



Regulatory Compliance

ANSI Standards: A PPE Guide for Hand Protection

Julie Sullivan | Sep 07, 2017

What You Need To Know

Over a third of surveyed safety professionals reported having at least 10 or more work-related hand injuries over the past year.

ANSI updated its national hand protection standards (ANSI/ISEA 105-2016) to address classifications and testing for hand protection materials when related to chemical and industrial trades.

However, the updates aren't clear-cut regulations. Businesses will need to do their part in keeping associates safe by staying abreast of the latest trends and technologies in hand protection.

To manage the onslaught of hand injuries, companies are developing hand safety policies and training workers. Some manufacturers are requiring mandatory glove use and mandatory hazard assessments.

Hand injuries are the common safety denominator. Here's how to protect your employees' hands on the job.

Despite an overall *decline* in the total number of nonfatal occupational injuries and illness in recent years, there's one critical body part experiencing the lion's share of injuries in manufacturing settings: The hands.

From cuts and punctures, sprains and strains, fractures, burns (thermal and chemical), the flexible, ten-fingered hands with their palms, knuckles and nails are, unfortunately, primed for harm on the job.

The data is clear: Hand injuries are the most commonly injured part of the upper extremities—and are nearly twice as likely to be injured than the arms, wrists and shoulders, according to *research* published by the American Society of Safety Engineers.

According to the ASSE *survey*, in partnership with DSM Dyneema and Majestic Glove, 33 percent of safety professional respondents reported 10 or more work-related hand injuries over the past year—with 12 percent citing they had more than 30 hand injuries in that time frame. Over 40 percent of those injuries were punctures or cuts.

It makes sense. Workers use their hands so often to grip, grab, hold and carry things on the job. Yet, the technology for hand protection has advanced for nearly every imaginable workplace scenario. So why all the hand injuries?

Human error and unusual accidents do account for a portion of causes; however, there is glaring evidence that suggests associates aren't covering themselves properly. Of those individuals who were injured, 40 percent weren't wearing cut-resistant gloves or personal protective equipment (PPE)—and 20 percent cited improper training.

The message is simple and clear: Associates in the workplace need to keep their hands protected. But between emerging technologies and ANSI and OSHA standards, how do you ensure your chosen PPE is optimized for the task at hand?

Select the Right Glove Easily With Our Interactive Selector Tool

Need help selecting the right glove for your specific safety situation or for an entire department? Check out MSC's *interactive glove selector*. If you are looking for help with other safety products, be sure to peruse our full *safety product selector*!

Making Sense of the Recent ANSI/ISEA 105-2016 Updates

When choosing what type of hand protection to stock in their facility, most safety managers (rightfully so) look to standards for selection. Of course, these standards aren't always hard-lined and can often be up for interpretation, leading to insufficient or too much protection that thwarts effectiveness.

One prime example of this: The American National Standards Institute (ANSI) updated its national hand protection standards (ANSI/ISEA 105-2016) to address classifications and testing for hand protection materials when related to chemical and industrial trades. Here's a snapshot of some of the most prominent updates.

1. **Cut Resistance:** The update acknowledges two different methods for testing cut resistance with different machines. In ASTM F1790, TDM and a CPPT test machine are permissible. In the revised ANSI/ISEA 105 standard, a single method for testing says that the **manufacturers are to use the TDM machine exclusively**.
2. **Performance Ratings:** Additionally, ANSI is imposing a new scale for rating performance with PPE. Whereas the old standard had five ratings, the new version has nearly double the scale (A1 – A9).
3. **Puncture Prevention:** Although cuts are dangerous, punctures can turn deadly. Knowing this, ANSI now imposes a revised standard for the needlestick puncture test—especially prevalent in industries that rely on hypodermic needles, like sanitation, recycling or healthcare.

While ANSI does impose a set of standards for manufacturers in regard to hand protection, as we've discussed before, these standards are often up to interpretation—they are seen more as guidelines than strict and enforceable regulations. Of course, this can be doubly confusing and frustrating for PPE manufacturers and employers. But while there aren't necessarily enforceable regulations, there is emerging technology and a set of best practices that shops should consider following.

“When selecting hand protection, consider your daily tasks and the specific performance qualities you need from a glove to get the job done right.”

Steve Genzer

President and General Manager, Ansell Industrial Global Business Unit

OSHA Does Fine for Hand Protection

Companies are feeling the real, tangible effects of workers being injured on the job when proper PPE protection is being neglected. OSHA does inspect and will find companies in violation. Here's an example from *July 2017* (page 80, which carried a single fine of \$6,338) of how OSHA describes a PPE-related fine. First, OSHA will cite the regulation being broken:

29 CFR 1910.335(a)(1)(i): Employees working in areas where there were potential electrical hazards were not provided with electrical protective equipment that was appropriate for the specific parts of the body that needed to be protected and for the work being performed.

Then the regulatory body will explain what it means for a specific citation—often in more plain and clear terms so that companies and safety managers know exactly what to fix. Here's a real example of further explanation per this specific citation:

1. On or about 2/16/2017, Motor Control Rooms: Employees required to perform troubleshooting and voltage verification were not provided with personal protective equipment such as, but not limited to arc related clothing, gloves, and arc rated face shield. Employees were potentially exposed to voltages up to 3,200 Volts AC.

To help better understand what type of gloves work best for the job you're completing, and to ensure all staff are properly trained to wear them, there are online, interactive tools that can help. Here is one for **hand protection**. (Full disclosure: It is from MSC.)

How Safety Managers Can Keep Their Staffs Safe with PPE for Hand Protection

Why are workers not wearing the right PPE? Feel, a lack of accountability and training. In the American Society of Safety Engineers study, one of the primary reasons for evading PPE was discomfort. Additionally, 30 percent said that there were no repercussions for those individuals who opted not to wear gloves. Another 21 percent said they were not being made aware that they should be wearing protective gloves in the first place.

In addressing the issues of comfort and dexterity, new yarns, thinner materials and more advanced technologies are helping to give the gloves better grip than ever. This is typically done through an enhancement of the polymers and an addition of impact-resistant materials sewn into the initial stitching.

And while getting associates to wear their gloves is a challenge in itself, Steve Genzer, president and general manager of Ansell Industrial Global Business Unit, cites a tendency to choose gloves that overprotect rather than ones that meet the precise performance needs of workers.

"We've seen a trend in companies leaning toward overprotecting when it comes to hand protection—which can actually be a hindrance to workers," he explains to *EHS Today*. "For example, many end users choose gloves with high levels of cut resistance when they feel they need more protection and support to get the job done. However, a higher cut level doesn't necessarily translate

into better performance and protection—instead you may need more grip to prevent material slippage or improved durability for a longer-lasting PPE product. When selecting hand protection, consider your daily tasks and the specific performance qualities you need from a glove to get the job done right.”

Develop a Hand Safety Policy and Train Employees

How are manufacturers and safety managers dealing with all the hand injuries? Some are addressing it head-on by developing customized hand safety policies that include training, identification of the right glove protection for specific department needs, and often, making glove use mandatory across the board.

FMC, a chemical manufacturing company, was experiencing many hand injuries, and so developed a “Th!nk Safe” campaign to address it. John Bell, EHS operations leader for FMC's health & nutrition business, told *EHS Today*:

“Our activities include: Implement a global glove standard; developing and launching several videos around hand safety; and analyzing our event data to drive targeted campaigns to address hand safety issues.”

Others, like National Gypsum Company made gloves mandatory for almost every task—and require employees to perform hazard assessments in those cases where gloves could be hinder tasks needing fine motor skills, explains *EHS Today*.

“We haven't had any cuts, abrasions or burns since the start of the year,” says Monte Mahin, CSP, director of safety and health at National Gypsum Company. “It's hard to argue that the hand safety and glove usage policy is not necessary when we have data like that to back it up.”

What kind of PPE for hand protection does your shop use? Let us know in the comments below.

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