ChemRest®
know you're protected

CHEMICAL RISKS DON'T STOP AT THE SURFACE, YOUR PROTECTION SHOULDN'T EITHER.

Reinforce your defense with the complete CHEMREST protection platform.

EDUCATE
Coherent tools & training on hand protection against chemicals

EVALUATE
Full risk assessment & in-house lab testing of customer-specific chemicals

EQUIP
A complete series of protective gloves adapted to all industries and uses

SHOWA
Always Innovating. Never Imitating.

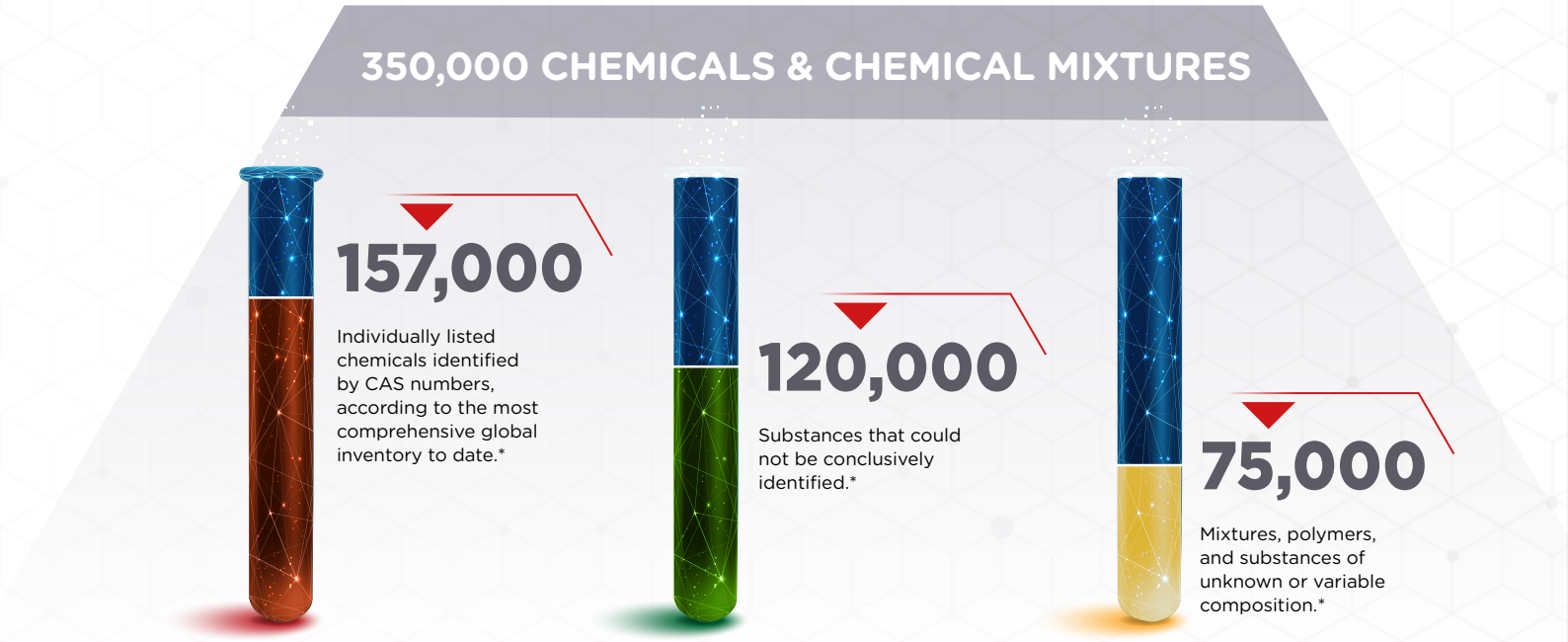
SHOWAgroup.com

THE DANGERS OF CHEMICALS AT WORK

Chemicals and abrasive solvents are used by billions of people globally. In fact, there are more than 350,000 chemicals & chemical mixtures in the world, registered for commercial production and use (Environ. Sci. Technol. 2020). Workers who are in contact with chemicals, hazardous substances and gases - even simple cleaning detergents - are putting their hands at risk.

While chemical injuries occur more frequently in occupations where chemicals are manufactured, they also happen in other high-risk industries such as mining, painting, construction, oil & gas, healthcare, warehousing, transportation, agriculture and welding.

Some chemical injuries happen when workers are unintentionally exposed to seemingly non-harmful solutions or gases over long periods of time.



* Individual chemicals, mixtures, polymers, and other substances were identified by CAS numbers.

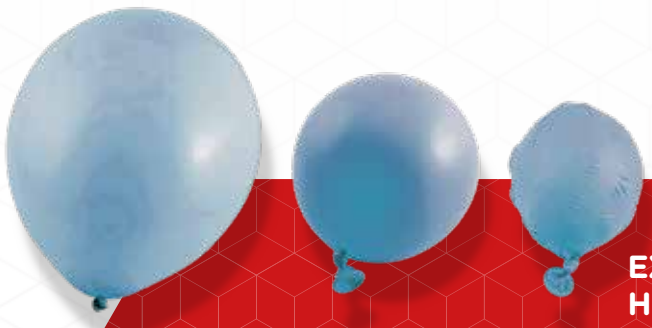
CHEMICAL PERMEATION: THE SILENT KILLER

Safety professionals choosing a chemical resistant glove must look at the glove's degradation AND permeation performance. Many PPE glove providers only offer the glove degradation data, but there is a distinct and critical difference between these two.

Signs of degradation by a chemical are clear; the glove material is being "attacked" by the chemical and will show changes in color, form and flexibility. Burns or injuries will likely appear on the skin within several hours.

On the other hand, chemical permeation cannot be detected by the human eye. Unless the chemical is cleaned off properly, it will be absorbed into the glove material on a molecular level, emerging inside the glove as a vapor to enter the skin and bloodstream.

This can cause serious long term injuries that appear later on.



EXAMPLE: WHAT HAPPENS WHEN YOU LEAVE A HELIUM BALLOON IN A ROOM FOR A FEW DAYS?

The balloon will deflate and fall to the floor! This is due to PERMEATION - the chemical/gas molecules seeping through the material and escaping into the air.

COMPLICATIONS FROM CHEMICAL BURNS

Patients with chemical burns can go on to suffer the following complications:

- Pneumonia
- Urinary tract infection
- Respiratory failure
- Renal failure
- Wound infection
- Other blood/ systemic infection
- Dysrhythmias
- Septicemia

EMPLOYEES AND EMPLOYERS BOTH PAY THE PRICE

Every year, millions are spent on medical fees, legal fees and fines due to hand protection failures that could have been avoided, not to mention the impact that days-away-from-work can have on production deadlines. Without the proper hand protection, the short- and long-term effects of chemical exposure can be extremely problematic and costly for both the worker and the employer.

In 2015, there were **3,940** cases of days-away-from-work resulting from chemical burns or corrosions.

On average, **3 days away** from work are taken after a chemical injury is incurred.

Every year, around **4%** of global GDP (Global Domestic Product) or **$2.8 trillion** is lost to work-related accidents and diseases.

A FULL CHEMICAL PROTECTION SERVICE WITH SHOWA'S CHEMREST PLATFORM

Chemical risks don't stop at the surface and removing them requires the proper attention, up-to-date knowledge and the right protective measures. SHOWA combines unparalleled expertise in chemistry and chemical resistant materials with top of the line glove manufacturing processes, bringing you a complete and comprehensive chemical protection platform.

SHOWA ChemRest

CHEMREST makes navigating the challenges of chemical resistant hand protection easier for safety professionals by providing an entire chemical resistance portfolio of products, resources and tools in one platform. Based on well over 70 years of product trials, market and customer research, and the joint experience of our 6000+ global employees, ChemRest Platform offers 3 key service pillars that serve to reduce chemical-related injuries:

EDUCATION

We provide up to date knowledge, expertise, and tools on topics such as chemical resistance norms and chemical permeation data by glove, to help customers make the right glove choice and avoid injuries. This education also includes in-person or webinar training of your employees.

EVALUATION

Our glove experts assess our customers' specific needs and test their existing gloves against the chemical environments they may encounter. This benefit can also include using our in-house chemical laboratory services, where particular materials can be tested under controlled conditions to offer customized advice on hand protection and cost savings.

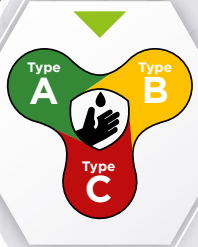
EQUIPMENT

Based on real, unbiased chemical performance data, we recommend the most suitable glove for your application. Our ChemRest product series consists of chemical resistant gloves that can be used across all relevant markets, industries and applications. Each glove comes in a variety of sizes, lengths and thicknesses for additional personalization.

WHEN PROTECTING HANDS FROM CHEMICAL RISKS,

KNOWLEDGE IS DEFINITELY KEY

EDUCATE



SHOWA aims to empower customers with the knowledge and tools to make better and more informed choices about their chemical hand protection. You will find useful information in this document, but we remind you that our team of chemical glove experts are a phone call away and can offer more customized advice.

SHOWA EXPERTISE

CHEMICAL TERMS AND PROCESSES TO NOTE

BREAKTHROUGH TIME is the number of minutes from initial contact with a test chemical until it is first detected on the inside of the protective clothing measured using sensitive analytical testing. It is essentially the number of minutes until your skin is exposed inside the gloves or other protective clothing.

DEGRADATION is the deleterious change in one or more physical properties of a protective clothing material due to contact with a chemical. Degradation changes may include delaminating, discoloration, hardening or loss of tensile strength.

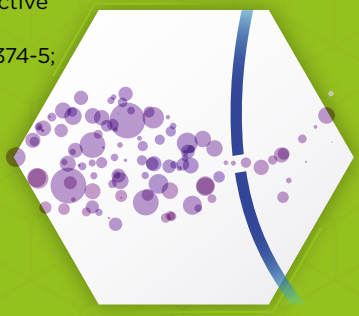
CONCENTRATION is the amount or mass of a constituent divided by the total mass of a solution. Normally all Organic Solvents tested in this site are 100% pure. Acids and Caustics are solutions in water. In permeation testing of acids, in particular, the concentration will affect the breakthrough time. More concentrated acids will permeate sooner than dilutions.

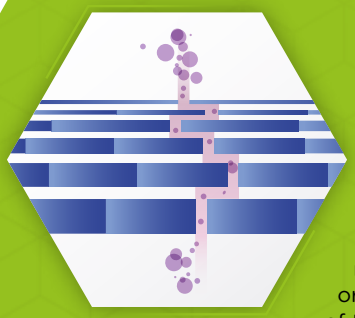
HEAVY-EXPOSURE in permeation testing, this term refers to constant total immersion of the protective clothing material in the test chemical which represents the worst type of heavy exposure. The ASTM F739 Test Standard and EN 374 European Test Standard refers to this type of exposure.

INTERMITTENT EXPOSURE refers to ASTM F 1383 Standard Test Method for Permeation of Liquids or Gases through Protective Clothing Materials under Conditions of Intermittent Contact. SHOWA used a contact time of 1 minute where the glove material was fully immersed, and 9 minutes of purge time where the glove material was unexposed to the chemical. This was repeated for 240 minutes.

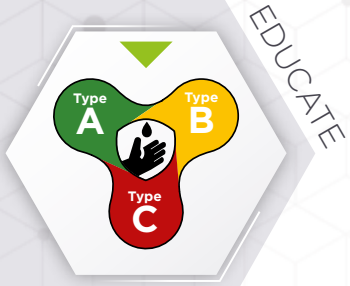
PENETRATION VS PERMEATION

PENETRATION
The process by which a substance moves through pinholes or other defects, forming apertures in protective gloves on a non-molecular level. Regulated in Europe by EN 455-1 / EN 374-5; for viruses by EN 16604. In America by: ASTM D5151; for viruses by: ASTM F1671.





PERMEATION
The process by which a chemical moves through protective glove materials at the molecular level. The passage of a liquid or gas through protective gloves consists of three steps; absorption, diffusion and desorption. Regulated in Europe by EN 374-1:2016 / EN 16523-1.



EDUCATE

RECOGNIZING NORMS AND LABELS THAT IDENTIFY YOUR LEVEL OF PROTECTION

A complete overview of PPE norms can be found on page 30.

EN ISO 374-1: 2016 | CHEMICAL RESISTANCE RATING

You can identify your glove's chemical protection performance by looking at the Type at the top of the pictogram and the letters underneath it. The Type will tell you how many of the 18 chemicals listed in the table were tested with the glove to check its performance and the expected minimal length of the protection against these chemicals. The Letter code denotes the tested chemicals within the EN 374 standard.

EN ISO 374-1/ Type A

UVWXYZ

Chemical protection with breakthrough times > 30 minutes for at least 6 of the 18 listed chemicals within the standard.

EN ISO 374-1/ Type B

XYZ

Chemical protection with breakthrough times > 30 minutes for at least 3 of the 18 listed chemicals within the standard.

EN ISO 374-1/ Type C

Chemical protection with breakthrough times > 10 minutes for at least 1 of the 18 listed chemicals within the standard.

List of chemicals:

Letter code	Chemical	CAS number	Class
A	Methanol	67-56-1	Primary alcohol
B	Acetone	67-64-1	Ketone
C	Acetonitrile	75-05-8	Nitrile compound
D	Dichloromethane	75-09-2	Chlorinated hydrocarbon
E	Carbon disulphide	75-15-0	Organic compound containing sulphur
F	Toluene	108-88-3	Aromatic hydrocarbon
G	Diethylamine	109-89-7	Amine
H	Tetrahydrofurane	109-99-9	Heterocyclic ether
I	Ethyl acetate	141-78-6	Ester
J	n-Heptane	142-82-5	Saturated hydrocarbon
K	Caustic soda 40%	1310-73-2	Inorganic base
L	Sulfuric acid 97%	7664-93-9	Inorganic mineral acid
M	65% Nitric acid	7697-37-2	Inorganic mineral acid, oxidizing
N	99% Acetic acid	64-19-7	Organic acid
O	25% Ammonium hydroxide	1336-21-6	Organic base
P	30% Hydrogen peroxide	7722-84-1	Peroxide
S	40% Hydrofluoric acid	7664-39-3	Inorganic mineral acid, contact poison
T	37% Formaldehyde	50-00-0	Aldehyde

EN ISO 374-5:2016

VIRUS

EN ISO 374-5: PROTECTION AGAINST MICRO-ORGANISMS

The world has seen its share of micro-organism hazards, with the safety concerns reaching the global pandemic level only too recently. The updated EN ISO 374-5 improves the identification of micro-organism-resistant gloves by labelling them with the specific micro-organisms they protect against: bacteria, fungi, and viruses. This way, users are immediately aware if their glove also protects them from, for example, coronaviruses.

EDUCATE

CHOOSE YOUR HAND PROTECTION WITH OUR

TYPE A, B OR C PRODUCT LABELS

You can also easily identify the glove you need thanks to SHOWA's new global labeling system that displays the EN ISO 374-1:2016 Type clearly on the glove as well as the packaging. That means when a worker reaches for a glove or dispenser, they don't need to squint at the fine print to see whether they have the correct level of protection.

EDUCATE

GENERAL RECOMMENDATIONS FOR CHEMICAL-RESISTANT POLYMERS

Choosing the right chemical protective glove is a difficult task for health and safety managers. Choices are made following multiple criteria such as chemical, time of immersion, splash protection or heavy exposure, repetitiveness of tasks, etc.
The table below gives a general comparison of the chemical protection levels provided by polymers, against 6 of the most commonly found chemical types. Examples of their letter codes, taken from the 18 listed chemicals in EN ISO 374-1, are shown as well.

SHOWA's Chemical Laboratory can conduct more tests in case of uncertainty concerning the choice of protective glove with a given chemical.

CHEMICAL	878 Butyl Rubber	731 Nitrile	3415 Neoprene	660 PVC	CHM Neoprene/Nitrile	890 Viton/Butyl
Alcohol (A: Methanol)	6	2	6	2	3	6
Ketone (B: Acetone)	6	1	3	2	2	6
Aromatics (F: Toluene)	2	2	2	2	1	6
Acid (L, M, N, S*)	6	3	6	6	6	6
Fuel (Kerosene, Gas, Oil)	2	6	6	3	2	6
Alkanes (J: Heptane)	2	6	6	2	2	6

* L: Sulfuric, M: Nitric, N: Acetic, S: Hydrofluoric acid

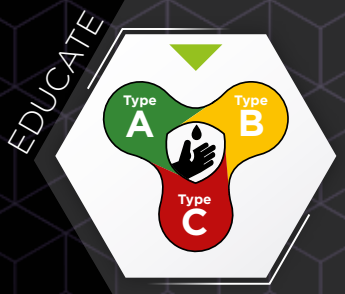
The level (0 to 6) indicates the time required for different chemicals to permeate through the glove.

BREAKTHROUGH TIME	PERFORMANCE LEVEL	
≤ 1 minute	Level 0	Not recommended
1 to 5 minutes	Level 0+	Splash protection only; change the glove immediately after contact!
6 to 10 minutes	Level 0++	Splash protection only; change the glove immediately after contact!
> 10 minutes	Level 1	Short contact only; change the glove after 10 minutes max!
> 30 minutes	Level 2	Medium protection, 30 minutes contact.
> 60 minutes	Level 3	Medium protection, 60 minutes contact.
> 120 minutes	Level 4	Good protection level.
> 240 minutes	Level 5	Very good protection level.
> 480 minutes	Level 6	Excellent protection level.

DEBUNKING THE MYTHS ABOUT

TYPE A , B OR C QUALIFICATIONS

We recommend that customers choose their safety gloves according to its material, thickness, the chemicals and its dexterity and cost/durability, not according to its "rank" A, B, C.



IN-MARKET ASSUMPTIONS & BELIEFS	OUR EXPERT ANSWER	WHAT SHOULD YOU DO?
"Two gloves with the same Type (A, B or C) but with different letters below the pictogram (e.g. JKL or JPT or KLO) do not offer the same protection."	**Not necessarily.** Each letter in the pictogram simply represents a specific chemical that the glove has been tested against. For instance, a glove with JKL below the pictogram means it was tested against 3 specific chemicals - in this case heptane(J), sodium hydroxide(K) and sulphuric acid(L). Another glove may have JPT below the pictogram, meaning it was tested against heptane(J) and two other chemicals. Glove manufacturers choose which chemicals they want their products tested against under the EN 374 standard, so gloves with the same Type could have been tested against many different chemicals.	Clearly understand the chemical hazards present in your application and utilize Chemrest.com to assist you in making a proper selection for the specific chemical(s) which could come in contact with the hands. Just because a chemical is not listed in the pictogram does not mean that the glove will not protect against it. If necessary, ask one of our experts for advice or a consultation.
"Two gloves with the same Type (A, B or C) but made of different materials provide equivalent protection."	**Not likely.** While some products made from different polymers that are labelled with the same EN 374 Type may exhibit similar protection levels, this does not make them equivalent. Each material has its strengths and weaknesses, which contributes to the overall performance. For instance, Nitrile is very well suited to protect against Alkanes, however tends to provide poor resistance to Ketones.	Clearly understand the chemical hazards present in your application and utilize Chemrest.com to assist you in making a proper selection for the specific chemical(s) which could come in contact with the hands. We also recommend to test the chosen gloves at the workplace and compare their cost of ownership and dexterity before making your final choice.
"Type A glove is better than a Type B glove, and Type B is better than Type C."	**Not likely.** A Type A glove is indeed tested against more chemicals than a Type B or Type C glove, but this does not indicate better performance. In the EN 374 standard, both Type A and Type B require the glove to withstand breakthrough by the chemical for at LEAST 30 minutes (it does not go beyond that). A Type A glove tested against heptane may only have a 35-minute breakthrough time while a Type B may have 85 minutes, meaning longer protection than the Type A glove, even though the same chemical letter appears in the pictogram of both gloves.	Clearly understand the chemical hazards present in your application and utilize Chemrest.com to assist you in making a proper selection for the specific chemical(s) which could come in contact with the hands. Chemrest.com will provide you with a much more specific breakthrough time for each chemical tested on all SHOWA ChemRest gloves. This way you can select the proper SHOWA glove for your application that meets your requirements. If necessary, ask one of our experts for advice or a consultation.
"A Type A glove with 7 or more letters below the pictogram obviously offers better protection than a Type A glove with only 6 letters."	**Not likely.** The EN 374 standard for TYPE A gloves is a minimum of 6 chemicals tested. A glove manufacturer can choose to test more than 6 if they wish. This does not mean that a glove with only 6 chemicals tested is of lower quality than a glove with 8 chemicals tested. It simply means the glove was subjected to more chemicals. A glove that has been tested to 8 chemicals may be very poor at protecting against a chemical that was not in the 8 chosen for the standard. Remember that each chemical is only tested for a minimum breakthrough time of 30 mins.	Knowing which chemical presents the hazards in your application is key. Just because a glove is tested against a lot of chemicals, does not necessarily mean it will adequately protect you from the chemical(s) in use at your application. Consult Chemrest.com to get the best possible hand protection solution for your needs, or speak to one of our experts to test the chosen gloves at your workplace.
"I won't choose a Type C glove because I was told by our safety officer that with the chemicals we use, we need a Type B glove."	**The EN 374 Types should not be utilized in this manner.** They exist as a guide for end users to more easily understand a glove's chemical protection properties for certain chemicals with exposure times within the Type that the glove falls into. They do not provide information on the glove's performance beyond 30 minutes of exposure, nor does it indicate performance against chemicals which were not tested. Simply choosing Type B over Type C because it is a level higher in the standard can lead to severe injuries. A Type B glove may be a poor choice against a particular chemical while a TYPE C glove may actually offer adequate protection against the same chemical.	Again, knowing the exact chemicals that you wish to protect your employees from is paramount. Obtain SDS sheets and use ChemRest.com to aid you in selecting a SHOWA glove that is appropriate for your level of exposure. Do not take chances, let the experts do the work for you. With dozens of chemists on staff, SHOWA and ChemRest.com can be your primary source for chemical hand protection selection. Ask one of our experts for advice or a consultation

EVALUATE

KNOW YOU'RE PROTECTED WITH CHEMREST.COM

The EN ISO 374-1:2016 has undoubtedly improved the identification and labeling of chemical-resistant safety gloves, yet presents a challenge to safety professionals. Only 18 chemicals make up this norm, compared to the hundreds of different chemicals and chemical mixes used by our customers worldwide. So what if your chemical is not one of those 18?

ChemRest.com Chemical Resistant Glove Directory

SHOWA ChemRest Type A Type B Type C

FIND THE RIGHT GLOVE ON CHEMREST.COM

Selecting the right chemical resistant glove for the job is a lot easier with ChemRest.com, the original and best-in-class Chemical Resistant Glove Directory.

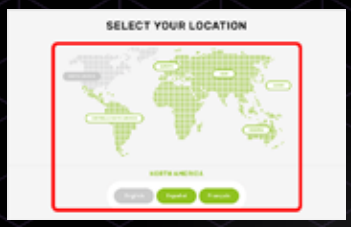
Supported by our global network of manufacturing, research, and safety specialists, www.ChemRest.com allows safety professionals to conduct an initial search for a SHOWA glove that protects against a specific chemical or chemical mix.

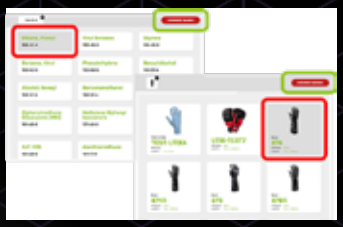
With over 300 of the most popular commercially-used chemicals tested by our in-house chemists, ChemRest.com is the first step to evaluating your protection against the chemicals you use, for the time you use them.

ChemRest.com features user-intuitive navigation, an enhanced chemical search, and the ability to compare different gloves against each other. Safety professionals can benefit from:

1. User-friendly chemical directory with hundreds of chemicals available
2. Free on-demand testing for additional chemicals
3. Access to expert chemical data and resources in one place
4. Dedicated technical support
5. Cost-effective hand protection solution thanks to the accurate chemical glove selection and recommendation

HOW TO USE CHEMREST.COM





STEP 1

Visit ChemRest.com and select your location and language.

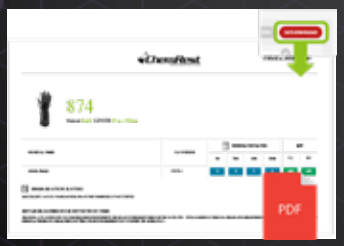
STEP 2

Search for either 1) the chemical name or CAS number you are interested in, or 2) the glove you are using.

STEP 3

Select the chemical, product, or CAS and hit search (multiple chemicals can be selected at once).

ChemRest.com
Chemical Resistant Glove Directory



STEP 5

Register for your free account and download your chemical data.

STEP 4

See the results for the related chemical information and the breakthrough time that it will take the selected chemical to reach your hand through the glove.

SHOWA'S CHEMICAL LABORATORY SERVICES

As a premium service, SHOWA offers a free comprehensive analysis of your chemical-resistant glove usage, for example to help with the latest EN 374 compliance requirements. At our in-house chemical laboratory, we are able to test any chemical or chemical mix you may be using.

You receive a detailed report with glove recommendations based on your hazardous chemical usage. This program is designed to give the most cost-effective analysis and complete coverage of EN 374 requirements.

Find out more on SHOWAgroup.com

IS YOUR CURRENT GLOVE SUITABLE FOR YOUR APPLICATION?

Safety concerns evolve as new procedures and technologies enter the workplace. Safety regulations are revised and updated as well, with harsher consequences for companies who do not comply. In parallel, advancements in protective gear mean that safety gloves are more comfortable, offer multi-risk protection, and be manufactured more cost-effectively thanks to innovations from glove makers like SHOWA.

SHOWA'S RISK EVALUATION PROGRAM IN 4 WEEKS

It's important to remember that chemical resistance tests are conducted in laboratory conditions, unlike the real workplace environments of our customers. Other potential risks like abrasions, cuts and snags are present there, which impacts the protection needs of workers. Gloves that are worn down or have holes will not protect the user when submerged in chemicals. Furthermore, dexterity needs, contact time and budget play key roles in choosing protective gloves...

SHOWA offers companies a full risk evaluation designed to identify potential cost savings and hand safety improvements by:

- Consolidating products
- Reducing stock and capital bonding in PPE
- Adopting new technologies
- Improving employees' safety and job satisfaction
- Adopting best practices for use and control

A NOTE FROM OUR EXPERTS:

"So often, the purchasing process of chemical resistant gloves starts with the question: *"What is the alternative to the glove I am using now?"* When in fact, the glove currently being used is not suitable for the application (anymore). This scenario is the most dangerous way to purchase hand protection because not only are workers placed at risk, but so is the company."

HERE'S HOW IT WORKS:

Our holistic Evaluation Programs (4WTP or Sentinel Program) consists of a safety evaluation and strategic plan. Our 5-step methodology has been honed to effectively optimize your operation's safety and cost-performance within approximately 4 weeks.

1 EVALUATION:

SHOWA's highly-trained field experts conduct a comprehensive on-site hazard assessment to identify inefficiencies and turn them into opportunities.

2 BENCHMARK:

After determining your business goals and objectives, we benchmark your current performance and present alternative glove suggestions to be tested for improvements.

3 IMPLEMENTATION:

We design a customized safety plan and implement it through alternative glove trials with a selection of workers.

4 MEASUREMENT:

Once data is collected from the worker interviews and glove inspections, we present the comparisons on performance, user comfort and cost-efficency in a detailed report and price offer.

5 MANAGEMENT:

Following success on glove trials and acceptance of our customized safety plan, our service experts provide ongoing assistance to ensure you get the most from your investment long-term.

GLOBAL PRODUCT MANUFACTURING EXPERTISE IN A

UNIFIED CHEMREST GLOVE PORTFOLIO

EQUIP

Utilizing the expertise of each of our manufacturing facilities across the world, SHOWA's ChemRest glove portfolio is a consolidated series of chemical resistant gloves adapted to all industries and uses. We have 100% ownership of our manufacturing processes and plants, building even our own production lines. Our gloves are designed and tested by our in-house engineers and chemists, trialed with customers in real working environments, and produced with SHOWA's "Zero defect" unmatchable quality.

		Type A		Type A + Type B		Type A + Type B + Type C	
REUSABLE GLOVES	SUPPORTED	CS700 CS701		NSK26		620	
		CS710 CS711		660		460	
		CS720 CS721		KV660			
		NSK24		495			
		3415 3416					
		6797R					
		660ESD					
	UNSUPPORTED	707D					
		707HVO					
		875R					
		731					
		730 747					
		CHM					
SINGLE USE				6110PF		7502PF	
				6112PF			
				7500PF			
		FULL IMMERSION		SPLASHES, INTERMITTENT CONTACT			

REUSABLE GLOVES

SHOWA CS700

POLYMER: **NITRILE** | LENGTH: **12 INCH** | LINER: **POLYESTER** | SIZE: **7/S – 11/XXL**

NEW

With anti-slip technology, the CS700 food-safe gloves offer increased tactility.

A double-dipped nitrile coating provides chemical protection and ensures the gloves are highly durable to keep the wearer safe from harmful substances.

The combination of a seamless liner and natural latex-free design is kind to the skin.

BENEFITS:
- Natural rubber latex-free
- Anti-slip grip
- Chemical-resistant
- Oil-resistant
- Seamless knit
- Robust durability

APPLICATIONS:
Food Processing & Handling
Commercial Fishing
Fish Processing
Chemical
Petrochemical
Cold Stress/Equipment Handling

FEATURES:
Double coated Nitrile
Polyester liner
Rough grip

Cat. III 0598 | EN 388 3132A | EN ISO 374-5 | EN ISO 374-1:2016/Type A JKLMNOPT | EN 407 X1XXXX

SHOWA CS701

POLYMER: **NITRILE** | LENGTH: **14 INCH** | LINER: **POLYESTER** | SIZE: **7/S – 11/XXL**

NEW

The CS701 food-safe gloves are designed with precision in mind. Anti-slip, rough surface grip gives the wearer optimum performance.

A double-dipped nitrile coating also provides chemical protection and durability to ensure safety from dangerous substances.

The seamless liner and natural latex-free composition are skin-friendly and comfortable for long-wear.

BENEFITS:
- Natural rubber latex-free
- Anti-slip grip
- Chemical-resistant
- Oil-resistant
- Seamless knit
- Robust durability
- Forearm protection

APPLICATIONS:
Food Processing & Handling
Commercial Fishing
Fish Processing
Chemical
Petrochemical
Cold Stress/Equipment Handling

FEATURES:
Double coated Nitrile
Polyester liner
Rough grip

Cat. III 0598 | EN 388 3132A | EN ISO 374-5 | EN ISO 374-1:2016/Type A JKLMNOPT | EN 407 X1XXXX

SHOWA CS710

POLYMER: **NITRILE** | LENGTH: **12 INCH** | LINER: **POLYESTER** | SIZE: **7/S – 11/XXL**

NEW

Prioritize comfort and wearer safety with the CS710 chemical-resistant gloves.

A double-dipped nitrile coating offers robust durability, while the seamless liner and natural latex-free composition ensure comfort during long periods of wear.

Enhanced grip from the foamed nitrile palm coating provides extra grip, even in oily or slippery environments.

BENEFITS:
- Chemical-resistant
- Oil-resistant
- Seamless knit
- Extra grip
- Robust durability
- Natural rubber latex-free

APPLICATIONS:
Chemical
Construction
Petrochemical
Oil & Gas
Refining
Painting
Oily Surface Handling
Commercial Fishing

FEATURES:
Double coated Nitrile
Polyester liner
Foam grip
Microporous nitrile coating

Cat. III 0598 | EN 388 4122A | EN ISO 374-5 | EN ISO 374-1:2016/Type A AJKLMNOPT | EN 407 X1XXXX

SHOWA

CS711

POLYMER: **NITRILE** LENGTH: **14 INCH** LINER: **POLYESTER** SIZE: **7/S – 11/XXL**

NEW

The CS711 chemical-resistant gloves offer enhanced grip, comfort, and safety. Forearm protection and nitrile material keep oil and dust from entering the glove.

A seamless liner and natural latex-free material ensures comfort and reduces irritation.

Even in oily or wet working environments, the foamed nitrile palm coating provides the user with tactile precision and protection.

BENEFITS:
- **Chemical-resistant**
- **Oil-resistant**
- **Extra grip**
- **Seamless knit**
- **Robust durability**
- **Natural rubber latex-free**
- **Forearm protection**

APPLICATIONS:
- Chemical
- Construction
- Petrochemical
- Oil & Gas
- Painting
- Oily Surface Handling

FEATURES:
- Double coated Nitrile
- Polyester liner
- Foam grip
- Microporous nitrile coating

Cat. III 0598 | EN 388 4122A | EN ISO 374-5 | EN ISO 374-1:2016/ Type A AJKLMNOPT | EN 407 X1XXXX

SHOWA

CS720

POLYMER: **NITRILE** LENGTH: **12 INCH** LINER: **POLYESTER** SIZE: **7/S – 11/XXL**

NEW

A double-dipped nitrile coating on the SHOWA CS720 chemical-resistant gloves keeps wearers safe from harmful substances.

A seamless liner and natural latex-free material ensures comfort and reduces irritation.

The durable CS720 gloves also prevent oil and dust from entering, ensuring optimum tactile precision.

BENEFITS:
- **Seamless knit**
- **Increased dexterity**
- **Oil-resistant**
- **Chemical-resistant**
- **Natural rubber latex-free**
- **Robust durability**
- **Anti-slip grip**

APPLICATIONS:
- Commercial Fishing
- Agriculture
- Chemical
- Petrochemical
- Painting

FEATURES:
- Rough grip
- Double coated Nitrile
- Polyester liner

Cat. III 0598 | EN 388 3132A | EN ISO 374-5 | EN ISO 374-1:2016/ Type A JKLMNOPT | EN 407 X1XXXX

SHOWA

CS721

POLYMER: **NITRILE** LENGTH: **14 INCH** LINER: **POLYESTER** SIZE: **7/S – 11/XXL**

NEW

The SHOWA CS721 chemical-resistant gloves keep wearers safe from harmful substances, with an elongated forearm for extra protection.

A seamless liner and natural latex-free material ensures comfort and reduces irritation.

The durable CS721 also keeps oil and dust out of the glove, ensuring optimum tactile precision.

BENEFITS:
- **Seamless knit**
- **Increased dexterity**
- **Oil-resistant**
- **Chemical-resistant**
- **Forearm protection**
- **Natural rubber latex-free**
- **Anti-slip grip**
- **Robust durability**

APPLICATIONS:
- Commercial Fishing
- Agriculture
- Chemical
- Petrochemical
- Painting

FEATURES:
- Double coated Nitrile
- Polyester liner
- Rough grip

Cat. III 0598 | EN 388 3132A | EN ISO 374-5 | EN ISO 374-1:2016/ Type A JKLMNOPT | EN 407 X1XXXX

SHOWA

NSK24

POLYMER: **NITRILE** | LENGTH: **14 INCH** | LINER: **COTTON** | SIZE: **7/XS – 11/XL**

Providing excellent protection from a wide array of solvents, oils and acids, this chemical-protection glove is flexible and watertight.

The NSK24 cotton-lined nitrile glove is engineered with SHOWA's biodegradable Eco Best Technology (EBT).

A double nitrile coating provides excellent chemical, oil and abrasion resistance to the hand and arm.

BENEFITS:
- **Acid-resistant**
- **Oil-resistant**
- **Hydrocarbon-resistant**
- **Forearm protection**
- **Natural latex-free**
- **Water-resistant**
- **Biodegradable**

FEATURES:
- Cotton liner
- Eco Best Technology® (EBT)
- 100% Nitrile
- Rough grip

APPLICATIONS:
- Food
- Chemical
- Oil-based
- Commercial Fishing
- Agriculture
- Petrochemical

Cat. III | EN 388:2016 | EN 374-5:2016 | EN 374-1:2016/ Type A
2777 | 4112X | | JKLOPT

SHOWA

730

POLYMER: **NITRILE** | LENGTH: **13 INCH** | THICKNESS: **15-mil** | SIZE: **6/XS – 11/XL**

Prioritizing grip and comfort, the SHOWA 730 chemical-resistant gloves are designed with performance in mind.

The 100% nitrile glove provides protection against a broad range of oils, solvents and chemicals. Bisque surface finish increases wet grip for enhanced ease and safety.

A flocked liner makes the SHOWA 730 easy to remove.

BENEFITS:
- **Forearm protection**
- **Chemical-resistant**
- **Oil-resistant**
- **Impermeable**

FEATURES:
- Unsupported
- 100% Nitrile
- Flocked
- Textured finish
- Ergonomic

APPLICATIONS:
- Public Sector
- Solvent
- Automotive
- Chemical
- Oil-based

Cat. III | EN 388:2016 | EN 374-5:2016 | EN 374-1:2016/ Type A
2777 | 2001X | VIRUS | JKLOPT

SHOWA

747

POLYMER: **NITRILE** | LENGTH: **19 INCH** | THICKNESS: **22-mil** | SIZE: **7/S – 11/XXL**

The SHOWA 747 chemical-resistant glove features a 19"/480mm gauntlet to provide extended protection from a broad range of hazards.

Designed with performance in mind, the 747 glove uses 100% nitrile to create an impermeable barrier.

Bisque surface grip makes wet work easier and safer.

BENEFITS:
- **Forearm protection**
- **Chemical-resistant**
- **Oil-resistant**
- **Impermeable**

FEATURES:
- Unsupported
- 100% Nitrile
- Unlined
- Textured finish
- Ergonomic

APPLICATIONS:
- Public Sector
- Solvent
- Automotive
- Chemical
- Oil-Based

Cat. III | EN 388:2016 | EN 374-5:2016 | EN 374-1:2016/ Type A
2777 | 3001X | | JKLOPT

SHOWA

707HVO

POLYMER: **EBT NITRILE** | LENGTH: **12 INCH** | THICKNESS: **9-mil** | SIZE: **6/XS – 11/XXL**

The 707HVO biodegradable gloves are a more environmentally-conscious choice, breaking down by 82% in just 386 days when tested in a laboratory.

This eco-friendly alternative to single-use gloves doesn't mean compromising on functionality. The 707HVO are highly tactile and fit like a second skin, all whilst protecting against grease, chemicals, and abrasion.

BENEFITS:
- **Biodegradable**
- **Form-fitting**
- **Abrasion-resistant**
- **Oil-resistant**
- **Hydrocarbon-resistant**
- **Increased visibility**
- **Water-resistant**
- **Chemical-resistant**
- **Easy donning and doffing**

FEATURES:
- Eco Best Technology® (EBT)
- Fluorescent
- Lightweight
- Rolled Cuff
- Chlorinated
- Unlined
- Unsupported

APPLICATIONS:
- Chemical
- Food
- Janitorial
- Laboratory
- Municipal Services
- Pharmaceutical

Cat. III | EN 388:2016 | 374-5:2016 | EN 374-1:2016/ Type A
2777 | 1000X | | JKLOPT

SHOWA
707D

POLYMER: **EBT NITRILE** LENGTH: **12 INCH** THICKNESS: **9-mil** SIZE: **6/XS – 11/XXL**

The 707D with second skin feel chemical-protection gloves combine the best of disposable and chemical-resistant technology. This hybrid results in the perfect solution for jobs requiring contact with chemical hazards, optimum comfort, and tactility.

The 707D unlined nitrile glove is engineered with SHOWA's biodegradable Eco Best Technology® (EBT).

BENEFITS:
Biodegradable
Form-fitting
Easy donning and doffing
Chemical-resistant
Oil-resistant
Abrasion resistant
Hydrocarbon-resistant
Impermeable

FEATURES:
Eco Best Technology® (EBT)
Rolled cuff
Ergonomic
100% Nitrile
Chlorinated
Embossed grip
Unlined

APPLICATIONS:
Food Handling
Chemical
Laboratory & Pharmaceutical
Cleaning

Cat. III CE 2777 | EN 374-5:2016 VIRUS | EN 374-1:2016/Type A JKLOPT

SHOWA
731

POLYMER: **EBT NITRILE** LENGTH: **13 INCH** THICKNESS: **15-mil** SIZE: **6/XS – 11/XXL**

Chemical-resistant gloves, like the SHOWA 731, are ideal for working with harmful substances such as acids and solvents.

These gloves are also water-resistant with bisque grip, to allow for tactile precision even when operating in wet environments.

Thanks to SHOWA's Eco Best Technology® the 731 gloves are biodegradable, despite being extremely strong and acid-resistant.

BENEFITS:
Chemical-resistant
Extra grip
Increased dexterity
Biodegradable
Water-resistant
Flexible
Acid-resistant
Reusable

FEATURES:
Eco Best Technology® (EBT)
100% Nitrile
Unsupported
Flocked
Created with premium-grade compound
Strong chemical resistance

APPLICATIONS:
Petrochemical
Manufacturing
Refinery Operations
Agriculture
Janitorial
Automotive

Cat. III CE 2777 | EN 388:2016 2001X | EN ISO 374-5:2016 | EN 374-1:2016/Type A JKLOPT

SHOWA

CHM

POLYMER: **NEOPRENE** LENGTH: **12 INCH** THICKNESS: **26-mil** SIZE: **7/S – 10/XL**

This chemical protection glove is flexible, comfortable, and resistant to a broad range of chemicals.

Engineered with a neoprene-over-natural rubber construction with tractor tread grip, the SHOWA CHM provides maximum precision, sensitivity, and defense.

The cotton flocked liner helps to maintain a comfortable temperature within the glove.

BENEFITS:
Flexible
Increased sensitivity
Chemical-resistant

FEATURES:
Neoprene over natural rubber
Cotton flocked
Embossed grip
Unsupported

APPLICATIONS:
Petrochemical
Chemical Industry
Janitorial
Automotive

Cat. III CE 2777 | EN 388:2016 2021X | EN 374-5:2016 | EN 374-1:2016/ Type A AKLMNT

SHOWA

3415

POLYMER: **NEOPRENE** LENGTH: **14 INCH** LINER: **POLYESTER** SIZE: **8/S – 12/XXL**

Protect your hands from harmful substances with SHOWA's 3415 chemical-resistant gloves.

As well as creating a strong barrier against grease, acids and solvents, the 3415 has a rough surface coating to provide increased grip when working in wet or oily environments.

The seamless lining and flexible material ensure comfort and reduced irritation during long periods of wear.

BENEFITS:
Extra Grip
Flexible
Oil-resistant
Chemical-resistant
Increased dexterity
Skin-friendly
Seamless knit
Acid-resistant

Features:
Rough grip
Fully-coated neoprene
Strong chemical resistance

APPLICATIONS:
Solvents & Caustics
Small Parts Handling
Refining Operations
Offshore
Oil & Gas

Cat. III CE 2777 | EN 388:2016 3031X | EN 374-5:2016 | EN 374-1:2016/ Type A AJKLMT

SHOWA
3416

POLYMER: **NEOPRENE** LENGTH: **14 INCH** LINER: **HPPE KNIT** SIZE: **8/S – 12/XXL**

The 3416 highly cut-resistant gloves are approved to standards ANSI Cut Level A5.

As well as preventing injury, these gloves feature a seamless knit to prevent skin irritation over long periods of wear, and a rough outer surface for increased grip and tactile precision.

These gloves are also resistant to acids, chemicals, solvents, and oils, to keep hands safe from harmful substances.

BENEFITS:
- Cut-resistant
- Seamless knit
- Acid-resistant
- Flexible
- Extra grip
- Increased dexterity

FEATURES:
Rough grip
Fully-coated neoprene
Strong chemical resistance
Cut-resistance

APPLICATIONS:
Metallurgy
Chemical Bases, Acids
Petrochemical
Recycling

SHOWA
6797R

POLYMER: **NEOPRENE** LENGTH: **17 INCH** LINER: **COTTON** SIZE: **10/L**

Forged with rugged neoprene and a 17-inch gauntlet combined with cotton lining, this glove is designed for comfort in hot or cold environments while providing protection against acids and caustics.

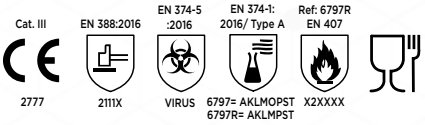
Excellent all-around protection against physical hazards such as abrasion and cut.

21 CFR 177.2600 / FDA compliant for direct food contact

BENEFITS:
- Acid resistant
- Oil resistant
- Full Neoprene
- Rough grip

FEATURES:
Full neoprene coating
Chemical resistant
Elbow length gauntlet
Rough grip
R= Rough

APPLICATIONS:
Chemical Spray & Treatment
Coating Preparation
Laboratory, Pharma & Analysis
Painting & Spray Workshops



SHOWA
660ESD

POLYMER: **PVC** LENGTH: **12 INCH** LINER: **COTTON** SIZE: **9/L – 10/XL**

The SHOWA 660ESD anti-static safety gloves are designed for handling flammable or explosive materials.

Both the liner and coating aid in preventing sparks from friction for safe use in extreme environments.

When used for extended periods, the lining absorbs perspiration to prolong comfort and grip.

BENEFITS:
- Oil-resistant
- Extra grip
- Abrasion-resistant
- Form-fitting
- Soft liner
- Anti-static
- Chemical-resistant

FEATURES:
Rough grip
Ergonomic
Full PVC Coating
Anti-static liner
Cotton liner

APPLICATIONS:
Petrochemical
Automotive
Refining
Oil & Gas

SHOWA
875R

POLYMER: **BUTYL** LENGTH: **14 INCH** THICKNESS: **14-mil** SIZE: **7/S – 11/XXL**

The SHOWA 875R chemical resistant glove features the ultimate conbination of protection and dexterity.

Butyl provides superior resistance to highly corrosive acids and is excellent for handling ketones and esters.

Butyl rubber provides the highest permeation resistance to gases and water vapors of any material used to make gloves.

BENEFITS:
- Protects against alcohols
- Resistance to corrosive acids
- Easy movement
- Extended wear

FEATURES:
Unsupported
Butyl rubber
Unlined
Rolled cuff
Rough grip
R= Rough

APPLICATIONS:
Chemicals
Acetone & Ketone Components
Acid Components
Police & Army
Mustard Gas Protection

SHOWA

NSK26

POLYMER: **NITRILE** LENGTH: **26 INCH** LINER: **COTTON/POLY** SIZE: **8S – 11/XL**

Providing excellent protection from a wide array of solvents, oils and acids, this chemical-protection glove is flexible and watertight.

The rough surface finish ensures excellent grip, and the cotton liner for wearer comfort.

An eyelet and elasticated cuff keeps the glove in place to ensure full and consistent protection from an array of hazards.

BENEFITS:
Acid-resistant
Oil-resistant
Full arm protection
Robust grip
Abrasion-resistant
Water-resistant

FEATURES:
Nitrile
Cotton liner
Rough grip

APPLICATIONS:
Chemical Handling
Fishing & Agriculture
Food Processing
Sanitation & Dishwashing
Oil & Gas

Cat. III 0120 | EN 388:2016 4111X | EN 374-5:2016 | EN 374-1:2016/ Type B JKL

SHOWA

495

POLYMER: **PVC** LENGTH: **11.8 INCH** LINER: **ACRYLIC** SIZE: **8/M – 10/XL**

The 495 cold weather gloves are crafted with a removable seamless liner that absorbs perspiration to keep hands comfortable and avoid loss of grip within the glove.

Protecting down to temperatures of -4°F, they are ideal for working in extreme weather.

Added rough grip ensures tactile precision when handling wet or oily components, and extended forearm protection provides optimum chemical resistance.

BENEFITS:
Seamless knit
Chemical-resistant
Flexible
Form-fitting
Protects up to -4°F
Thermal insulation
Oil-resistant

FEATURES:
Full PVC Coating
Insulated
Ergonomic
Rough grip
Removable liner

APPLICATIONS:
Airports & Ports
Chemicals
Fishing & Agriculture
Mechanical
Oil & Gas
Utilities

Cat. III 0120 | EN 388:2016 4221X | EN 374-5:2016 | EN 374-1:2016/ Type B JKL | EN 511 121

SHOWA

660

POLYMER: **PVC** LENGTH: **12 INCH** LINER: **COTTON** SIZE: **7/S – 11/XXL**

Constructed with a rough-finish triple-dipped PVC coating, this chemical protection glove prioritizes wearer safety and comfort.

A seamless, soft cotton liner wicks away moisture to prevents odors, and the ergonomic design reduces hand fatigue.

The rough grip offers high-performance precision in greasy or damp environments.

BENEFITS:
Seamless knit
Forearm protection
Chemical-resistant
Increased tactility
Robust grip
Water-resistant
Durable

FEATURES:
Triple-dipped PVC coating
Rough grip
Ergonomic
Anti-odor

APPLICATIONS:
Chemical Industry
Construction
Fishing & Agriculture
Metallurgy
Painting
Petrochemical
Public Works

Cat. III CE 0598 | EN 388:2016 4121X | EN 374-5:2016 | EN 374-1:2016/Type B JKL

SHOWA

KV660

POLYMER: **PVC** LENGTH: **12 INCH** LINER: **KEVLAR®** SIZE: **8/M - 11/XXL**

Providing defense against a broad range of hazards these cut and chemical-resistant gloves are forged with triple-dipped PVC and a reinforced Kevlar® liner.

The SHOWA KV660 provides first-class defense against oils, chemicals, abrasion, and cuts. The rough surface finish offers a good grip and increased durability.

Even after multiple washes, the KV660 maintains its barrier to hazards.

BENEFITS:
Seamless knit
Abrasion-resistant
Durable
Cut-resistant
Machine washable
Chemical-resistant
Oil-resistant
Water-resistant

FEATURES:
Liner made with Kevlar®
Triple-dipped PVC coating
Rough grip

APPLICATIONS:
Bottling
Chemical Industry
Commercial Fishing
Glass
Oil & Gas
Utilities
Painting
Plumbing

Cat. III CE 2777 | EN 388:2016 4X42B | EN 374-5:2016 | EN 374-1:2016/Type B JKL | ANSI CUT A2

SHOWA

460

POLYMER: **PVC** LENGTH: **11.8 INCH** LINER: **COTTON** SIZE: **8/M – 10/XL**

Built to stay flexible in temperatures as low as -4°F, the 460 cold-resistant glove provides superior warmth in cold weather.

Its PVC coating protects against oils and chemicals, and the rough grip allows tactile precision when handling small greasy components.

The 460 also offers superior wrist protection from harmful substances, and reduces potential exposure to bacteria, viruses, and fungi.

BENEFITS:
Protects up to -4°F
Oil-resistant
Chemical-resistant
Increased dexterity
Extra grip
Flexible
Impermeable

FEATURES:
Full PVC coating
Rough grip

APPLICATIONS:
Airports & Ports
Commercial Fishing
Oil & Gas
Warehouse & Distribution

Cat. III 0598 | EN 388:2016 3221X | EN 374-5:2016 | EN 374-1:2016/ Type C JKL | EN 511 121

SHOWA

620

POLYMER: **PVC** LENGTH: **12 INCH** LINER: **COTTON** SIZE: **7/S – 11/XXL**

Protect hands from harmful substances with the 620 chemical-resistant gloves.

A soft cotton liner and flexible fabric ensures optimum comfort, whilst the PVC coating protects against chemicals, acids, bases, and solvents.

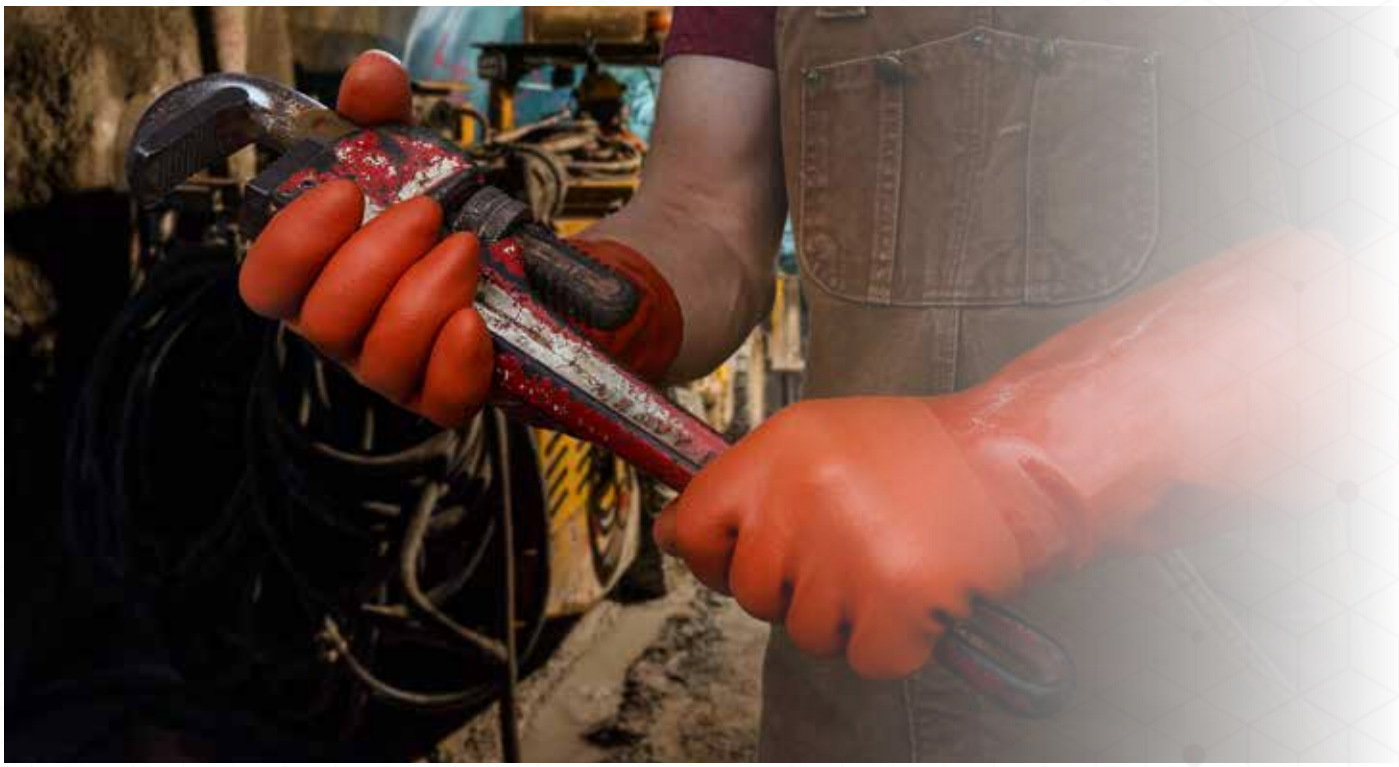
The 620 gloves are also liquid proof and abrasion resistant.

BENEFITS:
Acid-resistant
Seamless knit
Abrasion-resistant
Extra grip
Water-resistant
Chemical-resistant
Strong
Flexible
Soft liner

FEATURES:
Rough grip
Full PVC Coating
Cotton liner

APPLICATIONS:
Commercial Fishing
Painting
Construction
Chemical Industry

Cat. III 0120 | EN 388:2016 3121X | EN 374-5:2016 | EN 374-1:2016/ Type C JKL



PROTECTION AND PRESERVATION IN ONE

Sustainability isn't just a commitment - it's part of SHOWA's legacy.
Our revolutionary Eco Best Technology® (EBT) offers the solution that makes a difference to the environment, without any compromise on protection and performance.

Utilizing the organic process to measure how our gloves break down in a natural setting, our EBT technology outperforms the industry norm in enviro-standardized testing*. Launched in 2012, our biodegradable nitrile gloves are the industry's first, and today, SHOWA offers the most extensive selection of biodegradable hand protection on the market.

Every SHOWA EBT glove is made with the same rigid quality controls and standards as our entire portfolio. That means the overall performance of the glove - its durability, comfort, grip and protection - stays exactly the same.

*As proven with ASTM D5511 & D5526 test results

SAME PERFORMANCE & 100% QUALITY CONTROL

TESTED ASTM D5526 ASTM D5511

REDUCED ENVIRONMENTAL IMPACT

HOW DOES EBT WORK?

SHOWA EBT® Materials → **Glove Disposal** → **Decomposition by Microorganisms** → **Natural Output**

SHOWA'S DISCLAIMER

SHOWA gloves with EBT are engineered for accelerated biodegradation in biologically active landfills. Independent certified laboratories performing longterm landfill biodegradation testing according to ASTM D5526-12 reported that SHOWA gloves with EBT achieved 82.0% biodegradation in only 386 days, while gloves without EBT achieved only 1.9% biodegradation over the same period of time. These results may not be indicative of future biodegradation.

SINGLE USE GLOVES

SHOWA

6110PF

POLYMER: **EBT NITRILE** LENGTH: **9.5 INCH** THICKNESS: **4-mil** SIZE: **5/XS – 11/XXL**

The versatile, 6110PF biodegradable single-use gloves are highly dexterous and waterproof, while upholding extreme comfort during long periods of use.

Approved for food handling and contact, these gloves are ideal for food preparation, use in laboratories, and general repair or maintenance work.

By using SHOWA's Eco Best Technology®, the 6110PF's are eco-friendly, breaking down by 82% in just 386 days when tested in a laboratory.

BENEFITS:
Biodegradable
Form-fitting
Disposable
Smooth grip
Latex-free
Water-resistant

FEATURES:
Eco Best Technology® (EBT)
Ergonomic
Lightweight
Unsupported
Powder-free

APPLICATIONS:
Law Enforcement & Security
Automotive
Plumbing
Food
Healthcare
Municipal Services
Pharmaceutical
Public Utilities

Cat. III 2777 | EN 374-5:2016 VIRUS | EN 374-1: 2016/Type B KPT

SHOWA

6112PF

POLYMER: **EBT NITRILE** LENGTH: **9.5 INCH** THICKNESS: **4-mil** SIZE: **5/XS – 11/XXL**

The versatile, 6112PF biodegradable single-use glove prioritizes sensitivity and dexterity. The 4mil/0.10mm thick nitrile is also waterproof and provides extreme comfort during long periods of use.

Approved for food handling and contact, these gloves are ideal for food preparation, use in laboratories, and general repair or maintenance work.

By using SHOWA's Eco Best Technology®, the 6112PF's are eco-friendly, breaking down by 82% in just 386 days when tested in a laboratory.

BENEFITS:
Biodegradable
Form-fitting
Disposable
Smooth grip
Latex-free
Water-resistant

FEATURES:
Eco Best Technology® (EBT)
Ergonomic
Lightweight
Unsupported
Powder-free

APPLICATIONS:
Aerospace
Automotive
Electronics
Food
Laboratory & Healthcare
Quality Control
Warehousing & Distribution

Cat. III 2777 | EN 374-5: 2016 VIRUS | EN 374-1: 2016/Type B KPT

SHOWA

7500PF

POLYMER: **EBT NITRILE** LENGTH: **9.5 INCH** THICKNESS: **4-mil** SIZE: **6/S – 11/XXL**

SILICONE FREE

Engineered with SHOWA's revolutionary Eco Best Technology® (EBT), the SHOWA 7500PF disposable glove is biodegradable, achieving 82% biodegradation in 386 days in a laboratory.

A rolled cuff prevents dirt from entering, and the powder and latex-free design reduces risk of discomfort and allergies.

Textured surface grip makes wet work safer and easier.

BENEFITS:
Disposable
Biodegradable
Latex-free
Rolled cuff
Form fitting
Ambidextrous
Second-skin feel

FEATURES:
Eco Best Technology® (EBT)
Powder-free
Rolled cuff
100% Nitrile
Ergonomic
Textured finish

APPLICATIONS:
Pharmaceuticals & API
Biotechnology
Optics
Microelectronic
Semiconductors
Quality control
Integrated Circuits
Laboratory
Life Sciences

Cat. III CE 2777 | EN 374-5:2016 VIRUS | EN 374-1: 2016/Type B JKPT

SHOWA

7502PF

POLYMER: **EBT NITRILE** LENGTH: **9.5 INCH** THICKNESS: **2.5-mil** SIZE: **5/XS – 11/XXL**

Designed for sensitive skin, the 7502PF nitrile disposable glove is powder, latex, and accelerator-free.

The 2.5mil/0.06mm nitrile provides good chemical protection from a wide array of chemical hazards.

Featuring SHOWA's revolutionary Eco Best Technology® (EBT), these gloves are engineered for accelerated biodegradation in biologically active landfills.

BENEFITS:
Disposable
Biodegradable
Chemical-resistant
Latex-free

FEATURES:
Eco Best Technology® (EBT)
Powder-free
Accelerator-free
Ambidextrous

APPLICATIONS:
Food Packing & Handling
Bakeries & Delicatessens
Gardening
Washing & Cleaning
Laboratory

Cat. III CE 2777 | EN 374-5:2016 VIRUS | EN 374-1: 2016/Type C KT

EN vs. ASTM

TEST METHOD COMPARISON

THICKNESS OF THE TEST SPECIMENS

EN
374-1:2016
For gloves 15.75 inches (400 mm) or longer, samples have to be taken from both the **palm and the cuff** of the glove.

ASTM
F739-20
Samples are typically taken from both the **palm and the backs** of the gloves. The backs are typically **thinner** than the palms.

DID YOU KNOW?
*The **cuff** is usually the **thinnest** part of the glove.*

TEST TEMPERATURE

DID YOU KNOW?
***Permeation** rates are much greater at **higher temperatures**.*

EN
16523-1:2015
Testing to be conducted at a temperature of
23° ± 1°C.

ASTM
F739-20
Testing to be conducted at a temperature of
27° ± 0.5°C.

PERMEATION LIMIT

Breakthrough of the test chemicals is deemed to have occured when the permeation rate has reached...

EN
16523-1:2015
1.00
$\mu g/cm^2/min^{-1}$

ASTM
F739-20
0.01
$\mu g/cm^2/min^{-1}$

DID YOU KNOW?
***The ASTM** breakthrough test limit is **1/10th** the level of EN permeation limit.*

TEST CHEMICALS

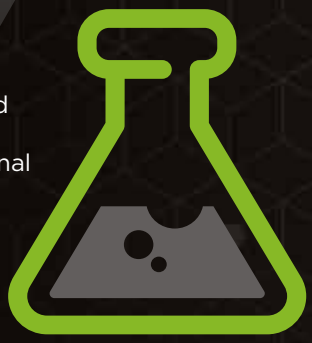
EN 374-1:2016

A list of 18 chemicals are tested and results will determine Type A, B, C.

EN ISO 374-1/ Type A UVWXYZ	Chemical protection with breakthrough times > 30 minutes for at least 6 of the 18 listed chemicals within the standard.
EN ISO 374-1/ Type B XYZ	Chemical protection with breakthrough times > 30 minutes for at least 3 of the 18 listed chemicals within the standard.
EN ISO 374-1/ Type C	Chemical protection with breakthrough times > 10 minutes for at least 1 of the 18 listed chemicals within the standard.

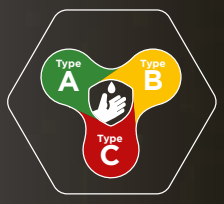
ASTM F739-20

The ASTM method allows testing of numerous additional chemicals.



ChemRest®
know you're protected

CHEMREST makes navigating the challenges of chemical resistant hand protection easier for safety professionals by providing an entire chemical resistance portfolio of products, resources and tools in one platform. Based on well over 70 years of product trials, market and customer research, and the joint experience of our 6000+ global employees, ChemRest offers 3 key service pillars that serve to reduce chemical-related injuries:



EDUCATION

We provide up to date knowledge, expertise, and tools on topics such as chemical resistance norms and chemical permeation data by glove, to help customers make the right glove choice and avoid injuries. This education also includes in-person or webinar training of your employees.

EVALUATION

Our glove experts assess our customers' specific needs and test their existing gloves against the chemical environments they may encounter. This benefit can also include using our in-house chemical laboratory services, where particular materials can be tested under controlled conditions to offer customized advice on hand protection and cost savings.

EQUIPMENT

Based on real, unbiased chemical performance data, we recommend the most suitable glove for your application. Our ChemRest product series consists of chemical resistant gloves that can be used across all relevant markets, industries and applications. Each glove comes in a variety of sizes, lengths and thicknesses for additional personalization.

8
PRODUCTION FACILITIES ACROSS THE GLOBE

SHOWA
Always Innovating. Never Imitating.

6,000+
EMPLOYEES WORLDWIDE

100+
RESEARCHERS

1
BRAND

70
YEARS
of unrivalled protection & innovation

100%
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PATENTS
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