

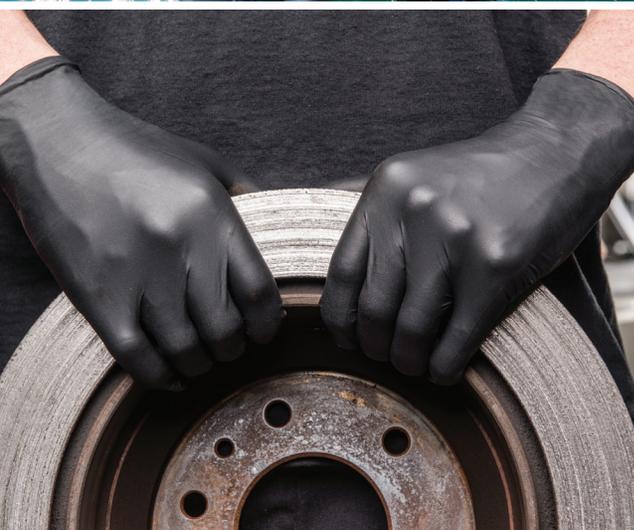


PROTECTION SOLUTIONS CATALOG

CBRN / MILITARY

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

**Ansell**



## ABOUT ANSELL

Ansell is a leading global provider of protection solutions. Our company designs, develops and manufactures a wide range of protection solutions that meet the ever-changing needs and demands of our valuable end users. Protecting people while they work in hazardous environments has always been our focus, and users around the world depend on Ansell in their professional and personal lives.

The threats posed by a potential CBRN (chemical, biological, radiological, nuclear) incident - whether caused by accident or by a deliberate attack – are constantly evolving. For military as well as civil defense units including armed and Special Forces, national home guard organisations, coast guard and CBRN defense units around the world, it is a continuous challenge to keep up with this development. Not only does it require knowledge, capability, preparedness and training to be able to meet the threat. The military professionals that must deal with these kinds of incidents and substances – as first, second or third responders – also need proper protection! This catalog will mainly cover Chemical and Biological agents and personal protective equipment (PPE) that protects against these hazards. PPE for Radiological and Nuclear materials will be mentioned but is outside the main product focus of Ansell.

Ansell manufactures specialist protective hand and body protection, including an extensive portfolio of gloves, chemical suits and diving suits to keep you protected in the toughest of situations. Our VIKING™ diving suits offer protection underwater along with the critical non-magnetic profile required for mine clearance missions. Protecting people while they work in hazardous environments will always be our focus. These professionals, who are often in the front-line, demand and deserve the best possible protection available. We at Ansell want you to feel confident to **prepare to respond** on every call.

Every day millions of people around the world rely on our renowned brands AlphaTec®, VIKING™, RINGERS® and MICROFLEX®.

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## COMPLYING WITH PERSONAL PROTECTIVE EQUIPMENT REGULATION

In February 2016, the European Council and European Parliament amended and approved a PPE Regulation by the European Commission - Regulation 2016/425.

The regulation applies to professional as well as private use and to distributors selling PPE products. It provides additional conformity assessment requirements, such as the need for an internal production control system and valid type examination certificates for a maximum of 5 years. The regulation also provides specific requirements for every economic operator involved in the supply chain, as well as additional documentation requirements linked to the instructions for use and conformity declarations.

The PPE regulation specifies three categories based on risk definitions.



### PPE Category I

Minimal risk

For PPE of simple design offering protection from low-level risks, manufacturers are permitted to test and certify PPE themselves.

### PPE Category II

Risks other than those listed in Categories I and III

PPE designed to protect against intermediate risk must be subjected to independent testing and certification by a notified body. Only these notified bodies may issue a CE mark. Without a proper CE mark, the PPE may not be sold or used. Each notified body has its own identification number. The name and address of the notified body that certifies the product must appear on the instructions for use that will accompany the PPE.



### PPE Category III

Very serious risks, which may cause death or irreversible damage to health

PPE designed to protect against the highest levels of risk (e.g., chemicals, biological agents, electric shock and live working) must also be tested and certified by a notified body. In addition, the quality assurance system used by the manufacturer to guarantee homogeneity of production must be independently checked. The body carrying out this evaluation must also appear on the instructions for use and be identified by a number that appears alongside the CE mark. In this example, the number 0493 represents Centexbel.

## COMPLYING WITH OTHER REGULATIONS

### Ansell and REACH

All Ansell products fully comply with the legal requirements of REACH and its amendments. We ensure the pre-registration of all required chemicals used in our products and are actively looking for ways to replace SVHC chemicals subject to regulation, prior to their restriction or ban.

The Ansell REACH statement can be found on our website and more information is available through the Ansell customer service or regulatory department.

### Authorised Economic Operator (AEO) Certification

Ansell Healthcare Europe has been granted AEO as the company is demonstrating the standards for customs compliance, appropriate recordkeeping, financial solvency and, where relevant, appropriate security and safety standards. This certification identifies Ansell as a reliable partner in all our dealings with other companies, but more particularly with customs locally and abroad, speeding up our supply chain with less controls, making it safer as more companies prioritise on inspections and permit requests as well as mutual recognition with C-TPAT, the US' Customs-Trade Partnership Against Terrorism.

## GUIDE TO EUROPEAN STANDARDS FOR CHEMICAL PROTECTIVE APPAREL

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).

EU Certification of a particular type offers an indication of your suit's protection against a particular hazard (e.g. gas/vapor, 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. For first responders to hazardous chemical incidents there is a specific standard, EN 943-2 that is applicable for the highest level of chemical protection. This standard specifies higher mechanical requirements compared to EN 943-1 and requires chemical permeation testing with a minimum list of 15 aggressive chemicals. For top level chemical protection, AlphaTec® suits are certified to the latest edition of these standards i.e. EN 943-1:2015+A1:2019 and EN 943-2:2019. For more information contact your Ansell representative.

Other than EU standards there are US Standards issued by the National Fire Protection Association for hazardous chemical emergencies (hazmat) response e.g. the NFPA 1991 as incorporated in NFPA 1990, which is considered the most demanding chemical protection standard in the world.

Current European Types Of Chemical Protective Clothing including Diving Suits		
Symbol*	EN Types	Definition
	<b>EN 943-1 and 2</b> Type 1	<b>Gas-tight chemical protective apparel</b> Protective apparel against liquid and gaseous chemicals, aerosols and solid particulates
	Type 1a	› <b>Gas-tight encapsulating, self-contained breathing apparatus inside the suit</b>
	Type 1a-ET	› <b>Type 1a for emergency teams</b>
	Type 1b	› <b>Gas-tight non-encapsulating, self-contained breathing apparatus outside the suit</b>
	Type 1b-ET	› <b>Type 1b for emergency teams</b>
	Type 1c	› <b>Gas-tight, with breathable air supplied via continuous flow airline</b>
	<b>EN 14605</b> Type 3	<b>Liquid-tight protection</b> Suits which can protect against strong and directional jets of liquid chemicals
	<b>EN 14605</b> Type 4	<b>Spray-tight protection</b> Suits which offer protection against saturation of liquid chemicals
	<b>EN ISO 13982-1</b> Type 5	<b>Dry-particulate protection</b> Suits which provide protection to the full body against airborne solid particulates
	<b>EN 13034</b> Type 6	<b>Reduced-spray protection</b> Suits which offer limited protection against a light spray of liquid chemicals
	<b>EN 14225-2</b>	<b>Diving suits, dry suits</b> Construction and performance of dry suits for wear by divers for underwater activities. Optional requirements for added chemical and biological protection

Other European Standards relevant to AlphaTec® Chemical Protective Clothing including Diving Suits		
Symbol*	EN Types	Definition
	<b>EN 1073-1**</b>	Ventilated protective apparel against radioactive particulate contamination
	<b>EN 1073-2**</b>	Non-ventilated protective apparel against radioactive particulate contamination
	<b>EN 14126</b>	Protective apparel against infective agents (Type suffixed with "-B" – e.g. Type 3-B) indicates approval to this European norm
	<b>EN 1149-5</b>	Protective apparel with electrostatic properties***
<b>FR</b>	<b>EN ISO 14116</b>	Protective apparel – limited flame spread materials, material assemblies and clothing
	<b>EN 12941</b>	Respiratory protective devices – powered filtering devices incorporating a helmet or a hood

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 catalog to assist you with selecting the correct product, but responsibility for the correct choice of PPE remains with the user.

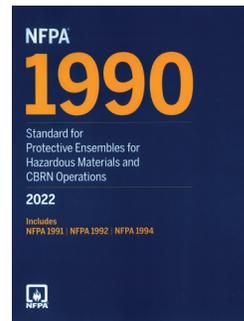
\* Ansell representation of symbols, imagery not defined by EN standards. Type approvals do not necessarily apply to accessories. Always refer to the garment label and instructions-for-use document which will indicate the protection level offered.

\*\* Gives no protection against ionising radiation.

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

## GUIDE TO NFPA STANDARDS

The National Fire Protection Association (NFPA) issues standards on chemical protective clothing (CPC) for hazmat teams, first responders etc. Because of the intended areas of use these standards are typically more demanding than the European CEN standards for chemical protective apparel. The NFPA series of standards for use by emergency responders during hazardous materials emergencies and CBRN terrorism incidents, has undergone a review and is now available as a “bundle standard”, namely the NFPA 1990 edition 2022 but the individual standards references NFPA 1991, 1992 and 1994 will still be used to designate and discriminate between the ensembles and the levels of protection they provide respectively. The standards may be linked to and used for the protection required by the EPA/OSHA levels A-D.



NFPA 1991 level of 1990 Standard on Vapor-Protective Ensembles for Hazardous materials Emergencies and CBRN terrorism incidents	NFPA 1994 level of 1990 Standard on Protective Ensembles for Hazardous Materials Emergencies and CBRN Terrorism Incidents
<p>The standard specifies the requirements for vapor protective ensembles intended to offer the highest level of chemical protection and the ensemble is designed to protect emergency response personnel during hazardous material emergencies and CBRN terrorism incidents from specific chemicals in a vapor or liquid splash environment. This level corresponds to EPA/OSHA level A.</p> <p>NFPA 1991 ensembles are designed to be used with self-contained breathing apparatus (SCBA) in immediately dangerous to life and health (IDLH) environments.</p> <p>These are fully encapsulating suits that cover both the wearer and the respirator. Some key NFPA 1991 requirements include:</p> <ul style="list-style-type: none"> <li>• highest MIST (Man-in-Simulant Tests) protection factor requirement</li> <li>• barrier criteria permeation testing after flexing plus abrasion at 32°C</li> <li>• testing of materials and seams to a broad range of chemicals, including TICs and CWAs with levels at 100% concentration over 1-hour period</li> <li>• optional criteria for liquefied gas exposure and chemical flash fire (Pyroman™).</li> </ul> <p>The above makes the NFPA 1991 the most demanding standard for chemical protective clothing in the world.</p> <p><b>Ansell certified products include products AlphaTec® EVO and FLASH.</b></p>	<p>The NFPA 1994 specifies minimum performance requirements for hazardous materials emergencies and CBRN terrorism incidents for a series of 5 protection levels. These range from for high vapor/liquid protection level to solid particulates. It can be noted that the overall top level of protection is still specified by NFPA 1991. NFPA 1994 classes 2-4 have additional option requirements for ruggedness (-R) and stealth.</p>

NFPA 1992 level of 1990 Standard on Liquid Splash-Protective Ensembles and Elements for Hazardous Chemical Emergencies
<p>This standard specifies the requirements for liquid splash–protective ensembles i.e., not intended for protection from gases or vapors. The standard covers full ensembles and separate garments, gloves, and footwear. The materials are tested for penetration barrier against a range of “industrial” type of chemicals i.e. excluding any warfare agents and excluding highly toxic and high vapor pressure liquids producing hazardous vapors. NFPA 1992 is an ensemble standard but it also allows for certification of separate ensemble elements (hood, garment, glove or footwear).</p> <p><b>Ansell certified products include AlphaTec® 4000 Models 111, 121, 122, 125, 151 G00 &amp; G02.</b></p>

NFPA Hazmat / CBRN Ensembles					
	NFPA 1991	NFPA 1994 Class 1	NFPA 1994 Class 2	NFPA 1994 Class 3	NFPA 1992
<b>Scope</b>	CBRN / Hazmat Response – Vapor	CBRN / Hazmat Response – Vapor	CBRN / Hazmat Response – Vapor	CBRN / Hazmat Response – Liquid	Hazmat Response – Liquid
<b>Design</b>	Encapsulating	Encapsulating Non-Encapsulating	Encapsulating Non-Encapsulating	Encapsulating Non-Encapsulating	Encapsulating Non-Encapsulating
<b>Respirator</b>	SCBA	SCBA	SCBA	CBRN PAPR or SCBA	CBRN SCBA, PAPR or APR
<b>Garment integrity criteria</b>	Pressure Test MIST Inward leakage PPDF <sub>i</sub> >1071 “Shower test” 60min	Pressure Test MIST Inward leakage PPDF <sub>i</sub> >871 “Shower test” 20min	MIST Inward leakage PPDF <sub>i</sub> >481 “Shower test” 20min	MIST Inward leakage PPDF <sub>i</sub> >80 “Shower test” 8min “Shower test” 20 min	“Shower test” 20 min
<b>Options</b>	Overall Flash fire Liquefied gas protection	Overall Flash fire	Overall Flash fire	Overall Flash fire	Overall Flash fire
<b>Challenge chemicals</b>	24 Industrial/TICs 2 CWA (HD, GD)	10 Industrial/TICs CWA (HD, GD)	5 Industrial/TICs 2 CWA (HD, GD)	5 Industrials/TICs CWA (HD, GD)	10 Industrial
<small>TIC's = Toxic Industrial Chemicals    CWA = Chemical Warfare Agents    MIST = Man in Simulant Test    PPDF = Physiological Protective Dosage Factor                      NFPA 1994 class 4 (particulate protection) and class 5 (liquid repellent FR ensemble) omitted here</small>					

## AlphaTec® Against CBRN

CBRN are weaponized or non-weaponized materials that, if released, can cause great harm and pose significant threats. CBRN warfare agents were originally developed for use in war but the risk of such agents and other hazardous materials being used in an act of terrorism is a potential threat today.

A chemical attack is the spreading of toxic chemicals with the intent to do harm. A wide variety of chemicals could be made, stolen or otherwise acquired for use in an attack. Harmful chemicals that could be used in an attack include:

- Chemical weapons (warfare agents, CWAs) developed for military use. Example: Sarin, VX.
- Toxic industrial chemicals (TICs) and commercial chemicals. Example: acrolein, dimethyl sulfate.
- Chemical toxins of biological origin. Example: ricin.

CWA contaminate in different ways, such as through skin contact (e.g. mustard gas) or skin/inhaling (e.g. VX). TICs can be chemical hazards (e.g. carcinogens, reproductive hazards, corrosives or agents that affect the lungs or blood) or physical hazards (e.g. flammable, combustible, explosive or reactive).

**Biological warfare or terrorism agents** include any pathogen (bacterium, virus or other disease-causing agent) or biotoxin (poisonous substance produced by a living organism) that can be used in an attack against humans, plants or animals to cause illness, death, fear, societal disruption and economic damage.

Examples of biological warfare agents:

- Anthrax (bacteria)
- Plague (bacteria)
- Ricin (plant toxin)

The AlphaTec® product range include suits that have been tested against infective agents according to the EN 14126 standard. All tested suits provide the highest level of protection class. Also, the biological protection can be assumed from the extensive chemical testing which is part of NFPA 1991 and 1994 classes 1 and 2 which define chemical barrier materials that will be efficient also against biological agents.

**Radioactive materials** are in daily use in laboratories, medical centers, food irradiation plants, and for industrial uses. If stolen or otherwise acquired, many of these materials could be used in a “radiological dispersal device” (RDD). One type of RDD is the “dirty bomb”, which uses a conventional explosion to disperse radioactive material over a targeted area.

The AlphaTec® product range include suits that provide protection against radioactive particulate contamination (e.g. contaminated dust) and are certified to the EN 1073-1 or -2 standard for protective apparel against radioactive particles contamination. The EN 1073-2 standard was developed with the nuclear industry in mind, but does not provide any criteria for protection against ionizing radiation (e.g. gamma rays and X-rays). Also, particulate protection can be assumed from the extensive chemical testing which is part of NFPA 1991 and 1994 classes 1-3 which define chemical barrier materials that will be efficient against radioactive particulate contamination.

## Chemical Barrier Testing - USA / NFPA vs Europe / EN

The US NFPA standards differ from the European standards in several aspects. The European series of standards for chemical protective clothing were developed for industrial and general-purpose chemical protection and are “harmonized” to form part of the regulatory framework for workplace safety and the “single market” of the European Union.

The NFPA series of standards provide criteria primarily for responders to hazardous materials accidents, “hazmat”, and CBRN terrorism. However, it could be noted that the European EN 943-2 is also aimed specifically at hazmat response. At a first glance, test methods and in particular permeation testing is done according to the same principles globally but looking at the chemical barrier criteria specified in the product standards a number difference can be found. A few key ones highlighted below.

Looking at the European chemical protective apparel types 1-6 it must be noted that the requirements and test methods are different, so it is not possible to relate them directly to each other.

Chemical permeation testing	US Product Standard NFPA 1991 (1990)	European Product Standard EN 943-2:2019
Permeation criteria based on	6 µg/cm <sup>2</sup> cumulative (less for CWA)	1.0 µg/cm <sup>2</sup> /min breakthrough or 150 µg/cm <sup>2</sup> cumulative
Minimum time requirement	60 minutes	30 minutes (1 exception allowed)
Number of mandatory test chemicals	24 pcs incl CWA	15 pcs, no CWA
Test temperature	+32°C	23°C
Mandatory flexing + abrasion specimen pre-treatment	Yes	No

## GUIDE TO EUROPEAN AND US STANDARDS FOR PROTECTIVE GLOVES

All Ansell gloves and sleeves which are sold conform to a wide array of standards such as ANSI and the European Union's Personal Protective Regulation (EU 2016/425).

### EN 388 – Mechanical Protection

This standard applies to all kinds of protective gloves in respect of physical and mechanical aggressions caused by abrasion, blade cut, puncture & tearing.

Performance level rating		1	2	3	4	5
 EN 388:2016 abcd	<b>a</b> Abrasion Resistance (Cycles)	100	500	2000	8000	–
	<b>b</b> Blade Cut Resistance (Coupe Test/Index)	1.2	2.5	5.0	10.0	20.0
	<b>c</b> Tear Resistance (Newtons)	10	25	50	75	–
	<b>d</b> Puncture Resistance (Newtons)	20	60	100	150	–

Expanded performance level rating according to EN 388:2016 (a–f)		A	B	C	D	E	F
 EN 388:2016 abcdef	<b>e</b> EN ISO Cut Resistance (Newtons)	2	5	10	15	22	30
	<b>f</b> EN Impact Protection	PASS or FAIL					

Note: Level X can also be applied for a through e above, which means “not tested” or “not applicable”

### Cut Resistance

 ANSI A1 CUT	When tested in accordance with ASTM F2992-15, the glove's cut resistance shall be classified ANSI/ISEA 105-2016 against the levels listed in below, using the weight needed to cut through the material with 20 mm of blade travel. The average of a minimum of 3 samples shall be used to report the classification level.
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Level	A1	A2	A3	A4	A5	A6	A7	A8	A9
<b>Weight (grams) needed to cut through material</b>	≥200	≥500	≥1000	≥1500	≥2200	≥3000	≥4000	≥5000	≥6000

### EN ISO 374 – Chemical Protection and/or Protection against Micro-organisms

This standard specifies the capability of gloves to protect the user against chemicals and/or micro-organisms.

Micro-organisms	Performance levels	1	2	3
 EN 374:2016	AQL (Acceptable Quality Level) for liquid penetration. A high index number is poor and a low index number is good. Gloves need to pass water and air leak test.	4.0	1.5	0.65
 EN ISO 374-5:2016 VIRUS	In addition to testing for protection from bacteria and fungi, each glove can be tested for its protection against viruses with a viral penetration test.			

### Chemical protection

 EN ISO 374-1:2016 Type C	<b>Type C</b> At least Level 1 performance (more than 10 minutes) against at least one chemical on the list – cuffs are also tested.*							
 EN ISO 374-1:2016 Type B	<b>Type B</b> At least Level 2 performance (more than 30 minutes) against at least three chemicals on the list – cuffs are also tested.*							
 EN ISO 374-1:2016 Type A UVWXYZ	<b>Type A</b> At least Level 2 performance (more than 30 minutes) against at least six chemicals on the list – cuffs are also tested.*							
	* Only if the glove is >= 40 cm							
	<b>Performance level</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
	Minutes	< 10	10	30	60	120	240	> 480

A. Methanol  
B. Acetone  
C. Acetonitrile  
D. Dichloromethane  
E. Carbon disulphide  
F. Toluene  
G. Diethylamine  
H. Tetrahydrofuran  
I. Ethyl acetate

J. n-Heptane  
K. Sodium hydroxide 40%  
L. Sulphuric acid 96%  
M. Nitric acid 65%  
N. Acetic acid 99%  
O. Ammonium hydroxide 25%  
P. Hydrogen peroxide 30%  
S. Hydrofluoric acid 40 %  
T. Formaldehyde 37%



The beaker icon (low chemical resistance/waterproof) has been eliminated.

## GUIDE TO EUROPEAN AND US STANDARDS FOR PROTECTIVE GLOVES

EN 407 – Heat Protection					
	Performance levels	1	2	3	4
	A. Limited flame spread After flame time and after glowtime (finger & seams area)	< 15 sec no requir.	< 10 sec < 120 sec	< 3 sec < 25 sec	< 2 sec < 5 sec
	B. Contact heat (10 °C increase) Contact temperature and threshold time (glove palm and where relevant other areas)	100 °C > 15 sec	250 °C > 15 sec	350 °C > 15 sec	500 °C > 15 sec
	C. Convective heat (24 °C increase) Heat transfer index (glove palm & back)	> 4 sec	> 7 sec	> 10 sec	> 18 sec
	D. Radiant heat (24 °C increase) Heat transfer (back of glove)	> 7 sec	> 20 sec	> 50 sec	> 95 sec
	E. Small drops of molten metal (40 °C increase) Number of droplets (glove palm & back & cuff)	> 10	> 15	> 25	> 35
	F. Large quantities of molten metal (damage to a simulated PVC skin) Mass of molten iron (glove palm & back & cuff)	30 g	60 g	120 g	200 g

EN 511 – Cold Protection						
	Performance levels	0	1	2	3	4
	A. Convective cold Thermal insulation ITR in m <sup>2</sup> . °C/W	< 0.10	0.10 < 0.15	0.15 < 0.22	0.22 < 0.30	0.30 < 0.40
	B. Contact cold Thermal resistance R in m <sup>2</sup> . °C/W	R < 0.025	0.025 < R < 0.050	0.050 < R < 0.100	0.100 < R < 0.150	0.150 < R
	C. Water penetration test	Fail	Pass	-	-	-

Note: 0 is the lowest rating while 4 is the highest.

### EN ISO 21420 – General requirements

	This pictogram indicates that the user has to consult the 'instructions for use'.
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### EN 421 – Radioactive Contamination & Ionising Radiation

	Gloves protecting from direct contact with radioactive substances.
	Gloves protecting from direct contact with radiations (X-ray, alpha-, beta-, gamma- or neutron radiations).

### EN 60903 – Electrical Insulating Gloves

	Gloves protecting from electrical voltage.
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### EN 14605

	Protective clothing against liquid chemicals - performance requirements for clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4]).
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STANDARD 100 by OEKO-TEX® is one of the world's best-known labels for textiles tested for harmful substances. It stands for customer confidence and high product safety.



Dermatest® is an internationally renowned company based in Germany which tests products for dermatological tolerance. This certification guarantees skin friendliness.



Latex-Free gloves reduce the risk of skin irritations and allergic reactions.

Stay informed. Visit the Ansell EN Standards Resource Center: [ansell.com/enresourcecenter](https://ansell.com/enresourcecenter)

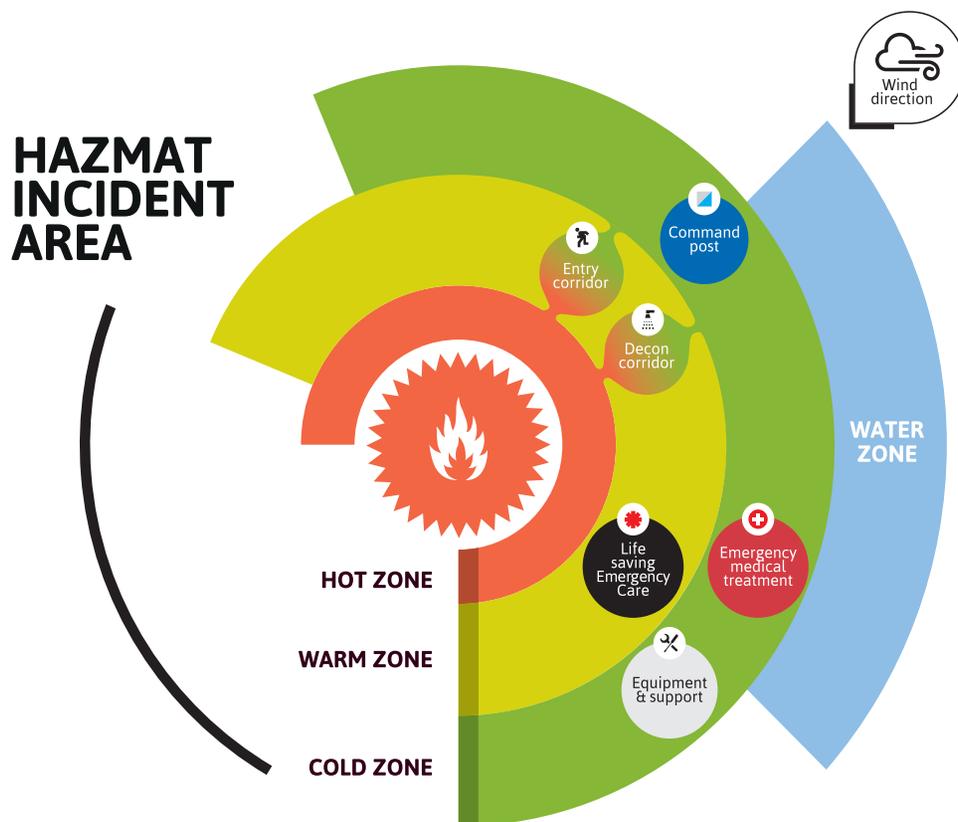
## BODY PROTECTION SOLUTIONS FOR CBRN / TICs HAZMAT INCIDENT RESPONSE

The AlphaTec® Chemical Protective Clothing (CPC) range has been tested according to European as well as US standards. While Europe lacks an EN standard for protection against warfare agents, the chemical testing requirements of the US standard NFPA 1991, as incorporated in NFPA 1990, stipulates permeation testing with both industrial chemicals and warfare agents. Independently from any product standard or certification, Ansell has also performed extended testing with CWAs (chemical warfare agents) and TICs (toxic industrial chemicals) on EVO and FLASH.

The table below and the next page indicate the approvals of the suits in this catalog, and the appropriate application area of each suit in case of a hazardous materials (hazmat) incident.

	Product													
	AlphaTec®								VIKING™					
	EVO	FLASH	4000 CFR	4000 151-G02	4000 122	4000 APOLLO	3000	2300 PLUS 132	HDS	PROTECH II	HAZTECH	HD	PRO	VTS
Approvals	p12	p13	p14	p15	p16	p16	p17	p18	p27	p27	p28	p28	p29	p29
NFPA 1991 Base requirements	●	●												
NFPA 1991 Optional Flash fire protection	●	●												
NFPA 1991 Optional Liquefied gas protection	●	●												
NFPA 1992 Level B Hazardous chemical emergencies				●	●									
EN 943-1:2015+A1:2019	●	●												
EN 943-2:2019	●	●												
EN 14605:2005 + A1:2009 Type 3 (liquid-tight)			●	●	●	●	●	●						
EN 14605:2005 + A1:2009 Type 4 (spray-tight)			●	●	●	●	●	●						
EN ISO 13982-1:2004+A1:2010 Type 5 Particulate Protection			●	●	●			●						
EN 1073-2:2002 Radioactive particle protection	●	●	●	●	●		●	●						
EN 14126:2003 Infective agent/ Biohazard protection	●	●	●	●	●	●	●	●						
ATEX For use in explosive atmospheres	●	●					●							
EN 1149-5:2008 'Antistatic' material	●	●	●	●	●		●	●						
Extended 24 hour permeation tests	●													
EN 14225-2:2017 incl. BIO protection requirements									●	●	●	●	●	
EN 14225-2:2017 incl. HZ protection requirements									●	●	●	●		
EN ISO 14116 Limited flame spread			●											
EN 14225-2:2017														●
SOLAS	●													
CWA Tested	●	●												
TICs	●	●												
Covert Color Option	Green	Green							Black	Black	Black	Black	Black	Black
HAZMAT Incident Zone Compatibility	Hot		Warm				Cold		Water					

The top priority for first responders when arriving at a hazmat incident scene is to isolate the scene by establishing a Hot/Exclusion Zone. Additional zones, including a Warm/Control Zone and a Cold/Support Zone should be defined at the first available opportunity. This may be the primary responsibility for the Incident Commander or of responders other than the Emergency Medical Services. Responders who are not properly trained and equipped should stay out of the Hot and Warm Zones. Entry into these zones requires a determination that the level of PPE being worn provides adequate protection.



The Ansell range of chemical protective clothing caters for each zone ranging from top of the range re-usable NFPA 1991 (1990) approved suits, through to disposable liquid spray and splash protective suits.

**HOT ZONE**

- Contaminated area immediately surrounding a hazmat incident
- Extends far enough to protect personnel outside the zone from adverse effects from hazardous material releases
- Minimize number of personnel in Hot Zone
- Operational times should be monitored
- Permeation breakthrough times should be available
- Presence in the Hot Zone requires appropriate PPE
- Encapsulating suits with individual breathing systems

**Products: AlphaTec® EVO, AlphaTec® FLASH**

**WARM ZONE**

- Provides support to the Hot zone
- Control zone at a hazardous materials incident
- Personnel and equipment decontamination
- Includes control points for the access corridor
- Warm zone requires appropriate PPE

**Products: AlphaTec® 4000 CFR, AlphaTec® 4000 Model 151-G02, AlphaTec® 4000 Model 122, AlphaTec® 4000 APOLLO**

**COLD ZONE**

- Provides the command post location and lower risk
- Transport and medical monitoring support functions
- Reduced risk of exposure to contaminants
- Cold zone requires appropriate PPE
- Personnel to wear light PPE such as disposable garments

**Products: AlphaTec® 3000 Model 111, AlphaTec® 2300 PLUS Model 132**

**WATER ZONE**

- Professional divers don't normally get to choose where to dive
- Must frequently dive in contaminated waters
- Cannot always see or smell contaminants
- Risk of exposure to multiple chemical or biological pollutants
- Hidden dangers hazardous to health

**Products: VIKING™ HDS, VIKING™ PROTECH II, VIKING™ HAZTECH, VIKING™ HD, VIKING™ PRO, VIKING™ VTS**



Non-encapsulating design (type T)



**HOT ZONE**

**AlphaTec®**

**EVO - TYPE VP1**

Previously known as: TRELLECHEM® EVO Type VP1

**Top of the range hazmat suit providing excellent protection against the most aggressive chemicals in liquid, vapor, gaseous and solid form, including warfare agents. Fully certified to the NFPA 1991 level of the US standard NFPA 1990 including the optional chemical flash fire and liquefied gas protection requirements. (this refers to sock version only)**

**KEY FEATURES & BENEFITS**

- An "all-inclusive" Level A encapsulating HAZMAT suit, SCBA worn inside
- Chemical resistant Viton™ rubber top coating
- Outstanding permeation times - tested for 24 hours
- Reusable
- SOLAS approved
- AlphaTec® Bayonet ring system for fast, easy glove change
- Also available: Type T (non-encapsulating model)

**RECOMMENDED FOR**

- Hazmat response and CBRN
- Chemical emergencies and hot zone
- Type T suits for work in confined space

**STANDARDS & CERTIFICATION**

- PPE Category III
- NFPA 1991 (1990) including optional chemical flash fire and liquefied gas protection
- EN 943-1:2015 + A1:2019 and EN 943-2:2019 Type 1a-ET
- Approved for use in explosive environments, Zones 0,1,2 / 20, 21, 22 and chemical group IIA, IIB, IIC
- Made of anti-static garment material (as defined in EN 1149-5)

<b>Product material</b>	Aramid fabric coated on outside with butyl and Viton™ rubber and on inside laminated to a multi-layer barrier film
<b>Seam type</b>	Serged/stitched butt seam covered by Viton™ rubber tape on the outside and a barrier laminate tape on the inside
<b>Color</b>	Red (standard or olive green (on request))
<b>Size</b>	S - 3XL (02 - 07)
<b>Suit weight</b>	Approx. 6.0 kg/13 lbs for a suit size L with sewn-in socks
<b>Packaging</b>	1 per case
<b>Part No. / SKU</b>	Consult your Ansell representative for ordering details





Non-encapsulating design (type T) in orange.



**HOT ZONE**

**AlphaTec®**

**FLASH - TYPE VP1**

Previously known as: TRELLCHEM® FLASH Type VP1

**Superior chemical protection and flame-retardant technology for HAZMAT response.**

**KEY FEATURES & BENEFITS**

- Fully certified to the NFPA 1991 level of the US Standard NFPA 1990, including the optional chemical flash fire and liquified-gas protection requirements. (this refers to sock version only)
- Level A 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
- Sewn-in socks/booties made of suit material
- Tear-off/ATEX protective lens (not fitted-packed with suit)
- AlphaTec® Bayonet ring system for fast, easy glove change
- Also available: Type T (non-encapsulating model)

**RECOMMENDED FOR**

- Hazmat response and CBRN
- Chemical emergencies and hot zone
- Type T suits for work in confined space

**STANDARDS & CERTIFICATION**

- PPE Category III
- NFPA 1991 (1990) including optional chemical flash fire and liquified gas protection
- EN 943-1:2015 + A1:2019 and EN 943-2:2019 Type 1a-ET
- Approved for use in explosive environments, Zones 2/21, 22 and chemical group IIA only
- Made of anti-static garment material (as defined in EN 1149-5)



<b>Product material</b>	Aramid fabric coated on outside with chloroprene rubber and on inside laminated to a multi-layer barrier film
<b>Seam type</b>	Serged/stitched butt seam covered by chloroprene rubber tape on the outside and a barrier laminate tape on the inside
<b>Color</b>	Orange (standard or olive green (on request))
<b>Size</b>	S - 3XL (02 - 07)
<b>Suit weight</b>	Approx. 6.0 kg/13 lbs for a suit size L with sewn-in socks
<b>Packaging</b>	1 per case
<b>Part No. / SKU</b>	Consult your Ansell representative for ordering details





**WARM ZONE**

**AlphaTec®**

**4000 CFR - MODEL 111**

**AlphaTec® 4000 CFR is a multi-hazard solutions suit that combines exceptional chemical and flame retardant protection.**

**KEY FEATURES & BENEFITS**

- Multi-hazard chemical and flame retardant protection without compromising wearer safety by limiting flame spread in the event of a flash fire\*
- Limited flame spread EN ISO 14116 Index 1
- Proved 8-hour barrier against many chemicals including non-flammable, flammable and aggressive solvents
- Latex-free elastic
- High visibility bright orange colored fabric, conforming to chromaticity and luminance requirements as found in EN ISO 20471, with an optimized body fit, improving wearer comfort and safety

\* AlphaTec® 4000 CFR should never be worn in isolation for flame retardant protection. Always wear over the top of garments which achieve EN ISO 14116 Index 2 or above.

**RECOMMENDED FOR**

- Chemical processing and preparation
- Repair and maintenance
- Petroleum distribution and processing
- Hazmat response

**STANDARDS & CERTIFICATION**

- PPE Category III
- Tested according to ASTM D6413, ASTM F1358 and 16 CFR1610 Flame Spread (textiles)



**FEATURED TECHNOLOGIES**



<b>Product material</b>	Polyolefin-based core barrier laminate with FR nonwoven inner & FR outer barrier film
<b>Seam type</b>	Serged / stitched & taped seams (T)
<b>Color</b>	Orange (OR)
<b>Size</b>	S - 5XL (02 - 09)
<b>Style</b>	O47T111
<b>Part No. / SKU</b>	OR47-T-92-111-0X
<b>Packaging</b>	6 per case

**New**  
Multi-Hazard  
Protection





WARM ZONE

AlphaTec®

4000 - MODEL 151

Previously known as: MICROCHEM™ by AlphaTec® 4000 - Model 151

Very popular with Police & Fire Hazmat crews all around the world, the AlphaTec® 4000 Model 151 is an easy and quick to don rear entry suit. Ideal for use in hazardous areas where protection against concentrated chemicals and biological agents is required.

**KEY FEATURES & BENEFITS**

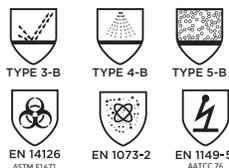
- Rear horizontal zip entry
- Neoprene rubber face seal
- Attached socks with boot overlap
- Option of attached AlphaTec® 02-100 gloves, with oversleeves and finger loops
- Latex-free elastic
- Anti-static, tested according to EN 1149-5 & AATCC 76

**RECOMMENDED FOR**

- Ideal for Emergency services (HAZMAT, CBRN)

**STANDARDS & CERTIFICATION**

- PPE Category III
- NFPA 1992 (1990) Standard on Liquid Splash-Protective Ensembles & Clothing for Hazardous Materials Emergencies



Also available in highly visible AlphaTec® 5000 fabric

**FEATURED TECHNOLOGIES**



AlphaTec® 4000 Model 151-G00

<b>Product material</b>	Multi-layer nonwoven barrier laminate fabric
<b>Seam type</b>	Ultrasonically welded & taped seams (T)
<b>Color</b>	Green (GR)
<b>Size</b>	S - 5XL (02 - 09)
<b>Style</b>	G40T151 / G40T151B (attached 02-100 gloves)
<b>Part No. / SKU</b>	GR40-T-92-151-0X* / GR40-T-92-151-0X-G02
<b>Packaging</b>	8 per case

Previously known as: MICROCHEM™ by AlphaTec® 4000 - Model 122

**Engineered to provide an exceptional barrier against a wide range of organic and inorganic chemicals and biological agents.**

#### KEY FEATURES & BENEFITS

- Exceptional protection, over 200 chemicals permeation tested, including chemical warfare agents
- Designed to protect, typical innovative features include dual zip systems and double cuffs
- Model 122 has integrated socks with boot overflaps
- Enhanced comfort, knitted inner cuffs and inner textile type fabric improves wearer acceptance
- Anti-static, tested according to EN 1149-5

#### RECOMMENDED FOR

- Ideal for HAZMAT Emergency response (ie. Level B)

#### STANDARDS & CERTIFICATION

- PPE Category III
- NFPA 1992 (1990) Standard on Liquid Splash-Protective Ensembles & Clothing for Hazardous Materials Emergencies



#### FEATURED TECHNOLOGIES



<b>Product material</b>	Multi-layer nonwoven barrier laminate fabric
<b>Seam type</b>	Ultrasonically welded & taped seams (T)
<b>Color</b>	Green (GR)
<b>Size</b>	S - 5XL (02 - 09)
<b>Style</b>	G40T122
<b>Part No. / SKU</b>	GR40-T-92-122-0X*
<b>Packaging</b>	6 per case



Also available in highly visible AlphaTec® 5000 fabric

Previously known as: MICROCHEM™ by AlphaTec® 4000 Apollo- Model 126

**Trusted by fire and rescue crews around the world. AlphaTec® 4000 APOLLO is a fully encapsulated liquid tight chemical protective suit designed for use in conjunction with self-contained breathing apparatus (SCBA).**

#### KEY FEATURES & BENEFITS

- Rear entry double zip system
- Attached socks with boot overlap and attached AlphaTec® 02-100 gloves
- Clear face visor
- Bat-wing design enables air gauge checking within the suit
- Chest strap for DSU (Distress Signal Unit)
- Adjustable internal support braces

#### RECOMMENDED FOR

- Ideal for HAZMAT Emergency response (ie. Level B)

#### STANDARDS & CERTIFICATION

- PPE Category III



#### FEATURED TECHNOLOGIES



<b>Product material</b>	Multi-layer nonwoven barrier laminate fabric
<b>Seam type</b>	Ultrasonically welded & taped seams (T)
<b>Color</b>	Green (GR)
<b>Size</b>	S - 5XL (02 - 09)
<b>Style</b>	G40T126
<b>Part No. / SKU</b>	GR40-T-92-126-0X*
<b>Packaging</b>	4 per case



APOLLO Model 186 in AlphaTec® 5000 fabric



Also available in highly visible AlphaTec® 5000 fabric



Dual zip system ensuring a liquid tight seal



COLD ZONE

**AlphaTec®**

**3000 - MODEL 111**

Previously known as: MICROCHEM™ by 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.**

**KEY FEATURES & BENEFITS**

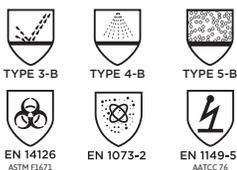
- Multi-layer barrier fabric provides effective protection against numerous chemicals
- Designed to protect, typical innovative features include dual zip system and double cuffs
- Lightweight and durable
- Highly visible bright yellow color for improved worker safety
- Latex-free elastic
- Anti-static, tested according to EN 1149-5 & AATCC 76
- Ultrasonically welded seams provide a strong liquid and particle barrier

**RECOMMENDED FOR**

- Chemical emergencies
- Protection against virus infections
- Decontamination
- Cleaning and maintenance

**STANDARDS & CERTIFICATION**

- PPE Category III



**FEATURED TECHNOLOGIES**



<b>Product material</b>	Multi-layer nonwoven barrier laminate fabric
<b>Seam type</b>	Ultrasonically welded seams (W)
<b>Color</b>	Yellow (YE)
<b>Size</b>	S - 5XL (02 - 09)
<b>Style</b>	Y30W111
<b>Part No. / SKU</b>	YE30-W-92-111-0X*
<b>Packaging</b>	6 per case



Also available as Model 122



Double cuff design



**COLD ZONE**

**AlphaTec®**

**2300 PLUS - MODEL 132**

Previously known as: MICROCHEM™ by 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.**

**KEY FEATURES & BENEFITS**

- A good protective barrier to numerous inorganic liquid chemicals including acids and bases
- Type 3 coverall, lightweight, yet relatively strong and durable
- Designed to protect, typical coverall features include respirator fit hood and a zip flap with self-adhesive tape closure
- Highly visible bright yellow colour for improved worker safety
- Anti-static, tested according to EN 1149-5 & AATCC 76

**RECOMMENDED FOR**

- Environmental clean-up and remediation
- Tank cleaning
- Equipment maintenance and repair

**STANDARDS & CERTIFICATION**

- PPE Category III



<b>Product material</b>	Polyethylene coated bi-component PP/PE nonwoven
<b>Seam type</b>	Serged/stitched & taped seams (T)
<b>Color</b>	Yellow (YY)
<b>Size</b>	S - 5XL (02 - 09)
<b>Style</b>	Y23T132
<b>Part No. / SKU</b>	YY23-T-92-132-0X*
<b>Packaging</b>	25 per case



Finger loops

## AlphaTec® Glove Connector

The simple solution for attaching chemical gloves to a selection of AlphaTec® coveralls (previously known as MICROCHEM™ by AlphaTec®)

- Innovative design utilizing the latest polymer technology
- Creates a liquid-tight seal between glove & 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)



## Hands-Free Visor Light System

The AlphaTec® Hands-Free Visor Light System is a short throw illumination system for hands-free operation, designed to offer improved visibility and a safer working environment for the hazmat responder.

- LED (Light Emitting Diodes) - long life time, durable quality & energy efficient
- Panoramic lighting - spreads the light through a wide area with no risk of blinding reflections
- Lightweight - adds minimally to the total weight carried
- Slim design - minimal interference with movement and other equipment
- Fits in AlphaTec® reusable gas-tight suits of encapsulating design (Level A), and can easily be installed in existing type VP1 suits



## Anti-fog Lens

Prevents fog on the visor, inside the suit. Fits all encapsulating AlphaTec® reusable gas-tight suits. The Anti-fog lens comes in the same design as the suit visors i.e. VP1. Attaches to the inside of the visor with a double-sided tape running all around the lens edge, thereby creating a column of dry air between visor and lens.

- Easy to mount
- Functions down to approximately -30 °C



## ActivArm™ Cooling Vest FR

A comfort garment which helps the user to stay comfortable e.g. during work in hot environments or with extreme physical exertion. It provides a cooling effect just when the body needs it.

- Recharges at room temperature when stored
- Long life time
- Available in a flame retardant version



## Tear-off/ATEX lens

Protects the suit visor on reusable gas-tight suits against direct liquid chemical splashes. Tear it off and you have a clear vision again!

The Tear-off / ATEX lens comes in the same designs as the suit visors, i.e. VP1. Fitted with corner tabs for easy grip and tear-off. The lens is quick and easy to attach with two vertical tape stripes.

- Easy to mount
- Thin & glass clear
- Antistatic
- Clear sight in a second if splashed



## Bayonet Glove Ring System

Unique glove attachment system which is used on all AlphaTec® gas-tight reusable suits. The system consists of sleeve ring, glove ring, inner ring, safety pin and two Viton rubber O-rings. Colour markings for open/closed position.

- Quick & easy to use
- Triple sealing for enhanced safety
- Chemical resistant material
- Colour markings for open/closed position
- Fits with all glove combinations
- Easy to upgrade old suits

## AlphaTec® TRAINER

A suit intended for training only, but with the same design as the real gas-tight intervention suit, to make the training as realistic as possible.

AlphaTec® TRAINER comes in two different designs to fit all user preferences: Type VP1 (encapsulating with larger visor, SCBA worn inside the suit) or Type T (non-encapsulating with face seal, SCBA worn outside the suit).

- Non-certified - training suit only
- Made of a strong, durable and flexible fabric, coated with PVC on both sides, welded seams
- Encapsulating designs are available with rigid or soft visor
- Ventilation system included as standard



## AlphaTec® 58-800

Cut and puncture resistant overglove specially designed for AlphaTec® gas-tight suits.

- Extra long shaft - 184 mm - with elastic at the cuff end. Specially designed to fit on top of the AlphaTec® Bayonet glove ring system
- Offers cut and puncture resistance (cut level 3)
- Grip pattern for good wet & dry grip
- Made from 100% aramid fibre
- Certified to EN 388, EN 407 and to EN ISO 21420:2020
- Fulfills NFPA 1991 glove requirements: as the outer glove of an NFPA 1991 glove combination

# HAND PROTECTION SOLUTIONS - Chemical Gloves

## AlphaTec®

53-001



Coating material	Nitrile/Neoprene/Nitrile layers
Liner material	Nylon
Grip design	ANSELL GRIP™ technology
Cuff style	Gauntlet
Size	6, 7, 8, 9, 10, 11
Length	350 mm / 13.8 inches
Thickness	0.38 mm / 15 mil (shell) 0.05 mm / 2 mil (grip)
Packaging	6 pairs in a bag, 12 bags in a carton

### KEY FEATURES & BENEFITS

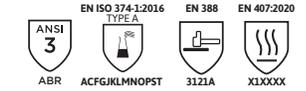
- Innovative multi-layer polymer design - nitrile/neoprene/ nitrile layers
- Provides chemical protection against a wide range of chemicals from acids and bases to hydrocarbons and organic solvent
- Tested according to EN ISO 374:2016, permeation time >30 minutes against 13 chemicals out of 18 listed
- Features the latest MICROCHEM™ chemical barrier technology providing superior protection for use in hazardous environments
- ANSELL GRIP™ Technology for the handling of wet or oily parts providing enhanced dexterity, grip and comfort
- Inner soft nylon liner for comfort and increased mechanical protection

### RECOMMENDED FOR

- Chemical handling including petroleum & oil (hydrocarbons)
- Handling parts covered in hydraulic fluids
- Cleaning of surfaces & equipment

### STANDARDS & CERTIFICATIONS

- PPE Category III



### FEATURED TECHNOLOGIES



## AlphaTec®

38-628



Coating material	Butyl, Viton
Liner material	n/a
Grip design	Smooth finish
Cuff style	Rolled beaded
Size	9, 10
Length	350 mm / 13.8 inches
Thickness	0.70 mm / 27 mil
Packaging	12 pairs in a carton, individually wrapped

### KEY FEATURES & BENEFITS

- Made of two layers to provide the best resistance to the most aggressive chemicals without compromising dexterity or comfort
- Offers superior protection against aliphatic, halogenated and aromatic hydrocarbons (benzene, toluene, xylene) as well as concentrated mineral acids
- Very good flexibility
- Natural, curved ergonomic shape and soft feel offering easy donning and good grip
- AQL 1.5

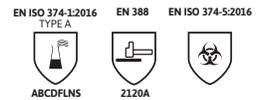
### RECOMMENDED FOR

- Approved for use with AlphaTec® gas-tight reusable suits
- Protection against warfare agents

Previously known as: ChemTek™ 38-628

### STANDARDS & CERTIFICATIONS

- PPE Category III



## AlphaTec®

02-100



Coating material	LLDPE laminated film
Liner material	n/a
Grip design	Smooth finish
Cuff style	Gauntlet
Size	7, 8, 9, 10, 11
Length	380 mm / 14.9 inches
Thickness	0.062 mm / 2.5 mil
Packaging	1 pair in a bag, 12 pairs in a master bag, 6 master bags in a carton

### KEY FEATURES & BENEFITS

- 5 protective layers of laminated film for excellent resistance against a wide range of chemicals and biological hazards
- Hand-specific design
- Exceptional barrier integrity with very low AQL, and all gloves individually air-pressure tested
- AQL 0.065

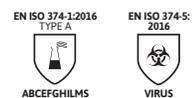
### RECOMMENDED FOR

- Approved for use as underglove with AlphaTec® gas-tight reusable suits

Previously known as: Ansell Barrier®

### STANDARDS & CERTIFICATIONS

- PPE Category III



# HAND PROTECTION SOLUTIONS - Chemical Gloves

## AlphaTec®

### 38-560



Coating material	Butyl
Grip design	Rough finish
Cuff style	Gauntlet
Size	7, 8, 9, 10, 11
Length	350 mm / 13.8 inches
Thickness	0.70 mm / 27.6 mil
Packaging	10 pairs in a bag, 10 bags in a carton

#### KEY FEATURES & BENEFITS

- Excellent protection against gas, ozone in particular
- Unlocked butyl glove
- Longer gauntlet style cuff for extra protection
- Beaded cuff for tear resistance and easy donning
- Rough finish on the hand for safer handling
- AQL 1.0

#### RECOMMENDED FOR

- Available as an option for AlphaTec® TRAINER and splash protective suits in the 66-3xx range

#### STANDARDS & CERTIFICATIONS

- PPE Category III



## AlphaTec®

### 58-535B



Coating material	Nitrile
Liner material	Acrylic
Grip design	ANSELL GRIP™ technology
Cuff style	Gauntlet
Size	7, 8, 9, 10, 11
Length	340mm / 13.4 inches
Thickness	0.062mm / 2.5 mil
Packaging	6 pairs in a bag, 12 bags in a carton

#### KEY FEATURES & BENEFITS

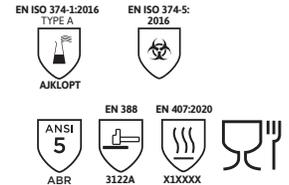
- Featuring ANSELL GRIP™ Technology to enable users to handle wet or oily objects with less grip force and more control
- Solid nitrile shell for high protection against exposure to bases, oils, fuels, some solvents and greases
- Black acrylic liner recommended for outdoor applications
- AQL 0.65

#### RECOMMENDED FOR

- For protection when refueling trucks and handling chemicals, especially in cold weather conditions

#### STANDARDS & CERTIFICATIONS

- PPE Category III



#### FEATURED TECHNOLOGIES



## AlphaTec®

### 58-530W



Coating material	Nitrile
Liner material	Nylon
Grip design	ANSELL GRIP™ technology
Cuff style	Gauntlet
Size	7, 8, 9, 10, 11
Length	350 mm / 13.8 inches
Thickness (mm)	0.38 mm / 14.9 mil (shell) 0.05 mm / 2 mil (grip)
Packaging	6 pairs in a bag, 12 bags in a carton

#### KEY FEATURES & BENEFITS

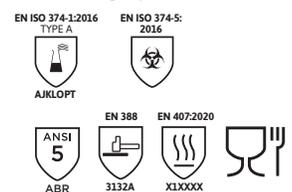
- Unrivalled combination of chemical resistance, confident grip and a comfortable inner lining
- Featuring ANSELL GRIP™ Technology to enable users to handle wet or oily objects with less grip force and more control. This unique combination of liquid-proof chemical resistance and grip, together with flexibility and dexterity
- Utilizes white nylon liner which is ideal for indoor applications

#### RECOMMENDED FOR

- For protection when refueling trucks and handling chemicals, in good weather conditions or for indoor applications. The inner soft nylon liner keeps hands dry longer

#### STANDARDS & CERTIFICATIONS

- PPE Category III



#### FEATURED TECHNOLOGIES



# HAND PROTECTION SOLUTIONS - Chemical Gloves

## AlphaTec®

58-735



Coating material	Nitrile
Liner material	INTERCEPT™ Technology yarn
Grip design	ANSELL GRIP™ Technology
Cuff style	Gauntlet
Size	7, 8, 9, 10, 11
Length	350 mm / 13.8 inches
Thickness	1 mm / 39 mil
Packaging	6 pairs in a bag, 12 bags in a carton

### KEY FEATURES & BENEFITS

- Nitrile barrier provides advanced chemical protection from many frequently used chemicals
- INTERCEPT™ Technology provides ISO C cut protection
- ANSELL GRIP™ Technology for the handling of wet or oily parts providing enhanced dexterity, grip and comfort
- AQL 0.65

### RECOMMENDED FOR

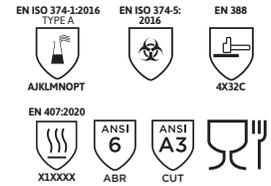
- Handling of sharp or oily objects and tools

### FEATURED TECHNOLOGIES



### STANDARDS & CERTIFICATIONS

- PPE Category III



## AlphaTec®

58-270



Coating material	Nitrile
Liner material	Nylon
Grip design	ANSELL GRIP™ Technology
Cuff style	Gauntlet
Size	6, 7, 8, 9, 10, 11
Length	300 mm / 11.8 inches
Thickness	0.41 mm / 16 mil
Packaging	6 pairs in a bag, 12 bags in a carton

### KEY FEATURES & BENEFITS

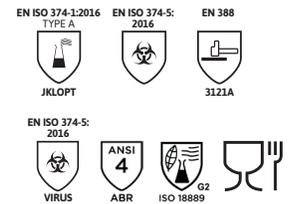
- Designed for light to medium chemical applications
- Thin, double-wall nitrile shell and 15-gauge seamless nylon liner offer users excellent tactility, comfort and flexibility
- Easy to don and remove with its safety cuff shape to prevent snagging and avoid itching on bare hands
- Featuring ANSELL GRIP™ Technology for more precise handling of small oily or wet parts
- AQL 0.65

### RECOMMENDED FOR

- Handling of oily objects and tools
- Chemical handling
- Maintenance

### STANDARDS & CERTIFICATIONS

- PPE Category III



### FEATURED TECHNOLOGIES



## AlphaTec®

29-500



Coating material	Neoprene
Liner material	Cotton flocking
Grip design	Lozenge
Cuff style	Straight
Size	7, 8, 9, 10, 11
Length	300 mm / 11.8 inches
Thickness (mm)	0.70 mm / 27.5 mil
Packaging	12 pairs in a bag, 12 bags in a carton

### KEY FEATURES & BENEFITS

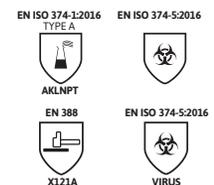
- Ideal for use in cold conditions: neoprene maintains its superb elasticity even at low temperatures
- Protects against a wide range of acids, caustics, alcohols and many solvents
- Superior flexibility and much less tiring to the hands than comparable heavy duty gloves
- Flock lined in pure cotton for better comfort and perspiration absorption
- AQL 0.65

### RECOMMENDED FOR

- Chemical handling and maintenance

### STANDARDS & CERTIFICATIONS

- PPE Category III



Previously known as: NEOTOP™ 29-500

# HAND PROTECTION SOLUTIONS - Chemical Gloves

**AlphaTec®**

**Solvex® 37-675**



Coating material	Nitrile
Liner material	Flocked
Grip design	Sandpatch
Cuff style	Gauntlet
Size	6, 7, 8, 9, 10, 11
Length	330 mm / 13 inches
Thickness	0.38 mm / 15 mil
Packaging	12 pairs in a bag, 12 bags in a carton

### KEY FEATURES & BENEFITS

- Combining ruggedness and chemical resistance, protects workers' hands exposed to a greater variety of chemical hazards
- High performance nitrile compound, providing an outstanding combination of chemical resistance & strength for optimal results in wet or dry work environments
- The glove offers a far superior snag, puncture and abrasion protection compared with rubber or neoprene gloves
- High levels of flexibility, comfort and dexterity
- Will not swell, weaken or degrade, and does not promote contact dermatitis

### RECOMMENDED FOR

- Chemical handling and maintenance

Previously known as: Solvex® 37-675

### STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016  
TYPE A



JKLOPT

EN 388



4101X

EN ISO 374-5:2016



VIRUS



# HAND PROTECTION SOLUTIONS - Underglove for the chemical glove range

**HyFlex®**

**78-403**



Construction	Knitted
Liner material	Polyester
Gauge	13
Cuff style	Knitwrist
Size	6, 7, 8, 9, 10
Length	71-254 mm / 6.7-10 inches
Packaging	12 pairs in a bag, 288 pairs in a carton

### KEY FEATURES & BENEFITS

- Thin design
- Extended wrist to better cover forearm and ensure properties continuity with garments
- Good breathability and comfort
- Low lint properties, protects products from cotton-lint and hand contamination

### RECOMMENDED FOR

- Can be used as an underglove for the chemical glove range

Previously known as Eliminator™ 78-403

### STANDARDS & CERTIFICATIONS

EN 388



214X



ANSI 3  
ABR



ANSI A1  
CUT

For alternative underglove options please speak to your Ansell representative.

# HAND PROTECTION SOLUTIONS - Single Use Gloves

Glove Name		Material & Colour	Standards & Certification	Applications	Key Features & Benefits		
<b>MICROFLEX® 93-260</b>  		Nitrile + Neoprene (Polychloroprene) Colour: Green	PPE Category III EN ISO 21420:2020 ANSI 4 (ABR) EN 388 (2000X) EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (JKLOPST) Oeko-Tex® Standard 100 DermaTest® certified	First Responders, EMS, Police, Crime Scene Investigation, Hazmat Teams, CBRN Teams, Rescue Teams	<ul style="list-style-type: none"> <li>• Three layer design for superior protection against harsh chemicals</li> <li>• The thinnest chemical resistant disposable glove for enhanced dexterity and flexibility</li> <li>• Extra soft material and ergonomic design for outstanding fit, feel and flexibility</li> <li>• Lower acceptable pinhole rate (0.65 AQL) for reliable protection against hazardous substances</li> <li>• Tested against both fentanyl and gastric acid (vomit) to simulate hazardous, real world overdose situations</li> </ul>		
Tactility	Strength	Puncture	Wet Grip	Damp Donning	Fentanyl Testing	Extended Protection	Barrier Integrity AQL
***	*****	*****	***	*****	YES	YES	0.65
<b>TouchNTuff® 92-600</b>  		Nitrile Colour: Green	PPE Category III EN ISO 21420:2020 EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (JKPT) ISO 18889 FDA21 CFR 177-2600 ISO 9001 Food approved in EU	First Responders, EMS, Police, Crime Scene Investigation, Hazmat Teams, Rescue Teams	<ul style="list-style-type: none"> <li>• Proprietary Ansell material formulation offers enhanced chemical splash protection</li> <li>• Soft nitrile provides high levels of comfort</li> <li>• Robust design for superior durability</li> <li>• Silicone free design is paint and finish process friendly</li> <li>• Also available in packaging to fit vending machines</li> </ul>		
Tactility	Strength	Puncture	Wet Grip	Damp Donning	Fentanyl Testing	Extended Protection	Barrier Integrity AQL
****	****	***	****	*****	NO		1.5
<b>MICROFLEX® Supreno EC 93-853</b>  		Nitrile Colour: Violet Blue	PPE Category III EN ISO 21420:2020 EN 455 1-4 EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (KPT)	First Responders, EMS, Police, Crime Scene Investigation, Rescue Teams	<ul style="list-style-type: none"> <li>• Extended chemical splash protection, tested for handling chemotherapy drugs</li> <li>• Superior strength and durability for maximum protection against rips, snags or tears</li> <li>• Low, 0.65 AQL for advanced barrier protection</li> <li>• Tested for use with chemotherapy/cytotoxic drugs</li> <li>• Tested against both fentanyl and gastric acid (vomit) to simulate hazardous, real world overdose situations</li> </ul>		
Tactility	Strength	Puncture	Wet Grip	Damp Donning	Fentanyl Testing	Extended Protection	Barrier Integrity AQL
***	*****	*****	***	*****	YES	YES	0.65
<b>TouchNTuff® 93-250</b> 		Nitrile Colour: Dark grey	PPE Category III ASTM D6319 EN ISO 21420:2020 EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (JKPT) FDA21 CFR 177-2600 ISO 9001	For applications in the maintenance department and mechanical division	<ul style="list-style-type: none"> <li>• Features ANSELL GRIP™ Technology</li> <li>• Soft nitrile formulation provides comfort for long wear times</li> <li>• Silicone free</li> </ul>		
<b>MICROFLEX® 93-852</b> 		Nitrile Colour: Black	PPE Category III EN ISO 21420:2020 EN 455 1-4 EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (JKT) ISO 18889	For applications in the maintenance department and mechanical division	<ul style="list-style-type: none"> <li>• Non-foaming for easy handling of objects in wet environments</li> <li>• Distinctive black colour hides stains and provides contrast for improved visibility</li> <li>• Fully textured design for confident grip</li> </ul>		

- Fentanyl Testing - PASS/FAIL mark for ASTM D6978 is >240 minutes  
 - Wet Grip: Feature that ensures protection against body fluids and blood pathogens

- Tactility: Important feature for easy handling of small parts or tools  
 - All gloves are Latex-free

# HAND PROTECTION SOLUTIONS - Mechanical Gloves

Glove Name	Protection Type	Cut Protection	Grip	Standards & Certification	Applications	Key Features & Benefits
<b>HyFlex®</b> <b>11-840</b> 	Palm coated	Low	Dry / light oil	PPE Category III EN ISO 21420:2020 ANSI 4 (ABR) EN 388 (4131A) EN 407 (X1XXXX) Oeko-Tex® Standard 100 Dermatest® certified	Light duty/multi-purpose glove with superior fit Extreme durability in repeated applications where abrasion resistance is required	<ul style="list-style-type: none"> <li>• Latex free</li> <li>• FORTIX™ Abrasion Resistance Technology</li> <li>• Nitrile foam coating</li> <li>• Clean and skin friendly, silicone free</li> </ul>
<b>HyFlex®</b> <b>11-541</b> 	Palm dipped	High (EN ISO D)	Dry	PPE Category III EN ISO 21420:2020 ANSI 4 (ABR) ANSI A4 (CUT) EN 388 (4X21D) EN 407 (X1XXXX)	Suitable for heavy duty maintenance, handling metal sheets & panels and parts with sharp, rough edges	<ul style="list-style-type: none"> <li>• INTERCEPT™ cut resistant glove</li> <li>• Liner features ZONZ™ Comfort Fit technology for breathability and ergonomic movement</li> <li>• Dupont™ Kevlar® liner</li> <li>• Palm-dipped coating and FORTIX™ formulation provide enhanced abrasion resistance and grip</li> </ul>
<b>EDGE®</b> <b>48-919</b> 	Fully dipped	Low	Dry/oil	PPE Category II EN ISO 21420:2020 EN 388 (4121A) ANSI 4 (ABR) ANSI A1 (CUT)	For applications where grip is required in oil/lubricant environments Maintenance of tanks	<ul style="list-style-type: none"> <li>• Fully NBR dipped to provide protection against industrial fluid exposure</li> <li>• Excellent abrasion resistance</li> <li>• Double layer nitrile coating keeps hands dry and comfortable when handling oily parts and tools</li> </ul>
<b>ACTIVARMR®</b> <b>80-813</b> Previously known as PowerFlex® 80-813 	Palm coated	High (EN ISO C) + Heat	Dry	PPE Category III EN ISO 21420:2020 ANSI A4 (CUT) ANSI 3 (ABR) EN 388 (2X42C) EN 407 (412110) Arc Rating (ATPV) = 9.4 cal/cm² Arc Category Level 2 per ASTM F2675/F 2675M -13	Applicable for facility and machinery maintenance Tasks involving potential risk or accelerants and flame	<ul style="list-style-type: none"> <li>• Heavy duty Arc flash and cut protective glove</li> <li>• Superior flame-resistant protection</li> <li>• Dupont™ Kevlar® liner</li> <li>• Ergonomic design for flexibility and grip</li> <li>• Proprietary soft foam coating to secure grip</li> </ul>

HyFlex®, EDGE® and ACTIVARMR® gloves are washable at 40°C.



# RINGERS® GLOVES

## TACTICAL AND IMPACT GLOVES

Glove Name	Standards & Certification	Key Features & Benefits
<b>R-536</b> <b>Tactical FR</b> <b>Hard Knuckle</b> 	PPE Category II EN ISO 21420:2020 ANSI 3 (ABR) ANSI A2 (CUT) EN 388 (2111XP)	<ul style="list-style-type: none"> <li>• Hard knuckle Flame Resistant Nomex® tactical glove with leather palm, PVC palm patch and touchscreen compatibility</li> <li>• Cuff loop for attaching to hooks on vests, belts, and uniforms</li> </ul>
<b>R-163</b> <b>Tactical</b> <b>Medium Duty</b> 	PPE Category II EN ISO 21420:2020 ANSI 3 (ABR) ANSI A3 (CUT) EN 388 (2121XP)	<ul style="list-style-type: none"> <li>• Tactical glove with Thermoplastic Rubber impact protection on top of the hand and full length of fingers</li> <li>• Touchscreen compatible index, middle and thumb tips</li> </ul>
<b>R-133</b> 	PPE Category II EN ISO 21420:2020 ANSI 3 (ABR) ANSI A1 (CUT) EN 388 (2121X)	<ul style="list-style-type: none"> <li>• Secure cuff with hook and loop TPR pull tab closure</li> <li>• Soft and durable premium mesh fabric on top of hand for optimal comfort and flexibility</li> <li>• Premium synthetic leather used for split palm construction for long lasting durability</li> <li>• Wrap around index finger protecting wear and tear zone</li> <li>• Lightweight fabric between fingers for excellent dexterity</li> <li>• Touchscreen compatible index, middle and thumb tips</li> </ul>
<b>R-074/075</b> 	PPE Category III EN ISO 21420:2020 ANSI 4 (ABR) ANSI A5 (CUT) EN 388 (4x41CP) EN ISO 374-5: 2016 R-074 only: EN ISO 374-1: 2016 Type A (AJKLMO) R-075 only: EN ISO 374-1: 2016 (KLMOPT)	<ul style="list-style-type: none"> <li>• TPR impact protection on top of hand and full length of fingers</li> <li>• PVC coating for waterproof and chemical resistance</li> <li>• Inside liner provides all-around 360 degree cut resistance</li> <li>• Durable textured palm coating for enhanced grip</li> <li>• CE rated for EN374-1:A (Methanol) J (n-Heptane) K (Sodium Hydroxide 40%) L (Sulfuric Acid 96%) M (Nitric Acid 65%) O (Ammonium Hydroxide 25%)</li> <li>• Short gauntlet-style cuff to keep debris away from hands</li> </ul>
<b>R-068</b> 	PPE Category II EN ISO 21420:2020 ANSI 4 (ABR) ANSI A3 (CUT) EN 388 (4X44FP) ANSI / ISEA 138 (2)	<ul style="list-style-type: none"> <li>• TPR impact protection on top of hand and full length of fingers</li> <li>• Proprietary double dipped technology</li> <li>• Full-dipped nitrile in smooth finish for liquid resistance</li> <li>• Half-dipped nitrile coating on palm with sandy finish for enhanced grip</li> <li>• Sandy finish for superior grip on wet and dry surfaces</li> <li>• High visibility for increased safety</li> <li>• Touchscreen compatible index, middle and thumb tips</li> </ul>
<b>R-085</b> 	PPE Category II EN ISO 21420:2020 ANSI 4 (ABR) ANSI A6 (CUT) EN 388 (4X44FP) ANSI / ISEA 138 (2)	<ul style="list-style-type: none"> <li>• Breathable knit shell offers cut resistance</li> <li>• TPR impact protection on top of hand and full length of fingers</li> <li>• Palm-dipped nitrile coating on palm with sandy finish for enhanced grip</li> <li>• Fleece lined for added warmth in cold temperatures</li> <li>• TCR patch to reinforce wear &amp; tear zone</li> <li>• Superior grip on wet and dry surfaces</li> <li>• High visibility for increased safety</li> <li>• Touchscreen compatible index, middle and thumb tips</li> </ul>

The VIKING™ HDS sets the standard amongst vulcanized rubber drysuits. Made from NITECS, a material developed by Ansell with a US patent applied. NITECS provides unsurpassed protection against chemical permeation along with extreme durability against wear and tear.

**KEY FEATURES & BENEFITS**

- Highly resistant to aggressive chemicals including hydrocarbons
- 5 times more abrasion resistant than the VIKING™ PRO material
- Internal seams stitched and taped for security
- Easy to clean and repair
- VIKING™ HDS suits MUST be fitted with a hood or helmet for diving in contaminated water conditions
- Fitted with HAZMAT inlet valve and X2 exhaust valve. Options include non-magnetic valves

**RECOMMENDED FOR**

- Nuclear pond inspection
- Clearing a fouled propeller
- Welding and inspection
- Cleaning ship Hulls
- Inshore diving
- Military diving

**STANDARDS & CERTIFICATION**

- PPE Category III
- EN 14225-2:2017
- BIO & HZ chemical protection requirements



(only applies to suits without valves fitted)

Product material	NITECS material is an HNBR rubber compound. Total material weight 1050 gsm
Seam type	Internal: Stitched. External: vulcanized with a 25 mm rubber tape.
Color	Black
Size	<b>Regular:</b> 00/SML, 01/MED, 02/LGE, 03/EXL, 04/XXL, 05/XXXL <b>Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL <b>Double Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL
Suit weight	Approx. 8 kg in size 02/LGE
Packaging	1 per case
Part No. / SKU	Consult your Ansell representative for ordering details



Scan QR code for VIKING™ HDS size chart



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

**KEY FEATURES & BENEFITS**

- Extremely flexible and comfortable suit
- Ideal for military operations and for law enforcement & fire rescue teams where flexibility is essential
- Internal stitched and taped seams with external vulcanized seams
- Easy to clean exterior when contaminated
- Easy to repair in the field minimizing downtime
- Fitted with push-protected inlet valve and VIKING™ X2 exhaust valve. Options include non-magnetic valves and Apeks valves

**RECOMMENDED FOR**

- Underwater search and recovery
- Disaster recovery
- Inspection diving
- Maintenance inspection
- Military diving

**STANDARDS & CERTIFICATION**

- PPE Category III
- EN 14225-2:2017
- BIO and HZ chemical protection requirements



(only applies to suits without valves fitted)

Product material	Blend of natural and synthetic rubbers (NR/EPDM) on a stretch polyamide/elastane lining. Total material weight: 1250 gsm
Seam type	Internal: Stitched, External: Vulcanized with a 25 mm rubber tape
Color	Black or black with red shoulder/zipper reinforcement
Size	<b>Regular:</b> 00/SML, 01/MED, 02/LGE, 03/EXL, 04/XXL, 05/XXXL <b>Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL <b>Double Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL
Suit weight	Approx. 8.3 kg in size 02/LGE
Packaging	1 per case
Part No. / SKU	Consult your Ansell representative for ordering details



Scan QR code for VIKING™ PROTECH II size chart



The VIKING™ HAZTECH is a lightweight robust suit for diving in hazardous water conditions, particularly where there may be a danger of heat exhaustion in warm water or hot climatic conditions.

### KEY FEATURES & BENEFITS

- 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 at -40 °C for >200 flexes)
- Easy to clean exterior surface
- Option include non-magnetic valves

### RECOMMENDED FOR

- Underwater inspection
- Navy diving
- Inspection diving
- Maintenance inspection
- Special forces diving
- Underwater search and recovery

### STANDARDS & CERTIFICATION

- PPE Category III
- EN 14225-2:2017
- BIO and HZ chemical protection requirements



(only applies to suits without valves fitted)

<b>Product material</b>	TPU (thermoplastic polyurethane) outer layer in red or black, single-coated onto a black-knitted nylon fabric. Material weight: 480 gsm
<b>Seam type</b>	High-frequency welded and taped inside for visual purposes only
<b>Color</b>	Black or red with black reinforcements
<b>Size</b>	<b>Regular:</b> 00/SML, 01/MED, 02/LGE, 03/EXL, 04/XXL, 05/XXXL <b>Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL <b>Double Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL
<b>Suit weight</b>	Approx. 4.5 kg in size 02/LGE
<b>Packaging</b>	1 per case
<b>Part No. / SKU</b>	Consult your Ansell representative for ordering details



VIKING™ HAZTECH in red/black with Superlite 27 yoke.



Scan QR code for VIKING™ HAZTECH size chart



The VIKING™ HD is considered to be the industry standard for commercial diving worldwide. The suit material is as it suggests, heavy duty, built to withstand the rigors of diving in a harsh working environment

### KEY FEATURES & BENEFITS

- Heavy duty material to withstand the harshest environments
- Internal stitched and taped seams and external vulcanized seams for security
- Easy to clean when diving in contaminated waters
- Easy to repair minimizing downtime
- Hazmat (chemical protection) and BIO (protection against infective agents) approvals
- Fitted with push-protected inlet valve and VIKING™ X2 exhaust valve. Options include non-magnetic valves and Apeks valves

### RECOMMENDED FOR

- Inshore diving
- Welding and inspection
- Clearing a fouled propeller
- Nuclear pond inspection
- Military diving
- Cleaning ship Hulls

### STANDARDS & CERTIFICATION

- PPE Category III
- EN 14225-2:2017
- BIO and HZ chemical protection requirements



(only applies to suits without valves fitted)

<b>Product material</b>	Blend of natural and synthetic rubbers (NR/EPDM) on a 2-way stretch knitted polyester lining Total material weight: 1550 ± 100 gsm.
<b>Seam type</b>	Internal: Stitched & taped, External: Vulcanized with a 25 mm rubber tape.
<b>Color</b>	Black or red with black reinforcements
<b>Size</b>	<b>Regular:</b> 00/SML, 01/MED, 02/LGE, 03/EXL, 04/XXL, 05/XXXL <b>Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL <b>Double Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL
<b>Suit weight</b>	Approx. 9kg in size 02/LGE
<b>Packaging</b>	1 per case
<b>Part No. / SKU</b>	Consult your Ansell representative for ordering details



Scan QR code for VIKING™ HD size chart



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

#### KEY FEATURES & BENEFITS

- Vulcanized dry diving suit with back-entry. Fitted with footwear, neck seal, cuffs and integrated suspenders
- Internal seams serged and taped
- External seams vulcanized for peace of mind
- Easy-to-clean exterior when contaminated
- Easy to repair in the field to minimise downtime
- Flexible and comfortable

#### RECOMMENDED FOR

- Underwater search and recovery
- Disaster recovery
- Inspection diving
- Maintenance inspection
- Military diving

#### STANDARDS & CERTIFICATION

- PPE Category III
- EN 14225-2:2017



(only applies to suits without valves fitted)

Product material	Blend of natural and synthetic rubbers (NR/EPDM), on a 2-way stretch knitted polyester lining.
Seam type	Internal: stitched and taped, External: vulcanized
Color	Black with red shoulder/zipper reinforcements or all black
Size	<b>Regular:</b> 00/SML, 01/MED, 02/LGE, 03/EXL, 04/XXL, 05/XXXL <b>Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL <b>Double Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL
Suit weight	Approx. 8kg in size 02/LGE
Packaging	1 per case
Part No. / SKU	Consult your Ansell representative for ordering details



Scan QR code for VIKING™ PRO size chart



**Lightweight but robust trilaminate suit designed for use by divers to whom contaminated water is not an issue, but strength and puncture resistance is a must. VIKING™ VTS is in use worldwide with not only technical divers, but also special forces, police dive teams and fire & rescue squads.**

#### KEY FEATURES & BENEFITS

- Lightweight puncture and abrasion resistant materials
- Unique 'Vulca-seam technology' ensures watertight seams
- Fitted with a Surveyor latex neck seam as standard
- Easy to transport due to low weight and ease of storage
- Options include non-magnetic valves or Apeks valves

#### RECOMMENDED FOR

- Underwater inspection
- Navy diving
- Inspection diving
- Maintenance inspection
- Special forces diving
- Underwater search and recovery

#### STANDARDS & CERTIFICATION

- PPE Category II
- EN 14225-2:2017

Product material	3 materials available: 255 gsm nylon/butyl/nylon 450 gsm cordura/butyl/polyester 400 gsm polyester/butyl/polyester
Seam type	Stitched and vulcanized
Color	Black
Size	<b>Regular:</b> 00/SML, 01/MED, 02/LGE, 03/EXL, 04/XXL, 05/XXXL <b>Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL <b>Double Wide:</b> 01/MED, 02/LGE, 03/EXL, 04/XXL
Suit weight	Nylon/butyl/nylon - approx. 4.9 kg in size 02/LGE Cordura/butyl/polyester- approx. 6.2 kg in size 02/LGE Polyester/butyl/polyester- approx. 6.1 kg in size 02/LGE
Packaging	1 per case
Part No. / SKU	Consult your Ansell representative for ordering details



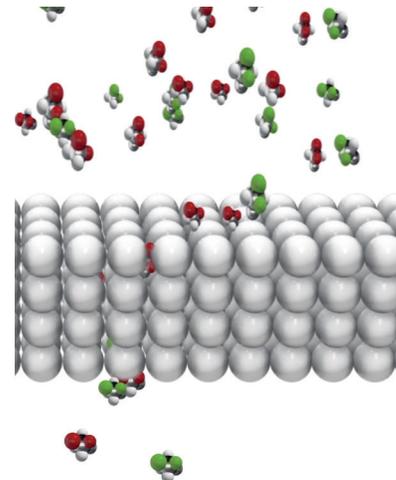
Scan QR code for VIKING™ VTS size chart



## 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 through 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.  $1.0 \mu\text{g}/\text{cm}^2/\text{min}$  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  $\geq 480$  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.

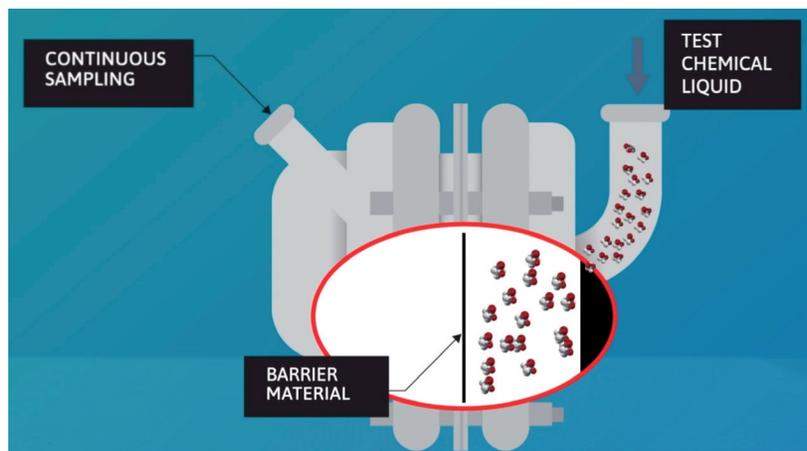
#### Breakthrough time (BT)

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 EN 16523-2 which measures the breakthrough time to  $1.0 \mu\text{g}/\text{cm}^2/\text{min}$  using three samples.
- 2) ISO 6529 specifies BT to be reported at the normalised permeation rate of  $1.0 \mu\text{g}/\text{cm}^2/\text{min}$  ( $\text{BT}^{1.0}$ ) or  $0.1 \mu\text{g}/\text{cm}^2/\text{min}$  ( $\text{BT}^{0.1}$ ), with the mean BT to be recorded.
- 3) ASTM F739 specifies results to be recorded as breakthrough time (BT) at  $0.1 \mu\text{g}/\text{cm}^2/\text{min}$ .

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  $1.0 \mu\text{g}/\text{cm}^2/\text{min}$ . 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, EN 16523-1/-2 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 or product at a macroscopic 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 apparel will be used.

**EN ISO 6530 "Gutter test"** - Test method for the measurement of indices of penetration, absorption and repellence for protective apparel materials against liquid chemicals, mainly chemicals of low volatility.

**ISO 13994 "Penetration under pressure test"** - ISO 13994 describes a series of test methods that enable the determination of the resistance of materials used in protective apparel to visible penetration under the conditions of continuous liquid contact and pressure.

**ASTM F903** - The US equivalent of ISO 13994 procedure C1. Specified in NFPA 1992 (Liquid tight protective clothing for emergency responders)

**EN 14786 "Atomiser test"** - Test method to determine the resistance of protective apparel materials against penetration by atomized liquid chemicals, emulsions and dispersions.

# Ansell**GUARDIAN**<sup>®</sup>

Performed by our safety experts, Ansell**GUARDIAN**<sup>®</sup> is a service that helps our customers to improve their safety and productivity, combining 45 years of safety assessment experience with a data-driven methodology, delivering unique personalised assessments.

## Safety & Compliance

We provide a personalised risk management solution that leads to improved worker safety, injury reduction and increased regulatory compliance.

## Cost Performance

We advise on business performance improvements that result in lower overall costs for your company.

## Productivity

We deliver best practice recommendations to optimise your PPE dispensing, improve your company's output and eliminate waste, leading to an increase in productivity.



## Ansell**GUARDIAN**<sup>®</sup> Chemical

Ansell**GUARDIAN**<sup>®</sup> Chemical simplifies the glove and suit selection for your unique set of chemicals. Self-service tool to search our extensive chemical permeation and degradation data to identify the appropriate hand and body protection for the chemicals they use.

Search by CAS number or chemical name:  
**ansellguardianpartner.com**



### How does it work:



## YOUR BENEFITS: SAFETY. PERFORMANCE. COMPLIANCE.

- Detailed tailor-made report for protection against your chemical hazards (single and mixed chemicals)
- Confidence of knowing you are selecting the right chemical protection
- Comprehensive range of gloves and suits for different industries and applications
- Global support from our Ansell Chemical Experts

**35.000**

single & mixed chemicals

**70.000+**

chemical reports since 2005

**20+**

years of experience in chemical support to our customers

**8 million+**

data points spanning over our hand & body protection portfolio across EN, ASTM and ISO standards

**1.000+**

reports created/month for the last 3 years

For more information, please visit **ansellguardianpartner.com**

For more information, contact your Ansell representative or visit [www.ansell.com](http://www.ansell.com)

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PRODUCT DISCLAIMER AND WARNING: Products containing natural rubber latex may cause allergic reactions in some individuals. 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 "abrasion resistance" or "abrasion protection" do not completely prevent or eliminate the potential for abrasion-related injuries. Products that provide "resistance" to oil or grease or which are "oil repellent" 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 prevent or eliminate the potential for snags or friction-related injuries. Products that provide protection against sparks or flame are not "fire-proof" 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 that provide "chemical resistance" or "chemical protection" do not completely prevent or eliminate the potential for injury due to chemical exposure, and where specific chemical permeation times are provided, they are based on laboratory environments that may differ from a user's worksite. Users should test chemical protective products against the particular environments and chemicals where the product is to be used. Users are encouraged to always use caution and care when handling sharp or abrasive materials, chemicals, or other hazardous or dangerous substances. Any information or data provided is based upon Ansell's current knowledge and understanding of the subject matter, and is offered solely as a possible suggestion for use in making your own decisions or product choices. Product users should conduct all appropriate testing or other evaluations to determine the suitability of Ansell products for a particular purpose or use within a particular environment. Ansell may revise this information as new information, knowledge or experience becomes available. ANSELL DISCLAIMS ALL WARRANTIES OTHER THAN AS EXPRESSLY PROVIDED. According to current OSHA regulations, the employer has the final responsibility for selecting gloves and other personal protective equipment.