





# INDUSTRY GUIDE

CHEMICAL

## ANSELL PROTECTION SOLUTIONS FOR INDUSTRY PROCESSES

Ansell is dedicated to worker safety: we provide a comprehensive range of hand, arm and body protection solutions to cover needs across many industries. Before selecting a product, ensure a risk assessment of the hazards has been conducted to determine that the product will provide an appropriate level of protection. Ansell Guardian® Chemical can be consulted to provide an assessment of the level of chemical protection offered by our products and may assist in the risk assessment. The determination of suitability of Ansell hand, arm and body protection solutions is the final responsibility of the user.

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 and tearing.							
Performance level rating		1	2	3	4	5	
 EN 388:2003 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”

### EN 388:2016: main changes from the previous EN 388:2003 standard

#### 1. ABRASION







New abrasion paper used in testing.

#### 2. CUT

New procedure for Coupe Test which also determines if dulling occurs. If dulling occurs, the new EN ISO 13977 test method becomes the reference whilst the Coupe Test would only be indicative.

#### 3. IMPACT

Test method for areas claiming impact protection. “P” for pass whilst no code will apply in case of fail.

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									
 EN 374:2003 EN level ≥ 2	<b>Performance levels</b>		<b>1</b>	<b>2</b>	<b>3</b>				
	<p><b>Old:</b> 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, and this test method remains unchanged as per the new EN ISO 374 standard.</p> <p><b>New:</b> in addition to testing for protection from bacteria and fungi, each glove can be tested for its protection against viruses with a new viral penetration test.</p>		4.0	1.5	0.65				
 EN ISO 374-5:2016 VIRUS									
Chemical protection									
 EN 374:2003 XYZ	<p><b>Old:</b> breakthrough time &gt; 30 minutes for at least three chemicals from this list (XYZ represent the code letters for three of these chemicals for which the glove obtained &gt; 30 minutes breakthrough time).</p>			A. Methanol B. Acetone C. Acetonitrile D. Dichloromethane E. Carbon disulphide F. Toluene	G. Diethylamine H. Tetrahydrofurane I. Ethyl acetate J. n-Heptane K. Sodium hydroxide 40% L. Sulphuric acid 96%				
	 EN ISO 374-1:2016 Type C	<p><b>New:</b></p> <p><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.*</p>			<p><b>Additional chemicals</b></p> <p>M. Nitric acid 65% N. Acetic acid 99% O. Ammonium hydroxide 25%</p>	<p>P. Hydrogen peroxide 30% S. Hydrofluoric acid 40 % T. Formaldehyde 37%</p>			
		 EN ISO 374-1:2016 Type B	<p><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.*</p>						
			 EN ISO 374-1:2016 Type A	<p><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.*</p>					
	<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	

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

\* Only if the glove is ≥ 40 cm



## CHEMICAL INDUSTRY PROCESSES



### 1. WAREHOUSING

#### Applications:

- Warehousing of raw materials
- Loading/unloading trucks and vehicles
- Handling incoming goods

#### User needs:

- Dexterity
- Abrasion protection
- Chemical resistance and grip



HyFlex® 11-840



AlphaTec® 2000 STANDARD\*



### 2. PREPARATION OF MATERIALS

#### Applications:

- Filling, blending and charging of raw materials
- Transferring liquids and solids
- Opening/draining pumps, valves or lines

#### User needs:

- Chemical resistance
- Abrasion protection
- Dexterity and grip



AlphaTec® 58-535B/W



AlphaTec® 3000\*



### 3. PRODUCTION & PROCESSING

#### Applications:

- Loading and unloading process equipment
- Transferring liquids and solids between vessels, tanks and process equipment
- Supervision of running operation

#### User needs:

- Chemical and liquid resistance
- Grip
- Anti-static



AlphaTec® 58-735



AlphaTec® 4000\*



### 4. PRODUCT SHIPPING

#### Applications:

- Handling outgoing goods: cans, vessels, bulkpack and cartons
- Loading trucks and vehicles
- Product shipping, transport and delivery

#### User needs:

- Abrasion protection
- Dexterity
- Chemical resistance and grip



HyFlex® 11-840



AlphaTec® 2300 PLUS\*



### 5. LAB AND R&D

#### Applications:

- Testing
- Charging and blending raw materials
- Maintenance

#### User needs:

- Chemical resistance
- Dexterity
- Flexibility and grip



MICROFLEX® 93-260



AlphaTec® 3000\*



MICROFLEX® 93-850



### 6. REPAIR AND MAINTENANCE

#### Applications:

- Opening furnaces, draining pumps, valves or lines and crackers BTX process
- Cleaning furnaces, distillations, pumps, valves or lines and crackers BTX process

#### User needs:

- Grip and dexterity
- Chemical and liquid resistance
- Cut and abrasion protection



HyFlex® 11-724



AlphaTec® 5000\*



### 7. SHEET METAL WORKSHOP

#### Applications:

- Hot metalwork
- Painting
- Locksmith

#### User needs:

- Dexterity and flexibility
- Flammability protection
- Contact heat resistance



ActivAmr® 80-813



MICROCHEM® CFR



### 8. EMERGENCY RESPONSE

#### Applications:

- Unexpected leakages, spills or other releases

#### User needs:

- Chemical and liquid resistance
- Tear resistance
- Flame retardancy



AlphaTec® 38-612\*



AlphaTec® 02-100\*





AlphaTec® Flash\*

\*There will be a transitional period where there will be a mix of old and newly branded products in the market. Functionality and performance of the products will remain unchanged, the current products and the new ones have the same quality and same protection.

## GET MORE PRODUCT INFORMATION ONLINE

Our websites provide you with easy access to our product search tools along with data/product sheets and certificates.

 **Hand and arm protection** 

 <http://industrialcatalogue.ansell.eu>

Select the right glove or sleeve that best fits your industry and application.

 **Body protection** 

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

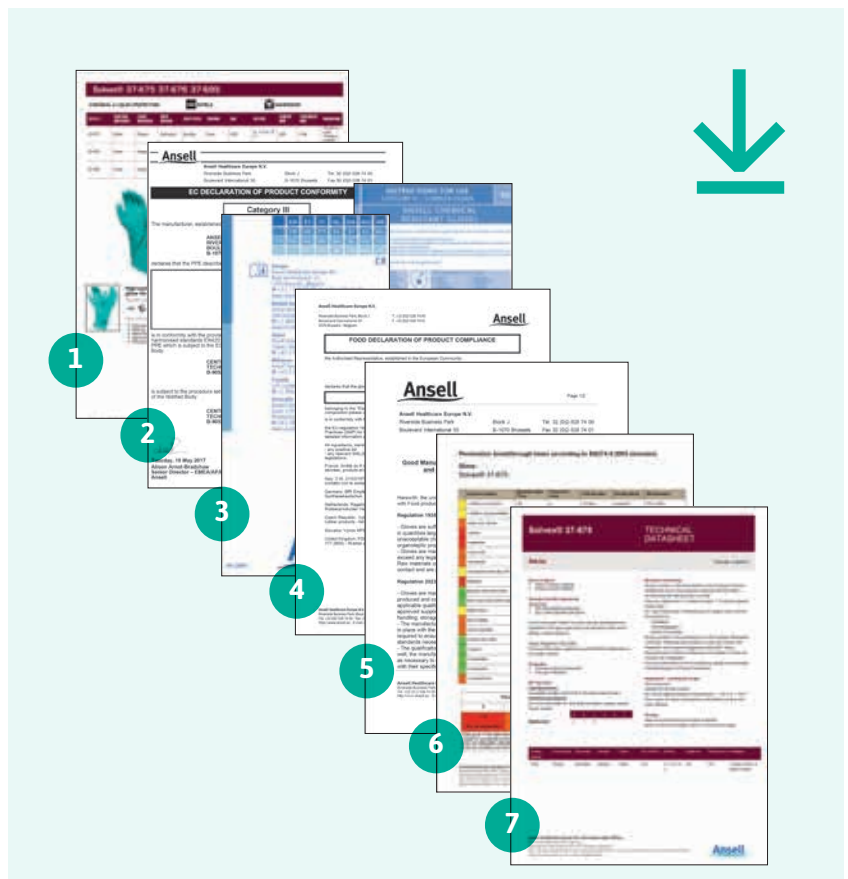
Find more information on our MICROGARD®, MICROCHEM® and AlphaTec® chemical protective clothing products.

 <http://protective.ansell.com>

Find more information on our VIKING™, TRELLECHEM®, TRETIGHT™, TRELLENT™ and AlphaTec® products.

### Your search options also include various downloadable data sheets:

- 1 Product sheets
- 2 EU declaration of conformity
- 3 Instructions for use
- 4 Food declarations of product conformity
- 5 GMP food declaration
- 6 Chemical recommendation guides
- 7 Technical data sheets




**FOR FURTHER INFORMATION OR TO REQUEST A SAMPLE, CONTACT YOUR SALES REPRESENTATIVE.**