

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 group.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.

157,000 Individually listed chemicals identified by CAS numbers, according to the most comprehensive global inventory to date.* 120,000 Substances that could not be conclusively identified.* 75,000 Mixtures, polymers, and substances of unknown or variable composition.*

* 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.



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



Pneumonia

Renal failure



Wound infection



Urinary tract infection

Other blood/ systemic infection



Dysrhythmias



Respiratory failure





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.



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

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.



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.



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



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.



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

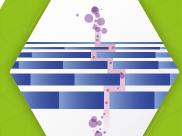
ASTM F 1383 Standard Test Method for Permeation of Liquids or Gases through Protective Clothing Materials under Conditions of Intermittent Contact. SHOWA used a contact time of 1 minute where the glove material was fully immersed, and 9 minutes of purge time where the glove material was unexposed to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



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/



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



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:

LIST OF C	nermeats.			
Letter code	Chemical	CAS number	Class	
Α	Methanol	67-56-1	Primary alcohol	
В	Acetone	67-64-1	Ketone	
С	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	
Н	Tetrahydrofurane	109-99-9	Heterocyclic ether	
1	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	
М	65% Nitric acid	7697-37-2	Inorganic mineral acid, oxidizing	
Ν	99% Acetic acid	64-19-7	Organic acid	
0	25% Ammonium hydroxide	1336-21-6	Organic base	
Р	30% Hydrogen peroxide	7722-84-1	Peroxide	
S	40% Hydrofluoric acid	7664-39-3	Inorganic mineral acid, contact poison	
Т	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.



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.





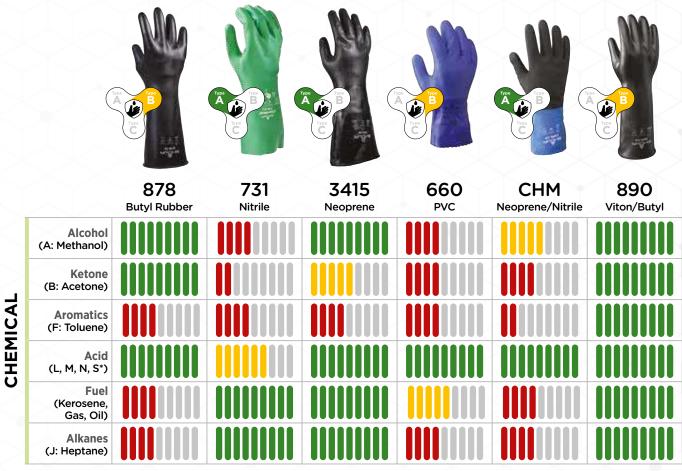


GENERAL RECOMMENDATIONS FOR

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.



^{*} 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

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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



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?





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:



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).





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



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

"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

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 B		Type B		Type B
			CS700 CS701		772	E	620	
4			CS710 CS711		NSK26		460 465	
			CS720 CS721		660		640	
	ı	RTED	NSK24		KV660			
		SUPPORTED	3415 3416	Will Co	490 495			
	VES		6780/R 6781R 6784/R 6797/R		6731			
	REUSABLE GLOVES		660ESD		7710R 7712/R 7714/R			
	REUS/		707D 707FL		708		B0700R	
			707HVO		874			
		UNSUPPORTED	875/R 879/R 891/893		874R			
		UNSUPE	728 731		878			
			727 730 737 747	4.	890 892			
			СНМ					
	SE				6005PF 6110PF		7502PF	
	SINGLE USE				6112PF			
	SIN				7005PF 7500PF 8005/PF			
			FULL IMMERSION		SPLASHES, INTERMITTENT CONTACT			





CS700

POLYMER: **NITRILE**

LENGTH: 12 INCH

LINER: POLYESTER

SIZE: 7/S - 11/XXL

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

FEATURES:

Double coated Nitrile Polyester liner Rough grip







Petrochemical

Chemical

APPLICATIONS:

Commercial Fishing Fish Processing



Cold Stress/Equipment Handling

Food Processing & Handling







SHOWA

POLYMER: NITRILE

LENGTH: 14 INCH

LINER: POLYESTER

SIZE: 7/S - 11/XXL



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**

Double coated Nitrile Polyester liner Rough grip

Forearm protection

APPLICATIONS:

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





LINER: POLYESTER









SIZE: 7/S - 11/XXL



SHOWA

POLYMER: NITRILE

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.

LENGTH: 12 INCH **BENEFITS:**

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

FEATURES:

Double coated Nitrile Polyester liner Foam grip Microporous nitrile coating

APPLICATIONS:

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













APPLICATIONS:

Chemica

Oil & Gas

Painting

Construction

Petrochemical





SHOWA

POLYMER: **NITRILE**

LENGTH: 14 INCH

LINER: POLYESTER

SIZE: 7/S - 11/XXL

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.

RENEEITS.

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

FFATURES:

Double coated Nitrile Polyester liner Foam grip Microporous nitrile coating



Oily Surface Handling







SHOWA

POLYMER: **NITRILE**

LENGTH: 12 INCH

LINER: **POLYESTER**

SIZE: **7/S - 11/XXL**



CS720

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

FEATURES:

Rough grip Double coated Nitrile Polyester liner



LINER: POLYESTER





APPLICATIONS:

Agriculture

Petrochemical

Chemical

Painting

Commercial Fishing



SIZE: 7/S - 11/XXL





SHOWA

extra protection.

POLYMER: NITRILE

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

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.

LENGTH: 14 INCH BENEFITS:

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

FEATURES:

Double coated Nitrile Polyester liner Rough grip



EN 388 <u>Ŀ</u>



APPLICATIONS:

Agriculture

Petrochemical

Chemical

Painting

Commercial Fishing









SHOWA

watertight.

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

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















POLYMER: NITRILE

LENGTH: 13 INCH

THICKNESS: 15-mil

SIZE: 6/XS - 11/XXL

An industry leader in chemical protection, the SHOWA 727 chemical-resistant gloves keep the wearer safe from a range of hazards.

Bisque surface texture gives the wearer enhanced grip, to make wet work safer and easier. The ergonomic design maximizes comfort to aid precision.

BENEFITS:

Chemical-resistant Water-resistant Forearm protection Oil-resistant Flexible

Features:

100% Nitrile Unsupported Unlined Bisque arip Ergonomic

APPLICATIONS:

Public Sector Solvent Automotive Chemical Oil-based













SHOWA

POLYMER: NITRILE

Prioritizing grip and comfort, the SHOWA

with performance in mind.

730 chemical-resistant gloves are designed

The 100% nitrile glove provides protection

wet grip for enhanced ease and safety.

A flocked liner makes the SHOWA 730

The SHOWA 737 chemical-resistant

glove features an extended gauntlet

(15"/380mm) to protect the hand and

forearm from a broad range of hazards.

Designed with performance in mind, the

Bisque surface grip makes wet work easier

737 glove uses 100% nitrile to create an

LENGTH: 13 INCH

THICKNESS: 15-mil

SIZE: 6/XS - 11/XL

BENEFITS:

Forearm protection Chemical-resistant Oil-resistant Impermeable

FEATURES:

Unsupported 100% Nitrile Flocked Textured finish Ergonomic

APPLICATIONS:

Public Sector Solvent Automotive Chemical Oil-based











SHOWA

easy to remove.

POLYMER: NITRILE

LENGTH: 15 INCH

THICKNESS: 22-mil

SIZE: 7/S - 11/XXL

BENEFITS:

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

FEATURES:

Unsupported Unlined 100% Nitrile Ergonomic Textured finish

APPLICATIONS:

Public sector Solvent Automotive Chemical Oil-based











SHOWA

and safer.

impermeable barrier.

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















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

RENEFITS:

Form-fitting

Oil-resistant

Impermeable

Biodegradable

Forearm protection

Chemical-resistant

Abrasion resistant

Hydrocarbon-resistant

Easy donning and doffing

Unlined Unsupported

APPLICATIONS:

Chemical Food

Janitorial

Laboratory **Municipal Services**

Pharmaceutical













chemical hazards.

The 707FL chemical-resistant glove

technology. This results in the ideal

comfort, tactility, and contact with

Eco Best Technology® (EBT).

workwear for jobs requiring optimum

The 707FL flocked cotton-lined nitrile glove

is engineered with SHOWA's biodegradable

utilizes the best of chemical-protective

POLYMER: EBT NITRILE

LENGTH: 12 INCH

THICKNESS: 11-mil

SIZE: 6/XS - 11/XXL

Fully coated nitrile

Chlorinated

Embossed grip

APPLICATIONS:

Food Handling Chemical Sampling

Laboratory & Pharmaceutical

Cleaning

FFATURES:

Eco Best Technology® (EBT)

Flocked Rolled cuff Ergonomic



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SHOWA

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

BENEFITS:

Chlorinated Embossed grip Unlined

APPLICATIONS:

Food Handling

Chemical

Laboratory & Pharmaceutical

Cleaning





POLYMER: EBT NITRILE

LENGTH: 13 INCH

THICKNESS: 15-mil

SIZE: 6/XS - 11/XXL



Chemical-resistant gloves, like the SHOWA

These gloves are also water-resistant with

even when operating in wet environments.

Thanks to SHOWA's Eco Best Technology®

the 728 gloves are biodegradable, despite

being extremely strong and acid-resistant.

bisque grip, to allow for tactile precision

728, are ideal for working with harmful

substances such as acids and solvents.

Biodegradable

Chemical-resistant

Extra grip Increased dexterity

Water-resistant

Flexible **Acid-resistant**

Reusable FEATURES:

Eco Best Technology® (EBT) 100% Nitrile Unlined Unsupported

Created with premium-grade compound

Strong chemical resistance

APPLICATIONS:

Petrochemical Manufacturing **Refinery Operations** Agriculture **Janitorial**

Automotive EN 374-1:2016/















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

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SHOWA

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.

Protect your hands from harmful

grease, acids and solvents, the 3415

has a rough surface coating to provide

As well as creating a strong barrier against

increased grip when working in wet or oily

The seamless lining and flexible material

ensure comfort and reduced irritation

during long periods of wear.

substances with SHOWA's 3415

chemical-resistant gloves.

BENEFITS:

Flexible Increased sensitivity **Chemical-resistant**

FEATURES:

Neoprene over natural rubber Cotton flocked Embossed grip Unsupported

APPLICATIONS:

Petrochemical Chemical Industry **Janitorial** Automotive







SHOWA

LENGTH: 14 INCH

LINER: POLYESTER

SIZE: 8/S - 12/XXL



POLYMER: **NEOPRENE**

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









SHOWA

POLYMER: **NEOPRENE**

LENGTH: 14 INCH

LINER: HPPE KNIT

SIZE: 8/S - 12/XXL



environments.

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









A5





POLYMER: **NEOPRENE**

LENGTH: 12 INCH

LINER: COTTON

SIZE: 10/L

Forged with rugged neoprene this glove is designed to protect against acids, caustics, oil, greases and many solvents.

The cotton liner absorbs perspiration from within keeping you cool and comfortable.

21 CFR 177.2600 / FDA compliant for direct food contact

Rugged yet cool and comfortable, SHOWA

gauntlet that provides protection against

Rough finish is excellent for applications

21 CFR 177.2600 / FDA compliant for direct

6784/R is a neoprene coated 14-inch

acids, solvents, oils and caustics.

where a good wet grip is required

BENEFITS:

Cool cotton liner Chemical protection Oil-resistant **Cut resistant Abrasion resistant**

FEATURES:

Full neoprene coating Chemical resistant Rough and smooth grip R= Rough

APPLICATIONS:

Chemical Spray & Treatment Coating Preparation Assembly Dry & Oily Parts Deck Crew



LINER: COTTON













SHOWA

POLYMER: **NEOPRENE**

LENGTH: 14 INCH

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

FEATURES:

Full neoprene coating Chemical resistant Rough and smooth grip R= Rough

APPLICATIONS:

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

SIZE: 10/L















SHOWA

food contact

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 and smooth grip R= Rough

APPLICATIONS:

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















SHOWA

POLYMER: **NEOPRENE**

LENGTH: 12 INCH

LINER: COTTON

SIZE: 10/L



The SHOWA 6781R chemical-resistant gloves are constructed using triple-layered foam insulation and a strong neoprene coating.

Protect hands from the cold and stay safe when working with temperatures up to 662°F, or 350°C.

The rough surface grip and durable material offers resistance from chemicals, cuts, and abrasions.

BENEFITS:

Extended-arm protection Cool cotton liner Acid resistant **Grease resistant**

FEATURES:

Fully-coated neoprene Rough grip Cotton liner Insulated

APPLICATIONS:

Chemical Petrochemical Automotive Metallurgy













60ESD

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

BENEFITS:

Oil-resistant Extra grip **Abrasion-resistant** Form-fitting Soft liner Anti-static

Chemical-resistant

APPLICATIONS:

Petrochemical Automotive Refining Oil & Gas

FEATURES:

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











SHOWA

POLYMER: BUTYL

LENGTH: 14 INCH

THICKNESS: 14-mil

SIZE: 7/S - 11/XXL

The SHOWA 875/R 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.

The extra-thick SHOWA 879/R chemical

protection against highly corrosive acids,

permeation resistance to gases and water

Smooth surface grip provides unmatched

and acid resistant glove offers superior

Butyl rubber provides the highest

vapors of any material used to make

BENEFITS:

Protects against alcohols Resistance to corrosive acids Easy movement **Extended** wear

FEATURES:

Unsupported Butvl rubber Unlined Rolled cuff Rough grip & Smooth grip R= Rough

APPLICATIONS:

Chemicals Acetone & Ketone Components **Acid Components** Police & Army Mustard Gas Protection











SHOWA

ketones, and esters.

POLYMER: BUTYL

LENGTH: 14 INCH

THICKNESS: 28-mil

SIZE: 8/M - 11/XXL

BENEFITS:

Acid-resistant Impermeable Water-resistant

FEATURES:

Unlined Rolled cuff Unsupported Butvl rubber Rough and smooth grip R= Rough

APPLICATIONS:

Chemicals Acetone & Ketone Components **Acid Components** Police & Army Mustard Gas Protection









tactility and performance.

SHOWA

POLYMER: VITON OVER BUTYL LENGTH: 891: 14 INCH / 893: 12 INCH THICKNESS: 891: 28-mil / 893: 12-mil SIZE: 7/S - 11/XXL

Forged with fluoroelastomer rubber, SHOWA 891 & 893 provides superior resistance to highly corrosive acids.

Viton is designed for handling aliphatic and aromatic hydrocarbons, such as Benzene, Toulene, and Xylene.

Impermeable for working in damp or greasy environments

BENEFITS:

Heavy-duty Viton Highest chemical resistance Easy movement extended wear No latex allergy risks

FEATURES:

Viton over Butvl 891: 14-inch 28-mil thick 893: 12-inch 12 -mil thick Smooth grip

APPLICATIONS:

Chemical Spray & Treatment Coating Preparation Laboratory, Pharma & Analysis Painting & Spray Workshops Fracking Drilling







18





POLYMER: NITRILE

LENGTH: 26 INCH

LINER: COTTON/POLY SIZE: 7/S - 10/XL

The highly durable SHOWA 772 glove offers extended hazard protection for the entire arm. A fully-coated, impermeable nitrile sleeve and extra nitrile palm coating protect against oils, abrasion, and chemicals.

An eyelet and elasticated cuff keeps the 772 in place, and its antibacterial and anti-odor properties are ideal for extended wear.

Rough surface grip and flexibility combine to ensure optimum dexterity and precision.

BENEFITS:

Hydrocarbon-resistant **Impermeable Full-arm protection Chemical-resistant** Oil-resistant Robust arip Abrasion-resistant Increased tactility Flexible

FEATURES:

Ergonomic Fully-coated nitrile Rough grip

Double coated nitrile on hand Antibacterial Anti-odor

APPLICATIONS:

Chemical Handling Oil-Based Petrochemical Alkaline Components











NSK26

Providing excellent protection from a

excellent grip, and the cotton liner for

An eyelet and elasticated cuff keeps the

glove in place to ensure full and consistent protection from an array of hazards.

The rough surface finish ensures

wide array of solvents, oils and acids, this

chemical-protection glove is flexible and

POLYMER: NITRILE

LENGTH: 26 INCH

LINER: COTTON/POLY

SIZE: 8S - 11/XL

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











SHOWA

watertight.

wearer comfort.

POLYMER: NITRILE

LENGTH: 12 INCH

THICKNESS: 9-mil

SIZE: 7/S - 12/XXXL



The 708 ambidextrous gloves utilize unflocked material to prevent the risk of food contamination. However, this doesn't mean compromising on grip and dexterity.

By using fish scale grip inside and outside the glove, the 708 provides superior control when working with liquids and during long periods of use.

Additionally, the chemical-resistant compound makes these gloves suitable for use in laboratories and preventing exposure to harmful chemicals.

BENEFITS:

Natural latex-free Flexible **Increased dexterity** Extra grip Strong **Chemical-resistant** Disposable

FEATURES:

Beaded cuff Strong chemical resistance Unflocked Ambidextrous Fish scale grip inside and out Powder-free

APPLICATIONS:

Agriculture Bakeries & Delicatessens Catering & Food Service **Dairy Production Drinks Production & Handling** Food Packing & Handling Food Processing Janitorial/Cleaning Assembling Oil-Coated Pieces Sanitation & Dishwashing











and comfort.

POLYMER: PVC

triple-dipped PVC coating, this chemical

protection glove prioritizes wearer safety

A seamless, soft cotton liner wicks away

ergonomic design reduces hand fatigue.

The rough grip offers high-performance

precision in greasy or damp environments.

moisture to prevents odors, and the

Constructed with a rough-finish

LENGTH: 12 INCH

LINER: COTTON

SIZE: 7/S - 11/XXL

BENEFITS:

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

FEATURES:

Triple-dipped PVC coating Rough grip Fraonomic Anti-odor

APPLICATIONS:

Chemical Industry Construction Fishing & Agriculture Metallurgy Painting Petrochemical Public Works













SHOWA

/660

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













POLYMER: PVC

LENGTH: 11.8 INCH

LINER: COTTON

SIZE: 8/M - 10/XL

Our SHOWA 490 cold-resistant glove provides protection and maintains its flexibility even at low temperatures of -4°F.

Its triple-dipped PVC coating and extended forearm protect from liquids, including oil, grease, and chemicals.

The rough surface grip allows tactile precision and its ergonomic, form-fitting shape reduces hand fatigue over long periods of wear.

BENEFITS:

Chemical-resistant Oil-resistant Protects up to -4°F Flexible Thermal insulation Form-fitting Extra grip

FEATURES:

Ergonomic Rough grip Full PVC Coating Insulated

APPLICATIONS:

Airports & Ports Chemical industry Fishing & Agriculture Mechanical Oil & Gas Utilities











SHOWA

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 arip Removable liner

APPLICATIONS:

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













SHOWA

POLYMER: PVC

LENGTH: 31 INCH

LINER: COTTON

SIZE: 10/L

SHOWA 6731 provides extended protection with a 31-inch ergo-dynamic liquid-proof

Multi-dipped neoprene coating with a cotton jersey liner.

Ideal for chemical manufacturers, labs and pollution control workplaces.

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

BENEFITS:

Full arm protection Chemical resistant Liquid-proof Flexible Sleeve contours to the arm & shoulder joint

FEATURES:

PVC coated Cotton jersey liner 14" gauntlet Smooth grip

APPLICATIONS:

Chemical spray & treatment Coating **Preparation Laboratory** Pharma & Analysis Painting & Spray Workshops Washing & Cleaning Deck Crew Drilling Fracking











SHOWA

POLYMER: PVC

LENGTH: 10 INCH

LINER: COTTON

SIZE: 10/L

SHOWA's PVC glove 7710/R provides defensive protection from chemicals, oils and grease.

Provides workers barrier protection from chemicals, oil and grease.

One of the most durable work gloves available.

BENEFITS:

Abrasion resistant **Durable & versatile** Cotton jersey liner

FEATURES:

PVC coated 10-inch gauntlet Rough and smooth grip R= Rough

APPLICATIONS:

Chemical Spray & Treatment Coating Preparation Laboratory, Pharma & Analysis Painting & Spray Workshops Washing & Cleaning











POLYMER: PVC

LENGTH: 12 INCH

LINER: COTTON

SIZE: 10/L

Strong yet flexible, SHOWA 7712/R is an excellent choice for abrasive chemical applications.

Outstanding chemical resistance, wear and flexibility.

Provides abrasion resistance.

BENEFITS:

Abrasion resistant **Durable PVC** Cotton jersey liner

FEATURES:

PVC coated 12-inch gauntlet Rough and smooth grip R= Rough

APPLICATIONS:

Chemical Spray & Treatment Coating Preparation Laboratory, Pharma & Analysis Painting & Spray Workshops Washing & Cleaning







SHOWA

POLYMER: PVC

LENGTH: 14 INCH

LINER: COTTON

SIZE: 10/L

This 7714R PVC glove provides superior protection from a wide array of chemicals, oils and grease.

Soft cotton liner enhances worker comfort and dexterity.

14-inch gauntlet creates a defensive barrier between you and a range of chemicals.

BENEFITS:

Abrasion resistant **Durable PVC Cotton jersey liner**

FEATURES:

PVC coated 14-inch gauntlet Rough and smooth grip R= Rough

APPLICATIONS:

Chemical Spray & Treatment **Coating Preparation** Laboratory, Pharma & Analysis Painting & Spray Workshops Assembly Dry & Oily Parts Washing & Cleaning Maintenance **Public Utility**











SHOWA

POLYMER: BUTYL

LENGTH: 14 INCH

THICKNESS: 14-mil

SIZE: 7S - 11/XXL



The SHOWA 874/R chemical resistant glove offers superior protection against highly corrosive acids, ketones, and esters.

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

A smooth surface grip provides unmatched tactility and performance.

BENEFITS:

Acid-resistant **Impermeable** Water-resistant

FEATURES:

Unlined Rolled cuff Unsupported Butyl rubber Rough and smooth grip R= Rough

APPLICATIONS:

Chemicals Acetone & Ketone Components **Acid Components** Police & Army Mustard Gas Protection









SHOWA

POLYMER: BUTYL LENGTH: 14 INCH THICKNESS: 28-mil SIZE: 878: 8/M - 11/XXL 878R: 7/S - 11/XXL

The extra-thick SHOWA 878/R chemical and acid resistant glove offers superior protection against highly corrosive acids, ketones, and esters.

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

Smooth surface grip provides unmatched tactility and performance.

BENEFITS:

Acid-resistant Impermeable Water-resistant

FEATURES:

Unlined Rolled cuff Unsupported Butyl rubber Rough and smooth grip R= Rough

APPLICATIONS:

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











POLYMER: VITON OVER BUTYL

LENGTH: 14 INCH

THICKNESS: 28-mil

SIZE: 9/L - 11/XXL

Forged with fluoroelastomer rubber, the extra-thick SHOWA 890 chemical and acid resistant glove provides superior resistance to highly corrosive acids.

The butyl rubber coating is designed for handling aliphatic and aromatic hydrocarbons, such as Benzene, Toulene, and Xylene.

Smooth surface grip allows for increased sensitivity and tactility when handling small components.

BENEFITS:

Acid-resistant Hydrocarbon-resistant Impermeable **Forearm protection**

FEATURES:

Unlined Viton® Butyl rubber Smooth grip Unsupported

APPLICATIONS:

Chemicals Pharmaceuticals Petrochemicals Railways









SHOWA

POLYMER: VITON OVER BUTYL

LENGTH: 12 INCH

THICKNESS: 12-mil

SIZE: 7/S - 11/XXL



Forged with fluoroelastomer rubber, SHOWA 892 provides superior resistance to highly corrosive acids.

Viton is designed for handling aliphatic and aromatic hydrocarbons, such as Benzene, Toulene, and Xylene.

Impermeable for working in damp or greasy environments

BENEFITS:

Heavy-duty Viton Highest chemical resistance Easy movement extended wear No latex allergy risks

FEATURES:

Viton over Butyl 12-inch 12-mil thick Smooth grip

APPLICATIONS:

Chemical Spray & Treatment **Coating Preparation** Laboratory, Pharma & Analysis Painting & Spray Workshops Fracking Drilling















SHOWA

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







POLYMER: PVC LENGTH: 26 INCH LINER: COTTON

SIZE: 8/M - 10/XL

These chemical resistant gloves offer full hand and arm protection against acids, chemicals, bases, solvents and liquids.

A soft cotton liner and flexible material ensure comfort and flexibility.

The double-dipped PVC coating on the SHOWA 640 adds extra grip, increases the glove's abrasion resistance, and enhances durability.

BENEFITS:

Acid-resistant Seamless knit **Abrasion-resistant** Extra grip Water-resistant **Chemical-resistant** Strong **Flexible**

Screen reader support enabled

FEATURES:

Rough grip Full PVC Coating

Full-arm protection

Soft liner Liquid-resistant vinyl sleeve

APPLICATIONS:

Commercial Fishing Painting Construction Chemical Industry











SHOWA

POLYMER: PVC

LENGTH: 11.8 INCH

LINER: COTTON

SIZE: 8/M - 10/XL

APPLICATIONS:

Airports & Ports Commercial Fishing Oil & Gas Warehouse & Distribution



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.

RENEFITS:

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

FEATURES:

Full PVC coating Rough grip











SHOWA

POLYMER: **PVC**

Featuring a removable cotton/acrylic liner

and a full PVC coating, the SHOWA 465

chemicals even in cold environments.

glove remains flexible in extreme

increased tactility and grip.

thermal insulation glove protects against

Protecting up to -4°F, this cold protection

temperatures. Its rough surface provides

in greasy or damp environments, and

the inner layer is moisture-wicking and

machine washable for added hygiene.

The outer layer is impermeable for working

LENGTH: 11.8 INCH

LINER: ACRYLIC

SIZE: 8M - 10/XL **APPLICATIONS:**

Airports & Ports Commercial Fishing Oil & Gas Warehouse & Distribution

Chemical-resistant Cold protection Impermeable Seamless knit

FEATURES:

BENEFITS: Flexible

Soft liner

Durable

Rough grip Ergonomic Removable liner Full PVC coating Insulated









SHOWA

POLYMER: PVC

LENGTH: 12 INCH

THICKNESS: 12-mil

SIZE: 7/S - 10/XL



B0700R white glove is an excellent alternative to natural rubber gloves.

The second-skin feel is soft and comfortable, and the slip-on treatment makes the gloves easy to put on and remove.

Made with PVC, the B0700R provides chemical and liquid resistance. The embossed surface ensures excellent gripping action.

BENEFITS:

Form-fitting Easy donning and doffing Natural rubber latex-free Chemical-resistant Water-resistant

FEATURES:

Unsupported Embossed grip Full PVC Coating

APPLICATIONS:

Pharmaceutical Healthcare Electronics









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.

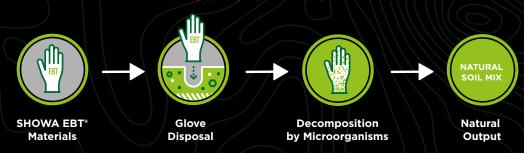
Every SHOWA EBT glove is made with the same rigid quality controls and standards as our entire portfolio. That means the overall performance of the glove - its durability, comfort, grip and protection stays exactly the same.

*As proven with ASTM D5511 & D5526 test results









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.



6005PF POLYMER: EBT NITRILE LENGTH: 9.5 INCH

THICKNESS: 4-mil SIZE: 5/XS - 10/XL

The versatile, 6005PF 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 6005PF'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









SHOWA

POLYMER: EBT NITRILE LENGTH: 9.5 INCH

SIZE: 5/XS - 11/XXL THICKNESS: 4-mil

> **APPLICATIONS:** Law Enforcement & Security Automotive Plumbing Food

Healthcare **Municipal Services** Pharmaceutical **Public Utilities**



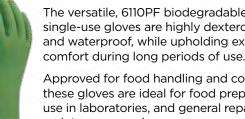
THICKNESS: 4-mil





SIZE: 5/XS - 11/XXL





The versatile, 6110PF biodegradable single-use gloves are highly dexterous and waterproof, while upholding extreme

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

SHOWA

12PF

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:

POLYMER: EBT NITRILE LENGTH: 9.5 INCH

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













POLYMER: NITRILE LENGTH: 9.5 INCHES THICKNESS: 4-mil SIZE: PF 5/XS - 11/XXL

This nitrile disposable glove provides unmatched dexterity and performance across a range of tactical applications using revolutionary SHOWA technology.

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

BENEFITS:

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

FEATURES:

Eco Best Technology® (EBT) Powder-free 100% Nitrile Low-modulus formulation 4 mil thick 9.5" long

APPLICATIONS:

Handling Plants & Vegetables Painting & Spray Workshops Food Packing & Handling Fruit & Vegetable Processing Poultry, Meat & Seafood Processing Laboratory, Pharma & Analysis Biotechnology Pharmaceuticals & API





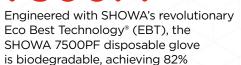






OOPF

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



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











POLYMER: NITRILE LENGTH: 9.5 INCHES THICKNESS: 8-mil SIZE: PF 6/S - 10/XL

Outfitted with an 8 mil thickness, this N-DEX® is perfect for jobs requiring the utmost in barrier protection, while keeping tactile discrimination.

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) 100% Nitrile Low-modulus formulation Rolled cuff 8-mil thick 9.5" long Powder-free

APPLICATIONS:

Mechanical & Engineering Chemical Spray & Treatment Coating Preparation Painting & Spray Workshops Food Packing & Handling Life Sciences Cytostatics Biotechnology









SIZE: 5/XS - 11/XXL





and accelerator-free.

Designed for sensitive skin, the 7502PF nitrile disposable glove is powder, latex,

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

POLYMER: EBT NITRILE LENGTH: 9.5 INCH THICKNESS: 2.5-mil

FEATURES:

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

APPLICATIONS:

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





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

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 μg/cm²/min:1

ASTM F739-20 0.01 μg/cm²/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.



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



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



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.



Them R 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 chemicalrelated 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.













6,000+

EMPLOYEES WORLDWIDE

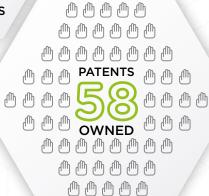






of unrivalled protection & innovation 100%

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