 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	2 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	
EN ISO 13934-1 Tensile Strength (Machine Direction)	1 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	
EN 863 Puncture Resistance	1 of 6
EN 1149-5 Electrostatic Properties (Surface Resistance)	Pass
ISO 13935-2 Seam Strength 1800 STANDARD	2 of 6
ISO 13935-2 Seam Strength 1800 Ts PLUS	3 of 6
ISO 13935-2 Seam Strength 1800 COMFORT	2 of 6
BS EN 20811 Hydrostatic Head (Water Pressure Test)	>100
Comfort Test Method	**Result**
EN 31092/ISO 11092 Water Vapour Resistance (R_{et}) ($m^2 \cdot Pa/W$)	$<20\ m^2 \cdot Pa/W$
EN 31092/ISO 11092 Thermal Resistance (R_{et}) ($m^2 \cdot K/W$)	$10.8 \times 10^{-3}\ m^2 \cdot K/W$

EN ISO 6529:2001 Chemical Permeation Barrier			
Chemical	**CAS Number**	**EN Class**	**EN Class (EN 14325:2004)**
Doxorubicin HCl	23214-92-8	>480	6 of 6

The following table sets out AlphaTec® 1800 performance for resistance to chemical penetration in accordance with EN ISO 6530.

Fabric Repellence & Penetration - Resistance to Liquid Chemicals	Result (%)	EN Class
Repellence of Liquids - 30% Sulphuric Acid	>95	3 of 3
Repellence of Liquids - 10% Sodium Hydroxide	>95	3 of 3
Repellence of Liquids - o-Xylene	>90	2 of 3
Repellence of Liquids - Butan-1-ol	>95	3 of 3
Resistance to penetration by liquids - 30% Sulphuric Acid	< 1	3 of 3
Resistance to penetration by liquids - 10% Sodium Hydroxide	< 1	3 of 3
Resistance to penetration by liquids - o-Xylene	< 1	3 of 3
Resistance to penetration by liquids - Butan-1-ol	< 1	3 of 3

AlphaTec® 1800 when tested in accordance with EN 14126:2003 demonstrates a good barrier to infective agents.
(applicable to Ts PLUS model only)

EN 14126:2003 - Barrier to Infective Agents	Result	EN Class
ISO 16603 Resistance to penetration by blood/fluids under pressure	Pass to 7 kPa	-
ISO 16604 Resistance to penetration by blood borne pathogens	Pass to 7 kPa	Class 4 of 6
EN ISO 22610 Resistance to wet bacterial penetration (mechanical contact)	No penetration (up to 75 min)	Class 6 of 6
ISO/DIS 22611 Resistance to biologically contaminated aerosols	No penetration	Class 3 of 3
ISO 22612 Resistance to dry microbial penetration	No penetration	Class 3 of 3

AlphaTec® 1800 products have been extensively tested according to European and International requirements, including ASTM, for both physical and barrier performance. More details can be found on our website **www.ansell.com**

AlphaTec® 2000 STANDARD

MODEL 111

AlphaTec® 2000 provides superior protection and comfort with exceptional liquid and particulate protection. Ideal for a wide range of industrial applications.

DESCRIPTION

- **Protection** – Excellent liquid penetration resistance and barrier to fine particulates (>0.01 microns*)
- **Comfort** – Moisture vapour permeable ("breathable") to help reduce the risk of heat stress
- **Silicone-free** – Critical in paint-spraying applications
- **Low-linting** – Reduces the risk of fibre contamination in critical areas
- **Optimised body fit** – Improves wearer comfort and safety
- **Anti-static** – Tested according to EN 1149-5

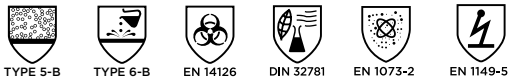
*EMSL test method

- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Pharmaceutical industries
- Agriculture
- Cleanrooms
- Paint spraying
- Crime scene investigation
- Veterinary services

PERFORMANCE RATINGS



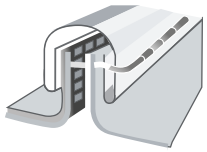
EN ISO 27065 Standard in progress - please email Ansell for more information.

SIZES

S-5XL

COLOURS

BOUND SEAMS



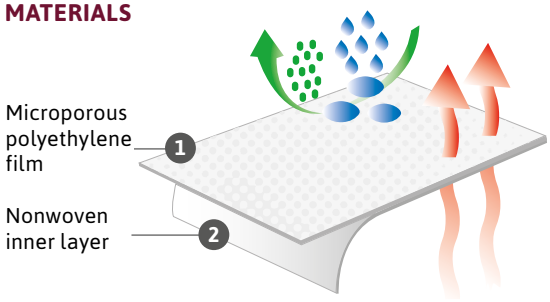
FEATURES

Finger loops

3-piece hood

2-way front zip

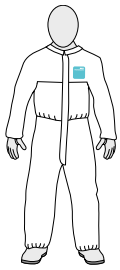
MATERIALS



AlphaTec® 2000 STANDARD

MODELS 103, 111, 113, 122, 156 & 162

MODEL 103



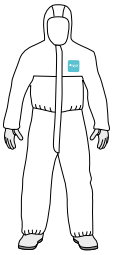
SIZES

S-5XL

COLOURS

- Collar
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated waist, wrists and ankles

MODEL 111



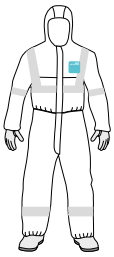
SIZES

S-5XL

COLOURS

- 3-piece hood
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated hood, waist, wrists and ankles

MODEL 113



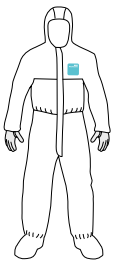
SIZES

S-5XL

COLOURS

- 3-piece hood
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated hood, waist, wrists and ankles
- Reflective Hi-Vis tape for enhanced visibility

MODEL 122



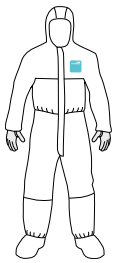
SIZES

S-5XL

COLOURS

- 3-piece hood
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated hood, waist, wrists and ankles
- Attached boot with ankle ties and anti-slip soles

MODEL 156



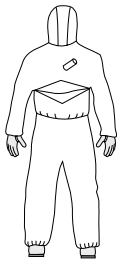
SIZES

S-5XL

COLOURS

- 3-piece hood
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated hood, waist, wrists, ankles and overflaps
- Integrated socks with boot overflaps

MODEL 162



SIZES

S-5XL

COLOURS

- Pass-thru device for use with fall-arrest equipment
- 3-piece hood
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated hood, waist, wrists and ankles

AlphaTec® 2000 COMFORT

MODEL 129

AlphaTec® 2000 COMFORT has been specifically designed for those working in warmer climates or warm working environments to help reduce the risk of heat stress

DESCRIPTION

- **Protection** – Hood, arms, legs and front torso in AlphaTec® 2000 fabric
- **Comfort** – Air and water vapour permeable ("breathable") to help reduce the risk of heat stress
- **Highly breathable SMS back panel**
- **Silicone-free** – Critical in spray-painting applications
- **Anti-static** – Tested according to EN 1149-5
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zip with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Pharmaceutical industry
- Cleanrooms
- Paint spraying
- Veterinary services
- Pest control

PERFORMANCE RATINGS

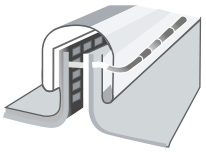
TTYPE 5 | TYPE 6 | EN 1073-2 | EN 1149-5

SIZES

S-5XL

COLOURS

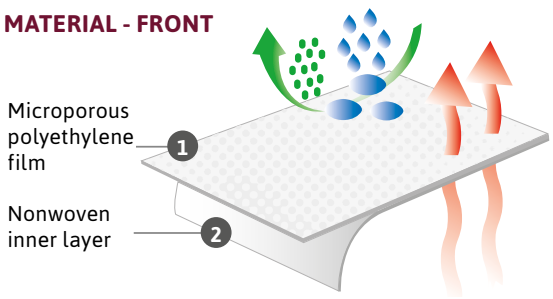
BOUND SEAMS



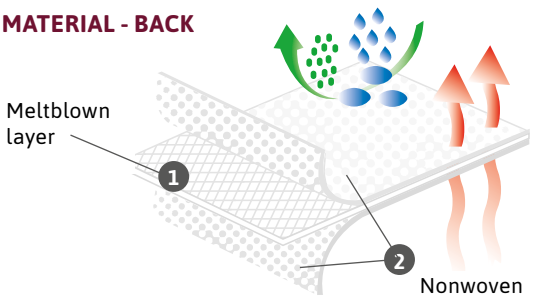
FEATURES

Breathable back

MATERIAL - FRONT



MATERIAL - BACK



AlphaTec® 2000 SOCO

MODEL 128

Developed in collaboration with Greater Manchester (UK) Police forensic Scene of Crime Officers (SOCOs), the AlphaTec® 2000 SOCO suit will provide you with the essential balance of comfort and performance.

DESCRIPTION

- **Ultra-low-linting** – Reduces the risk of crime scene contamination
- **Self-adhesive pockets** – Can be positioned anywhere on the garment to secure equipment
- **Finger loops** – To prevent sleeve movement when working above your head
- **Protection** – From biological agents in the highest performance class according to EN 14126
- **Anti-static** – Tested according to EN 1149-5
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zip with resealable storm flap
- 2-piece hood
- Chinstrap
- Dual finger loops
- Supplied with 2 self-adhesive pockets

IDEAL INDUSTRIES AND APPLICATIONS

- Forensics
- Scene of crime officers (SOCOs)
- Crime scene investigation (CSI)

PERFORMANCE RATINGS

TYPE 5-B | TYPE 6-B | EN 14126 | DIN 32781 | EN 1073-2 | EN 1149-5

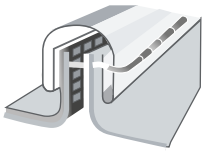
EN ISO 27065 Standard in progress - please email Ansell for more information.

SIZES

S-5XL

COLOURS

BOUND SEAMS



FEATURES

Pocket

Colour coded seam

Chinstrap

SOCO OVERBOOT MODEL 409

- Sold separately
- Elastic to top of boot
- Tie fastening
- Blue binding to seams
- Reinforced Surestep non-slip soles
- Adjustable shoe tie

SIZES One Size

COLOURS

AlphaTec® 2000 Ts PLUS

MODELS 103, 111, 122, 128 & 156

AlphaTec® 2000 Ts PLUS is the product of choice for many pharmaceutical workers around the world.

DESCRIPTION

- **Protection** – Proven barrier to low concentration liquid chemicals, diluted pesticides, liquid and particulate biological hazards
- **Comfort** – Moisture vapour permeable ("breathable") to help reduce the risk of heat stress
- **Silicone-free** – Critical in spray-painting applications
- **Ultra-low-linting** – Reduced risk of contamination in critical areas
- **Anti-static** – Tested according to EN 1149-5
- **Optimised body fit** – Improves wearer comfort and safety
- **Tunnelled elasticated wrists, hood and ankles** – Helps to minimise the risk of linting and cross contamination
- **Thumb loops** – Help to prevent sleeve movement when working above your head
- **Chinstrap** – Helps to reduce the risk of cross-contamination
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Pharmaceutical industries
- Agriculture
- Paint spraying
- Fibre-glass product manufacturing
- Boat and shipbuilding
- Mining

PERFORMANCE RATINGS

TYPE 4-B | TYPE 5-B | TYPE 6-B | EN 14126 | DIN 32781 | EN 1073-2 | EN 1149-5

EN ISO 27065 Standard in progress - please email Ansell for more information.

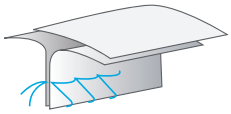
SIZES

S-5XL

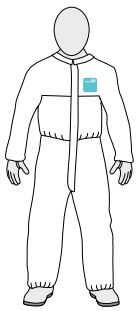
COLOURS

111

STITCHED & TAPED SEAMS

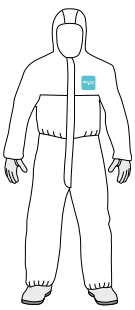


MODELS



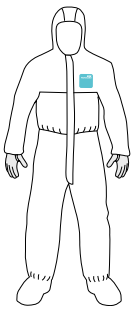
Model 103

- Collar



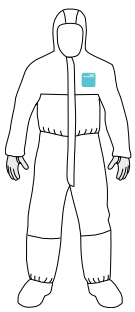
Model 111

- 3-piece hood



Model 122

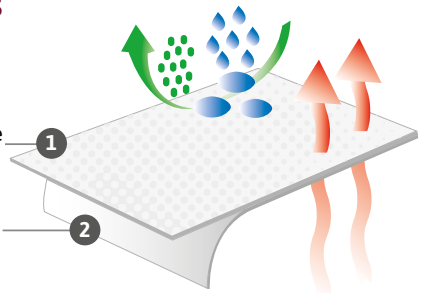
- Attached boot with ankle ties and anti-slip soles



Model 156

- Attached socks with boot overflaps

MATERIALS



MODEL 209 — LAB COAT

- Front zip fastening
- Left breast pocket
- Lower right pocket
- Bound seams
- Category III

SIZES S-3XL **COLOURS**

MODEL 301 — TROUSERS

- Elastication to waist and ankles
- Bound seams
- Category III

SIZES S-3XL **COLOURS**

MODEL 407 — OVERBOOTS - ESD

- Tie fastening
- Elastic to top of boot
- Bound seams
- Electric static Discharge (ESD) PVC Sole

SIZES One size (fits size 42-46) **COLOURS**

MODEL 213 — APRON

- Tie fastening to waist
- 100 cm long tie fastening
- Category III

SIZES One size **COLOURS**

MODEL 400 — OVERSHOES

- Elasticated opening
- Bound seams

SIZES One size (fits size 42-46) **COLOURS**

MODEL 503 — CAPE HOOD

- Balaclava-style
- Elasticated face opening
- Bound seams

SIZES One size **COLOURS**

MODEL 214 — APRON WITH SLEEVES

- Rear hook and loop fastening
- Elasticated wrists
- Bound seams
- Category III

SIZES S-3XL **COLOURS**

MODEL 401 — OVERSHOES

- Elasticated opening
- Bound seams

SIZES One size (fits size 46-48) **COLOURS**

MODEL 507 — CAPE HOOD

- Balaclava-style cape hood covering part of shoulders
- Front hook and loop fastening
- Bound seams

SIZES One size **COLOURS**

MODEL 219 — JACKET & TROUSER SET

- Zip fastening jacket
- Elasticated waist, hem and ankles on jacket and trousers
- Bound seams
- Category III

SIZES S-5XL **COLOURS**

MODEL 406 — OVERBOOTS

- Tie fastening
- Elastic to top of boot
- Bound seams

SIZES One size (fits size 42-46)

MODEL 600 — OVERSLEEVES

- Elasticated at both ends
- Bound seams

SIZES One size **COLOURS**

AlphaTec® 2000

TECHNICAL DATA

AlphaTec® 2000 is extensively tested in accordance with statutory requirements, including physical performance attributes and barrier to hazardous substances. The following tables outline the results obtained in independent laboratories according to European test methods.

Test Method	Results (white fabric)	EN Class (EN 14325)	Results (green fabric)	EN Class (EN 14325)
EN 530 Abrasion	>100 Cycles	2 of 6	>10 Cycles	1 of 6
EN ISO 7854 Flex Cracking	>40,000 Cycles	5 of 6	>100,000 Cycles	6 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>40 N	2 of 6	>40 N	2 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>10 N		>10 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>60 N	1 of 6	>60 N	1 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>30 N		>30 N	
EN 863 Puncture Resistance	>5 N	1 of 6	>5 N	1 of 6
EN 1149-5 Electrostatic Properties (Surface Resistance)	<2.5 x 10^9 Ω	-	<2.5 x 10^9 Ω	-
ISO 13935-2 Seam Strength	>75 N	3 of 6	>75 N	3 of 6
BS EN 20811 Hydrostatic Head (Water Pressure Test)	>200 cm H_20	-	>200 cm H_20	-
Comfort Test Method	**Results (white fabric)**		**Results (green fabric)**	
ISO 5636-5 Air Permeability: Gurley Method (s 100 cm^{-2})	>500		>500	
EN 31092/ISO 11092 Water Vapour Resistance (R_e) (m^2·Pa/W)	>700		>700	
EN 31092/ISO 11092 Thermal Resistance (R_t) (m^2·K/W)	0.015		0.017	
Water Vapour Permeability Index (WVPI)	<0.002		<0.002	
Clothing insulation (clo) value	0.095		0.112	

EN ISO 6529 Chemical Permeation Test Results			
Chemical Name	**CAS Number**	**BT at 1.0 µg/cm^2/min (min)**	**EN Class (EN 14325)**
Glycerol	56-81-5	>480	6 of 6
Doxorubicin Hydrochloride	25316-40-9	>480	6 of 6

The following table sets out AlphaTec® 2000 performance for resistance to chemical penetration in accordance with EN ISO 6530.
For further information on penetration testing see page 85.

Fabric Repellence & Penetration - Resistance to Liquid Chemicals	Result (white fabric) (%)	EN Class	Results (green fabric) (%)	EN Class
Repellence of Liquids - 30% Sulphuric Acid	>95	3 of 3	>95	3 of 3
Repellence of Liquids - 10% Sodium Hydroxide	>95	3 of 3	>95	3 of 3
Repellence of Liquids - o-Xylene	>95	3 of 3	>95	3 of 3
Repellence of Liquids - Butan-1-ol	>90	2 of 3	>90	2 of 3
Resistance to penetration by liquids - 30% Sulphuric Acid	<1	3 of 3	<1	3 of 3
Resistance to penetration by liquids - 10% Sodium Hydroxide	<1	3 of 3	<1	3 of 3
Resistance to penetration by liquids - o-Xylene	<1	3 of 3	<1	3 of 3
Resistance to penetration by liquids - Butan-1-ol	<1	3 of 3	<1	3 of 3

AlphaTec® 2000 when tested in accordance with EN 14126:2003 demonstrates an excellent barrier to infective agents. The specific test results are detailed in the table below and for further information on this European Norm see page 5.

EN 14126 Barrier to Infective Agents	Result	EN Class
ISO 16603 Resistance to penetration by blood/fluids under pressure	Pass to 20 kPa	n/a
ISO 16604 Resistance to penetration by blood borne pathogens	Pass to 20 kPa	6 of 6
EN ISO 22610 Resistance to wet bacterial penetration (mechanical contact)	No penetration (up to 75 min)	6 of 6
ISO/DIS 22611 Resistance to biologically contaminated aerosols	No penetration	3 of 3
ISO 22612 Resistance to dry microbial penetration	No penetration	3 of 3

AlphaTec® 2000 products have been extensively tested according to European and International requirements, including ASTM, for both physical and barrier performance. More details can be found on our website **www.ansell.com**


AlphaTec
2000
MICROGARD
Ansell

AlphaTec® 2300 STANDARD

MODEL 111

AlphaTec® 2300 provides an excellent barrier to harmful chemicals, while being lightweight and relatively strong and durable.

DESCRIPTION

- **Protection** – A good barrier to numerous inorganic liquid chemicals, including acids and bases
- **Highly visible** – Available in bright yellow colour for improved worker safety
- **Comfort** – Lightweight yet relatively strong and durable
- **Anti-static** – Tested according to EN 1149-5
- **Designed to protect** – Typical coverall features include respirator fit hood and a zip flap with self-adhesive tape closure
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Environmental cleanup
- Sewage purification installations
- Industrial and chemical manufacturing
- Composites manufacturing
- Pharmaceutical industry

PERFORMANCE RATINGS

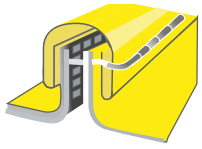
TYPE 5-B | TYPE 6-B | EN 14126 | EN 1073-2 | EN 1149-5

SIZES

S-5XL

COLOURS

BOUND SEAMS



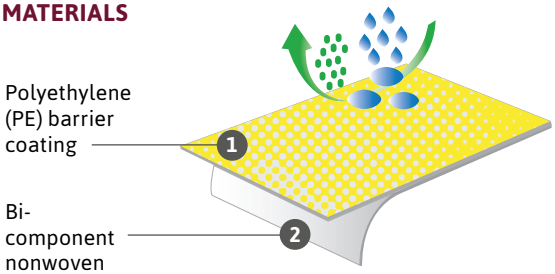
FEATURES

Finger loops

3-piece hood

2-way front zip

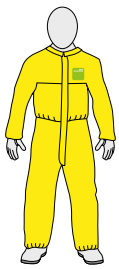
MATERIALS



AlphaTec® 2300 STANDARD

MODELS 103, 111, 122 & 156

MODEL 103



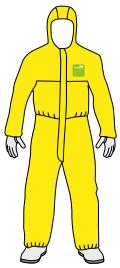
SIZES

S-5XL

COLOURS

- Collar (no hood)
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated waist, wrists and ankles

MODEL 111



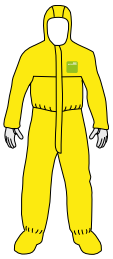
SIZES

S-5XL

COLOURS

- 3-piece hood
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated hood, waist, wrists and ankles

MODEL 122



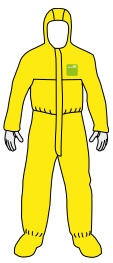
SIZES

S-5XL

COLOURS

- 3-piece hood
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated hood, waist, wrists and ankles
- Boot end with anti-slip soles

MODEL 156



SIZES

S-5XL

COLOURS

- 3-piece hood
- 2-way front zip with resealable storm flap
- Finger loops
- Elasticated hood, waist, wrists, ankles and overflaps
- Integrated socks with boot overflaps

AlphaTec® 2300 COMFORT

MODEL 129

AlphaTec® 2300 COMFORT has been engineered with workers involved in composites manufacturing and related industries in mind, to offer protection where you need it most and ventilation to help reduce the risk of heat stress.

DESCRIPTION

- **Protection** – Hood, arms, legs and front torso in 2300 fabric, which is an excellent barrier to resins and fibres.
- **Innovation** – Fabric construction ensures that there is less risk of delamination should a wearer make contact with a tacky surface
- **Breathable SMS back panel**
- **Comfort** – Air and water permeable ('breathable') back panel ventilates the suit to help reduce the risk of heat stress
- **Silicone free** – Critical in spray painting applications
- **Anti-static** – Tested according to EN 1149-5
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Composites manufacturing
- General maintenance
- Pharmaceutical industry

PERFORMANCE RATINGS

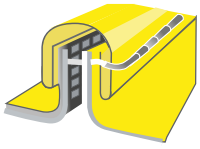
TYPE 5 TYPE 6 EN 1073-2 EN 1149-5

SIZES

S-5XL

COLOURS

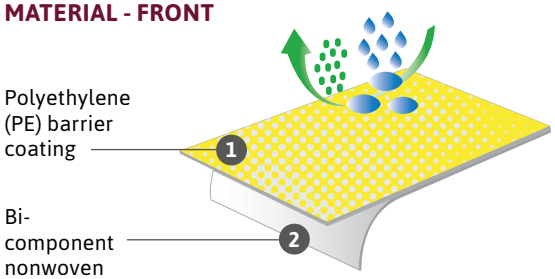
BOUND SEAMS



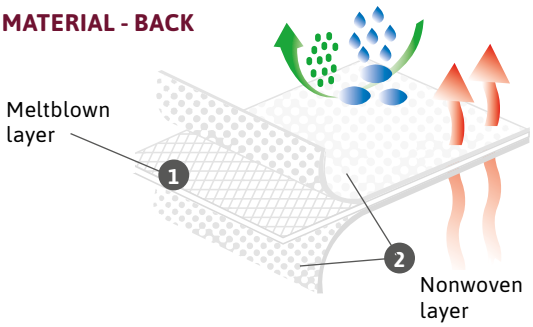
FEATURES

Breathable back

MATERIAL - FRONT



MATERIAL - BACK



AlphaTec® 2300 PLUS

MODEL 132

AlphaTec® 2300 PLUS is an entry level Type 3 chemical protective coverall for workers involved in environmental clean-up, general industrial and chemical handling applications.

DESCRIPTION

- **Protection** – Polycoated bi-component barrier resists permeation of numerious liquid chemicals
- **Innovation** – Fabric construction ensures that there is less risk of delamination should a wearer make contact with a tacky surface
- **Comfort** – Lightweight yet relatively strong and durable
- **Highly visible** – Available in bright yellow colour for improved worker safety
- **Anti-static** – Tested according to EN 1149-5
- **Designed to protect** – Typical coverall features include respirator fit hood and a zip flap with self-adhesive tape closure
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zipper with resealable storm flap
- Finger loops

IDEAL INDUSTRIES AND APPLICATIONS

- Environmental clean-up
- Sewage purification installations
- Industrial and Chemical manufacturing
- Industrial Cleaning

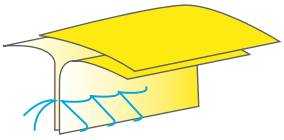
PERFORMANCE RATINGS

SIZES

S-5XL

COLOURS

STITCHED & TAPED SEAMS



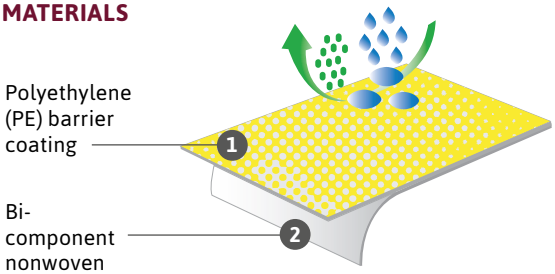
FEATURES

2-way front zip

Finger loops

3-piece hood

MATERIALS



AlphaTec® 2300

TECHNICAL DATA

AlphaTec® 2300 is extensively tested in accordance with statutory requirements, including physical performance attributes and barrier to hazardous substances. The following tables outline the results obtained in independent laboratories according to European test methods.

Test Method	Results	EN Class (EN 14325)
EN 530 Abrasion	>100 Cycles	2 of 6
EN ISO 7854 Flex Cracking	>2,500 Cycles	2 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>60 N	2 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>40 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>100 N	2 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>60 N	
EN 863 Puncture Resistance	>5 N	2 of 6
EN 1149-5 Electrostatic Properties (Surface Resistance)	<2.5 x 10^9 Ω	-
ISO 13935-2 Seam Strength	>75 N	3 of 6
Comfort Test Method	**Results**	
ISO 5636-5 Air Permeability: Gurley Method (s 100 cm^{-2})	>500	
EN 31092/ISO 11092 Water Vapour Resistance (R_{et}) (m^2·Pa/W)	>700	
EN 31092/ISO 11092 Thermal Resistance (R_{ct}) (m^2·K/W)	0.017	
Water Vapour Permeability Index (WVPI)	<0.002	
Clothing insulation (clo) value	0.112	

EN ISO 6529:2001 Chemical Permeation Barrier*			
Chemical	**CAS Number**	**BT at 1.0 µg/cm²/min**	**EN Class (EN 14325:2004)**
Ferric Chloride (satd.)	7705-08-0	>480	6 of 6
Hexamethylene Diisocyanate	822-06-0	>480	6 of 6
Methanol	7439-97-6	>480	6 of 6
Sodium Hydroxide (40% w/w)	1310-73-2	>480	6 of 6
Sulphuric Acid (96% w/w)	7664-93-9	>480	6 of 6

The following table sets out AlphaTec® 2300 performance for resistance to chemical penetration in accordance with EN ISO 6530. For further information on penetration testing see page 85.

Fabric Repellence & Penetration - Resistance to Liquid Chemicals	White Result (%)	EN Class	Yellow Result (%)	EN Class
Repellence of Liquids - 30% Sulphuric Acid	>95	3 of 3	>95	3 of 3
Repellence of Liquids - 10% Sodium Hydroxide	>90	2 of 3	>95	3 of 3
Repellence of Liquids - o-Xylene	>90	2 of 3	>95	3 of 3
Repellence of Liquids - Butan-1-ol	>95	3 of 3	>95	3 of 3
Resistance to penetration by liquids - 30% Sulphuric Acid	<1	3 of 3	<1	3 of 3
Resistance to penetration by liquids - 10% Sodium Hydroxide	<1	3 of 3	<1	3 of 3
Resistance to penetration by liquids - o-Xylene	<1	3 of 3	<1	3 of 3
Resistance to penetration by liquids - Butan-1-ol	<1	3 of 3	<1	3 of 3

AlphaTec® 2300 when tested in accordance with EN 14126:2003 demonstrates an excellent barrier to infective agents. The specific test results are detailed in the table below and for further information on this European Norm see page 5.

EN 14126: 2003 - Barrier to Infective Agents	Result	EN Class
ISO 16603 Resistance to penetration by blood/fluids under pressure	Pass to 20 kPa	n/a
ISO 16604 Resistance to penetration by blood borne pathogens	Pass to 20 kPa	Class 6 of 6
EN ISO 22610 Resistance to wet bacterial penetration (mechanical contact)	No penetration (up to 75 min)	Class 6 of 6
ISO/DIS 22611 Resistance to biologically contaminated aerosols	No penetration	Class 3 of 3
ISO 22612 Resistance to dry microbial penetration	No penetration	Class 3 of 3

AlphaTec® 2500 STANDARD

MODELS 111 & 122

AlphaTec® 2500 is a unique material offering exceptional mechanical strength, liquid and particulate protection.

DESCRIPTION

- **Protection** – Achieves the highest classifications for protection from biological agents in accordance with EN 14126:2003 and ASTM F 1671 for penetration of blood, body fluids and blood-borne pathogens
- **Comfort** – Moisture vapour permeable ("breathable") to help reduce the risk of heat stress
- **Anti-static** – Tested according to EN 1149-5
- **Ultra-low-linting** – Reduced risk of contamination in critical areas
- Elasticated hood, wrist, waist and ankles (latex free)
- Finger loops
- Red single zip with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Virally contaminated areas (including avian influenza)
- Biological protection
- Emergency medical response
- Medical research
- Chemical and pharmaceutical industries
- Low-pressure industrial cleaning
- Industrial paint spraying
- Nuclear industry

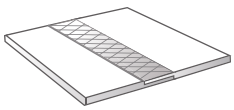
PERFORMANCE RATINGS

SIZES

S-5XL

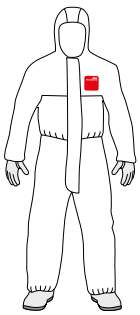
COLOURS

ULTRASONICALLY WELDED SEAMS



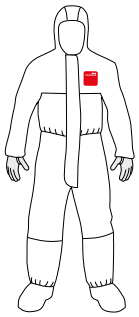
FEATURES

Attached boot with ankle ties and anti-slip soles (Model 122)



Model 111

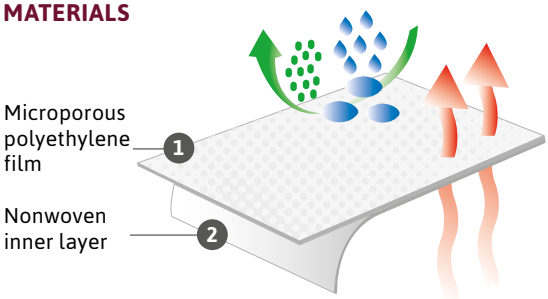
- 3-piece hood



Model 122

- Attached boot with ankle ties and anti-slip soles

MATERIALS



AlphaTec® 2500 PLUS

MODELS 111 & 122

AlphaTec® 2500 PLUS offers low concentration liquid chemical repellence, particle protection and Type 3 'liquid tight' protection with breathability.

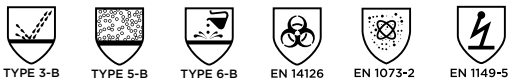
DESCRIPTION

- **Protection** – Achieves the highest classifications for protection from biological agents in accordance with EN 14126:2003 and ASTM F 1671 for penetration of blood, body fluids and blood-borne pathogens
- **Comfort** – Moisture vapour permeable ("breathable") to help reduce the risk of heat stress
- **Anti-static** – Tested according to EN 1149-5
- **Ultra-low-linting** – Reduced risk of contamination in critical areas
- Elasticated hood, wrist, waist and ankles (latex free)
- Finger loops
- White 2-way zip with resealable storm flap

IDEAL INDUSTRIES AND APPLICATIONS

- Virally contaminated areas (including avian influenza)
- Biological protection
- Emergency medical response
- Medical research
- Chemical and pharmaceutical industries
- Low-pressure industrial cleaning
- Industrial paint spraying
- Nuclear industry

PERFORMANCE RATINGS

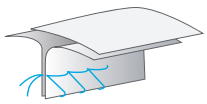


SIZES

S-5XL

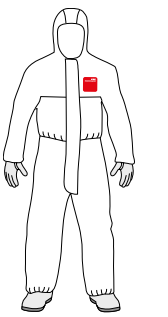
COLOURS

STITCHED & TAPED SEAMS



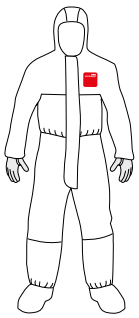
FEATURES

Attached boot with ankle ties and anti-slip soles (Model 122)



Model 111

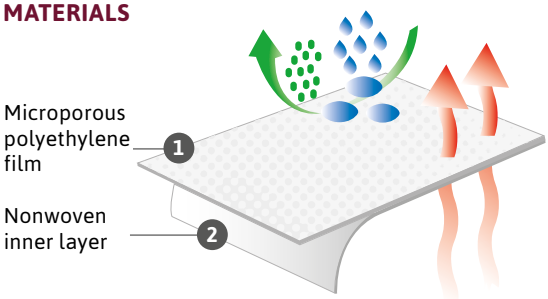
- 3-piece hood



Model 122

- Attached boot with ankle ties and anti-slip soles

MATERIALS



MODEL 203 LAB COAT

- Collar
- Stud front fastening
- Left breast pocket
- Lower right pocket
- Bound seams

SIZES S-3XL

COLOURS ☐

MODEL 406 OVERBOOTS

- Elastic to top of boot
- Tie fastening

SIZES One size (fits size 42-46)

COLOURS ☐

MODEL 503 CAPE HOOD

- Balaclava-style
- Elasticated face opening
- Bound seams

SIZES One size

COLOURS ☐

MODEL 213 APRON

- Tie fastening to waist
- 100 cm long tie fastening

SIZES One size

COLOURS ☐

MODEL 407 OVERBOOTS - ESD

- Elasticated opening
- Anti-slip sole
- Adjustable shoe tie
- Bound seams
- ESD PVC Sole

SIZES 42-46

COLOURS ☐

MODEL 507 CAPE HOOD

- Balaclava-style cape hood covering part of shoulders
- Hook and loop fastening to front
- Bound seams

SIZES One size

COLOURS ☐

MODEL 400 OVERSHOES

- Elasticated opening
- Bound seams

SIZES One size (fits size 42-46)

COLOURS ☐

MODEL 409 SOCO OVERBOOTS

- Tie fastening
- Blue binding to seams
- Reinforced Surestep non-slip soles
- Adjustable shoe tie

SIZES One size (fits size 42-46)

COLOURS ☐

MODEL 600 OVERSLEEVES

- Elasticated at both ends
- Length 20”
- Bound seams

SIZES One size

COLOURS ☐

AlphaTec® 2500

TECHNICAL DATA

AlphaTec® 2500 is extensively tested in accordance with statutory requirements, including physical performance attributes and barrier to hazardous substances. The following tables outline the results obtained in independent laboratories according to European test methods.

Test Method	Result	EN Class (EN 14325)
EN 530 Abrasion	>100 Cycles	2 of 6
EN ISO 7854 Flex Cracking	>100,000 Cycles	6 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>20 N	2 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>20 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>100 N	2 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>100 N	
EN 863 Puncture Resistance	>100 N	2 of 6
EN ISO 13938-1 Burst Resistance	>80 kPa	2 of 6
EN 1149-5 Electrostatic Properties (Surface Resistance)	<2.5 x 10^9 Ω	-
ISO 13935-2 Seam Strength	>125 N	4 of 6
Comfort Test Method	**Result**	
ISO 5636-5 Air Permeability: Gurley Method (s 100 cm^{-2})	>500	
EN 31092/ISO 11092 Water Vapour Resistance (R_{et}) (m^2·Pa/W)	23	
EN 31092/ISO 11092 Thermal Resistance (R_{ct}) (m^2·K/W)	0.019	
Water Vapour Permeability Index (WVPI)	0.050	
Clothing insulation (clo) value	0.125	

AlphaTec® 2500 has been tested against numerous chemicals. For further information on permeation testing and a more extensive list of chemicals see page 83.

EN ISO 6529 Chemical Permeation Test Results			
Chemical Name	**CAS Number**	**BT at 1.0µg/cm^2/min (min)**	**EN Class (EN 14325)**
Sodium Hydroxide (10% w/w)	1310-73-2	>480	6 of 6
Sulphuric Acid (96% w/w)	7664-93-9	>480	6 of 6

The following table sets out AlphaTec® 2500 performance for resistance to chemical penetration in accordance with EN ISO 6530. For further information on penetration testing see page 85.

Fabric Repellence & Penetration - Resistance to Liquid Chemicals	Result (%)	EN Class
Repellence of Liquids - 30% Sulphuric Acid	>95	3 of 3
Repellence of Liquids - 10% Sodium Hydroxide	>95	3 of 3
Repellence of Liquids - n-heptane (undiluted)	>80	1 of 3
Repellence of Liquids - Isopropanol	>90	2 of 3
Resistance to penetration by liquids – 30% Sulphuric Acid	<1	3 of 3
Resistance to penetration by liquids – 10% Sodium Hydroxide	<1	3 of 3
Resistance to penetration by liquids – n-heptane (undiluted)	<1	3 of 3
Resistance to penetration by liquids – Isopropanol	<1	3 of 3

AlphaTec® 2500 when tested in accordance with EN 14126:2003 demonstrates an excellent barrier to infective agents. The specific test results are detailed in the table below and for further information on this European Norm see page 5.

EN 14126 Fabric Barrier to Infective Agents	Test Method	Result*	EN Class
Resistance to penetration by blood borne pathogens	ISO 16604	Pass to 20 kPa	Class 6 of 6
Resistance to penetration by blood borne pathogens	ASTM F1671	Pass	-
Resistance to wet bacterial penetration (mechanical contact)	ISO 22610	No penetration (up to 75 min)	Class 6 of 6
Resistance to biologically contaminated aerosols	ISO/DIS 22611	No penetration	Class 3 of 3
Resistance to dry microbial penetration	ISO 22612	No penetration	Class 3 of 3

AlphaTec® 2500 products have been extensively tested according to European and International requirements, including ASTM, for both physical and barrier performance. More details can be found on our website **www.ansell.com**

LIQUID SPRAY AND SPLASH PROTECTION

LIMITED/SINGLE USE SOLUTIONS

AlphaTec® 3000

MODEL 111

AlphaTec® 3000 is one of the lightest and most comfortable chemical protective materials on the market today. This durable multi-layer fabric provides an extremely effective barrier against both inorganic chemicals and biological hazards.

DESCRIPTION

- **Protection** – Multi-layer barrier fabric effective against numerous chemicals
- **Highly visible** – Bright yellow colour for improved worker safety
- **Comfort** – Lightweight yet durable
- **Anti-static** – Tested according to EN 1149-5
- **Designed to protect** – Typical coverall features include dual zip systems and double cuffs
- **Latex free**

IDEAL INDUSTRIES AND APPLICATIONS

- Chemicals
- Oil and petrochemicals
- Pharmaceutical
- Food industry (caustic clean-downs)
- Sewage purification installations
- Industrial and tank cleaning
- Mining

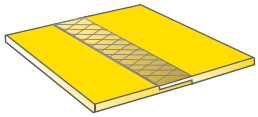
PERFORMANCE RATINGS

SIZES

S-5XL

COLOURS

ULTRASONICALLY WELDED SEAMS



TECHNOLOGIES

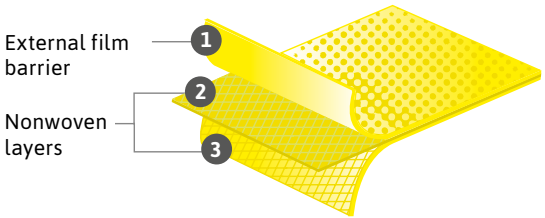
MICROCHEM™
Chemical Barrier Technology

FEATURES

Double zip system

Double cuff design

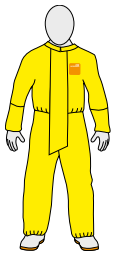
MATERIALS



AlphaTec® 3000

MODELS 103, 111, 121, 122 & 162

MODEL 103



SIZES

S-5XL

COLOURS

- Collar
- Double zip closure
- Double cuffs
- Elasticated waist, double cuffs and ankles

MODEL 111

SIZES

S-5XL

COLOURS

- 2-piece hood
- Double zip closure
- Double cuffs
- Elasticated hood, waist, double cuffs and ankles

MODEL 121

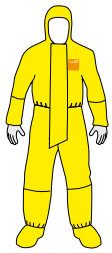
SIZES

S-5XL

COLOURS

- 2-piece hood
- Double zip closure
- Elasticated hood, waist, ankles and sleeve over cuffs
- Attached AlphaTec® 02-100 gloves

MODEL 122



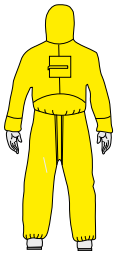
SIZES

S-5XL

COLOURS

- 2-piece hood
- Double zip closure
- Elasticated hood, double cuffs and waist
- Integrated socks with boot overflap

MODEL 162



SIZES

S-5XL

COLOURS

- Pass-thru device for use with fall arrest equipment
- 2-piece hood
- Double zip closure
- Double cuffs
- Elasticated hood, waist, double cuffs and ankles
- Ultrasonically welded and taped seams

MODEL 201 JACKET

- 2-piece hood
- Single zip closure
- Elasticated hood, wrists and hem
- Welded seams

SIZES S-3XL

COLOURS

MODEL 301 TROUSERS

- Elastication to waist and ankles
- No pockets
- Welded seams

SIZES S-3XL

COLOURS

MODEL 507 CAPE HOOD

- Balaclava-style cape hood covering part of shoulders
- Hook and loop fastening to front
- Welded seams

SIZES One size

COLOURS

MODEL 213 APRON

- Tie fastening to waist
- 100 cm long tie fastening

SIZES S-3XL

COLOURS

MODEL 400 OVERSHOES

- Elasticated opening
- Welded seams

SIZES: One size (fits size 42-46)

COLOURS

MODEL 508 CAPE HOOD WITH VISOR

- Balaclava-style cape hood covering part of shoulders
- Welded seams
- Visor to face opening

SIZES S-3XL

COLOURS

MODEL 214 APRON WITH SLEEVES

- Rear hook and loop fastening
- Elasticated wrists
- Welded seams

SIZES S-3XL

COLOURS

MODEL 406 OVERBOOTS

- Elastic to top of boot
- Tie fastening
- Welded seams

SIZES: One size (fits size 42-46)

COLOURS

MODEL 600 OVERSLEEVES

- Elasticated at both ends
- Welded seams

SIZES One size

COLOURS

AlphaTec® 3000

TECHNICAL DATA

AlphaTec® 3000 is extensively tested in accordance with statutory requirements, including physical performance attributes and barrier to hazardous substances. The following tables outline the results obtained in independent laboratories according to European test methods.

Test Method	Result	EN Class (EN14325)
EN 530 Abrasion	>1,000 Cycles	4 of 6
EN ISO 7854 Flex Cracking	>5,000 Cycles	3 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>20 N	3 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>20 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>100 N	2 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>60 N	
EN 863 Puncture Resistance	>10N	2 of 6
EN ISO 13938-1 Burst Resistance	>80 kPa	2 of 6
EN 13274-4 Resistance to ignition	Pass	-
EN 1149-5 Electrostatic Properties (Surface Resistance)	<2.5 x $10^9\Omega$	-
ISO 13935-2 Seam Strength	>125 N	4 of 6

AlphaTec® 3000 has been tested against over 125 chemicals. For further information on permeation testing and a more extensive list of chemicals see page 85 or visit **www.ansellguardianpartner.com**

EN ISO 6529 Chemical Permeation Test Results			
Chemical Name	**CAS Number**	**BT at 1.0 µg/cm²/min (min)**	**EN Class (EN 14325)**
Acetic Acid (Glacial)	64-19-7	>480	6 of 6
Ethylene Glycol	107-21-1	>480	6 of 6
Ferric Chloride (45% w/w)	7705-08-0	>480	6 of 6
Formic Acid (90%)	64-18-6	>480	6 of 6
Hexamethylene Diisocyanate	822-06-0	>480	6 of 6
Hydrazine Monohydrate (98%, containing Hydrazine, 64-65% w/w)	7803-57-8	>480	6 of 6
Hydrochloric Acid (36-37% w/w)	7647-01-0	>480	6 of 6
Hydrofluoric Acid (49% w/w)	7664-39-3	>480	6 of 6
Hydrogen Peroxide (35% w/w)	7722-84-1	>480	6 of 6
Isopropyl Alcohol	67-63-0	>480	6 of 6
Mercury	7439-97-6	>480	6 of 6
Methanol	67-56-1	>480	6 of 6
Nitrobenzene	98-95-3	>480	6 of 6
Perchloric Acid (30% w/w)	7601-90-3	>480	6 of 6
Sodium Hydroxide (40% w/w)	1310-73-2	>480	6 of 6
Sodium Hypochlorite Solution (14.5% available chlorine)	7681-52-9	>480	6 of 6
Sulphuric Acid (96% w/w)	7664-93-9	>480	6 of 6
Tetramethylammonium Hydroxide (20% w/w)	75-59-2	>480	6 of 6

AlphaTec® 3000 when tested in accordance with EN 14126:2003 demonstrates an excellent barrier to infective agents. The specific test results are detailed in the table below and for further information on this European Norm see page 5.

EN 14126 Barrier to Infective Agents	Result	EN Class
ISO 16603 Resistance to penetration by blood/fluids under pressure	Pass to 20 kPa	n/a
ISO 16604 Resistance to penetration by blood borne pathogens	Pass to 20 kPa	6 of 6
EN ISO 22610 Resistance to wet bacterial penetration (mechanical contact)	No penetration (up to 75 min)	6 of 6
ISO/DIS 22611 Resistance to biologically contaminated aerosols	No penetration	3 of 3
ISO 22612 Resistance to dry microbial penetration	No penetration	3 of 3

AlphaTec® 3000 products have been extensively tested according to European and International requirements, including ASTM, for both physical and barrier performance. More details can be found on our website **www.ansell.com**

AlphaTec® 4000

MODEL 111

AlphaTec® 4000 is designed to provide an exceptional barrier against many concentrated organic and inorganic chemicals as well as biological agents.

DESCRIPTION

- **Protection** – Permeation tested against over 190 chemicals, including chemical warfare agents
- **Comfort** – Textile-like inner improves wearer acceptance
- **Anti-static** – Tested according to EN 1149-5
- **Designed to protect** – Typical coverall features include dual zip systems and double cuffs
- **Latex and silicone free**

IDEAL INDUSTRIES AND APPLICATIONS

- Chemical handling/transportation
- Oil-based mud protection
- Hazardous waste remediation
- Sewage purification installations
- Industrial/tank cleaning
- Hazmat emergency response (i.e. Level B)
- Pharmaceutical
- Mining
- Agriculture

PERFORMANCE RATINGS

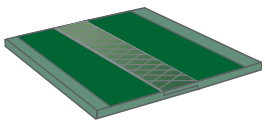
TYPE 3-B | TYPE 4-B | TYPE 5-B | EN 14126 | EN 1073-2 | EN 1149-5

SIZES

S-5XL

COLOURS

ULTRASONICALLY WELDED & TAPED SEAMS



TECHNOLOGIES

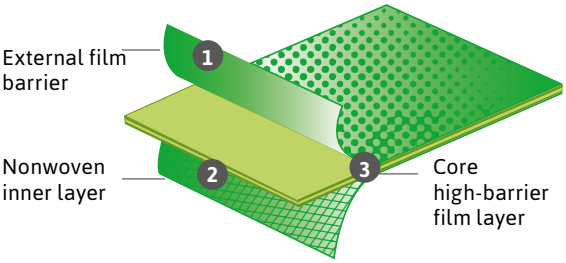
MICROCHEM™ Chemical Barrier Technology

FEATURES

2-piece hood

Double zip system

MATERIALS



AlphaTec® 4000

MODELS 103, 111, 121, 122, 125 & 162

MODEL 103

SIZES

S-5XL

COLOURS

- Collar
- Double zip closure
- Double cuffs with knitted inner cuff
- Elasticated outer cuffs, waist and ankles

MODEL 111

SIZES

S-5XL

COLOURS

- 2-piece hood
- Double zip closure
- Double cuffs with knitted inner cuff
- Elasticated hood, outer cuffs, waist and ankles

MODEL 121

SIZES

S-5XL

COLOURS

- 2-piece hood
- Double cuffs
- Double zip closure
- Elasticated hood, waist and ankles
- Attached AlphaTec® 02-100 gloves

MODEL 122

SIZES

S-5XL

COLOURS

- 2-piece hood
- Double zip closure
- Double cuffs with knitted inner cuff
- Elasticated hood, outer cuffs, waist and boot overflaps
- Integrated socks with boot overflaps

MODEL 125

SIZES

S-5XL

COLOURS

- 2-piece hood
- Double cuffs
- Double zip closure
- Elasticated hood, waist and boot overflaps
- Integrated socks with boot overflaps
- Attached AlphaTec® 02-100 gloves

MODEL 162

SIZES

S-5XL

COLOURS

- Pass-thru device for use with fall arrest equipment
- 2-piece hood
- Double zip closure
- Double cuffs with knitted inner cuff
- Elasticated hood, outer cuffs, waist and ankles

AlphaTec® 4000 APOLLO

MODEL 126

AlphaTec® 4000 APOLLO is a fully encapsulated liquid tight (Level B) chemical suit designed for use in conjunction with self contained breathing apparatus (SCBA).

DESCRIPTION

- Rear entry double zip system
- Rear mounted SCBA (breathing apparatus) pouch – universal fit with most styles
- Attached socks with boot overflap
- Attached AlphaTec® Barrier gloves with no-drip double cuff design
- Rear positioned exhalation valves
- Clear PVC face visor
- Bat-wing design enables air gauge checking within the suit
- Rip cord feature for emergency access
- Radio loop on chest
- Adjustable internal support braces

IDEAL INDUSTRIES AND APPLICATIONS

- Chemicals
- Oil and petrochemicals
- Pharmaceutical
- Agriculture
- Sewage purification installations
- Industrial and tank cleaning
- Emergency services (HAZMAT, CBRN)

PERFORMANCE RATINGS

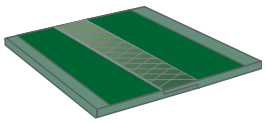
TYPE 3-B TYPE 4-B EN 14126

SIZES

M-5XL

COLOURS

ULTRASONICALLY WELDED & TAPED SEAMS



TECHNOLOGIES

MICROCHEM™ Chemical Barrier Technology

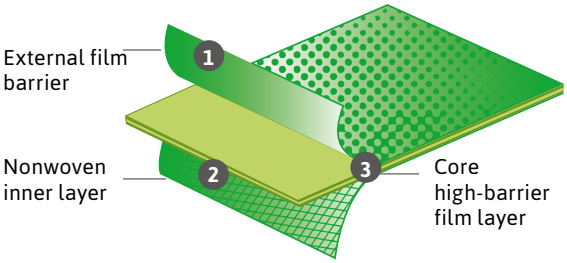
FEATURES

SCBA rear pouch

Rear mounted BA pouch

Decontamination procees example

MATERIALS



AlphaTec® 4000

MODELS 151 & 151-G02

Developed for first responders and the emergency services. Model 151 rear entry Level B suit, with neoprene rubber face seal for a close fit to full face respirators. Ideal for use in hazardous areas where protection against concentrated chemicals and biological agents is required.

DESCRIPTION

- Neoprene rubber face seal
- Rear horizontal double zip entry
- Attached socks with boot overflap
- Ultrasonically welded and taped seams
- Option of attached AlphaTec® 02-100 gloves, with oversleeves and finger loops (model 151-G02)

IDEAL INDUSTRIES AND APPLICATIONS

- Chemicals
- Oil and petrochemicals
- Pharmaceutical
- Agriculture
- Sewage purification installations
- Industrial and tank cleaning
- Emergency services (HAZMAT, CBRN)

PERFORMANCE RATINGS

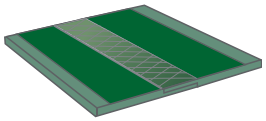
TYPE 3-B | TYPE 4-B | TYPE 5-B | EN 14126 | EN 1073-2 | EN 1149-5

SIZES

S-5XL

COLOURS

ULTRASONICALLY WELDED & TAPED SEAMS



TECHNOLOGIES

MICROCHEM™
Chemical Barrier Technology

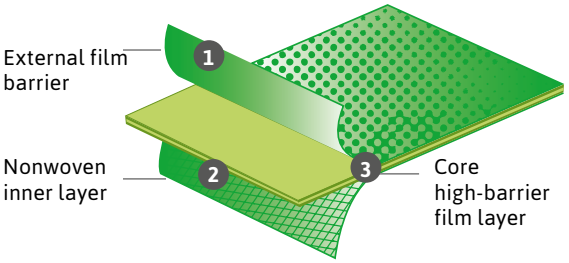
FEATURES

Socks with boot overflap

Rear entry double zip system

Neoprene rubber face seal

MATERIALS



AlphaTec® 4000

TECHNICAL DATA

AlphaTec® 4000 is extensively tested in accordance with statutory requirements, including physical performance attributes and barrier to hazardous substances. The following tables outline the results obtained in independent laboratories according to European test methods.

Test Method	Result	EN Class (EN 14325)
EN 530 Abrasion	>2,000 Cycles	6 of 6
EN ISO 7854 Flex Cracking	>15,000 Cycles	4 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>60 N	4 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>40 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>100 N	3 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>100 N	
EN 863 Puncture Resistance	>10 N	2 of 6
EN ISO 13938-1 Burst Resistance	>80 kPa	2 of 6
EN 13274-4 Resistance to ignition	Pass	-
EN 13274-4 Resistance to flame	Pass	1 of 3
EN 1149-5 Electrostatic Properties (Surface Resistance)	$<2.5 \times 10^9\ \Omega$	-
ISO 13935-2 Seam Strength	>125 N	4 of 6

AlphaTec® 4000 has been tested against over 190 chemicals. For further information on permeation testing and a more extensive list of chemicals see page 85 or visit **www.ansellguardianpartner.com**

EN ISO 6529 Chemical Permeation Test Results			
Chemical Name	**CAS Number**	**BT at 1.0µg/cm²/min**	**EN Class (EN 14325)**
Acetone	67-64-1	>480	6 of 6
Acetonitrile	75-05-8	>480	6 of 6
Chlorine (Gas, 1 atmos.)	7782-50-5	>480	6 of 6
Chromium Trioxide (50% w/w)	1333-82-0	>480	6 of 6
Ethyl Acetate	141-78-6	>480	6 of 6
Heptane, n-	142-82-5	>480	6 of 6
Hydrofluoric Acid (71-75% w/w)	7664-39-3	>480	6 of 6
Hydrogen Chloride (Gas, 1 atmos.)	7647-01-0	>480	6 of 6
Hydrogen Peroxide (35% w/w)	7722-84-1	>480	6 of 6
Methanol	67-56-1	>480	6 of 6
Methyl Ethyl Ketone	78-93-3	>480	6 of 6
Nitric Acid (70% w/w)	7697-37-2	>480	6 of 6
Sodium Hydroxide (40% w/w)	1310-73-2	>480	6 of 6
Sulphuric Acid (96% w/w)	7664-93-9	>480	6 of 6
Toluene	108-88-3	>480	6 of 6

FINABEL O.7.C – Resistance to permeation of Chemical Warfare Agents			
Chemical	**Detection Limit**	**Temperature (°C)**	**Breakthrough Time (hh:mm)**
Mustard (HD)	0.1 µg/cm² (pinpoint BT) or 4 µg/cm² (continuous and homogeneous BT)	37	>24:00
Lewisite (L)	Approx. 0.5 µg/cm²	37	>05:00<06:00
Sarin (GB)	Approx. 0.05 µg/cm²	37	>24:00
VX	Approx. 0.05 µg/cm²	37	>24:00

AlphaTec® 4000 when tested in accordance with EN 14126:2003 demonstrates an excellent barrier to infective agents. The specific test results are detailed in the table below and for further information on this European Norm see page 5.

EN 14126 Barrier to Infective Agents	Result	EN Class
ISO 16603 Resistance to penetration by blood/fluids under pressure	Pass to 20 kPa	n/a
ISO 16604 Resistance to penetration by blood borne pathogens	Pass to 20 kPa	Class 6 of 6
EN ISO 22610 Resistance to wet bacterial penetration (mechanical contact)	No penetration (up to 75 min)	Class 6 of 6
ISO/DIS 22611 Resistance to biologically contaminated aerosols	No penetration	Class 3 of 3
ISO 22612 Resistance to dry microbial penetration	No penetration	Class 3 of 3

AlphaTec® 4000 products have been extensively tested according to European and International requirements, including ASTM, for both physical and barrier performance. More details can be found on our website **www.ansell.com**

MODEL 212 APRON

- Tie fastening to waist
- 100 cm long tie fastening

P PARTIAL BODY PROTECTION ONLY · TYPE PB(3)-B · TYPE PB(4)-B · EN 14126

SIZES One size

COLOURS

MODEL 406 OVERBOOTS

- Elastic to top of boot
- Tie fastening
- Welded seams

SIZES One size (fits size 42-46)

COLOURS

MODEL 215 APRON WITH SLEEVES

- Hook & loop fastening to neck
- Tie fastening at the waist
- Double cuff with knitted inner cuff
- Welded and taped seams

P PARTIAL BODY PROTECTION ONLY · TYPE PB(3)-B · TYPE PB(4)-B · EN 14126

SIZES S-3XL

COLOURS

MODEL 507 CAPE HOOD

- Balaclava-style cape hood covering part of shoulders
- Hook & loop fastening to front
- Welded seams

SIZES One size

COLOURS

MODEL 230 JACKET

- 2-piece hood
- Double zip closure
- Elasticated hood, wrists and hem
- Welded and taped seams
- Double cuff with knitted inner cuff

P PARTIAL BODY PROTECTION ONLY · TYPE PB(3)-B · TYPE PB(4)-B · EN 14126

SIZES S-3XL

COLOURS

MODEL 516 CAPE HOOD WITH VISOR

- Hood with visor and 3-inch Hook & loop body panel
- Welded and taped seams

P PARTIAL BODY PROTECTION ONLY · TYPE PB(3)-B · TYPE PB(4)-B · EN 14126

SIZES One size

COLOURS

MODEL 301 TROUSERS

- Elastication to waist and ankles
- No pockets
- Welded and taped seams

P PARTIAL BODY PROTECTION ONLY · TYPE PB(3)-B · TYPE PB(4)-B · EN 14126

SIZES S-2XL

COLOURS

MODEL 600 OVERSLEEVES

- Elasticated at both ends
- Welded seams

SIZES One size

COLOURS

AlphaTec® 5000

MODEL 111

AlphaTec® 5000 reaches new levels in chemical protection and has been engineered to protect. The highly visible multi-layer fabric is strong, durable and suitable for workers in extremely hazardous areas, including hazmat response teams.

DESCRIPTION

- **Performance** – Barrier to numerous organic and inorganic chemicals and biological hazards
- **Comfort** – Multi-layer material which is lightweight, yet strong and durable
- **Highly visible** – Bright orange colour for improved worker safety
- **Protection** – >480 minutes breakthrough time against 14 of 15 chemicals listed in EN ISO 6529
- **Anti-static** – Tested according to EN 1149-5
- **Designed to protect** – Innovative design features include liquid-tight dual zip designs without the need for additional taping
- **Latex and silicone free**

IDEAL INDUSTRIES AND APPLICATIONS

- Chemicals
- Oil and petrochemicals
- Pharmaceuticals
- Mining
- Agriculture
- First response
- Fire service
- Industrial and tank cleaning
- Sewage purification installations

PERFORMANCE RATINGS

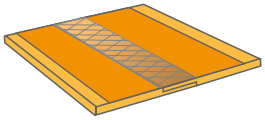
TYPE 3-B | TYPE 4-B | TYPE 5-B | EN 14126 | EN 1073-2 | EN 1149-5

SIZES

S-5XL

COLOURS

ULTRASONICALLY WELDED & TAPED SEAMS



TECHNOLOGIES

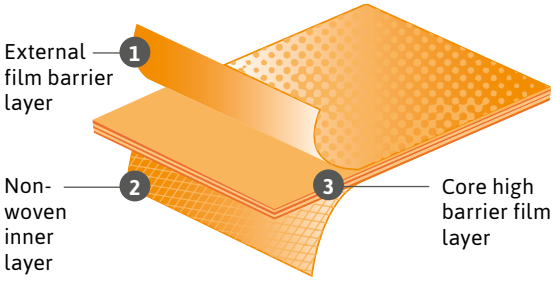
MICROCHEM™ Chemical Barrier Technology

FEATURES

Double zip system

Double cuff design

MATERIALS



AlphaTec® 5000

MODELS 103, 111, 121-G02, 122 & 125-G02

MODEL 103

- Collar
- Double zip closure
- Double cuffs with knitted inner cuff
- Elasticated outer cuffs, waist and ankles

SIZES S-5XL **COLOURS**

MODEL 111

- Collar
- Double zip closure
- Double cuffs with knitted inner cuff
- Elasticated outer cuffs, waist and ankles

SIZES S-5XL **COLOURS**

MODEL 121-G02

- 2-piece hood
- Double cuffs
- Double zip closure
- Elasticated hood, waist and ankles
- Attached AlphaTec® 02-100 gloves

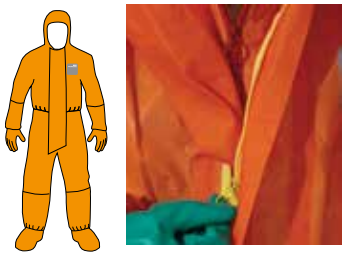
SIZES S-5XL **COLOURS**

MODEL 122

- 2-piece hood
- Double zip closure
- Double cuffs with knitted inner cuff
- Elasticated hood, outer cuffs, waist & boot overflaps
- Integrated socks with boot overflap

SIZES S-5XL **COLOURS**

MODEL 125-G02



- 2-piece hood
- Double cuffs
- Double zip closure
- Elasticated hood, waist and boot overflaps
- Integrated socks with boot overflaps
- Attached AlphaTec® 02-100 gloves

SIZES S-5XL **COLOURS**

AlphaTec® Glove Connector

MODEL 070

The simple solution for attaching chemical gloves to coveralls

DESCRIPTION

- Innovative design utilising the latest polymer technology
- Creates a liquid-tight seal between glove and cuff
- Consistent and reliable alternative to taping
- Quick and easy fit – improves productivity
- Works with a wide variety of chemical glove thicknesses
- Ribbed cone and collar for secure attachment
- AlphaTec® – advanced chemical protection
- Tested in accordance with ISO 17491-3:2008 –determination of resistance to penetration by a jet of liquid (jet test)

IDEAL INDUSTRIES AND APPLICATIONS

- Caustic clean-downs
- Chemical handling/transportation
- Industrial tank cleaning
- Paint spraying
- Sewage purification inspections
- Solvent degreasing and parts cleaning

AlphaTec® 5000 APOLLO

MODEL 186

Developed for Fire & Rescue crews around the world, AlphaTec® 5000 APOLLO is a fully encapsulated liquid tight (Level B) chemical suit designed for use in conjunction with self contained breathing apparatus (SCBA).

DESCRIPTION

- Side entry double zip flap
- Expanded back for internal wearing of self-contained breathing apparatus
- Rear-positioned exhalation valves
- Attached socks with static dissipitive sole and leg overflap
- Attached AlphaTec® 02-100 gloves with no drip double cuff design
- PVC Semi-rigid multi-layer visor
- Conductive rubber sole
- Bat-wing design enables air gauge checking within the suit
- Enhanced puncture resistance

IDEAL INDUSTRIES AND APPLICATIONS

- Chemicals
- Oil and petrochemicals
- Pharmaceutical
- Industrial and tank cleaning
- Emergency services (HAZMAT, CBRN)

PERFORMANCE RATINGS

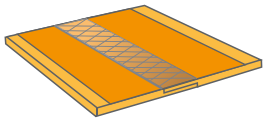
TYPE 3-B | TYPE 4-B | EN 14126 | EN 1149-5

SIZES

M-3XL

COLOURS

ULTRASONICALLY WELDED & TAPED SEAMS



TECHNOLOGIES

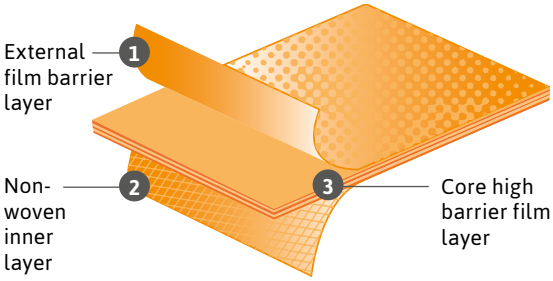
MICROCHEM™ Chemical Barrier Technology

FEATURES

Attached AlphaTec® 02-100 gloves

PVC semi-rigid multi-layer visor

MATERIALS



AlphaTec® 5000

MODELS 151 & 151-G02

Developed for first responders and the emergency services. Model 151 rear entry Level B suit, with neoprene rubber face seal for a close fit to full face respirators. Ideal for use in hazardous areas where protection against concentrated chemicals and biological agents is required.

DESCRIPTION

- Neoprene rubber face seal
- Rear horizontal zip entry
- Attached socks with boot overflap
- Ultrasonically welded and taped seams
- Option of attached AlphaTec® 02-100 gloves, with oversleeves and finger loops (model 151-G02)

IDEAL INDUSTRIES AND APPLICATIONS

- Chemicals
- Oil and petrochemicals
- Pharmaceutical
- Agriculture
- Sewage purification installations
- Industrial and tank cleaning
- Emergency services (HAZMAT, CBRN)

PERFORMANCE RATINGS

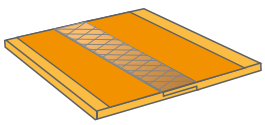
TYPE 3-B | TYPE 4-B | TYPE 5-B | EN 14126 | EN 1073-2 | EN 1149-5

SIZES

S-5XL

COLOURS

ULTRASONICALLY WELDED & TAPED SEAMS



TECHNOLOGIES

MICROCHEM™ Chemical Barrier Technology

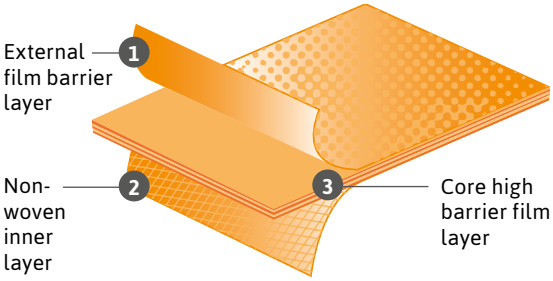
FEATURES

Socks with boot overflap

Rear entry double zip system

Neoprene rubber face seal

MATERIALS



AlphaTec® 5000

TECHNICAL DATA

AlphaTec® 5000 is extensively tested in accordance with statutory requirements, including physical performance attributes and barrier to hazardous substances. The following tables outline the results obtained in independent laboratories according to European test methods.

Test Method	Result	EN Class (EN 14325)
EN 530 Abrasion	>2,000 Cycles	6 of 6
EN ISO 7854 Flex Cracking	>5,000 Cycles	3 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>60 N	4 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>60 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>100 N	3 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>100 N	
EN 863 Puncture Resistance	>10 N	2 of 6
EN ISO 13938-1 Burst Resistance	>80 kPa	2 of 6
EN 13274-4 Resistance to ignition	Pass	-
EN 13274-4 Resistance to Flame	Pass	2 of 3
EN 1149-5:2006 Electrostatic Properties (Surface Resistance)	$<2.5 \times 10^9\ \Omega$	-
ISO 13935-2 Seam Strength	>125 N	4 of 6

AlphaTec® 5000 has been tested against numerous chemicals. For further information on permeation testing and a more extensive list of chemicals see page 85 or visit **www.ansellguardianpartner.com**

EN ISO 6529 Chemical Permeation Test Results			
Chemical Name	**CAS Number**	**BT at 1.0µg/cm²/min**	**EN Class (EN 14325)**
Acetone	67-64-1	>480	6 of 6
Acetonitrile	75-05-8	>480	6 of 6
Ammonia (Gas, 1 atmos.)	7664-41-7	>480	6 of 6
Carbon Disulphide	75-15-0	>480	6 of 6
Chlorine (Gas, 1 atmos.)	7782-50-5	>480	6 of 6
Diethylamine	109-89-7	>480	6 of 6
Ethyl Acetate	141-78-6	>480	6 of 6
Hexane n-	110-54-3	>480	6 of 6
Hydrogen Chloride (Gas, 1 atmos)	7647-01-0	>480	6 of 6
Methanol	67-56-1	>480	6 of 6
Sodium Hydroxide (50% w/w)	1310-73-2	>480	6 of 6
Sulphuric Acid (96% w/w)	7664-93-9	>480	6 of 6
Tetrahydrofuran	109-99-9	>480	6 of 6
Toluene	108-88-3	>480	6 of 6

FINABEL O.7.C – Resistance to permeation of Chemical Warfare Agents			
Chemical	**Detection Limit**	**Temperature (°C)**	**Breakthrough Time (hh:mm)**
Mustard (HD)	0.1 µg/cm² (pinpoint BT) or 4 µg/cm² (continuous and homogeneous BT)	37	>17:40
Lewisite (L)	Approx. 0.5 µg/cm²	37	>06:30<09:30
Sarin (GB)	Approx. 0.05 µg/cm²	37	>24:00
VX	Approx. 0.05 µg/cm²	37	>24:00

AlphaTec® 5000 when tested in accordance with EN 14126:2003 demonstrates an excellent barrier to infective agents. The specific test results are detailed in the table below and for further information on this European Norm see page 5.

EN 14126 Barrier to Infective Agents	Result	EN Class
ISO 16603 Resistance to penetration by blood/fluids under pressure	Pass to 20 kPa	n/a
ISO 16604 Resistance to penetration by blood borne pathogens	Pass to 20 kPa	Class 6 of 6
EN ISO 22610 Resistance to wet bacterial penetration (mechanical contact)	No penetration (up to 75 min)	Class 6 of 6
ISO/DIS 22611 Resistance to biologically contaminated aerosols	No penetration	Class 3 of 3
ISO 22612 Resistance to dry microbial penetration	No penetration	Class 3 of 3

AlphaTec® 5000 products have been extensively tested according to European and International requirements, including ASTM, for both physical and barrier performance. More details can be found on our website **www.ansell.com**

AlphaTec® 66-300

MODELS 111, 111-G09, 122, 122-G09, 122W-G09

DESCRIPTION

- A versatile every day workwear, available in 5 models
- Nylon zip on the front protected by a double splash-protective flap closing with press studs
- Hood, to be worn under the helmet, and a wide chin flap
- SOLAS approved

IDEAL INDUSTRIES AND APPLICATIONS

- Cleaning and maintenance
- Alkali (ammonia) and acids (low-medium concentration)

PERFORMANCE RATINGS

TYPE 4-B | EN 14126 | EN 1149-5

EN 1149-5: This applies only to the suit material.

SIZES 2XS-3XL

COLOURS

SEAM TYPE
Double-welded seams

MATERIALS
Double-side PVC coated fabric

MODELS

Model 111: Open legs, open sleeves with hook-and-loop closure
Model 111-G09: Open legs, Bayonet rings + AlphaTec® (Scorpio) #08-354 gloves
Model 122: Attached boots, open sleeves with hook-and-loop closure
Model 122-G09: Attached boots, Bayonet rings + AlphaTec® (Scorpio) #08-354 gloves
Model 122W-G09: Attached boots, watertight PVC zipper, Bayonet rings + AlphaTec® (Scorpio) #08-354 gloves

AlphaTec® 66-310

Model 111

DESCRIPTION

- Basic splash protective coverall for protection against spray in low-risk environments.
- Lightweight and very soft material
- Fluorescent yellow for safety and higher visibility in the workplace

IDEAL INDUSTRIES AND APPLICATIONS

- Decontamination
- Cleaning and maintenance
- Alkali (ammonia) and acids (low-medium concentration)

PERFORMANCE RATINGS

TYPE 4-B | EN 14126 | EN 1149-5

EN 1149-5: This applies only to the suit material.

SIZES 2XS-3XL

COLOURS

SEAM TYPE
Double-welded seams

MATERIALS
Lightweight stretch polyamide with outside PVC coating

AlphaTec® 66-320

MODELS 151, 151-G09, 156, 156-G09

DESCRIPTION

- Rear-entry full-body splash protection
- Lightweight and very soft material
- Available in 6 models to suit a variety of applications
- Yellow option available for safety and higher visibility in the workplace
- 3D face seal for optimal fit with a full-face mask
- Watertight PVC zip placed horizontally on the on the back, across the shoulders

IDEAL INDUSTRIES AND APPLICATIONS

- Decontamination
- Cleaning and maintenance
- Alkali (ammonia) and acids (low-medium concentration)
- Work in confined spaces

PERFORMANCE RATINGS

TYPE 3-B | EN 14126 | EN 1149-5

EN 1149-5: This applies only to the suit material.

SIZES 2XS-3XL

COLOURS

SEAM TYPE
Double-welded seams

MATERIALS
Heavyweight PVC coated stretch fabric

MODELS

Model 1151: Double open legs
Model 151-G09: Open legs, Bayonet ring + AlphaTec® (Scorpio) #08-354 gloves

Model 156: Sewn-in socks
Model 156-G09: Sewn-in socks, Bayonet ring + AlphaTec® (Scorpio) #08-354 gloves

AlphaTec® 66-320

MODELS 146 & 146-G09

DESCRIPTION

- Lightweight and very soft material
- Designed to protect both wearer and SCBA against chemicals
- Available with or without attached AlphaTec® (Scorpio) #08-354 gloves
- Yellow colour for safety at the accident place
- Extra long zip for easy donning when wearing the SCBA

IDEAL INDUSTRIES AND APPLICATIONS

- Decontamination
- Cleaning and maintenance
- Alkali (ammonia) and acids (low-medium concentration)

PERFORMANCE RATINGS

TYPE 4-B | EN 14126 | EN 1149-5

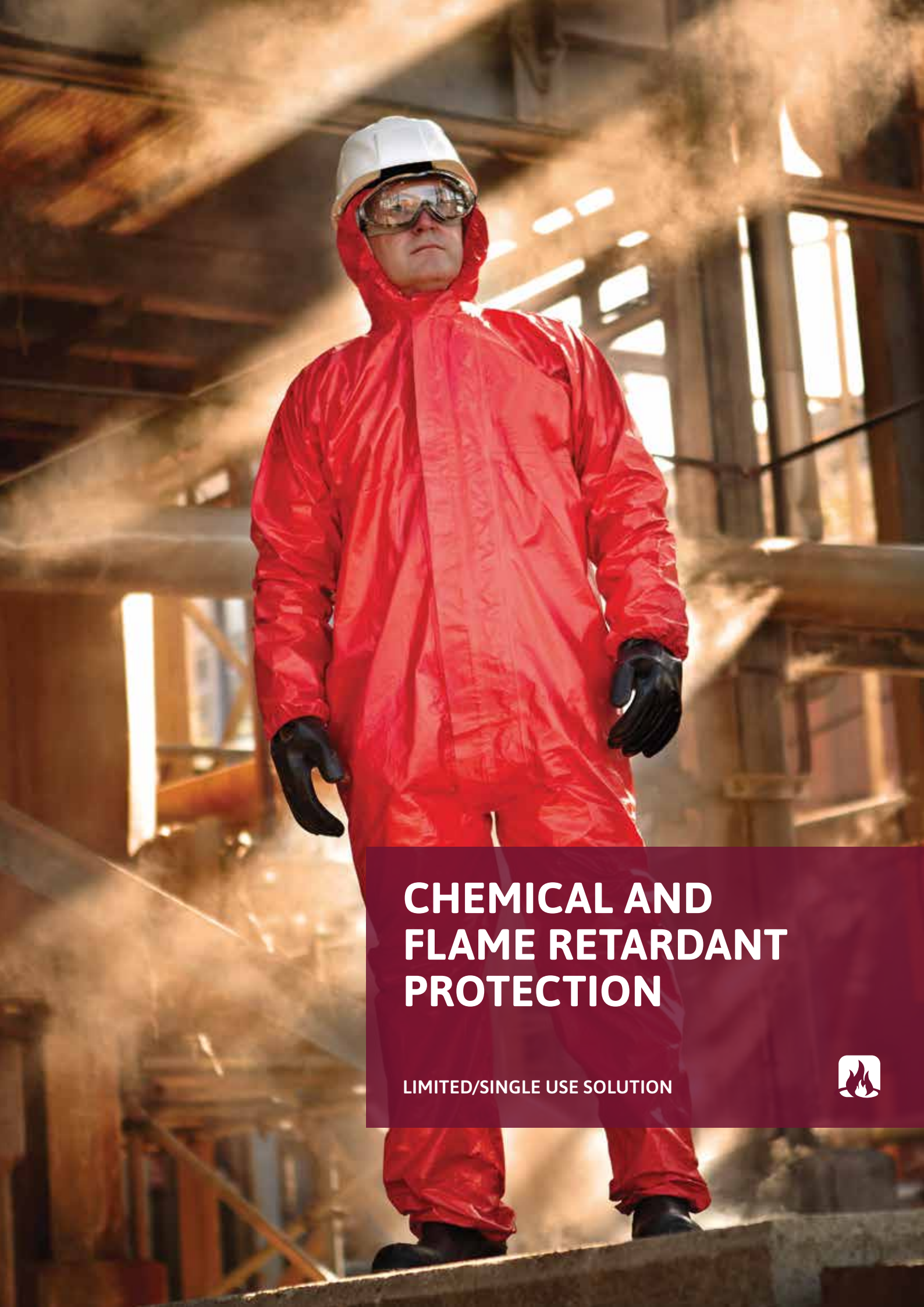
EN 1149-5: This applies only to the suit material.

SIZES 2XS-3XL

COLOURS

SEAM TYPE
Double-welded seams

MATERIALS
Heavyweight PVC coated stretch fabric



CHEMICAL AND FLAME RETARDANT PROTECTION

LIMITED/SINGLE USE SOLUTION

AlphaTec® 1500 PLUS FR

MODEL 111

AlphaTec® 1500 PLUS FR is a highly breathable, flame retardant and anti-static SMMS polypropylene nonwoven designed for protection from particulates and light, non-flammable liquid spray or splash*

DESCRIPTION

- **Protection** – Flame-retardant and anti-static SMMS nonwoven provides a good barrier to particulates and non-flammable low hazard liquid sprays or splashes
- **Comfort** – Air and water vapour permeable ("breathable") to help reduce the risk of heat stress
- **Anti-static** – Tested according to EN 1149-5
- **Optimised body fit** – Ensures full freedom of movement when worn over heat and flame protective clothing (EN ISO 14116 Index 2 or above)
- 3-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- 2-way front zip with resealable storm flap
- Red stitching for ease of identification

IDEAL INDUSTRIES AND APPLICATIONS

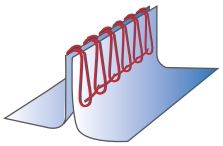
- Petrochemical industry
- Industrial cleaning
- Utilities
- General maintenance

SIZES

M-5XL

COLOURS

STITCHED SEAMS



PERFORMANCE RATINGS

TYPE 5 | TYPE 6 | EN 1073-2 | EN ISO 14116 Index 1 | EN 1149-5

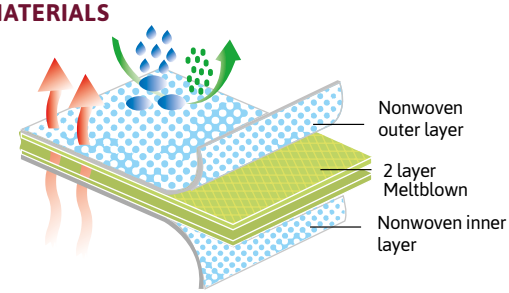
* Must be worn over thermal protective garments such as NOMEX®, and never be worn next to the skin

TECHNICAL DATA

Test Method	Result	EN Class (EN 14325:2004)
EN 530 Abrasion Resistance Method 2	>10 Cycles	1 of 6
EN ISO 7854 Flex Cracking Method B	>100,000 Cycles	6 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>40 N	2 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>20 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>100 N	2 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>60 N	
EN 863 Puncture Resistance	>5 N	1 of 6
EN ISO 13937-2 Tear Resistance	>10 N	-
EN 1149-5 Electrostatic Properties (Surface Resistance)	$<2.5 \times 10^9 \Omega$	
EN ISO 15025 Flammability Testing Procedure A	Index 1/0/0	

Fabric Repellence & Penetration - Resistance to Liquid Chemicals	Result (%)	EN Class
Repellence of Liquids - 30% Sulphuric Acid	>90	2 of 3
Repellence of Liquids - 10% Sodium Hydroxide	>95	3 of 3
Resistance to penetration by liquids - 30% Sulphuric Acid	<1	3 of 3
Resistance to penetration by liquids - 10% Sodium Hydroxide	<1	3 of 3

MATERIALS



AlphaTec® FR

MODEL 111

AlphaTec® FR is a flame retardant material designed to be worn over woven thermal protective garments such as NOMEX®, offering protection from particulates and light liquid splash without compromising worker protection in the event of a flash fire*.

DESCRIPTION

- **Protection** – Flame retardant-treated Sontara/wood pulp/polyester fabric with good barrier to particulates and low-level liquid spray
- **Comfort** – Air and water vapour permeable ('breathable') to help reduce the risk of heat stress
- **Optimised body fit** – Improves wearer comfort and safety
- 2-piece hood
- Elasticated hood, wrists, waist and ankles (latex free)
- External overlocked seams

IDEAL INDUSTRIES AND APPLICATIONS

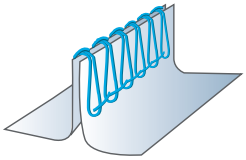
- Oil and petrochemicals
- Petroleum distribution and processing
- Utilities

SIZES

M-5XL

COLOURS

STITCHED SEAMS



PERFORMANCE RATINGS

TYPE 5 | TYPE 6 | EN 1073-2 | EN ISO 14116 Index 1 | EN 1149-5

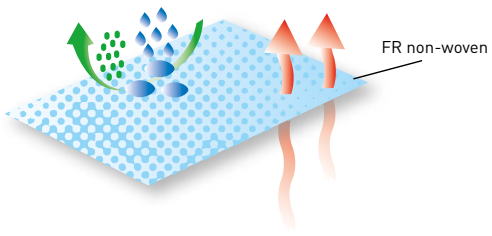
* Must be worn over thermal protective garments such as NOMEX®, and never be worn next to the skin

TECHNICAL DATA

Test Method	Result	EN Class
EN 530 Abrasion (visual assessment)	>1,500 Cycles	5 of 6
EN ISO 7854 Flex Cracking (visual assessment)	>100,000	6 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>20 N	2 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>20 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>100 N	2 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>60 N	
EN 863 Puncture Resistance	>10 N	2 of 6
EN ISO 13938-1 Burst Resistance	> 80 kPa	2 of 6
EN 13274-4 Resistance to ignition	Pass	-
EN 1149-5 Electrostatic Properties (Surface Resistance)	$<2.5 \times 10^9\ \Omega$	-
ISO 13935-2 Seam Strength	>125 N	4 of 6
EN ISO 14116 Limited Flame Spread	Index 1/0/0	-

Fabric Repellence & Penetration - Resistance to Liquid Chemicals	Result (%)	EN Class
Repellence of Liquids - 30% Sulphuric Acid	>90	2 of 3
Repellence of Liquids - 10% Sodium Hydroxide	>95	3 of 3
Resistance to penetration by liquids - 30% Sulphuric Acid	<1	3 of 3
Resistance to penetration by liquids - 10% Sodium Hydroxide	<1	3 of 3

MATERIALS



AlphaTec® CFR

MODELS 111 & 113

AlphaTec® CFR is a flame retardant material designed to be worn over woven thermal protective garments such as NOMEX®, offering protection from particulates and pressurised liquid spray without compromising worker protection in the event of a flash fire.

DESCRIPTION

- **Protection** – Flame retardant-treated fabric with PVC barrier film offering wearers protection from liquid chemicals to EN Type 3-B and 4-B
- **Versatile** – Suitable for most applications with the need for protection from chemical spray without compromising wearer protection in the event of a flash fire
- **Optimised body fit** – Improves wearer comfort and safety
- **Highly visible** – Highly visible bright red colour to improve worker safety
- Must be worn over thermal protective garments such as NOMEX®, and never be worn next to the skin
- 2-piece hood
- Elasticated hood, wrists and ankles
- Double zip closure
- Model 113 features silver reflective tape for enhanced visibility

IDEAL INDUSTRIES AND APPLICATIONS

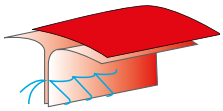
- Oil and petrochemicals
- Petroleum distribution and processing
- Utilities

SIZES

S-5XL

COLOURS

STITCHED & TAPED SEAMS



PERFORMANCE RATINGS

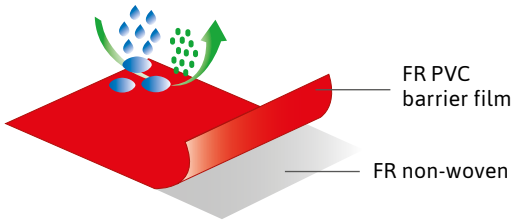
TECHNICAL DATA

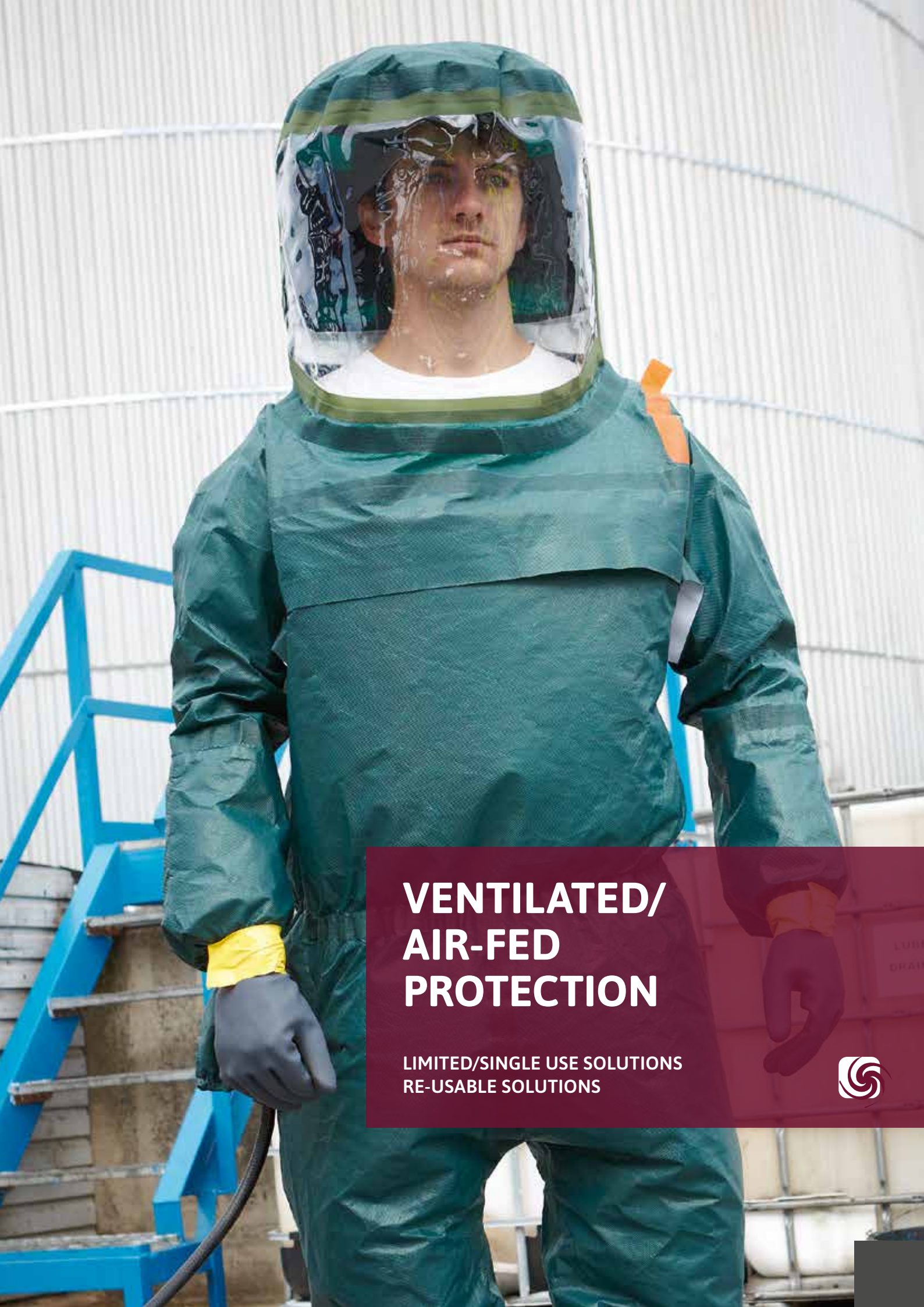
EN 14126 Barrier to Infective Agents	Result	EN Class
ISO 16603 Resistance to penetration by blood/fluids under pressure	Pass to 20 kPa	n/a
ISO 16604 Resistance to penetration by blood borne pathogens	Pass to 20 kPa	Class 6 of 6
EN ISO 22610 Resistance to wet bacterial penetration (mechanical contact)	No penetration (up to 75 min)	Class 6 of 6
ISO/DIS 22611 Resistance to biologically contaminated aerosols	No penetration	Class 3 of 3
ISO 22612 Resistance to dry microbial penetration	No penetration	Class 3 of 3

Test Method	Result	EN Class
EN 530 Abrasion (visual assessment)	>2,000 Cycles	6 of 6
EN ISO 7854 Flex Cracking (visual assessment)	>5,000 Cycles	3 of 6
EN ISO 9073-4 Tear Resistance (Machine Direction)	>20 N	2 of 6
EN ISO 9073-4 Tear Resistance (Cross Direction)	>20 N	
EN ISO 13934-1 Tensile Strength (Machine Direction)	>100 N	2 of 6
EN ISO 13934-1 Tensile Strength (Cross Direction)	>60 N	
EN 863 Puncture Resistance	>10 N	2 of 6
EN 1149-5 Electrostatic Properties (Surface Resistance)	<2.5 x 10^9 Ω	-
EN ISO 14116 Limited Flame Spread	Index 1/0/0	-

EN ISO 6529 Chemical Permeation Test Results			
Chemical Name	**CAS Number**	**BT at 1.0 µg/cm²/min**	**EN Class (EN 14325)**
Hydrofluoric Acid (48% w/w)	7664-39-3	199	6 of 6
Phosphoric Acid (≥ 85% w/w)	7664-38-2	> 480	6 of 6
Sodium Hydroxide (40% w/w)	1310-73-2	>480	6 of 6

MATERIALS





VENTILATED/ AIR-FED PROTECTION

LIMITED/SINGLE USE SOLUTIONS
RE-USABLE SOLUTIONS

AlphaTec® 5000 AVANT AIRline Hood

MODEL 521

The AlphaTec® 5000 AVANT AIRline continuous flow air-fed hood for protection against hazardous liquids and particulates.

DESCRIPTION

- **Protection** – Exceptional chemical permeation resistance against a wide range of organic and inorganic chemicals
- **Comfort** – Ultra-lightweight hood fitted with an attached adjustable air flow regulator providing 150 – 300 litres per minute at a working pressure of 3.5 – 5.5 bar
- **Panoramic visor** – Design with 180-degree view
- **Highly visible** – Bright orange colour for increased worker safety
- **AlphaTec® valve** – Built-in flow control and low-flow alarm unit (patent pending)

IDEAL INDUSTRIES AND APPLICATIONS

- Chemical handling/spills
- Hazardous waste disposal
- Industrial tank cleaning
- Maintenance
- Petrochemical plant applications

PERFORMANCE RATINGS

TYPE PB [3-B] | TYPE PB [4-B] | EN 14126 | EN 14954 Class 4A

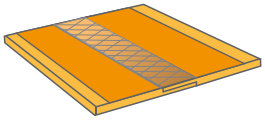
EN 1073-1: hood tested for inward leakage to EN 1073-1: 2016, limited to Clause 4.3 Nominal Protection Factor Class 5 in the breathing zone only.

SIZES

One size

COLOURS

ULTRASONICALLY WELDED & TAPED SEAMS



TECHNOLOGIES

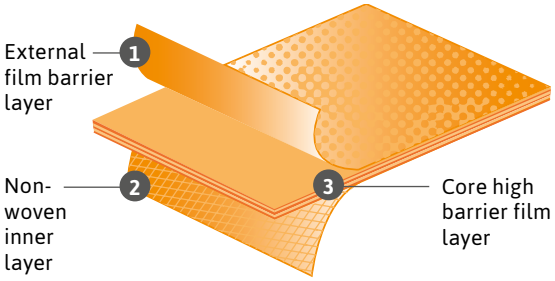
MICROCHEM™ Chemical Barrier Technology

FEATURES

AlphaTec® flow-control valve & low-flow alarm unit

180-degree visor

MATERIALS



MICROGARD® / MICROCHEM® PAPR

MODELS 700 & 701, 704 & 705

Ventilated suits with filtered air and AlphaTec® technology providing head and body protection from hazardous substances.

DESCRIPTION

- **Double elasticated cuffs** - Enables a liquid tight connection with chemical protective gloves (additional taping or Glove Link is required)
- **Air permeable SMS collar** - Maintains sufficient air in the breathing zone whilst allowing excess air to flow into the body of the suit
- **Four exhalation valves** - Exhalation valves fitted to the rear of the suit allows CO_2 to escape and equalises pressure within the suit, allowing a full range of movement without risk of excessive pressure causing harm to the suit or the wearer
- **Panoramic visor design** - Ensures a good field of vision for the wearer
- **Emergency rip cord** – Permits rapid doffing of the suit in cases of emergency or undue distress to the wearer

IDEAL INDUSTRIES AND APPLICATIONS

- Biological protection
- Chemical and pharmaceutical industries
- Emergency medical response
- Medical research
- Nuclear industry
- Viral contaminated areas (including Avian Influenza)

PERFORMANCE RATINGS

TYPE 3-B | TYPE 4-B | TYPE 5-B | EN 14126 | EN 1073-2 | EN 1149-5 | EN 12941

Respiratory protective device
Approved to EN 12941 TH3 with an Assigned Protection Factor (APF) of 40*

*UK APF according to Annex C of EN529:2005. The APF means the factor by which the hazard is reduced, i.e. how many times cleaner the air is inside the hood than outside

SIZES

S-3XL

MODELS

Panoramic visor design	Emergency rip-cord	Internal air distribution channel	Low-flow warning whistle	Attached glove options	Attached boots with anti-slip sole	Socks with boot-flaps	Fabric Options
✓	✓	-	✓	-	Model 705	Model 700 Model 701 Model 704	AlphaTec® 2500 AlphaTec® 3000 AlphaTec® 4000

Model 700 for use with Sundstrom SR500/500EX.
Model 701 for use with Scott Proflow 2SC PAPR fan units.
Model 704 & 705 for use with Malina CleanAIR Chemical 2F.

MICROGARD® / MICROCHEM® AIRline

MODELS 750 & 752

Ventilated / air-supplied suits compatible with continuous flow compressed airline breathing apparatus for protection from hazardous substances.

DESCRIPTION

- **Double elasticated cuffs** - Enables a liquid tight connection with chemical protective gloves (additional taping or Glove Link is required)
- **Air permeable SMS collar** - Maintains sufficient air in the breathing zone whilst allowing excess air to flow into the body of the suit
- **Four exhalation valves** - Exhalation valves fitted to the rear of the suit allows CO_2 to escape and equalises pressure within the suit, allowing a full range of movement without risk of excessive pressure causing harm to the suit or the wearer
- **Panoramic visor design** - Ensures a good field of vision for the wearer
- **Emergency rip cord** – Permits rapid doffing of the suit in cases of emergency or undue distress to the wearer

IDEAL INDUSTRIES AND APPLICATIONS

- Biological protection
- Chemical and pharmaceutical industries
- Emergency medical response
- Medical research
- Nuclear industry
- Viral contaminated areas (including Avian Influenza)

PERFORMANCE RATINGS

TYPE 3 | EN 1073-1 | EN 1149-5 | EN 14594 Respiratory protective device

CE marked to EN 1073-1:1998 with a nominal protection factor of 50,000 (Class 5 of 5)

SIZES

S-3XL

MODELS

Panoramic visor design	Emergency rip-cord	Internal air distribution channel	Low-flow warning whistle	Attached glove options	Attached boots with anti-slip sole	Socks with boot-flaps	Fabric Options
✓	✓	-	✓	-	Model 752	Model 750	AlphaTec® 2500 AlphaTec® 3000 AlphaTec® 4000
For use in combination with Scott T-A-Line or Sündstrom SR507 regulator and breathing hoses (sold separately)							

MICROCHEM® AVANT AIRline

MODELS 754 & 755

The AVANT AIRline range is designed for use in combination with the AVANT STS continuous flow airline regulator with a series of options available to meet the specific requirements of your workplace.

DESCRIPTION

- **Sleeve options** - A range of sleeve options available, including double cuffs and permanently attached chemical protective gloves.
- **Panoramic visor design** - Ensures a good field of vision for the wearer
- **Emergency rip cord** – Permits rapid doffing of the suit in cases of emergency or undue distress to the wearer
- **Internal distribution channels** – HEPA filter provides secondary protection from airline contamination and a SMC silencer ensures the noise inside the suit is always below 70 dB (even at maximum airflow).
- **Suit/Belt-Mounted Regulator** – Complete with low flow warning whistle the AVANT STS regulator can be mounted on the suit and removed for reuse providing cleaning and decontamination is permissible.

IDEAL INDUSTRIES AND APPLICATIONS

- Biological protection
- Chemical and pharmaceutical industries
- Emergency medical response
- Medical research
- Nuclear industry
- Viral contaminated areas (including Avian Influenza)

PERFORMANCE RATINGS

TYPE 3 | EN 1073-1 | EN 1149-5 | EN 14594 Respiratory protective device

CE marked to EN 1073-1:1998 with a nominal protection factor of 50,000 (Class 5 of 5)

SIZES

S-3XL

MODELS

Panoramic visor design	Emergency rip-cord	Internal air distribution channel	Low-flow warning whistle	Attached glove options	Attached boots with anti-slip sole	Socks with boot-flaps	Fabric Options
✓	✓	✓	✓	✓	Model 754	Model 755	AlphaTec® 3000 / AlphaTec® 4000

Continuous Flow Airline Regulator/Pass-Thru Device

Features:
- Affixed by the wearer and detachable for reuse when appropriate
- Air flow adjustable from 340 L/min to 590 L/min at a working pressure of 3.5 to 5 bar
- Polyester webbing belt with YKK buckle for an assured connection should the airline be snagged or pulled
- Low flow warning whistle
- External connector mount swivels 360°
- A range of external airline connector options are available (contact Ansell or your distributor for details)

MICROCHEM® AVANT$_2$ AIRline

MODELS 756 & 757

AVANT$_2$ AIRline with permanently attached airline regulator and available with optional extras to meet the specific requirements of your workplace.

DESCRIPTION

- **Sleeve options** - A range of sleeve options available, including double cuffs and permanently attached chemical protective gloves.
- **Panoramic visor design** - Ensures a good field of vision for the wearer
- **Emergency rip cord** – Permits rapid doffing of the suit in cases of emergency or undue distress to the wearer
- **Four exhalation valves -** Exhalation valves fitted to the rear of the suit allows CO_2 to escape and equalises pressure within the suit, allowing a full range of movement without risk of excessive pressure causing harm to the suit or the wearer
- **Permanently attached** continuous flow airline regulator / pass-thru device

IDEAL INDUSTRIES AND APPLICATIONS

- Biological protection
- Chemical and pharmaceutical industries
- Emergency medical response
- Medical research
- Nuclear industry
- Viral contaminated areas (including Avian Influenza)

PERFORMANCE RATINGS

TYPE 3 | EN 1073-1 | EN 1149-5 | EN 14594 Respiratory protective device

CE marked to EN 1073-1:1998 with a nominal protection factor of 50,000 (Class 5 of 5)

SIZES S-3XL

MODELS

Panoramic visor design	Emergency rip-cord	Internal air distribution channel	Low-flow warning whistle	Attached glove options	Attached boots with anti-slip sole	Socks with boot-flaps	Fabric Options
✓	✓	✓	-	✓	Model 756	Model 757	AlphaTec® 3000 AlphaTec® 4000

AlphaTec® SUPER

FREEFLOW

Combined respiratory protection and high level, gas-tight chemical protection

DESCRIPTION

- Viton® rubber top coating provides high-degradation resistance and durability
- Encapsulating design without hump
- Swiveling airline passthrough equipped with a warning whistle, which sounds if the pressure drops too low
- Working pressure 3-6 bars
- Designed for use with an external air source, which allows longer working hours and provided approved wearer comfort
- Offers exceptional protection against alkalis, strong acids (e.g. hydrofluoric acid), petrochemicals, chlorinated solvents, aromatics and oils
- Approved for work in explosive atmospheres
- Impact and chemical resistant PVC visor, covered by a replaceable, anti static Tear-off/ATEX lens
- Attached sock/booties made of the suit material. Alternatively attached black nitrile rubber safety boots with European approval as Firemen's boots. The boots are fixed with an ergonomically designed ring attachment, for simplified boot exchange.
- Extremely durable, yet soft and flexible

IDEAL INDUSTRIES AND APPLICATIONS

- Cleaning and maintenance
- Solvents, acids (including HF), alkali
- Food Processing
- Life Sciences
- Chemical Industry

PERFORMANCE RATINGS

Approved for use in explosive environments, Zones 0, 1, 2/20, 21, 22, Group IIA, IIB, IIC according to ATEX Directive 94/9/EC

TYPE 1c-B | EN 14126 | EN 1149-5

EN 1149-5: This applies only to the suit material.

SIZES 2XS-3XL **COLOURS**

SEAM TYPE

Double-stitched seams with glued-on tape inside and outside

MATERIALS

Highly durable Viton®/butyl rubber-coated polyamide (nylon) fabric

OPTIONAL FEATURES AND ACCESSORIES

- Anti-fog lens
- Hands-free visor light system
- Internal waist belt & leg shortener for size adjustment
- Inside pockets & loops for radio, PTT etc.
- D-ring for holding small measuring instruments & tools
- Customised marking, e.g. digits, letters, logos
- AlphaTec® #58-800 Overglove for improved cut & puncture resistance
- Other accessories are available upon request

AlphaTec® LIGHT

FREEFLOW

Combined respiratory protection and gas tight chemical protection. Designed for use with external airline, without the use of an SCBA, and therefore specially aimed at industrial use.

DESCRIPTION

- Strong and flexible PVC-coated fabric
- Encapsulating design without hump
- Swiveling airline passthrough equipped with a warning whistle, which sounds if the pressure drops too low
- Working pressure 3-6 bars
- Designed for use with an external air source, which allows longer working hours and provides improved wearer comfort
- Ideal against alkalis, low concentration acids and cooling media, e.g. ammonia
- Attached PVC Safety boots or sewn-in socks in the suit material. The boots fixed with an ergonomically designed ring attachment, for simplified boot exchange.
- Intended for low hazard environments

IDEAL INDUSTRIES AND APPLICATIONS

- Cleaning and maintenance
- Alkali (ammonia) and acids (low to medium concentration)
- Chemical Industry

PERFORMANCE RATINGS

Approved for use in explosive environments, Zones 0, 1, 2/20, 21, 22, Group IIA, IIB, IIC according to ATEX Directive 94/9/EC

TYPE 1c-B | EN 14126 | EN 1149-5

EN 1149-5: This applies only to the suit material.

SIZES 2XS-3XL

COLOURS

SEAM TYPE

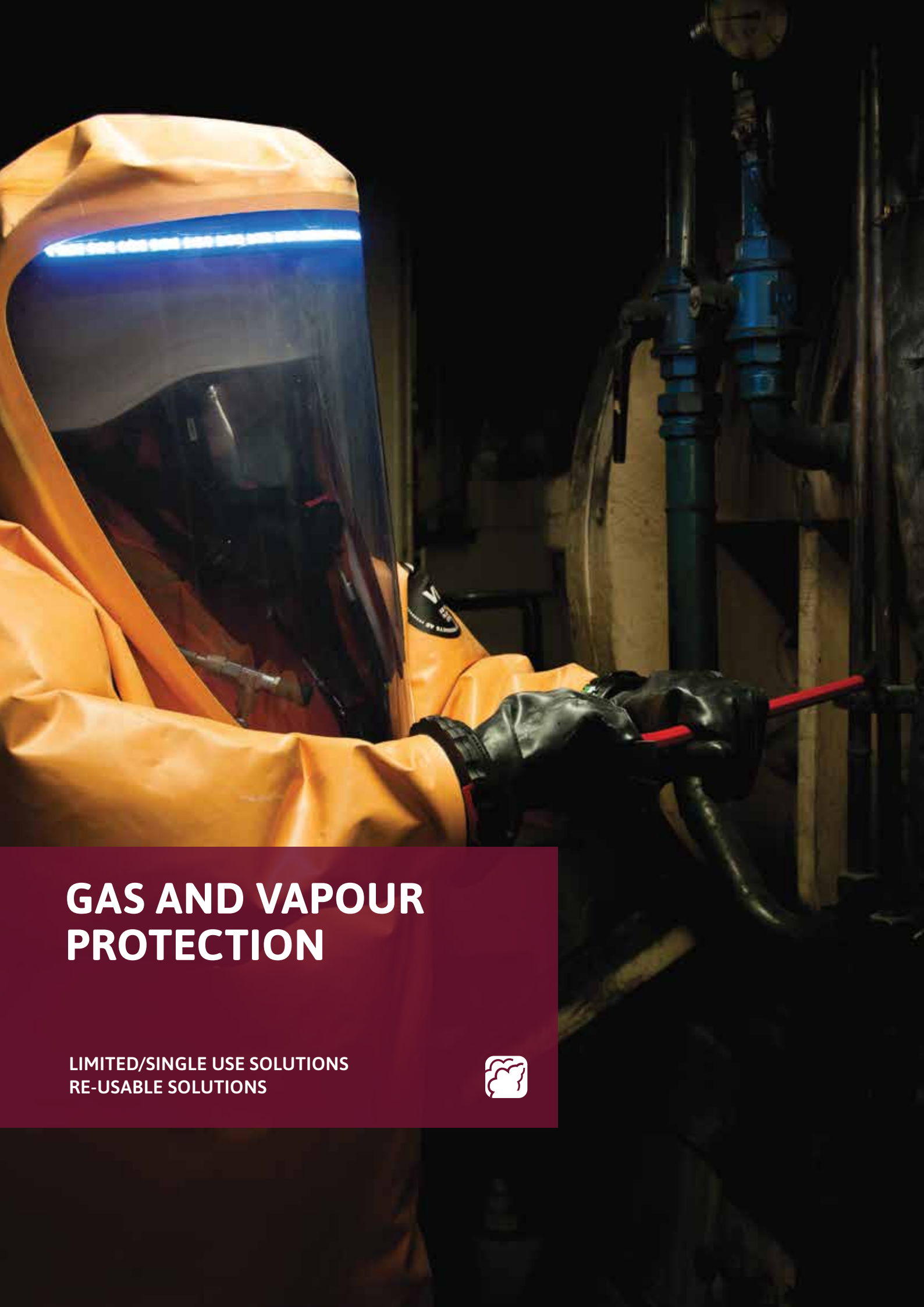
Double-stitched seams with welded-on outside tape

MATERIALS

Polyamide (nylon) fabric coated on both sides with PVC

OPTIONAL FEATURES AND ACCESSORIES

- Anti-fog lens
- Tear-off lens
- Hands-free visor light system
- Internal waist belt & leg shortener for size adjustment
- Inside pockets & loops for radio, PTT etc.
- D-ring for holding small measuring instruments & tools
- Customised marking, e.g. digits, letters, logos
- AlphaTec® #58-800 Overglove for improved cut & puncture resistance
- Other accessories are available upon request



GAS AND VAPOUR PROTECTION

LIMITED/SINGLE USE SOLUTIONS
RE-USABLE SOLUTIONS

MICROCHEM® 6000

MICROCHEM® 6000 Limited use Type 1a gas-tight suits provide protection for emergency responders or chemical workers. Level A suits where self-contained breathing apparatus (SCBA) is worn on the inside.

DESCRIPTION

- **DYNAT/YKK gas-tight zip** – Provides protection and performance in the most hostile of chemical environments. The zip has an outer zip flap made of the same materials as the suit
- Two AlphaTec® exhalation valves fitted in the hood
- **Visor** – Provides a wide field of vision with free head movement and enough headroom for use with a safety helmet
- **SCBA pass-thru device optional** – For connection to second-man attachment or switch-over device
- **Attached socks with boot overflaps** – Must be worn with a suitable wellington boot
- Option - attached wellington boots available
- Ultrasonically welded and taped seams

IDEAL INDUSTRIES AND APPLICATIONS

- Petrochemicals
- Industrial and tank cleaning
- Sewage purification installations
- Health service
- Nuclear industry

GLOVE OPTIONS

- GA1: Permanently attached AlphaTec® Barrier gloves + neoprene outer glove
- G02: Permanently attached AlphaTec® Barrier gloves with sleeve over-cuffs – an overglove should be worn to provide mechanical strength

PERFORMANCE RATINGS

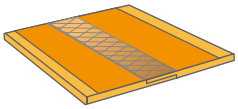
TYPE 1a-B TYPE 1a-ET-B EN 14126

SIZES

S-3XL

COLOURS

ULTRASONICALLY WELDED & TAPED SEAMS



TECHNOLOGIES

MICROCHEM™ Chemical Barrier Technology

FEATURES

Semi-rigid visor

DYNAT/YKK gas-tight zip

Exhalation valves

MATERIALS

Multi-layer barrier laminate

AlphaTec® LIGHT

TYPE CV

Re-usable gas-tight suit intended for industrial use and ideal against alkalis, acids and cooling media, e.g. ammonia.

DESCRIPTION

- Encapsulating suit design with SCBA worn on the inside
- Soft, flexible and durable suit material
- Protects very well against alkalis and acids
- Wide-vision, rigid and impact-resistant visor
- Option of sewn-in socks or attached boots
- Suit ventilation as standard, airline passthrough as option

IDEAL INDUSTRIES AND APPLICATIONS

- Cleaning and maintenance
- Alkali (ammonia) and acids (low-medium concentration)
- Emergency Teams
- Industrial and Tank Cleaning
- Law Enforcement
- Petrochemicals

PERFORMANCE RATINGS

TYPE 1a-B | EN 14126 | EN 1073-2 | EN 1149-5

EN 1149-5: This applies only to the suit material.

- EN 943-1:2015+A1:2019

SIZES 2XS-3XL

COLOURS

SEAM TYPE

Stitched seams with welded-on tape on outside

MATERIALS

Polyester fabric coated on both sides with PVC

FEATURES

Visor

Bayonet glove ring system

OPTIONAL FEATURES AND ACCESSORIES

- Combined Regulating valve & Airline passthrough MkII
- Anti-fog lens
- Tear-off lens
- Hands-free visor light system
- Internal waist belt & leg shortener for size adjustment
- Manometer holder
- Inside pockets & loops for radio, PTT etc.
- D-ring for holding small measuring instruments & tools
- Customised marking, e.g. digits, letters, logos
- AlphaTec® #58-800 Overglove for improved cut & puncture resistance
- Other accessories are available upon request

AlphaTec® LIGHT

TYPE VP1

DESCRIPTION

- Encapsulating suit design with SCBA worn on the inside
- Soft, flexible and durable suit material
- Protects very well against alkalis and acids
- Extra large, wide vision rigid and impact resistant visor
- Suit ventilation as standard, airline passthrough as option
- Option of sewn-in sock or attached boots

IDEAL INDUSTRIES AND APPLICATIONS

- Cleaning and maintenance
- Alkali (ammonia) and acids (low-medium concentration)

PERFORMANCE RATINGS

TYPE 1a-B | EN 14126 | EN 1073-2 | EN 1149-5

EN 1149-5: This applies only to the suit material.

- EN 943-1:2015+A1:2019

SIZES 2XS-3XL

COLOURS

SEAM TYPE

Stitched seams with welded-on tape on outside

MATERIALS

Polyester fabric coated on both sides with PVC

AlphaTec® LIGHT

TYPE T

DESCRIPTION

- A non-encapsulating suit design with SCBA worn on the outside
- Soft, flexible and durable suit material
- Protects very well against alkalis and acids
- 3D face seal for optimal fit with a full-face mask
- Optional with attached mask and option of sewn-in socks or attached boots
- Suit ventilation as standard
- SOLAS approved

IDEAL INDUSTRIES AND APPLICATIONS

- Cleaning and maintenance
- Alkali (ammonia) and acids (low-medium concentration)
- Work in confined spaces

PERFORMANCE RATINGS

TYPE 1a-B | EN 14126 | EN 1073-2 | EN 1149-5

EN 1149-5: This applies only to the suit material.

- EN 943-1:2015+A1:2019

SIZES 2XS-3XL

COLOURS

SEAM TYPE

Stitched seams with welded-on tape on outside

MATERIALS

Polyester fabric coated on both sides with PVC

AlphaTec® SUPER

TYPE CV

The true workhorse of the AlphaTec® gas-tight suit range. Highly chemical-resistant and durable yet soft and flexible and with an outstanding performance record. Suitable for use in a wide rang of applications.

DESCRIPTION

- Encapsulating suit design with SCBA worn on the inside
- Viton® rubber top coating provides high degradation resistance and durability
- Long permeation times
- Wide-vision, rigid and impact-resistant visor
- Extremely durable, yet soft and flexible
- Option of sewn-in sock or attached boots
- Suit ventilation as standard, airline passthrough as option

IDEAL INDUSTRIES AND APPLICATIONS

- Chemical emergencies
- Cleaning and maintenance
- Solvents, acids (including HF), alkali

PERFORMANCE RATINGS

TYPE 1a-B | TYPE 1a-ET-B | EN 14126 | EN 1073-2 | EN 1149-5

EN 1149-5: This applies only to the suit material.

- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 0, 1, 2/20, 21, 22, Group IIA, IIB, IIC according to ATEX Directive 94/9/EC

SIZES 2XS-3XL

COLOURS

SEAM TYPE

Double-stitched seams with glued-on tapes inside and outside

MATERIALS

Highly durable Viton®/butyl rubber-coated polyamide (nylon) fabric

FEATURES

Visor

Attached boots

OPTIONAL FEATURES AND ACCESSORIES

- Combined Regulating valve & Airline passthrough MkII
- Anti-fog lens
- Hands-free visor light system
- Internal waist belt & leg shortener for size adjustment
- Manometer holder
- Inside pockets & loops for radio, PTT etc.
- D-ring for holding small measuring instruments & tools
- Customised marking, e.g. digits, letters, logos
- AlphaTec® #58-800 Overglove for improved cut & puncture resistance
- Other accessories are available upon request

AlphaTec® SUPER

TYPE VP1

DESCRIPTION

- Encapsulating suit design with SCBA worn on the inside
- Viton® rubber top coating provides high degradation resistance and durability
- Long permeation times
- Extra large, wide-vision, rigid and impact-resistant visor
- Extremely durable, yet soft and flexible
- Option of sewn-in sock or attached boots
- Suit ventilation as standard, airline passthrough as option

IDEAL INDUSTRIES AND APPLICATIONS

- Chemical emergencies
- Cleaning and maintenance
- Solvents, acids (including HF), alkali

PERFORMANCE RATINGS

TYPE 1a-B | TYPE 1a-ET-B | EN 14126 | EN 1073-2 | EN 1149-5 (EN 1149-5: This applies only to the suit material.)

- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 0, 1, 2/20, 21, 22, Group IIA, IIB, IIC according to ATEX Directive 94/9/EC

SIZES 2XS-3XL

COLOURS

SEAM TYPE

Double-stitched seams with glued-on tapes inside and outside

MATERIALS

Highly durable Viton®/butyl rubber-coated polyamide (nylon) fabric

AlphaTec® SUPER

TYPE T

DESCRIPTION

- A non-encapsulating suit design with SCBA worn on the outside
- Viton® rubber top coating provides high degradation resistance and durability
- Long permeation times
- 3D face seal or optimal fit with a full-face mask
- Extremely durable, yet soft and flexible
- Optional with attached mask and option of sewn-in socks or attached boots
- Suit ventilation as standard
- SOLAS approved

IDEAL INDUSTRIES AND APPLICATIONS

- Chemical emergencies
- Cleaning and maintenance
- Solvents, acids (including HF), alkali
- Work in confined spaces

SIZES 2XS-3XL

COLOURS

PERFORMANCE RATINGS

TYPE 1a-B | TYPE 1a-ET-B | EN 14126 | EN 1073-2 | EN 1149-5 (EN 1149-5: This applies only to the suit material.)

- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 0, 1, 2/20, 21, 22, Group IIA, IIB, IIC according to ATEX Directive 94/9/EC

SEAM TYPE

Double-stitched seams with glued-on tapes inside and outside

MATERIALS

Highly durable Viton®/butyl rubber-coated polyamide (nylon) fabric

AlphaTec® VPS

TYPE CV

Versatile and durable suit with excellent protection against hazardous chemicals in liquid, vapour, gaseous and solid form, including warfare agents.

DESCRIPTION

- An all-round encapsulating suit (SCBA worn inside) for different user needs
- Excellent permeation times
- Wide-vision, rigid and impact-resistant visor
- Option of sewn-in socks or attached boots
- Suit ventilation as standard, airline passthrough as option

IDEAL INDUSTRIES AND APPLICATIONS

- Chemical emergencies
- Cleaning and maintenance
- Emergency Teams
- Fire & Rescue Service
- First Response
- Hazmat Teams
- Law Enforcement

PERFORMANCE RATINGS

TYPE 1a-B TYPE 1a-ET-B EN 14126 EN 1073-2

- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET

SIZES 2XS-3XL

COLOURS Optional Colour: Black
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Polyamide (nylon) fabric coated on outside with chloroprene rubber and on inside laminated to a multi-layer barrier film

FEATURES

Hump

Bayonet glove ring system

OPTIONAL FEATURES AND ACCESSORIES

- Combined Regulating valve & Airline passthrough MkII
- Anti-fog lens
- Tear-off lens
- Hands-free visor light system
- Waist belt, internal
- Manometer holder
- Inside pockets & loops for radio, PTT etc.
- D-ring for holding small measuring instruments & tools
- Customised marking, e.g. digits, letters, logos
- AlphaTec® #58-800 Overglove for improved cut & puncture resistance
- Other accessories are available upon request

AlphaTec® VPS — TYPE VP1

DESCRIPTION

- An all-round encapsulating suit (SCBA worn inside) for different user needs
- Excellent permeation times
- Extra large, wide-vision, rigid and impact-resistant visor
- Option of sewn-in socks or attached boots
- Suit ventilation as standard, airline passthrough as option

IDEAL INDUSTRIES AND APPLICATIONS

- Chemical emergencies
- Cleaning and maintenance

PERFORMANCE RATINGS

TYPE 1a-B | TYPE 1a-ET-B | EN 14126 | EN 1073-2

- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET

SIZES 2XS-3XL

COLOURS

Optional Colour: Black
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Polyamide (nylon) fabric coated on outside with chloroprene rubber and on inside laminated to a multi-layer barrier film

AlphaTec® VPS — TYPE T

DESCRIPTION

- An all-round non-encapsulating suit (SCBA worn outside) for different user needs
- Excellent permeation times
- 3D face seal for optimal fit with a full-face mask
- Optional with attached mask and option of sewn-in socks or attached boots
- Suit ventilation as standard
- SOLAS approved

IDEAL INDUSTRIES AND APPLICATIONS

- Chemical emergencies
- Cleaning and maintenance
- Work in confined spaces

PERFORMANCE RATINGS

TYPE 1a-B | EN 14126 | EN 1073-2 | EN 1149-5

EN 1149-5: This applies only to the suit material.

- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET

SIZES 2XS-3XL

COLOURS

Optional Colour: Black
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Polyamide (nylon) fabric coated on outside with chloroprene rubber and on inside laminated to a multi-layer barrier film

AlphaTec® FLASH

TYPE CV

High-performance hazmat suit which provides excellent protection against hazardous chemicals in liquid, vapour, gaseous and solid form, including warfare agents.

DESCRIPTION

- Encapsulating hazmat suit with SCBA worn inside
- Excellent permeation times in combination with a high degree of flame resistance
- Wide-vision, rigid and impact-resistant visor
- Option of sewn-in socks or attached boots
- Suit ventilation as standard, airline passthrough as option
- Fully certified to the American standard NFPA 1991:2016, including the optional chemical-flash fire and liquified-gas protection requirements. (this refers to sock version only)

IDEAL INDUSTRIES AND APPLICATIONS

- Hazmat response
- CBRN
- Chemical emergencies
- Hot zone

PERFORMANCE RATINGS

- NFPA 1991:2016
- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 2/21, 22 only and Group IIA, according to ATEX Directive 94/9/EC

TYPE 1a-B · TYPE 1a-ET-B · EN 14126 · EN 1073-2 · EN 1149-5

EN 1149-5: This applies only to the suit material.

SIZES 2XS-3XL

COLOURS

Optional Colour: Dark Green
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Aramid fabric coated on outside with chloroprene rubber and on inside laminated to a multi-layer barrier film

FEATURES

Bayonet glove ring system

OPTIONAL FEATURES AND ACCESSORIES

- Combined Regulating valve & Airline passthrough MkII
- Anti-fog lens
- Hands-free visor light system
- Internal waist belt & leg shortener for size adjustment
- Manometer holder and inside pockets & loops for radio, PTT etc.
- D-ring for holding small measuring instruments & tools
- Customised marking, e.g. digits, letters, logos
- AlphaTec® #58-800 Overglove for improved cut & puncture resistance
- Other accessories are available upon request

AlphaTec® FLASH — TYPE VP1

DESCRIPTION

- Encapsulating hazmat suit with SCBA worn inside
- Excellent permeation times in combination with a high degree of flame resistance
- Extra large, wide-vision, rigid and impact-resistant visor
- Option of sewn-in socks or attached boots
- Suit ventilation as standard, airline passthrough as option
- Fully certified to the American standard NFPA 1991:2016, including the optional chemical flash fire and liquified gas protection requirements. (this refers to sock version only)

PERFORMANCE RATINGS

- NFPA 1991:2016
- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 2/21, 22 only and Group IIA, according to ATEX Directive 94/9/EC

TYPE 1a-B · TYPE 1a-ET-B · EN 14126 · EN 1073-2 · EN 1149-5

EN 1149-5: This applies only to the suit material.

IDEAL INDUSTRIES AND APPLICATIONS

- Hazmat response and CBRN
- Chemical emergencies and hot zone

SIZES 2XS-3XL

COLOURS

Optional Colour: Dark Green
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Aramid fabric coated on outside with chloroprene rubber and on inside laminated to a multi-layer barrier film

AlphaTec® FLASH — TYPE T

DESCRIPTION

- A non-encapsulating hazmat suit with SCBA worn outside
- Excellent permeation times in combination with a high degree of flame resistance
- 3D face seal for optimal fit with a full-face mask
- Optional with attached mask and option of sewn-in socks or attached boots
- Suit ventilation as standard

PERFORMANCE RATINGS

- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 2/21, 22 only and Group IIA, according to ATEX Directive 94/9/EC

TYPE 1a-B · TYPE 1a-ET-B · EN 14126 · EN 1073-2 · EN 1149-5

EN 1149-5: This applies only to the suit material.

IDEAL INDUSTRIES AND APPLICATIONS

- Hazmat response and CBRN
- Chemical emergencies and hot zone
- Work in confined space

SIZES 2XS-3XL

COLOURS

Optional Colour: Dark Green
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Aramid fabric coated on outside with chloroprene rubber and on inside laminated to a multi-layer barrier film

AlphaTec® EVO

TYPE CV

Top-of-the-range hazmat suit providing excellent protection against the most aggressive chemicals in liquid, vapour, gaseous and solid form, including warfare agents. Fully certified to the American standard NFPA 1991:2016, including the optional chemical flash fire and liquefied gas protection requirements.

DESCRIPTION

- An "all-inclusive" encapsulating hazmat suit, SCBA worn inside
- Chemical-resistant Viton® rubber top coating
- Outstanding permeation times – tested for 24 hours
- Aramid base fabric
- Wide-vision, rigid and impact-resistant visor
- Fully certified to the American standard NFPA 1991:2016, including the optional chemical-flash fire and liquified-gas protection requirements. (this refers to sock version only)
- Option of sewn-in socks or attached boots
- Suit ventilation as standard, airline passthrough as option

IDEAL INDUSTRIES AND APPLICATIONS

- Hazmat response
- CBRN
- Chemical emergencies
- Hot zone

PERFORMANCE RATINGS

- NFPA 1991:2016
- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 0, 1, 2/20, 21, 22, Group IIA, IIB, IIC according to ATEX Directive 94/9/EC

TYPE 1a-B | TYPE 1a-ET-B | EN 14126 | EN 1073-2 | EN 1149-5

EN 1149-5: This applies only to the suit material.

SIZES 2XS-3XL

COLOURS

Optional Colour: Dark Green
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Aramid fabric coated on outside with butyl and Viton® rubber and on inside laminated to a multi-layer barrier film

FEATURES

Visor

Bayonet glove ring system

OPTIONAL FEATURES AND ACCESSORIES

- Combined Regulating valve & Airline passthrough MkII
- Anti-fog lens
- Hands-free visor light system
- Internal waist belt & leg shortener for size adjustment
- Manometer holder and inside pockets & loops for radio, PTT etc.
- D-ring for holding small measuring instruments & tools
- Customised marking, e.g. digits, letters, logos
- AlphaTec® #58-800 Overglove for improved cut & puncture resistance
- Other accessories are available upon request

AlphaTec® EVO — TYPE VP1

DESCRIPTION

- An “all-inclusive” encapsulating hazmat suit, SCBA worn inside
- Chemical-resistant Viton® rubber top coating
- Outstanding permeation times – tested for 24 hours
- Aramid base fabric
- Extra large, wide-vision, rigid and impact-resistant visor
- Fully certified to the American standard NFPA 1991:2016, including the optional chemical-flash fire and liquified-gas protection requirements. (this refers to sock version only)
- Option of sewn-in socks or attached boots
- Suit ventilation as standard, airline passthrough as option

PERFORMANCE RATINGS

- NFPA 1991:2016
- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 2/21, 22 only and Group IIA, according to ATEX Directive 94/9/EC

TYPE 1a-B · TYPE 1a-ET-B · EN 14126 · EN 1073-2 · EN 1149-5

EN 1149-5: This applies only to the suit material.

IDEAL INDUSTRIES AND APPLICATIONS

- Hazmat response and CBRN
- Chemical emergencies and hot zone

SIZES 2XS-3XL

COLOURS

Optional Colour: Dark Green
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Aramid fabric coated on outside with butyl and Viton® rubber and on inside laminated to a multi-layer barrier film

AlphaTec® EVO — TYPE T

DESCRIPTION

- A non-encapsulating top-level hazmat suit, SCBA worn outside
- Chemical resistant Viton® rubber top coating
- Outstanding permeation times – tested for 24 hours
- Aramid base fabric
- 3D face seal for optimal fit with a full-face mask
- High flame resistance
- Optional with attached mask and option of sewn-in socks or attached boots
- Suit ventilation as standard

PERFORMANCE RATINGS

- EN 943-1:2015+A1:2019 and EN 943-2:2019/ET
- Approved for use in explosive environments, Zones 2/21, 22 only and Group IIA, according to ATEX Directive 94/9/EC

TYPE 1a-B · TYPE 1a-ET-B · EN 14126 · EN 1073-2 · EN 1149-5

EN 1149-5: This applies only to the suit material.

IDEAL INDUSTRIES AND APPLICATIONS

- Hazmat response and CBRN
- Chemical emergencies & hot zone
- Work in confined space

SIZES 2XS-3XL

COLOURS

Optional Colour: Dark Green
Note: minimum order quantities may apply.

SEAM TYPE

Stitched with glued-on tape outside and welded-on barrier tape inside

MATERIALS

Aramid fabric coated on outside with butyl and Viton® rubber and on inside laminated to a multi-layer barrier film

CONTAMINATED WATER DIVING AND DRY SUIT PROTECTION

RE-USABLE SOLUTIONS

VIKING™ PRO

The VIKING™ PRO is Ansell's bestselling dry suit worldwide. Designed for flexibility and comfort in a wide range of applications. Vulcanised seams allow for peace of mind when diving under all situations.

DESCRIPTION

- Internal seams stitched and taped
- External seams vulcanised for peace of mind
- Easy-to-clean exterior when contaminated
- Easy to repair in the field to minimise downtime
- Flexible and comfortable

IDEAL INDUSTRIES AND APPLICATIONS

- Underwater inspection
- Underwater search and recovery
- Maintenance inspection
- Disaster recovery

PERFORMANCE RATINGS

- EN 14225-2:2017

BIO

SIZES

Regular: S-3XL
Wide: M-2XL
Double wide: M-2XL

COLOURS

SEAM TYPE

Stitched, taped and vulcanised

FEATURES

Zip

Valve

Collar

MATERIALS

Blend of natural and synthetic rubbers (NR/EPDM), on a 2-way stretch knitted polyester lining.
Material weight: 1050 g/m^2

VIKING™ PROTECH II

A flexible dry suit designed for maximum comfort in a wide range of applications, particularly suited for military use.

DESCRIPTION

- Internal stitched and taped seams
- External vulcanized seams
- Easy-to-clean exterior when contaminated
- Easy to repair in the field to minimise downtime
- Extremely flexible and comfortable

IDEAL INDUSTRIES AND APPLICATIONS

- Military use
- Navy diving
- Special forces use
- Fire and rescue diving
- Police search and recovery

PERFORMANCE RATINGS

EN 14225-2:2017

HZ BIO

CATEGORY III

SEAM TYPE

Stitched, taped and vulcanised

SIZES Regular: S–3XL
Wide: M–2XL
Double wide: M–2XL

COLOURS

MATERIALS

Blend of natural and synthetic rubbers (NR/EPDM) on a stretch polyamide/elastane lining.
Total material weight: 1250 g/m²

VIKING™ HD

VIKING™ HD is considered to be the industry standard for commercial diving worldwide.

DESCRIPTION

- Heavy-duty material
- Internal stitched and taped seams
- External vulcanised seams for security
- Easy to clean and repair
- Fitted with a heavy-duty zip as standard (non-magnetic version on black suits)
- Can be supplied with non-magnetic valves

IDEAL INDUSTRIES AND APPLICATIONS

- Cleaning ships hulls
- Welding and inspection
- Cleaning a fouled propeller
- Nuclear pond inspection
- Inshore diving

PERFORMANCE RATINGS

EN 14225-2:2017

HZ BIO

CATEGORY III

SEAM TYPE

Stitched, taped and vulcanised

SIZES Regular: M–2XL
Wide: M–2XL

COLOURS

MATERIALS

Natural and synthetic rubbers (NR/EPDM) on a 2-way stretch-knitted polyester lining.
Total material weight: 1550 g/m²

VIKING™ HDS

Vulcanised rubber drysuit. Made from NITECS, provides unsurpassed protection against chemical permeation along with extreme durability against wear and tear.

DESCRIPTION

- Internal seams stitched and taped for security
- External seams vulcanised for peace of mind
- Highly resistant to aggressive chemicals, including hydrocarbons
- Material is 5 times more abrasion-resistant than the VIKING™ PRO material
- Easy to clean and repair

IDEAL INDUSTRIES AND APPLICATIONS

- Underwater inspection
- Underwater search and recovery
- Maintenenace inspection
- Disaster recovery

SEAM TYPE

Stitched, taped and vulcanised

SIZES

Regular: S–3XL
Wide: M–2XL
Double wide: M–2XL

COLOURS

MATERIALS

NITECS material is an HNBR rubber compound, coated onto a 2-way stretch-knitted black polyester lining.
Total material: weight 1050 g/m²

PERFORMANCE RATINGS

EN 14225-2:2017

HZ BIO

CATEGORY III

VIKING™ HAZTECH

A lightweight, robust suit for diving in hazardous water conditions.

DESCRIPTION

- Lightweight and robust material
- High-frequency welded seams for maximum strength and safety
- Ideal for warm water and/or warm climate diving
- Suitable for cold water diving (tested for flex cracking after >200 flexes down to -40°C)
- Easy-to-clean exterior surface
- Suitable for contaminated-water diving operations

IDEAL INDUSTRIES AND APPLICATIONS

- Light commercial diving operations
- Military diving
- Fire and rescue diving
- Inshore diving

SEAM TYPE

High-frequency welded and taped inside for visual purposes only

SIZES

Regular: S - 2XL
Wide: S - 2XL
Double wide: S - 2XL

COLOURS

MATERIALS

TPU (thermoplastic polyurethane) outer layer in red or black, single-coated onto a black-knitted nylon fabric.
Material weight: 480 g/m²

PERFORMANCE RATINGS

EN 14225-2:2017

HZ BIO

CATEGORY III

VIKING™ VSN

Comfortable, stretchy and durable drysuit made from a unique rubber based trilaminate material.

DESCRIPTION

- Unique stretch material
- ”Vulca Seam” technology
- Highly abrasion- and puncture-resistant
- Neutrally buoyant material
- Front and rear entry versions available
- Front entry suits feature an adjustable torso with external crotch strap

IDEAL INDUSTRIES AND APPLICATIONS

- Underwater search and rescue
- Special forces diving
- Technical diving
- Inshore diving

SEAM TYPE

Stitched, taped and vulcanised

SIZES

Regular: S–2XL
Wide: S–2XL
Double wide: S–2XL

COLOURS

PERFORMANCE RATINGS

EN 14225-2:2017

MATERIALS

Trilaminate construction comprising of a mid-ply of NR/EPDM rubber with external- and internal-knitted Armatex jersey nylon.
Average material weight: 1100 g/m^2

VIKING™ VTS

Used worldwide by sports and technical divers, special forces, police dive teams and fire & rescue squads.

DESCRIPTION

- Lightweight puncture- and abrasion-resistant materials
- “Vulca Seam” technology for complete water tightness
- Front and rear entry versions available
- Front entry suits feature an adjustable torso with external crotch strap

IDEAL INDUSTRIES AND APPLICATIONS

- Underwater search and recovery
- Military diving
- Recreational diving
- Inshore diving

SEAM TYPE

Stitched and vulcanised

SIZES

Regular: S–2XL
Wide: S–2XL
Double wide: S–2XL

COLOURS

PERFORMANCE RATINGS

EN 14225-2:2017

MATERIALS

255 g nylon/butyl/nylon. 450 g Cordura/butyl/polyester.
400 g polyester/butyl/polyester

VIKING™ WRS

Lighweight surface rescue suit - provides protection for personnel who are not divers, but are working on, near or above water.

DESCRIPTION

- ”Vulca Seam” technology
- Abrasion- and puncture-resistant
- Easy to clean when contaminated with biological contaminants
- Front entry, non-adjustable torso, for ease of operation
- Also available: VIKING™ WRS-D - WRS suit with valves added for rescue teams who need a combination surface rescue/diving rescue suit

Note: This suit is designed for above water rescue operations only

IDEAL INDUSTRIES AND APPLICATIONS

- Water rescue
- Swift water rescue
- Flooding applications

SEAM TYPE
Stitched and vulcanised

SIZES
Regular: S–2XL
Wide: S–2XL
Double wide: S–2XL

COLOURS

MATERIALS
255 g nylon outer/butyl midply/nylon inner

PERFORMANCE RATINGS
PPE Regulation 2016/425 using applicable parts of EN 15027-1

VIKING™ HWS MK 2

The VIKING™ Hot Water Suit (HWS) is designed principally for offshore saturation diving, also widely used by commercial divers and military divers where extended diving periods will be required.

DESCRIPTION

- Flexible material and pattern layout
- Abrasion resistant RO-TEX™ nylon exterior
- PU coating for ease of cleaning
- Glued and stitched seams, with front seams coated for protection
- PU reinforcements on knees and elbows
- New “click” function valve with 3 flow settings and a dump mode

IDEAL INDUSTRIES AND APPLICATIONS

- Saturation diving
- Military diving
- Inshore diving

SEAM TYPE
Glued and stitched

SIZES
Regular: S–2XL
Tall: S–XL

COLOURS

MATERIALS
5 mm neoprene with RO-TEX™ nylon exterior with a PU top coating. 3 mm underarm panels

PERFORMANCE RATINGS
EN 14225-3:2017

VIKING™ XT500

UNDERSUIT SET

VIKING™ XT500 undersuits are manufactured from high insulation, low bulk fabric, ensuring exceptional levels of protection.

DESCRIPTION

- More warmth created with less bulk
- Flexible assembly of separate top, leggings and socks supplied as a complete set
- Added crotch strap for security

IDEAL INDUSTRIES AND APPLICATIONS

- All diving operations

SIZES S–3XL

COLOURS

MATERIALS

Polyester/nylon/Lycra®

VIKING™

COMMERCIAL OVERBOOTS

Made to be worn over rubber dry suits to protect the diver's feet from sharp objects on the seabed.

DESCRIPTION

- 0.6 mm reinforced rubber construction
- 2.5 mm reinforced rubber toe cap for added protection
- 5 pairs of unplated brass eyelets on each boot
- 2 m x 6 mm polyester rope laces for MED size boots
- 2.5 m x 6 mm polyester rope laces for LGE size boots
- NEW: LGE size overboots added to the range for use over larger size rubber suit

IDEAL INDUSTRIES AND APPLICATIONS

- To be worn over a rubber dry suit boot

SIZES M–L

COLOURS

VIKING™

NEOPRENE SEMI-DRY GLOVES

5-finger semi-dry gloves

DESCRIPTION

- Warm and flexible
- Added Kevlar® protection on the fingers and palms for extended wear
- Adjustable wrist strap

IDEAL INDUSTRIES AND APPLICATIONS

- Any dive operations where a dry glove is not necessary

SIZES S–2XL

COLOURS

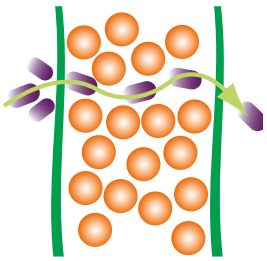
MATERIALS

5 mm neoprene with Kevlar® reinforcements

GUIDANCE ON CHEMICAL PERMEATION AND PENETRATION

What is permeation?

Permeation is the process by which a potentially hazardous chemical moves through a material on a molecular level. Molecules of chemical adsorb onto the outer surface of the material. They then enter and diffuse across the material and are released or desorbed from the inner surface.



Measuring permeation
The resistance of a protective clothing fabric to permeation by a potentially hazardous chemical is determined by measuring the breakthrough time and the permeation rate of the chemical through the fabric.

Permeation test methods
There are various permeation test methods in use today. Which one to use depends on a number of factors including the country of use for the protective clothing, and the type of chemical (i.e. gas or liquid).

Permeation rate (PR)
This is the rate at which the potentially hazardous chemical permeates through the test fabric and is expressed as a mass of chemical flowing through a given fabric area per unit of time, i.e. 1.0 µg/cm²/min or one millionth of a gram per square centimetre per minute.

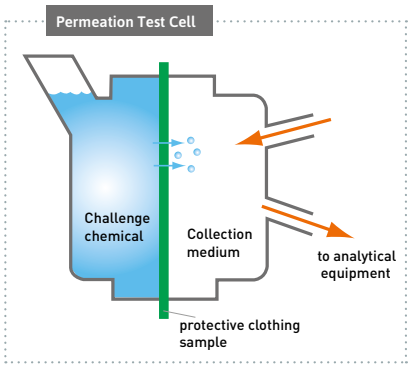
Breakthrough detection time (BDT)
The average time elapsed between initial contact of the chemical with the outside surface of the fabric and the detection of the chemical at the inside surface by the analytical device. A breakthrough detection time of ≥480 min and a permeation rate below the minimum detectable permeation rate (MDPR) does not mean breakthrough has not occurred. It means that permeation was not detected after an observation time of eight hours. Permeation may have occurred, but at a rate less than the minimum detectable permeation rate or MDPR. MDPR can vary depending on the chemical or the analytical device/test method.

EN Class	Normalised breakthrough times
0	<10 (no class)
1	≥10
2	≥30
3	≥60
4	≥120
5	≥240
6	≥480

Breakthrough time (BT)
This is the average time between initial contact of the chemical with the outside surface of the fabric and the time at which the chemical is detected at the inside surface of the fabric at the normalised permeation rate specified by the appropriate standard.

The key test methods and the normalised permeation rates required are listed below;

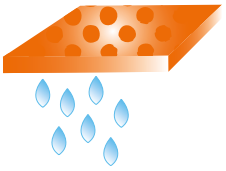
1) EN 16523-1 which measures the breakthrough time to 1.0 µg/cm²/min using a mean average of three samples.
2) ISO 6529 specifies BT to be reported at the normalised permeation rate of 1.0 µg/cm²/min (BT 1.0) or 0.1 µg/cm²/min (BT 0.1), with the mean BT to be recorded.
3) ASTM F739 specifies results to be recorded as breakthrough time (BT) at 0.1 µg/cm²/min.



In Europe (as specified in EN 14325:2018) ISO 6529 will be used for permeation testing, and the normalised breakthrough time is recorded at the permeation rate of 1.0 µg/cm2/min. The resistance of AlphaTec® garments to permeation by a hazardous chemical is determined by measuring the breakthrough time and permeation rate of the chemical through the fabric. Permeation tests are performed by independent, accredited laboratories in accordance with ISO 6529, EN374-3, EN 16523 or ASTM F739

What is penetration?

Penetration is a process by which a chemical flows through holes (i.e. pores) or essential openings in a material on a non-molecular level.



Penetration test methods
There are various penetration test methods in use today. Which one to use depends on a number of factors, including the country of use for the protective clothing and the task for which the chemical protective clothing will be used.

Procedure C - ASTM F903
Specified in NFPA 1992 (Liquid tight protective clothing for emergency responders), this involves the continuous exposure of a material to a liquid chemical with pressure maintained at 0 psi for 5 min followed by 2 psi [13.8 kPa] for 1 min followed by 0 psi for 54 min, totalling 1 hour.

AlphaTec®

CHEMICAL PERMEATION DATA

		2300		3000		4000		5000		6000	
CAS Number	Chemical Name	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class
3268-49-3	3-(Methylthio)propionaldehyde					≥480	6				
75-07-0	Acetaldehyde							≥480	6	≥480	6
64-19-7	Acetic Acid (Glacial)					≥480	6				
108-24-7	Acetic Anhydride			≥480	6	≥480	6				
67-64-1	Acetone	Imm	0	28	1	≥480	6	≥480	6	≥480	6
75-05-8	Acetonitrile			<6	0	≥480	6	≥480	6	≥480	6
75-36-5	Acetyl Chloride									≥431	5
79-06-1	Acrylamide			≥480	6	≥480	6				
79-10-7	Acrylic Acid			≥480	6	≥480	6				
107-13-1	Acrylonitrile				-	≥480	6				
107-18-6	Allyl Alcohol			≥480	6	≥480	6				
7664-41-7	Ammonia (Gas, 1 atmos.)			3	0	≥480	6	≥480	6	≥480	6
7664-41-7	Ammonia (Liquid, -34 °C / -29 °F)					≥480	6	≥480	6	≥480	6
1341-49-7	Ammonium Hydrogen Fluoride			≥480	6						
1336-21-6	Ammonium Hydroxide (20% w/w)			≥480	6						
1336-21-6	Ammonium Hydroxide (25% w/w)			≥480	6						
1336-21-6	Ammonium Hydroxide (28% w/w)					≥480	6				
1336-21-6	Ammonium Hydroxide (35% w/w)					356	5	≥480	6		
628-63-7	Amyl Acetate					≥480	6				
62-53-3	Aniline			≥480	6	≥480	6	≥480	6		
17804-35-2	Benlate®			≥480	6	≥480	6				
71-43-2	Benzene			2	0	≥480	6	≥480	6	≥480	6
98-09-9	Benzene Sulfonyl Chloride			≥480	6						
100-44-7	Benzyl Chloride			16	1	≥480	6				
7726-95-6	Bromine			2	0	10	1	12	1	14	1
7726-95-6	Bromine (Saturated Vapour)									12	1
109-65-9	Bromobutane, 1-					≥480	6	≥480	6		
106-99-0	Butadiene 1,3-					≥480	6	≥480	6	≥480	6
71-36-3	Butanol, n-			≥480	6	≥480	6				
141-32-2	Butyl Acrylate, n-			16	1	≥480	6				
75-15-0	Carbon Disulfide			Imm	0	2	0	≥480	6	≥480	6
630-08-0	Carbon Monoxide									≥480	6
7782-50-5	Chlorine (Gas, 1 atmos.)			10	1	≥480	6	≥480	6	≥480	6
7782-50-5	Chlorine (Liquid, -32 °C / -26 °F)									≥480	6
7782-50-5	Chlorine Water (satd.)			2	0	≥480	6				
70258-18-3	Chloro-5-(chloromethyl)pyridine, 2- (60-65 °C / 140-149 °F)					≥480	6				
79-11-8	Chloroacetic Acid (79% w/w)			≥480	6	≥480	6				
105-39-5	Chloroacetic Acid Ethyl Ester					≥480	6				
79-04-9	Chloroacetyl Chloride			36	2	≥480	6			≥480	6
920-37-6	Chloroacrylonitrile, 2-					≥480	6				
106-47-8	Chloroaniline, 4- (75 °C / 167 °F)					≥480	6				
108-90-7	Chlorobenzene					≥480	6	≥480	6		
107-07-3	Chloroethanol, 2-			≥480	6						
75-01-4	Chloroethene					≥480	6	≥480	6		
67-66-3	Chloroform			Imm	0	11	1	101	3		
74-87-3	Chloromethane (Gas, 1 atmos.)					≥480	6	≥480	6	≥480	6
107-94-8	Chloropropionic Acid, 3- (Liquid, 50 °C / 122 °F)			≥480	6	≥480	6				
7790-94-5	Chlorosulfonic Acid					69	3	89	3		
95-49-8	Chlorotoluene, o-					≥480	6				
106-43-4	Chlorotoluene, p-					≥480	6				
1333-82-0	Chromium Trioxide (50% w/w)			≥480	6	≥480	6				
108-39-4	Cresol, m- in water solution (20 g/L)					≥480	6				
95-48-7	Cresol, o- in water solution (20 g/L)					≥480	6				
106-44-5	Cresol, p- in water solution (20 g/L)					≥480	6				
1319-77-3	Cresols, mixed	≥480	6	≥480	6						
98-82-8	Cumene					≥480	6				
506-77-4	Cyanogen Chloride (Gas, 1 atmos.)									≥480	6
110-82-7	Cyclohexane									≥480	6
108-91-8	Cyclohexylamine					82	3	≥480	6		
110-05-4	Di-tert-butyl peroxide					≥480	6				
328-84-7	Dichloro-4-(trifluoromethyl)benzene, 1,2-					≥480	6				
513-88-2	Dichloroacetone, 1,1-					≥480	6				
534-07-6	Dichloroacetone, 1,3-					≥480	6				
111-44-4	Dichlorodiethyl Ether, 2,2'-					≥480	6				
107-06-2	Dichloroethane, 1,2-			4	0	≥480	6			≥480	6
156-60-5	Dichloroethylene, trans-1,2-			2	0						
75-54-7	Dichloromethylsilane					20	1				
68334-30-5	Diesel			15	1	≥480	6				
111-42-2	Diethanolamine					≥480	6				
60-29-7	Diethyl Ether			Imm	0	2	0	≥480	6		
109-89-7	Diethylamine			Imm	0	2	0	≥480	6	≥480	6
111-40-0	Diethylenetriamine				-	≥480	6				

AlphaTec®

CHEMICAL PERMEATION DATA

		2300		3000		4000		5000		6000	
CAS Number	Chemical Name	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class
367-25-9	Difluoroaniline, 2,4-			≥480	6	≥480	6				
4525-33-1	Dimethyl Dicarbonate					≥480	6				
624-49-7	Dimethyl Fumarate			≥480	6	≥480	6				
77-78-1	Dimethyl Sulfate (DMA)			≥480	6	≥480	6				
75-18-3	Dimethyl Sulfide					3	0	≥480	6	≥480	6
67-68-5	Dimethyl Sulfoxide					≥480	6				
127-19-5	Dimethylacetamide, N,N-					≥480	6				
124-40-3	Dimethylamine (40% w/w)			≥480	6	≥480	6				
5683-33-0	Dimethylaminopyridine, 2-			57	2						
75-78-5	Dimethyldichlorosilane					234	4				
598-56-1	Dimethylethylamine, N,N-							≥480	6		
68-12-2	Dimethylformamide, N,N- (≥99.8% w/w)			≥480	6	≥480	6	≥480	6	≥480	6
123-91-1	Dioxane, 1,4-					≥480	6				
34590-94-8	Dipropylene Glycol Methyl Ether					≥480	6				
56-18-8	Dipropylenetriamine					≥480	6				
106-89-8	Epichlorohydrin			≥480	6	≥480	6	≥480	6		
64-17-5	Ethanol					≥480	6				
141-43-5	Ethanolamine			≥480	6	≥480	6				
563-12-2	Ethion					≥480	6				
141-78-6	Ethyl Acetate			3	0	≥480	6	≥480	6	≥480	6
109-90-0	Ethyl Isocyanate									≥480	6
56-38-2	Ethyl Parathion					≥480	6				
100-41-4	Ethylbenzene					≥480	6				
107-15-3	Ethylenediamine					≥480	6	≥480	6		
106-93-4	Ethylene Dibromide					≥480	6	≥480	6		
107-21-1	Ethylene Glycol			≥480	6	≥480	6				
75-21-8	Ethylene Oxide (Gas, 1 atmos.)				-	≥480	6	≥385	5	≥480	6
75-21-8	Ethylene Oxide (Liquid, ≤10 °C / ≤50 °F)				-	≥480	6				
149-57-5	Ethylhexanoic Acid, 2-			≥480	6	≥480	6				
7705-08-0	Ferric Chloride (45%)			≥480	6						
7705-08-0	Ferric Chloride (satd.)	≥480	6								
7758-94-3	Ferrous Chloride (satd.)	≥480	6								
462-06-6	Fluorobenzene					≥480	6	≥480	6		
50-00-0	Formaldehyde (10% w/w)	≥480	6				-				
50-00-0	Formaldehyde (37% w/w)			≥480	6	≥480	6				
64-18-6	Formic Acid (90% w/w)			≥480	6	≥480	6				
64-18-6	Formic Acid (98% w/w)			≥480	6						
98-01-1	Furfural			≥480	6	≥480	6				
121-75-5	Fyfanon					≥480	6				
68476-33-5	Gas Oil (SHELL "Heizoel HVS 300 CST")					≥480	6				
8006-61-9	Gasoline (Unleaded)			2	0	≥480	6				
142-82-5	Heptane, n-			Imm	0	≥480	6	≥480	6	≥480	6
87-68-3	Hexachloro-1,3-butadiene					≥480	6				
999-97-3	Hexamethyldisilazane					≥480	6				
124-09-4	Hexamethylene Diamine, 1,6-			≥480	6						
110-54-3	Hexane, n-			Imm	0	≥480	6	≥480	6	≥480	6
592-41-6	Hexene, 1-					≥480	6				
7803-57-8	Hydrazine Monohydrate (98%, containing hydrazine, 64-65% w/w)			≥480	6	≥480	6				
10035-10-6	Hydrobromic Acid (48% w/w)			≥480	6	≥480	6				
7647-01-0	Hydrochloric Acid (36-37%)			≥480	6	≥480	6				
7664-39-3	Hydrofluoric Acid (37%)					≥480	6				
7664-39-3	Hydrofluoric Acid (48-51%)	≥480	6								
7664-39-3	Hydrofluoric Acid (49%)			≥480	6						
7664-39-3	Hydrofluoric Acid (62-64% in urea)			41	2						
7664-39-3	Hydrofluoric Acid (70%)	39	2								
7664-39-3	Hydrofluoric Acid (71-75%)			273	5	≥480	6	≥480	6	≥480	6
16961-83-4	Hydrofluorosilicic Acid (34.5% w/w)					≥480	6				
7647-01-0	Hydrogen Chloride (Gas, 1 atmos.)			8	0	≥480	6	≥480	6	≥480	6
74-90-8	Hydrogen Cyanide (HCN)			<3	0	≥480	6	≥480	6	≥480	6
7664-39-3	Hydrogen Fluoride (Gas, anhydrous)					42	2	≥480	6	≥480	6
7664-39-3	Hydrogen Fluoride (Liquid, 17 °C / 63 °F)					190	4	≥480	6		
7722-84-1	Hydrogen Peroxide (35% w/w)			≥480	6	≥480	6	≥480	6		
7722-84-1	Hydrogen Peroxide (50% w/w)			≥480	6		-	≥480	6		
7783-06-4	Hydrogen Sulfide					≥480	6	≥480	6		
7553-56-2	Iodine			≥480	6						
67-63-0	Isopropyl Alcohol	≥480	6	≥480	6	≥480	6				
108-31-6	Maleic Anhydride					≥480	6				
7439-97-6	Mercury	≥480	6	≥480	6	≥480	6				
124-63-0	Methanesulfonyl Chloride					≥480	6		-		
67-56-1	Methanol	≥480	6	≥480	6	≥480	6	≥480	6	≥480	6
625-45-6	Methoxyacetic Acid, 2-			≥480	6						
79-22-1	Methyl Chloroformate					≥480	6				
78-93-3	Methyl Ethyl Ketone					≥480	6	≥480	6		
74-88-4	Methyl Iodide			≥480	6						

AlphaTec®

CHEMICAL PERMEATION DATA

		2300		3000		4000		5000		6000	
CAS Number	Chemical Name	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class
80-62-6	Methyl Methacrylate					≥480	6				
298-00-0	Methyl Parathion					≥480	6				
872-50-4	Methyl-2-pyrrolidone, N-			≥480	6	≥480	6				
75-09-2	Methylene chloride (Dichloromethane)			Imm	0	5	0	59	2	≥480	6
75-79-6	Methyltrichlorosilane					≥480	6				
54-11-5	Nicotine					≥480	6				
7697-37-2	Nitric Acid(70% w/w)			≥480	6	≥480	6				
7697-37-2	Nitric Acid (≥99.5%, white fuming)					≥480	6	≥480	6		
10102-43-9	Nitric Oxide					≥480	6	≥480	6		
98-95-3	Nitrobenzene			≥480	6	≥480	6	≥480	6	≥480	6
100-00-5	Nitrochlorobenzene, p- (88 °C / 190 °F)					≥480	6				
75747-77-2	Octave®			≥480	6						
5283-66-9	Octyltrichlorosilane					198	4				
8014-95-7	Oleum (20% w/w Sulphur Trioxide)			60	3	298	5	390	5	≥480	6
8014-95-7	Oleum (30% w/w Sulphur Trioxide)			21	1	80	3	108	3	≥434	5
8014-95-7	Oleum (40% w/w Sulphur Trioxide)					48	2	80	3	≥438	5
8014-95-7	Oleum (65% w/w Sulphur Trioxide)					17	1	35	2	193	4
144-62-7	Oxalic Acid (10%)			≥480	6						
79-37-8	Oxalyl Chloride					≥480	6				
64-17-5	Oxsilan 9810 (Analysis of ethanol component)			≥480	6						
N/A	Oxsilan Additive 9905			≥480	6						
92062-35-6	Paraffin			25	1	≥480	6				
7601-90-3	Perchloric Acid (30% w/w)			≥480	6						
108-95-2	Phenol (Liquid, 45 °C / 113 °F)			4	0	≥480	6	≥480	6		
108-95-2	Phenol (Liquid, 60 °C / 140 °F)					36	2	131	4	70	3
108-95-2	Phenol (liquified, approx. 90% w/w with water)			≥480	6	≥480	6	≥480	6		
108-95-2 (in 100-51-6)	Phenol/Benzyl Alcohol 25/5			≥480	6	≥480	6				
98-13-5	Phenyltrichlorosilane					≥480	6				
75-44-5	Phosgene (CG)					387	5				
7664-38-2	Phosphoric Acid (≥85% w/w)			≥480	6	≥480	6				
10025-87-3	Phosphorus Oxychloride			9	0	≥480	6	≥480	6		
10026-13-8	Phosphorus Pentachloride			≥480	6	≥480	6				
7719-12-2	Phosphorus Trichloride					≥480	6	≥480	6		
85-44-9	Phthalic Anhydride (Liquid, 135 °C / 275 °F)			≥480	6						
28324-52-9	Pinane Hydroperoxide					≥480	6				
7722-86-3	Piranha solution (sulfuric acid 96% w/w:hydrogen peroxide 30% w/w, 20:1 ratio), 80 °C / 176 °F			≥480	6		-				
75-98-9	Pivalic Acid			≥480	6	≥480	6				
25322-68-3	Polyethylene Glycol 200			≥480	6	≥480	6				
1310-58-3	Potassium Hydroxide (30%)			≥480	6						
1310-58-3	Potassium Hydroxide (80-86% w/v)			≥480	6						
7722-64-7	Potassium Permanganate (satd.)	≥480	6								
74-98-6	Propane (Liquid, -32 °C / -26 °F)									≥480	6
74-98-6	Propane (Liquid, -50 °C / -58 °F)									≥480	6
115-07-1	Propene					≥480	6				
123-38-6	Propionaldehyde			2	0	≥480	6				
79-09-4	Propionic Acid					≥480	6				
107-12-0	Propionitrile					≥480	6				
106-94-5	Propyl Bromide, n-					89	3	≥480	6		
107-10-8	Propylamine, n-							≥480	6		
75-56-9	Propylene Oxide					17	1	114	3		
110-86-1	Pyridine			17	1	≥469	5	≥480	6		
123-75-1	Pyrrolidine							≥480	6	234	4
91-22-5	Quinoline					≥480	6				
85-00-7	Reglone®			≥480	6	≥480	6				
52315-07-8	Ripcord®			≥480	6	≥480	6				
38641-94-0	Roundup®			≥480	6	≥480	6				
10026-04-7	Silicon Tetrachloride							≥480	6		
7681-38-1	Sodium Bisulphate (40%)			≥480	6						
7647-14-5	Sodium Chloride			≥480	6	≥480	6				
143-33-9	Sodium Cyanide (satd.)			≥480	6	≥480	6				
7681-49-4	Sodium Fluoride (satd.)			≥480	6	≥480	6				
207683-19-0	Sodium Hydrosulphide					≥480	6				
1310-73-2	Sodium Hydroxide (30% w/w)							≥480	6		
1310-73-2	Sodium Hydroxide (40% w/w)	≥480	6	≥480	6	≥480	6	≥480	6	≥480	6
1310-73-2	Sodium Hydroxide (50% w/w, 80 °C / 176 °F)			≥480	6	≥480	6				
1310-73-2	Sodium Hydroxide (50% w/w)	≥480	6	≥480	6	≥480	6	≥480	6	≥480	6
7681-52-9	Sodium Hypochlorite Solution (13±1% available chlorine)							≥480	6		
7681-52-9	Sodium Hypochlorite Solution (14.5% available chlorine)	≥480	6	≥480	6	≥480	6				
7681-52-9	Sodium Hypochlorite Solution (5% available chlorine)			≥480	6	≥480	6				

AlphaTec®

CHEMICAL PERMEATION DATA

		2300		3000		4000		5000		6000	
CAS Number	Chemical Name	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class	BT 1.0	EN Class
124-41-4	Sodium Methylate (30%)			≥480	6						
16893-85-9	Sodium Silicofluoride (satd.)			≥480	6	≥480	6				
100-42-5	Styrene			Imm	0	299	5	≥480	6		
7664-93-9	Sulphuric Acid (≥98% w/w)	≥480	6	≥480	6	≥480	6				
7664-93-9	Sulphuric Acid (50% w/w, 80 °C / 176 °F)			≥480	6	≥480	6				
7664-93-9	Sulphuric Acid (50% w/w)					≥480	6				
7664-93-9	Sulphuric Acid (93.1% w/w)									≥480	6
7664-93-9	Sulphuric Acid (95-96% w/w)	≥480	6	≥480	6	≥480	6	≥480	6	≥480	6
7446-09-5	Sulphur Dioxide					≥480	6				
7446-11-9	Sulphur Trioxide					18	1				
306-83-2	SUVA HCFC-123 (1,1-Dichloro-2,2,2-trifluoroethane)			251	5	380	5				
1634-04-4	t-Butyl Methyl Ether			1	0	≥480	6				
25103-58-6	tert-Dodecyl Mercaptan					≥480	6				
127-18-4	Tetrachloroethylene					≥480	6	≥480	6	≥480	6
78-00-2	Tetraethyl Lead					≥480	6				
109-99-9	Tetrahydrofuran			Imm	0	3	0	≥480	6	≥480	6
75-59-2	Tetramethylammonium Hydroxide (20% w/w)			≥480	6						
75-59-2	Tetramethylammonium Hydroxide (satd.)					≥480	6				
110-18-9	Tetramethylethylenediamine, N,N,N',N'-							≥480	6		
7719-09-7	Thionyl Chloride			Imm	0	2	0	17	1	18	1
1758-73-2	Thiourea Dioxide (satd.)			≥480	6	≥480	6				
7550-45-0	Titanium Tetrachloride			7	0	≥480	6	≥473	5		
108-88-3	Toluene			Imm	0	≥480	6	≥480	6	≥480	6
584-84-9	Toluene-2,4-diisocyanate			≥480	6	≥480	6				
95-53-4	Toluidine, o-			≥480	6	≥480	6				
36768-62-4	Triacetonediamine					≥480	6				
76-03-9	Trichloroacetic Acid (59 °C / 138 °F)			≥480	6	≥480	6				
79-01-6	Trichloroethylene			2	0	7	0	≥480	6		
121-44-8	Triethylamine			Imm	0	5	0	≥480	6		
76-05-1	Trifluoroacetic Acid			≥480	6						
1493-13-6	Trifluoromethanesulfonic Acid					≥480	6	≥480	6		
108-05-4	Vinyl Acetate					≥480	6				
2177-18-6	Vinyl Acrylate			3	0	≥480	6				
1592-20-7	Vinylbenzyl Chloride 4-					≥480	6				
100-43-6	Vinylpyridine, 4-				-		-	≥480	6	≥480	6
108-38-3	Xylene, m-			2	0	≥480	6				
106-42-3	Xylene, p-			Imm	0		-		-		
1477-55-0	Xylylenediamine, m-				-	≥480	6				
7699-45-8	Zinc Bromide (satd.)			≥480	6						

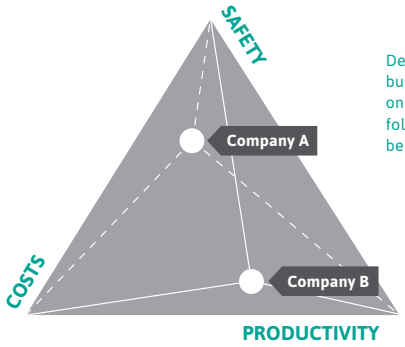
The chemical database is available online and features permeation resistance for a wide range of chemicals, including the ASTM F1001 and EN ISO 6529 recommended list of challenge chemicals.

For up to the minute chemical permeation data visit: www.ansellguardianpartner.com

Ansell **GUARDIAN**®
PARTNER

FOCUS ON SAFETY TO IMPROVE YOUR BUSINESS PERFORMANCE

Ansell Guardian® Partner is our proprietary service to help companies select the right personal protective equipment solution to improve their safety, productivity and cost performance.



Depending on the business objectives, one or more of the following solutions will be deployed.

An integrated approach

Ansell Guardian® partners with industrial and medical organisations to address the challenges in today's PPE environment and deliver measurable safety and business improvements.

Safety/compliance

Personalised risk management solutions (industrial and chemical) and data-driven recommendations

Increased safety and compliance

Productivity

Best practice recommendations to optimise PPE dispensing, improve output and eliminate waste

Improved productivity

Costs

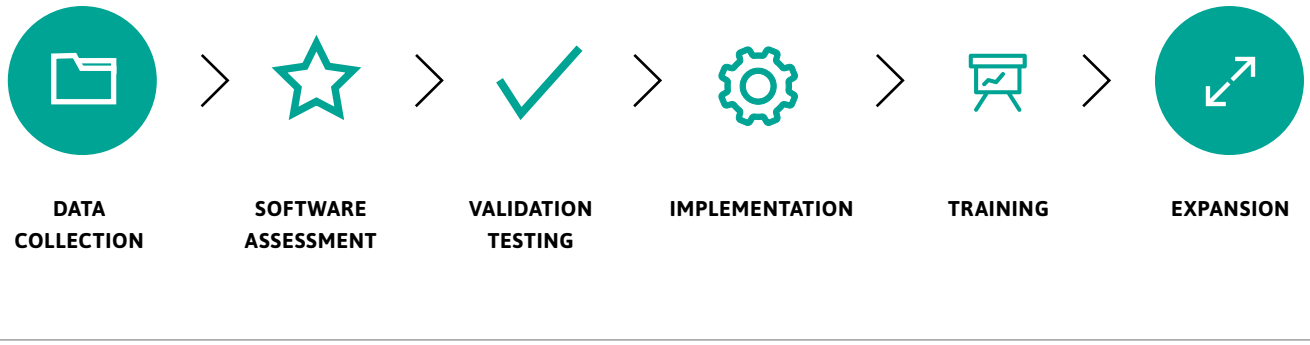
Business performance improvement/ implementation across 7 cost drivers that measure financial progress

Lower costs

For more information on Ansell Guardian® Partner, please visit **www.ansellguardianpartner.com**

What's the process?

By focusing on the most relevant areas, Ansell Guardian® Partner can deliver best practice recommendations with the most impact for our customers' businesses. Our solutions can be implemented within a single application or entire site, locally or globally. We have the capability to consolidate data around different sites.



Proof points

Experience: More than 12.000 assessments conducted since 2010.
Results: Since July 2014, our recommendations have resulted in injury, reductions on an average of 65%, customers have decreased product styles by an average of 25%, and we have saved companies a total of $148 million, a $65,000 average.
Global: We operate in more than 55 countries.
Technology: Industry pioneer with the most advanced and proprietary technology and analytics.

Our operating principles

Partnership: While supplying safety solutions, we share our expertise to analyse, benchmark, implement and improve PPE-related operations and performance.
Adaptation: No matter what business, industry or application, we tailor and adapt solutions based on data-driven analytics.
Transformation: Full implementation of our recommendations to ensure the success of PPE change management initiatives.

Safety and Compliance

Ansell Guardian® helps our customers to improve worker safety and ensure compliance with safety regulations among the workforce.

- **Reduced injuries by 65%***
- **Reduced 6,400 major recordable injuries***
- **Reduced 9,200 first-aid injuries***

Productivity

Ansell Guardian® helps our customers to find the right PPE solution that allows for increased efficiency, better performance and improved productivity.

- **Decreased 2,100 references***
- **Decreased product styles by 25%***
- **Decreased SKUs by 10%***

Costs

Ansell Guardian® Partner helps our customers to reduce injuries and follow-up costs, thus optimising your cost performance.

- **24% cost decrease by standardisation***
- **$6.24 million savings in injury reduction***
- **$148 million total savings***

* Data based upon Ansell Guardian® global surveys since 2014. Final results may vary
Source: Ansell Guardian® global surveys database since 2014.

For more information on Ansell Guardian® Partner, please visit **www.**

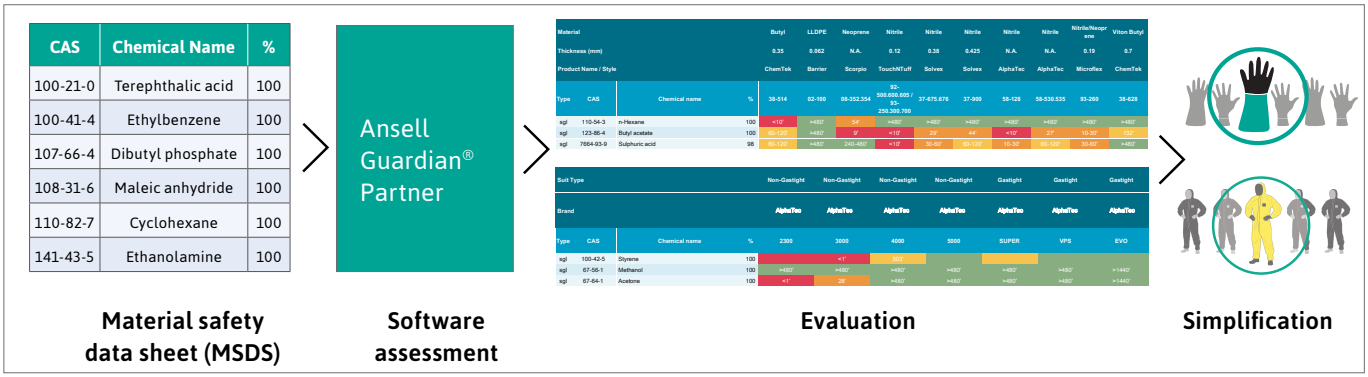
AnsellGUARDIAN® PARTNER

CHEMICAL GLOVE AND SUIT SELECTION SIMPLIFIED

Ansell Guardian® Partner simplifies the glove and suit selection process for your unique set of chemicals.

How Ansell Guardian® Partner works

Our digital tool evaluates the resistance of glove and suit materials against your chemicals to offer a risk assessment with expected permeation breakthrough times. This assessment can either be carried out during a personal consultation with one of our Ansell Guardian® Partner specialists or online by using our chemical permeation database. As a result, selecting the right chemical glove and suit has never been easier.



Your benefits

Safety | **Performance** | **Compliance**

An optimal solution for selecting the right chemical glove and suit

- Estimated permeation breakthrough times and degradation of gloves material after chemicals exposure
- Confidence that goes with knowing you are always selecting the right chemical product
- A comprehensive range of gloves and suits to cover workers' needs across different industries and applications
- Global sales, business support and availability of technical documentation

For more information on Ansell Guardian® Partner, please visit **www.ansellguardianpartner.com**

PERSONALISED CHEMICAL ASSESSMENT ANYTIME

Ansell Guardian® Partner tool evaluates the resistance of glove and suit materials with your chemicals to offer a personalised assessment with expected permeation breakthrough times. The Ansell Guardian® database contains over 30,000 single and mixed chemicals. Over the past four years, our chemical experts have conducted over 50,000* assessments.

Gloves

Material				Butyl	LLDPE	Neoprene	Nitrile	Nitrile	Nitrile	Nitrile	Nitrile	Nitrile/Neoprene	Viton Butyl
Thickness (mm)				0.35	0.062	N.A.	0.12	0.38	0.425	N.A.	N.A.	0.19	0.7
Product Name / Style				ChemTek	Barrier	Scorpio	TouchNTuff	Solvex	Solvex	AlphaTec	AlphaTec	Microflex	ChemTek
Type	CAS	Chemical name	%	38-514	02-100	08-352.354	92-500.600.605 / 93-250.300.700	37-675.676	37-900	58-128	58-530.535	93-260	38-628
sgl	110-54-3	n-Hexane	100	<10'	>480'	54'	>480'	>480'	>480'	>480'	>480'	>480'	>480'
sgl	123-86-4	Butyl acetate	100	60-120'	>480'	9'	<10'	29'	44'	<10'	27'	10-30'	132'
sgl	7664-93-9	Sulphuric acid	98	60-120'	>480'	240-480'	<10'	30-60'	60-120'	10-30'	60-120'	30-60'	>480'

Permeation Breakthrough Times (min)	
<10	Not Recommended
10-30	Splash Protection
30-60	Splash Protection
60-120	Medium Protection
120-240	Medium Protection
240-480	Good Protection
>480	Good Protection

Clothing

Suit Type				Non-Gastight	Non-Gastight	Non-Gastight	Non-Gastight	Gastight	Gastight	Gastight
Brand				AlphaTec	AlphaTec	AlphaTec	AlphaTec	AlphaTec	AlphaTec	AlphaTec
Type	CAS	Chemical name	%	2300	3000	4000	5000	SUPER	VPS	EVO
sgl	100-42-5	Styrene	100	<1'		303'				
sgl	67-56-1	Methanol	100	>480'	>480'	>480'	>480'	>480'	>480'	>1440'
sgl	67-64-1	Acetone	100	<1'	28'	>480'	>480'	>480'	>480'	>1440'

Permeation Barrier Performance
No Barrier
Splash/limited barrier
Medium barrier
Good barrier

Permeation breakthrough times - $BT_{1.0}$

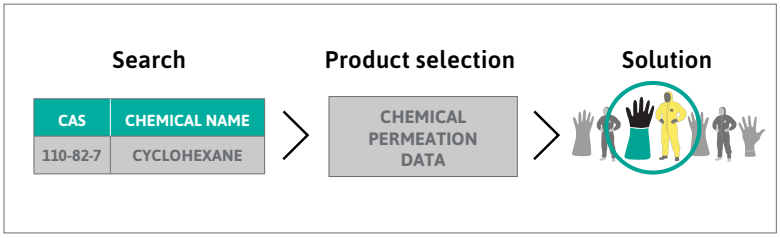
The $BT_{1.0}$ is the time taken (in minutes) for the chemical in question to be permeating through the material at a rate of 1.0 µg cm^{-2} min^{-1}. This can be determined using any of the following standard test methods: EN 374-3 and ISO 6529. It is commonly utilised mainly within the regions concerned with the EN and ISO standards.

Disclaimer: Permeation breakthrough times evaluate the time necessary for a chemical to pass through a glove or suit material. Recommendations are based on extrapolations from laboratory test results and information regarding the composition of chemicals and may not adequately represent specific conditions of end use. Synergistic effects of mixing chemicals have not been accounted for. For these reasons, and because Ansell has no detailed knowledge of or control over the conditions of end use, any recommendation must be advisory only and Ansell fully disclaims any liability including warranties related to any statement contained herein.

NEW DIGITAL SOLUTION

Powerful NEW digital tool allows easy access to chemical permeation data for hazardous substances, including ASTM, EN and ISO standardised lists of challenge chemicals.

Our new digital solution is designed to simplify the selection of Ansell hand and body protection solutions. This tool offers an instant visual evaluation and an easy-to-use search functionality including the unique Chemical Abstracts Service (CAS) number system. For specific chemical protection challenges, an expert assessment is also available to provide a simplified set of choices, drawn from our broad portfolio of chemical protection solutions.



For up-to-the-minute chemical permeation data, please visit: **www.ansellguardianpartner.com** (hand and body protection)

* Source: Ansell Guardian chemical database since 2014.

Product overview: Body Protection

Type 5 and 6	
1500	Model 100, 101, 106, 113, 138
1500 Accessories	Model 422
1500 PLUS FR	Model 103, 111
1500 PLUS	Model 103, 107, 111, 147
1500 PLUS Accessories	Model 204, 206, 208
1600 PLUS	Model 111
1800 COMFORT	Model 195
1800 STANDARD	Model 103, 111, 147
1800 Ts PLUS	Model 103, 111, 122, 156
2000	Model 103, 107, 111, 113, 122, 147, 156, 162
2000 COMFORT	Model 129, 177
2000 Ts PLUS	Model 103, 107, 111, 122, 128, 156
2000 Accessories	Model 209, 213, 214, 219, 226, 232, 233, 301, 400, 401, 406, 407, 417, 503, 507, 600
2300 STANDARD	Model 103, 111, 122, 147, 156
2300 COMFORT	Model 129
2300 Accessories	Model 214, 232, 600
2500 STANDARD	Model 111, 122
2500 PLUS	Model 111, 122
2500 Accessories	Model 203, 213, 400, 406, 407, 409, 503, 507, 600
FR	Model 111
Type 3 and 4	
2300 PLUS	Model 111, 132
3000	Model 103, 111, 121, 122, 162
3000 Accessories	Model 201, 213, 214, 215, 301, 400, 406, 507, 508, 600
4000	Model 103, 111, 121, 122, 125, 126, 132, 162, 151-G00 & G02, 185
4000 Accessories	Model 212, 215, 230, 301, 406, 510, 516, 600
5000	Model 103, 111, 121-G02, 122, 125-G02, 151-G00 & G02, 164, 186, 198
66-300	Model 111, 111-G09, 122 122-G09, 122W-G09
66-310	Model 111
66-320	Model 146, 146-G09, 151, 151-G09, 156, 156-G09
5000 AVANT	521 AVANT AIRline Hood
2500 PLUS PAPR	700, 701, 704, 705
3000 PAPR	700, 701, 704, 705
3000 AIRline	750, 752
3000 AVANT AIRline	754, 755
3000 AVANT$_2$ AIRline	756, 757
4000 PAPR	701, 704, 705
4000 AIRline	750, 752
4000 AVANT AIRline	754, 755
4000 AVANT$_2$ AIRline	756, 757
CFR	103, 111
Type 1	
EVO	CV, VP1, T
FLASH	CV, VP1, T
SUPER	CV, VP1, T, FREEFLOW
Trainer	CV, VP1, T
VPS	CV, VP1, T
LIGHT	CV, VP1, T, FREEFLOW
6000	(MICROCHEM® Branded)
Trainer	CV, VP1, T (Training use only, not a certified product)

Ventilated / airfed protection	
EN 12941 - Powered filtering respiratory device compatible protective clothing	
2500 PLUS PAPR	Model 700, 701, 704, 705 (MICROGARD® Branded)
3000 PAPR	Model 700, 701, 704, 705 (MICROCHEM® Branded)
4000 PAPR	Model 700, 701, 704, 705 (MICROCHEM® Branded)
EN 1073-1 Ventilated protective clothing	
2500 PLUS AIRline	Model 750, 752 (MICROGARD® Branded)
3000 AVANT$_2$ AIRline	Model 756, 757 (MICROCHEM® Branded)
4000 AVANT$_2$ AIRline	Model 756, 757 (MICROCHEM® Branded)
EN 1073-1 : Ventilated protective clothing EN 14594 : Continuous flow compressed airline respiratory protection	
3000 AIRline	Model 750, 752 (MICROCHEM® Branded)
4000 AIRline	Model 750, 752 (MICROCHEM® Branded)
3000 AVANT AIRline	Model 754, 755 (MICROCHEM® Branded)
4000 AVANT AIRline	Model 754, 755 (MICROCHEM® Branded)
5000 AVANT AIRline	Model 521 Hood
EN 943-1 Type 1c	
FREEFLOW SUIT	LIGHT, SUPER

Contaminated water diving products	
VIKING	HAZTECH
	HD
	HDS
	PRO
	PROTECH II
	SRS
	VSN
	VTS
	WRS
	WRS-D
	XT500
	Commercial overboots
	Neoprene semi-dry gloves

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WARNING: Products that provide "cut resistance" and "cut protection" or "puncture resistance" and "puncture protection" do not completely prevent or eliminate the potential for cuts or punctures, and are not intended or tested to provide protection against powered blades serrated or other sharp or rotating equipment. Products that provide vibration resistance, "abrasion resistance" or "abrasion protection" do not completely prevent or eliminate the potential for vibration or abrasion-related injuries. Products that provide chemical resistance" or "chemical protection" do not completely prevent or eliminate the potential for injury due to chemical exposure. Products that provide "resistance" to oil or grease or which are "oil repellant" do not completely prevent or eliminate the potential for oil or liquid penetration or absorption. Products that provide "snag resistance" or "snag protection" do not completely preventor eliminate the potential for snags or friction-related injuries. Products that provide protection against sparks or flames are not "fireproof" and do not completely prevent or eliminate the potential for burns or associated injuries. Products that provide protection or resistance against heat or cold are not intended for use in extreme temperatures – use only as specified. Products containing natural rubber latex may cause allergic reactions in some individuals.
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