



# INDUSTRY GUIDE

ENGINEERING CONSTRUCTION

## 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								
Performance levels		1	2	3				
 EN 374:2003 EN level ≥ 2	<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.	4.0	1.5	0.65				
	<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.							
 EN ISO 374-5:2016 VIRUS								
Chemical protection								
 EN 374:2003 XYZ	<b>Old:</b> breakthrough time > 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 > 30 minutes breakthrough time).	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%				
	<b>New:</b>							
	<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.*			<b>Additional chemicals</b> M. Nitric acid 65% N. Acetic acid 99% O. Ammonium hydroxide 25%				
	<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. Hydrogen peroxide 30% S. Hydrofluoric acid 40 % T. Formaldehyde 37%				
 EN ISO 374-1:2016 Type C								
 EN ISO 374-2:2016 Type B								
 EN ISO 374-3:2016 Type A	<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.*							
	<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



## ENGINEERING CONSTRUCTION INDUSTRY PROCESSES



### 1. EXCAVATION & PILING

#### Applications:

- Major plant equipment operation
- Rigging and dogging
- Pipe installation
- Contact contaminated soil, water and waste

#### User needs:

- Grip
- Abrasion resistance
- Impact protection
- Chemical resistance



HyFlex® 11-849



Ringers 065



AlphaTec® 58-270



### 2. STRUCTURAL ERECTION

#### Applications:

- Installing formwork
- Rigging and dogging
- Use hand tools
- Move materials
- Pour concrete

#### User needs:

- Grip
- Cut protection
- Impact protection
- Chemical resistance



HyFlex® 11-738



Ringers 161



AlphaTec® 58-735



### 3. STEELFIXING & STRESSING

#### Applications:

- Place reinforcing steel
- Fit tensioning cables
- Fix and tie steel
- Welding

#### User needs:

- Grip
- Cut resistance
- Heat protection



HyFlex® 11-542



HyFlex® 11-751



ActivAmr® 43-217



### 4. ROAD SURFACING

#### Applications:

- Lab testing and analysis
- Substrate preparation
- Asphalt laying
- Levelling and rolling
- Linemarking

#### User needs:

- Chemical and heat protection
- Cut resistance
- Abrasion resistance
- Body protection



AlphaTec® 58-535



HyFlex® 11-937



MICROGARD® 2300



### 6. SERVICES INSTALLATION

#### Applications:

- Drilling and fixing
- Electrical and comms fitting
- Sprinkler fitting
- Plumbing & hydraulics

#### User needs:

- Grip
- Cut protection
- Dexterity
- Abrasion resistance
- Electrical protection



HyFlex® 11-840



Ringers 068



ActivArm® 80-813



### 7. FINISHING

#### Applications:

- Painting and plastering
- Brickwork and tiling
- Fitting points and lighting
- Signage installation

#### User needs:

- Grip
- Abrasion resistance
- Chemical protection
- Cut protection



Microflex® 93-856



HyFlex® 11-531



MICROGARD® 1500



### 8. OPERATION & MAINTENANCE

#### Applications:

- Commercial maintenance and upkeep
- Electrical testing
- Operating equipment and touchscreens
- Visual checks

#### User needs:

- Dexterity
- Electrical protection
- Abrasion resistance



HyFlex® 11-840



ActivAmr® 80-813



MICROGARD® 1500

## 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** 

 **Body protection** 

 <http://ppe.ansell.com.au>

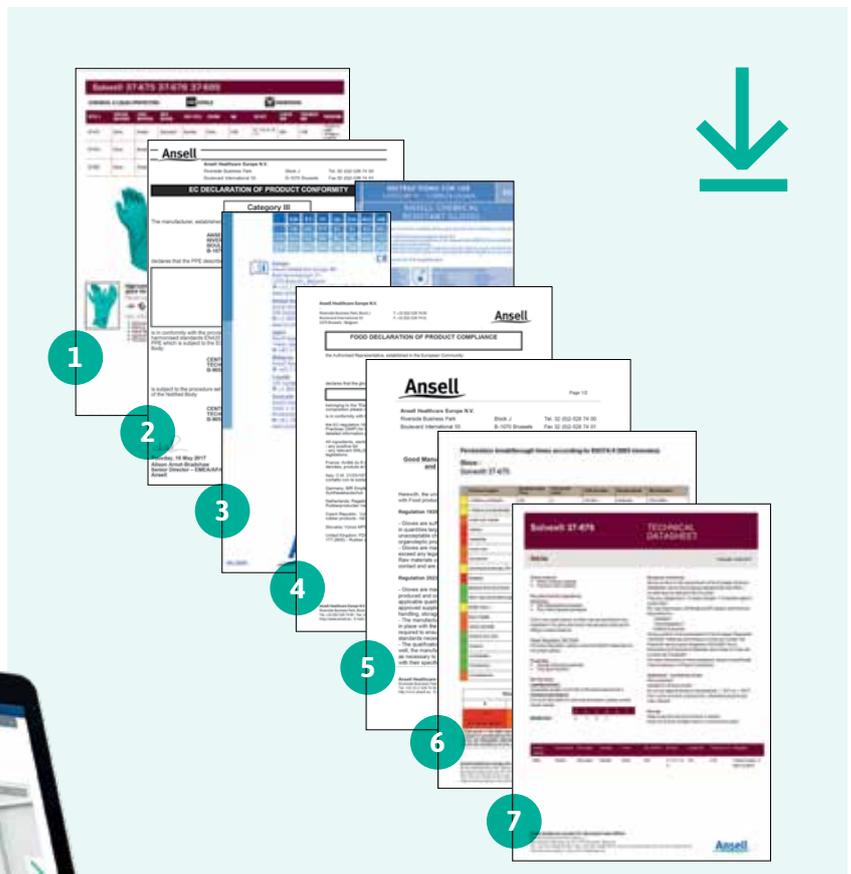
Select the right glove or sleeve that best fits your industry and application.

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

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

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- 5 GMP food declaration
- 6 Chemical recommendation guides
- 7 Technical data sheets




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