

# HAND SAFETY



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# OSHA 1910.138 – Hand Protection

A workers' hands might arguably be said to be the most important tool he or she uses on the job. Despite this, hands often go unprotected, with the result being that serious workforce hand injuries send more than a million employees to the emergency room each year, according to the U.S. Bureau of Labor Statistics. The average number of lost workdays for hand injuries is six days, but a significant percentage of hand injuries result in chronic problems or long-term disability. Despite these sobering statistics, hand protection is often lacking. Some workers say they find gloves uncomfortable or feel that gloves interfere with their ability to perform certain tasks. Some companies fail to implement and maintain effective safety programs that including providing appropriate personal protective equipment (PPE) and making sure it is worn. Both of these obstacles can be overcome. The variety of glove types, sizes and finishes available today makes it possible for workers to find hand protection that fits them comfortably and allows them to grasp, lift and manipulate objects and machinery. Companies and their safety managers can require that appropriate hand protection be worn whenever necessary. Aside from being mandatory, such an action will enhance profits and productivity and reduce the costs of workers' compensation claims by helping to prevent hand injuries.

## Provisions of the standard

### 1910.138(a)

General requirements. Employers shall select and require employees to use appropriate hand protection when employees' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.

### 1910.138(b)

Selection. Employers shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to

the task(s) to be performed, conditions present, duration of use and the hazards/potential hazards identified.

## Industries most cited for violations of 1910.138

From October 2020 through September 2021, the following industries received the most citations and penalties following OSHA inspections:

- Manufacturing
- Accommodation and Food Services
- Wholesale Trade
- Other Services (except Public Administration)
- Administrative & Support and Waste Management & Remediation Services
- Retail Trade
- Health Care and Social Assistance
- Utilities
- Arts, Entertainment and Recreation
- Mining, Quarrying, and Oil & Gas Extraction
- Construction
- Agriculture, Forestry, Fishing and Hunting

## Hand protection usage and care

Like all PPE, safety gloves should be well designed and constructed, and should be maintained in a clean and reliable fashion. They should fit comfortably, encouraging worker use. If a glove does not fit properly, it can make the difference between being safely covered or dangerously exposed. When engineering, work practice and administrative controls are not feasible or do not provide sufficient protection, employers must provide gloves and other PPE to their workers and ensure its proper use. Employers are also required to train each worker required to use gloves to know:

- When they are necessary
- What kind of gloves are necessary
- How to properly put them on, adjust, wear them and take them off
- The limitations of the glove



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- Proper care, maintenance, useful life and disposal of the gloves

## Glove types

The wide range of glove types available today makes it possible for employers to find hand protection that is appropriate for the hazards involved in their operations. Manufacturers have continued to develop technologies and expand size ranges. There are washable, disposable, gauntlet style and vend ready gloves (for easy distribution among large workforces). Styles can be customized using various liners and coatings.

## Payment for hand protection

Many OSHA standards require employers to provide personal protective equipment, when it is necessary to protect employees from job-related injuries, illnesses and fatalities. With few exceptions, the agency requires employers to pay for personal protective equipment – including hand protection - when it is used to comply with OSHA standards.

## Compliance assistance

OSHA has put out a Guide for Personal Protective Equipment, which includes a section outlining their policies on hand protection. Supervisors and people in charge of worker safety wishing to seek out more information can consult this comprehensive guide to personal protective equipment. [www.osha.gov/Publications/osha3151.pdf](http://www.osha.gov/Publications/osha3151.pdf)

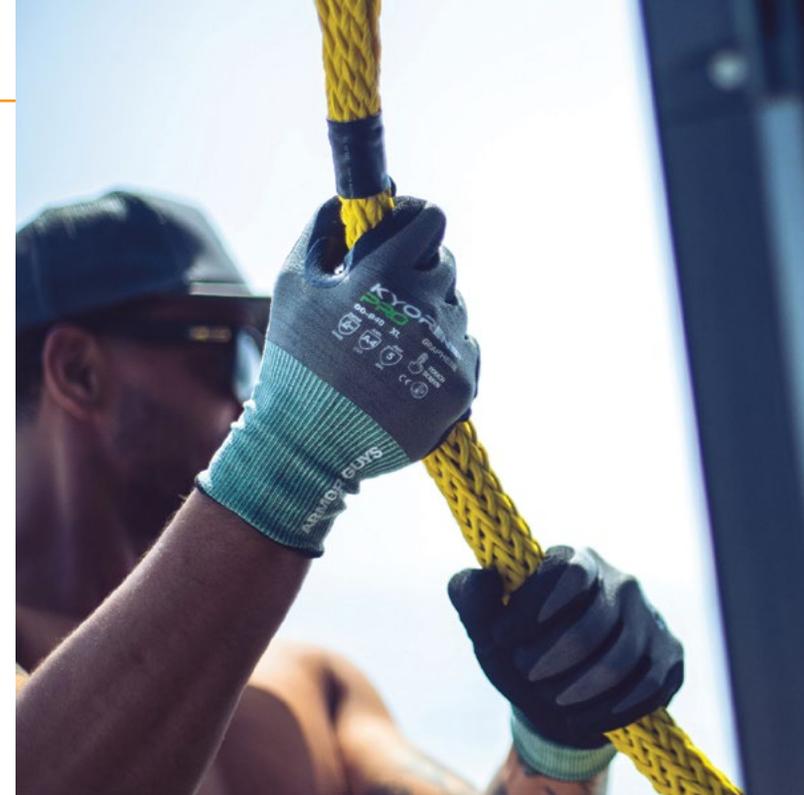
# Kyorene® - The Graphene Glove

Discovered in 2004 by two scientists at the University of Manchester who won a Nobel Prize for it, Graphene is an allotrope of carbon that is the most abundant material on earth. It's a two-dimensional, honeycomb lattice structure at only one atom thick. It is a nano particle of Graphite that was found to be 100 times lighter than paper, 200 times stronger than steel and harder than diamond. Even more exciting, Graphene is inherently bacteriostatic, thermal regulating, odor neutralizing and highly resistant to UV-A and UV-B rays.



In 2018, Armor Guys launched its 1st range of Graphene based gloves and sleeves. Kyorene®, as this range of products is known, is offered in general purpose and cut resistant gloves and sleeves. It comes in a variety of coating options and is available in ANSI A1 to ANSI A6 cut resistance. Following the successful launch of Kyorene®, Kyorene® Pro was launched in mid-2019. Building on the successful attributes that made Kyorene® successful – bacteriostatic, thermal regulating, odor neutralizing and UV resistant, Kyorene® Pro is the next generation in our Kyorene® offering. Kyorene® Pro is free of stainless steel and fiberglass, resulting in gloves that are more comfortable, thinner, lighter weight and more dexterous. Kyorene® Pro is also offered in a variety of coating options and is available in ANSI A3 to ANSI A9 cut resistance.

Armor Guys has chosen to use Graphene in hand protection because of the key inherent properties noted above. One of the biggest issues with wearing gloves is they tend to make a user's hands hot, causing them to sweat, which ultimately leads to the gloves having a foul odor, so they are discarded prematurely. Our Kyorene® and Kyorene® Pro gloves are the 1st gloves in the market to address these issues as Graphene, by its very makeup, helps regulate the heat buildup in the gloves, minimizing sweat and killing odor-causing bacteria that causes the gloves to smell. This is a significant achievement as it means companies using Kyorene® and Kyorene® Pro gloves are seeing greater longevity of their gloves and realizing tangible cost savings associated with it.



As a member of the Graphene Council and soon to be a verified Graphene producer, Armor Guys is at the forefront in the use and application of Graphene based gloves and sleeves. Building on years of technical leadership, backed by a strong research and development program, Armor Guys is the only glove manufacturer with the expertise, know-how and patented technology to deploy Graphene for wide scale commercial use in the hand and arm protection category. With a variety of styles offered in both Kyorene® and Kyorene® Pro, users have a wide range of options to choose from, ensuring they find the best glove or sleeve for their application. ■

# KYORENE<sup>®</sup> PRO GRAPHENE

# ARMOR GUYS • PROTECTED •



## 00-840

- 18g Gray Kyorene<sup>®</sup> Pro Graphene A4 Liner
- Black HCT<sup>®</sup> MicroFoam Nitrile Palm Coating



### INHERENT PROPERTIES:

- Bacteriostatic
- Thermal Regulation
- Odor Neutralization
- UV Resistance

CORPORATE SUSTAINABILITY INITIATIVE  
USING 80% RENEWABLE ENERGY



# ICYMI: Innovative PPE Keeps Construction Workers Comfortable, Safe, and Productive During National Construction Appreciation Week and Year-Round

National Construction Appreciation Week occurs annually on the third week of September and celebrates the millions of hardworking men and women in the American [construction](#) industry. In celebration of the week, Magid Glove & Safety is recommending innovative [PPE](#) for the construction industry that will keep workers safe while improving comfort, productivity, and compliance.

## GLOVES

For lighter-duty construction jobs – The Magid® T-REX® Flex Series® Lean TRX449 is the first impact [glove](#) on the market that has low-profile impact protection and a crinkle latex palm. The crinkle latex palm delivers comfort and grip for both wet and dry working conditions which makes it a great solution for the industry.

For heavy-duty construction jobs – The Magid® T-REX® Flex Series® TRX441 has dependable 360-cut protection, a lightweight shell, and unmatched dexterity. This glove can even be used with oily applications that are frequently seen in the construction industry.

For applications that require heat – Magid’s T-REX® Inferno Series® TRX848 features the Magid flame resistant M-Force Defense System®

which deflects and absorbs impacts while delivering protection from heat and open flame. These features are combined with a soft goatskin leather shell that provides an additional layer of abrasion resistance and dexterity making these gloves a comfortable option for heat-based applications.

## SLEEVES

Safety Managers should look for lightweight sleeves that will stay put and won’t roll down or irritate workers’ skin. Magid recommends its innovative Magid® M-GARD® AeroDex® Sleeve, made with lightweight material that’s lighter than traditional PPE. And if workers are prone to skin irritation and contact dermatitis, the Magid® M-GARD® DX Technology® Sleeve uses non-irritating strength-enhancing microparticles to achieve higher levels of cut protection without the discomfort that fiberglass or steel can cause. It also features a hook and loop closure and a gusset bicep treatment that will help prevent these sleeves from rolling down throughout the day.

## GLASSES

Magid’s Gemstone Zircon Plus Y770HV Safety Glasses offer protection and comfort with a thermoplastic rubber (TPR) inner frame cushion, nose pad, and temple tips. They are also anti-fog,

scratch-resistant, impact-resistant, offer 99.9 percent UV protection, and come in a variety of tint options.

## COOLING GEAR

Magid recommends its portable Magid Cool® Powered by Mission® combined with other preventative heat safety measures to help combat [heat illness](#) in the workplace. Magid Cool Powered by Mission cools to 30 degrees below the average body temperature in under 60 seconds. This gear will stay cool for hours and can be reactivated repeatedly with just water. Magid Cool Powered by Mission is sold as a cooling towel, neck gaiter, bandana, and even as a skull cap. ■

*For more information, visit [www.magidglove.com](http://www.magidglove.com)*

# High Dexterity Gloves

Hand protection is a requirement set in place by the Occupational Health and Safety Administration (OSHA) to help keep users safe and is a staple in the workplace. However, according to the Bureau of Labor Statistics, 74,410 cuts, lacerations, and puncture hand injuries happened in 2020. These injuries resulted in an average of three to four days of lost work time per each injury.

Like other Personal Protective Equipment (PPE), hand protection per OSHA must comply with the minimum criteria established by the American National Standards Institute (ANSI) and the International Safety Equipment Association (ISEA). In 2016 ANSI released a new edition known as the ANSI/ISEA 105 standard. This standard provided new testing methods, including a new scale to determine cut ratings. The new standard restructured the cut rating scale, which previously covered levels 1-5, to include levels 1-9. This was done to provide more consistency between the ANSI and European (EN 388) cut ratings. Each of these nine cut rating levels is determined by the amount of cutting force the glove can withstand. For example, ANSI/ISEA

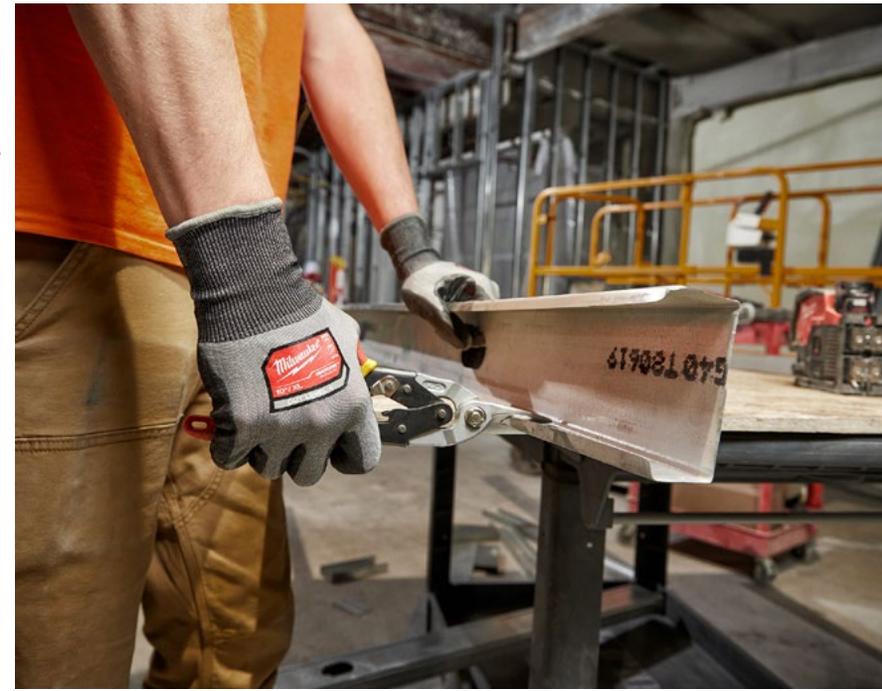
Level 1 gloves are classified for protection from lighter weight forces, and ANSI Level 9 gloves are classified for protection from heavier forces.

## A BREAKDOWN OF THESE VARIOUS RATINGS FOLLOWS:

- **ANSI A1-A2 (Light Cut Hazards):** Finish Work and Landscaping
- **ANSI A3 (Light/Medium Cut Hazards):** Demolition, Landscaping, and Electrical Work
- **ANSI A4 (Medium Cut Hazards):** Demolition, Landscaping, Electrical Work, Tile Cutting, and Concrete Work
- **ANSI A5-A6 (Medium/Heavy Cut Hazards):** Demolition, Tile Cutting, Concrete Work, and Duct & Sheet Metal Work
- **ANSI A7 (Heavy Cut Hazards):** Demolition, Duct & Sheet Metal Work, and Metal Recycling
- **ANSI A8-A9 (Extreme Cut Hazards):** Demolition, Duct & Sheet Metal Work, Metal Recycling, Metal Stamping, and Glass Handling

Despite jobsite requirements and overwhelming statistics that point out the severity of not wearing proper hand protection, users tend not to wear appropriate hand protection on jobsites due to multiple frustrations. Those frustrations include the gloves not fitting comfortably, lack of dexterity in detailed applications, hands getting too hot while working, or not being able to use their phone or tablet. Milwaukee Tool is dedicated to their users by bringing innovative safety solutions that solve their frustrations.

Milwaukee® introduced High-Dexterity Polyethene Dipped Gloves to their hand protection lineup, offering users high dexterity and a better fit. The glove's thin,



light, and more breathable 18-gauge knit material and polyurethane dip allow total hand mobility and better grip when handling small fasteners or manipulating small screws and washers. The fingertips, knuckles, and palms are equipped with Smartswipe™ technology to allow the use of touch screen devices without removing the gloves. A reinforced nitrile coating between the thumb and the forefinger adds durability in a high-wear area to withstand harsh jobsite conditions. The gloves have a premium heat transfer logo noting the cut level and, like other Milwaukee ANSI-rated gloves, have color-coded wristbands for easy cut level identification. Available in ANSI cut levels ratings A2, A3, and A4.

Milwaukee Tool's new High-Dexterity Polyethene Dipped Gloves demonstrates the company's focus on creating innovative solutions that won't slow users down, helping them STAY SAFE. STAY PRODUCTIVE™. For more information on Milwaukee® Personal Safety or to view the entire line, please visit [www.milwaukeetool.com/ppe](http://www.milwaukeetool.com/ppe).





# HIGH-DEXTERITY POLYURETHANE DIPPED GLOVES



LEARN MORE



or visit <https://qr.mke.tl/2d2cb>

# New Improvements in ISEA/ANSI 105 Glove Labeling Make Hand Protection Simpler for Construction Safety

By: **Donald F Groce**, Contributor

Proposed changes in the American National Standard for Hand Protection Classification ANSI/ISEA 105-2016 are expected to be adopted in the very near future by the International Safety Equipment Association. These changes have resulted in an even better tool for providing safer hand protection for those of us who face hand injury hazards daily in the construction industry.

Those of us who work in the industry know that historically, hand protection needs do not decline during undesirable economic times. Workers must be protected every day from every hazard that could cause

life-altering injuries. Many injuries could permanently redefine our ability to perform the tasks required by our livelihood. Even when the economy causes jobs to slow and the cost of construction materials to skyrocket and be in short supply, we all need the full range of hand protection from mechanical, physical, and chemical hazards. Dexterity is not considered a hazard but is a major factor in hand protection safety. Sometimes a task is even more hazardous when using poorly fitted hand protection. Workers take off their gloves to perform a fine motor task and get injured when hands are unprotected.

**New Labeling ICON:** The new labeling icon includes a “home plate” pentagon shape with the ANSI/ISEA 105 Performance Classification Levels on each side of the icon. The Cut Resistance Performance Classification (Level A1 to A9) is along the top line. The Abrasion Resistance Performance Classification (Level 0 to 6) is on the left side of the pentagon. The Puncture Resistance Performance Classification (Level 0 to 5) is on the right side of the icon. The example below shows a Global Glove stamp that performed at ANSI/ISEA 105 Cut Level A9, Abrasion Level 3, and Puncture Level 4.

You can tell at a glance the performance level for three of the main determining qualifiers for glove selection for Construction Safety.

## GREAT NEWS FOR THE CONSTRUCTION INDUSTRY

New advancements in cut-resistant fiber technology have resulted in more cut-resistant gloves than any

other point in history. Cut-Resistant gloves remain the fastest growing category of gloves and have been for a number of years.

**Cut Protection:** New developments in fiber engineering technology have brought new even higher cut levels than ever seen before. Some cut levels have measured far above the more recent ANSI 105-2016 American National Standard for Hand Protection Classification which includes an expanded ANSI Cut Level Rating system. Now there are ANSI/ISEA 105 Cut Levels of A1 to A9, with the highest Cut Level A9 being any material that cuts through with a weight of > 6000 grams. We have tested new gloves that are very supple and wearable that measure almost twice the requirements to be classified as Cut Level A9, with almost 12,000 grams of cut resistance.

## CLASSIFICATION FOR CUT RESISTANCE

Level	Weight (grams) needed to cut through material with 20 mm of blade travel
A1	> 200
A2	> 500
A3	> 1000
A4	> 1500
A5	> 2200
A6	> 3000
A7	> 4000
A8	> 5000
A9	> 6000

**Price Considerations:** As you may expect, you pay more for more protection. The higher cut level





strengthened by special treatment with ceramics or by twisting with stainless steel, glass fiber, etc.

**UHMWPE/HPPE:** High Performance Polyethylene (HPPE) fibers or UHMWPE Ultra High Molecular Weight Polyethylene are specially engineered by extruding polyethylene into fibers and twisting the fibers under high temperature and pressure. The resulting gloves are very abrasion and cut resistant. These fibers are not flame resistant. Like Aramid fibers, they can be made in different gauges, usually 7, 10, 13, 15, 18, and even 21 gauge and can also be

strengthened by special treatment with ceramics or by twisting with stainless steel, glass fiber, etc. Some of the brand names include DSM® Dyneema® or Global Glove Tuffalene®.

**Dexterity:** All glove manufacturers are continually improving their product offerings and searching for better protection for the industries and workers they are serving. To make a cut-resistant glove normally requires more material thickness to gain a higher cut level. However, recent developments and advancements have resulted in even thinner gauge cut-resistant yarns that are extremely cut resistant and even higher than ever before. The goal has always been to provide more comfort, dexterity, and bare-hand sensitivity for workers. The desired result is they will always wear their gloves to complete even tasks that require maximum motor dexterity and fine touch sensitivity. So, in

construction jobs, it will be easier to convince workers to keep their gloves on and minimize the risks of hand injury.

**Abrasion Resistance:** Abrasion resistance performance for the ANSI/ISEA 105 standard is measured using a Taber® rotary platform abrader. The exact same type of abrasion testing equipment is used throughout the textile industry to measure how long carpet and flooring will wear as a quality assurance measure.

A weighted load of either 500 grams or 1000 grams is applied to the special pumice H-18 abrasive wheels which turn the designated number of cycles on the surface of the glove material. The end-point of the test is when the sample has a hole all the way through the coating and the liner. The levels are:

#### CLASSIFICATION OF ABRASION RESISTANCE

Level (500 gram load)	Abrasion cycles to fail
0	< 100
1	> 100
2	> 500
3	> 1000

Level (1000 gram load)	Abrasion cycles to fail
4	> 3000
5	> 10000
6	> 20000

**Impact Protection:** Impact protection is needed in many different construction jobs as well as occupations such as mining, automotive mechanic work, or assembly. Many impact injuries to the dorsal or top of the hand can be reduced with the addition of impact pads to the gloves. Common materials for impact protection

performance gloves are generally more expensive. Most new developments have been very costly to engineer. But, what is your hand safety and the long-term use of your hands worth? You cannot put a price tag on injury prevention. Your hands affect every area of your life and wellbeing.

#### TYPES OF CUT-RESISTANT GLOVES

**Aramids:** Many cut-resistant gloves are made from Aramid (aromatic polyamide) fibers that may have brand names DuPont™ Kevlar®, Bulwark® Nomex®, Teijin Aramid BV Twaron®, or Global Glove Aralene®. Aramid fibers were some of the first developed fibers with many other safety applications including body armor, hard hats, and gloves. Aramid fibers are also flame resistant. They can be made in different gauges, usually 7, 10, 13, 15, and even 18 gauge and can be

include TPR, TPU, and Silicone, though new material pads are and will continue to be developed to maximize protection, comfort, and dexterity. Many manufacturers will use impact test data from either ANSI/ISEA 138 or EN 13574 standard test methods to categorize impact protection. The impact protection ratings for ANSI/ISEA 138 are assigned based upon the amount or percent of impact force absorbed by the impact material. The greater the percentage absorbed, the less impact on the hand. Now that the standard is published with the ratings, manufacturers will search for the best impact materials that absorb the most impact force.

**Puncture Resistance Classification:** Puncture Resistance for the ANSI/ISEA 105 Performance Classification is based on EN 388:2003 for a nail-like probe. There are five performance levels based on the force (Newtons) to puncture. The results are determined from an average of 12 punctures.

#### CLASSIFICATION FOR PUNCTURE RESISTANCE

Level	Puncture Force (Newtons)
0	< 10
1	> 10
2	> 20
3	> 60
4	> 100
5	> 150

The highest rating for this type of puncture are found in gloves made from combinations of Alycore®, leather, in coated Tuffalene® UHMWPE gloves, and in coated Aramid gloves. We feel that it is important to know the puncture resistance level for both the coated palm and the uncoated backs of many gloves differ. Sometimes the difference is pretty dramatic. The glove palm is generally the most likely area to need protection from punctures. However, the uncoated portions of the glove can also be punctured and result in an injury.

**Chemical Resistance:** Chemical Resistant Gloves have not seen many breakthrough products introduced in recent years. The main new gloves that offer protection from mixtures of chemicals include PVA/Nitrile gloves and TPE disposable gloves.

**Multi-Hazard Environment:** The future safety marketplace will always see an increase in multi-hazard gloves that protect from more than just one hazard. The reality is that there is never just one hazard. Combining the strengths of protection from mechanical, physical, and chemical risks will fit many of the new jobs of the future.

The new ANSI/ISEA 105 labeling icon from the upcoming edition of the ANSI/ISEA 105 American National Standard for Hand Protection Classification will provide an easy-to-use tool for assessing the proper glove for the hazard at hand. With a little knowledge of what the levels mean, employers in the construction industry

can use the icon as an excellent tool in making decisions that will keep hands safer and also utilize better stewardship of financial resources. The new home plate design icon will help you hit a “homerun in hand protection.” Protecting workers hands are what we are all about!

The ANSI/ISEA 105 American National Standard for Hand Protection Classification labeling icon design is not required by law, unlike CE Requirements in Europe. We do, however, feel that the practice of ANSI/ISEA labeling is very popular and that the new icon labeling design will catch on. Some companies have already started redesigning their labels to conform to the new labeling requirements. ■

*Donald F. Groce of Global Glove and Safety Manufacturing ([www.globalglove.com](http://www.globalglove.com)) is an Analytical Chemist and longtime expert in protection of workers from exposure to hazardous chemicals and issues related to hand protection. He has published more than 50 articles related to exposure to hazardous chemicals, cut hazards, proposition 65 compliance, occupational allergies, and technical standards.*



Image courtesy of PK Safety.

*Touchscreen technology isn't going anywhere and is showing up in more workplaces. Use touchscreens safely and effectively with compatible safety gloves.*

If you've ever tried to use a smartphone or tablet while gardening, on a construction site, or even in cold or rainy weather, you may have already experienced the struggle of trying to use a touchscreen while wearing gloves. Trying to tap or swipe a screen with something other than your bare fingertips can be a hassle: between the attempts to get the screen to work and the moment of defeat when you just take off the gloves, there's a lot of time lost and frustration. And when you're working on something, this lost time means lost productivity. In some workplaces, removing gloves to use a touch or swipe device can be dangerous because of the risk of contamination and accidents.

Electronic devices with touch or swipe technology are already a part of many aspects of our lives and will come into more workplaces. It's important that workplaces make this move because of how useful this technology is in so many industries. Having technology on the worksite can make it easier to pull up data and other information, get training on the job, and report safety incidents and

# Safety Gloves with Touchscreen Capabilities

By: **Rick Pedley**, Contributor

other important information nearly instantaneously—all hugely convenient in a world where speed is key.

Speed doesn't mean sacrificing safety, though. Keeping out contaminants and potential hazards is even more important than speed in a variety of industries. Luckily, the technology is there to make gloves from knit materials, carbon filament, leather, Kevlar, and more that are safe, insulated and compatible with your workplace technology.

## CUT-RESISTANT GLOVES

Anyone who works in the automotive industry, metal stamping, material or glass handling, recycling, fishing, sanitation, waste handling or general maintenance knows about cut hazards. Gloves like these will often be made of materials like Kevlar fiber and have nitrile-coated grips in the palm or fingers that enable touchscreen compatibility. With a material like Kevlar, you're also getting a glove that's inherently cut resistant and won't melt, ignite or conduct electricity— it's a great fiber for many industries, jobs and hazards.

## CLEANROOM/CRITICAL GLOVES

For biological hazards and jobs that require you to keep everything as clean as possible, it's especially important to wear gloves at all times. It's also critical to be able to use your touchscreen devices to access critical information, especially if a situation is about to change and health information needs to be monitored. Nylon or nitrile are good materials for sanitary environments, and anything with antibacterial or antiviral properties is of course a must. If you're going to be working with sharps or other hazards, consider gloves that are touchscreen compatible and also offer protection from the relevant risks of your position.

## GRIPPING GLOVES

In addition to cut resistance, many manufacturing, maintenance and general duty jobs also require you to have a good grip and decent dexterity. Gloves that are comfortable and ergonomic will allow you to use your tools, including touchscreen devices, more effectively. These gloves might come with a nitrile foam coating or another coating on the fingers and palms that allows you to feel what you're doing, which is critical in jobs that require very precise handling. The right material will also make it easier to use your tools and handle small and medium parts even in wet and oily conditions (and could offer thermal protection as well).

Many industries use touchscreen technology now, and if they don't, they're likely to adopt it soon. This technology makes it easier to access the information you need to do your job well. It's just as important that workers' hands stay safe while they're working, and if you're constantly removing gloves in order to handle a touchscreen device, you're potentially exposing yourself to harm or contamination. Get the best of the safety world and the information world with the right pair of touchscreen compatible safety gloves from your trusted safety equipment dealer. **WMHS**

*Rick Pedley, PK Safety's President and CEO, joined the family business in 1979. PK Safety, a supplier of occupational safety and personal protective equipment and manufacturer of its own new FR line GRIT, has been operating since 1947 and takes OSHA, ANSI, PPE and CSA work safety equipment seriously. Speak with safety experts at 800-829-9580 or at [www.pksafety.com/contact-us/](http://www.pksafety.com/contact-us/).*

# Embrace Sustainability: Divert Glove Waste from Landfills

SW is at the forefront of how the glove industry changes and customer behavior evolves. As we emerge on the other side, we should rethink and accept that maybe things won't resume the way they have always been. In today's changing world, we are compelled to adapt or get left behind; we rise by devising ways of doing things better. It is the impetus behind growth and value creation.

## SUSTAINABLE FUTURE

Gloves are single-use products used across multiple industries initially designed to protect the wearer from exterior elements of their environment. These gloves contribute around 2.6 million non-biodegradable metric tons of waste each year to US landfills.



The communities and stakeholders are working towards zero waste; this concept goes beyond the end of life's product cycle but encompasses its entirety from design to use and management of materials in ways that preserve and minimize environmental impacts. Online searches for sustainable goods have increased by 71% globally since 2016, according to The Economist Intelligence Unit.<sup>1</sup>

The digital transformation is reshaping the customer experience, expanding their choices, and shaping their brand expectation. Consumers are now driven by aligning their values and the brand's purpose- the reason it exists beyond profit and making an impact.

## ECOTEK BIODEGRADABLE TECHNOLOGY

SW's Ecotek Nitrile Gloves with biodegradable technology are certified by GreenCircle to biodegrade 92.6% in a landfill in 2.5 years and do not leave toxic residue behind. The biodegradation only occurs when glove is placed in a landfill, the technology attracts microorganisms naturally present in the waste environment to accelerate the breaking down process, converting 92.6% of the glove to biogas and the remaining 7.4% to non-toxic organic material.

Ecotek is more than just a biodegradable glove that reduces waste, it is a truly sustainable solution that is ethically sourced, from manufacturing to packaging, and designed to protect stakeholder without sacrificing performance. It doesn't leave toxic residues behind and will not contaminate ground water and the environment as validated by third-party testing.

Focused on quality and durability, Ecotek gloves comes with no performance loss. It offers the same chemical resistance, viral resistance and shelf life as the conventional glove. The superior functional performance and reduce impact makes it the first-choice brand for consumers trying to make a green change.

## SUSTAINABILITY IS SW'S MISSION

The amount of waste generated in the U.S., is already the highest in the world, and has been increasing over the last few years. We have a critical window of opportunity to help ensure the health and well-being of people and our planet.

SW was founded with a single purpose: to make our customers more successful. We stay true to our mission as we embrace to fight waste problem and the dwindling landfill space with our Ecotek technology- one pair of gloves at a time. We believe that what's good for business should also be good for the Earth. Our commitment to be a good global corporate citizen is shown through our sustainability initiatives and innovations.

As a small, minority, and woman-owned business, in our little way, we can imprint a long-lasting positive effect on our environment and communities. The march towards sustainability transformation is inevitable. We have an incredible opportunity to change the industry, so we urge our stakeholders to act now. Take a hard look at the current conditions and emerging trends, reflect and push the reset button that is more likely to lead to the positive outcomes and sustainable future the world aspires of. ■



\*In a Landfill in 2.5 Years.

1 International, W. W. F. (n.d.). *The eco-wakening is here*. WWF. Retrieved August 9, 2022, from <https://explore.panda.org/eco-wakening>



# CUT RESISTANT TECHNOLOGY

AxiFybr®

*Featured In*

**GraphEx®**  
**BULLSEYE™**

Proprietary AxiFybr® yarn is engineered at the molecular level enabling GraphEx® and Bullseye™ products to provide the highest level of cut protection without loss of comfort, fit or flexibility.



**REQUEST  
SAMPLE**

# When is it Time to Replace Your Work Gloves?

By: Rick Pedley, Contributor

All gloves will eventually need to be replaced, especially if you're wearing them all the time. In general, they shouldn't be wearing out daily, but getting a few weeks out of a regularly used pair of gloves is considered a pretty good life.

The length of time your glove lasts depends on several factors, including the type of glove it is, the work you're doing while wearing it, how often and how long you're doing that work, and how well you take care of your gear. This also makes it very subjective—you might use your gloves faster than your coworkers because of differences in how you work. So, consider these factors when you suspect it might be time to replace your work gloves.

## KNOW WHAT DURABILITY MEANS FOR YOU

When workers and manufacturers use the word “durability,” they generally mean “longevity,” which is just another way of saying how long a worker can wear the glove before it's considered “worn out” and no longer able to do its job. Unfortunately, this is a difficult quality to measure because there aren't objective tests or standards, and often the wear life is determined by the job the glove is used for. When you're looking at gloves to wear, look at measurable

performance qualities like cut protection or resistance to chemicals and abrasion.

## BRUSH UP ON YOUR SAFETY SKILLS

Workers should be trained on all aspects of their job, and this includes equipment. There should be training for glove features, job applications, the impact of proper gear, how to identify wear and damage and recognizing when PPE is no longer able to do its job. This training will become even more crucial as the years go on and manufacturers develop new fabrics, technologies and methods that can help increase product durability and functionality.

Organized training through a workplace will make workers more likely to understand and therefore use work gloves, which lowers risk. Make training a continuous process for new and veteran employees alike to keep everyone's skills fresh.

## LOOK FOR SIGNS OF WEAR AND TEAR

While you may get away with holey or over-used gloves when doing basic house chores or DIY projects, job sites may hold gear to higher standards to best protect its workers. Generally, there are





visual signs of when gloves have reached the point of being worn out. Look for color variations in the coating and liner, for instance. Some workers will throw out a pair of gloves when the coating wears through, and some when the glove itself is full of holes or the surface is completely abraded off—use your best judgment. It can only take a moment for a workplace accident to happen, so spend a few extra moments at the start of each shift to ensure that you're ready to go.

#### PROPER CARE AND KEEPING

While all gloves will eventually wear out and need to be removed from service, you can prolong the life of your gloves with proper care and maintenance. Make inspecting them for damage a regular part of your workday routine, especially if they've encountered a lot of abuse. Look especially for breaks in the glove where skin is left vulnerable to temperatures, cuts, punctures, chemicals and other hazards. Make sure that you follow the manufacturer's laundering directions as well. Launder the gloves as often as recommended and according to their directions, especially if they're flame-resistant and need to be clean to be safe. And really, you should be washing your gloves anyway—you wouldn't wear other clothes

over and over without ever washing them, so why would your gloves be any different?

#### ACCEPT THAT SOMETIMES IT'S NECESSARY

Just like some gloves are designed to last for a long time, others are designed to be used once before being thrown out. If you're using disposable gloves, it's for a reason—specifically, that proper disposal of the glove and what it came in contact with is safer than reusing it. Medical, food service and janitorial work make use of disposable gloves. Sanitizing these gloves would be too intense of a process for the materials to handle, so they're disposed of after use regardless of whether they're worn out or damaged.

If it's almost time to replace your gloves, choose a company of safety experts you can trust. Your hands are one of your most valuable tools, so make them a priority and keep them protected. **WMHS**

*Rick Pedley is CEO of PK Safety, a company that has been helping people stay safe in the workplace for more than 70 years. For information about PK Safety's safety gloves, gas detection devices, fall protection, respirators, confined space equipment and more, visit [www.pksafety.com](http://www.pksafety.com).*

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# Essential Hand Protection for Worker Safety

By: **Jane Marsh**, Contributor



It's impossible to overstate the importance of essential hand protection for worker safety. Statistics show hand injuries can — and do — happen regularly, whether in manufacturing, engineering, warehousing or one of the trades.

According to OSHA, wearing proper personal protective equipment (PPE) could prevent around 70.9% of worker injuries sustained to the hands or arms. When most individuals think of hand protection, they think of gloves. Consider this a quick but thorough guide to matching gloves, product characteristics and other tools to the task at hand to reduce safety incidents.

## HAND PROTECTION FOR EVERYDAY TASKS

Everyday work gloves are satisfactory for tasks like moving boxes in warehouses or operating lift trucks. The right gloves enhance safety by reducing the likelihood of incidents and equipment-operation blunders, as well as by protecting the hands themselves. Choose everyday disposable task gloves that:

- Provide a confident grip, usually through rubberized and textured palms and fingers
- Come in a range of sizes to accommodate all employees comfortably
- Offer a secure fit without slipping or stretching out too quickly

- Allow the hand, wrist and fingers to move without their range of motion impeded
- Don't rip or tear easily and can be worn for multiple shifts before disposal

## HAND PROTECTION FOR MORE INTENSE TASKS

Some of the tasks in supply chains, on construction sites and elsewhere require more robust forms of hand and arm protection. The most common hazards in such environments are lacerations and cuts.

## CUT AND IMPACT PROTECTION

Take time to study the cut resistance levels as outlined by the American National Standards Institute (ANSI).

Gloves rated "A1" provide protection for low-cut-hazard tasks and cutting force up to 499 grams. "A5" gloves provide substantial (5,999 grams) protection against cuts, harsh impacts and vibrations.

Some tasks, like operating packaging-dispensing machines, should see gloves paired with protective sleeves and specialized task-specific versions. These protect workers from lacerations from the cutting blades. Some gloves are woven with nontraditional materials for greater protection, like metal mesh.

## CHEMICAL PROTECTION

OSHA's Code of Federal Regulations requires employers to "select and require employees to use" hand protection in all situations involving identified hazards (1910.138(a)). The regulations also require employers to evaluate the nature of these hazards and match the danger of the task with appropriate and specific hand protection products (1910.138(b)).

Material Safety Data Sheets (SDS) often provide recommendations for hand protection levels. When evaluating products on the market, consider factors such as:

- Type and concentration of chemical
- Temperature of chemical
- Duration and type of exposure — i.e., immersion vs. splashes
- Level of grip and dexterity required for the task
- Degree of protection (hand, forearm, entire arm, etc.)

Manufacturers should make it simple to find their laboratory results and match protective equipment to specific tasks. The industry regulations and associations informing their product design should be apparent. If these things are not in evidence, they may not be the best safety partner.

## OTHER HAND PROTECTION CONSIDERATIONS

Other factors should be considered when ensuring workers' hand safety. Companies should keep these additional safety precautions in mind.

## CHOOSING DIFFERENT TOOLS

In some cases, it's possible to think beyond hand protection and choose a slightly different tool that further reduces the chances of sustaining injury.

Some cutting and shaping tools, including blades, are designed to make glove penetration and worker injury even less likely than with traditionally shaped implements.

It's also important to note that not all gloves boasting puncture resistance keep workers safe from certain tools, such as needles. If especially hazardous or physically dangerous products are handled or processed at your facility, ensure your disposal/transport containers and hand protection are up to the task.

## FACTORING IN ENVIRONMENTAL PROTECTION

The best hand protection products should be designed with their environmental impact in mind. Hand protection is ultimately a disposable product category, but that doesn't mean single use in every case.

The material sciences improve regularly. If it's been some time since your purchasing agents shopped around for more environmentally friendly hand and arm protection, this may be the moment. Durability and material choice should be top-tier concerns. Buying products that last longer often provides a better ROI and minimizes landfill waste.

## CREATING ADEQUATE AND ONGOING TRAINING

Material interventions and investments in hand safety are usually the focus while training takes the back seat. This is a mistake.

Hand and arm safety should focus on new-worker onboarding and refresher training modules delivered regularly for everyone else. Do not make this an afterthought. Workers will sometimes complain about protective equipment impeding their work, which underscores

the importance of matching the glove to the task — and the nature of personal responsibility in a facility or on a work site.

Identify the best and most relevant workplace safety training experiences and courses available to you. Take employee concerns seriously and work to improve processes and protections within reason. Don't sacrifice sound legal or ethical footing to save money or time.

## FOR HAND PROTECTION, LEAVE NOTHING TO CHANCE

Take time to understand the form and function of site and facility safety signage, and be sure workers understand their significance, too. No detail is too small to ignore or a hazard too insignificant to avoid.

Workplace safety is an individual mandate, but positive examples must come from the top. The right intentions and investments will create a lasting safety culture that sustains itself. **WMHS**

*Jane Marsh covers topics in green technology and manufacturing. She also works as the Editor-in-Chief of [environment.co](http://environment.co).*

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