



Workplace Safety

High-Visibility Safety Apparel: What You Need to Know About PPE Standards

Matt Morgan | Aug 13, 2020

Protect your workers from danger by making sure they are seen in your facility. High-visibility safety apparel helps lower the risk of injury in hazardous situations. Here is what you need to know about this important PPE.

Personal protective equipment is essential to safeguard workers against illness and injury in manufacturing facilities. The gear is easy to spot: hard hats, eyewear, respirators, gloves, harnesses.

For some workers in the facility, one type of PPE should be the easiest to see: high-visibility safety apparel, or HVSA. This category of personal protective equipment is necessary for workers who are at risk of being struck by moving vehicles, equipment and machinery.

High-visibility safety apparel has its origins in highway and construction worksites, where workers operate near moving vehicles and equipment. The *Federal Highway Administration* first required workers in those situations to wear specific types of high-visibility clothes, and the *Occupational Safety and Health Administration* has adopted the standard for all traffic safety environments.

In the manufacturing industry, high-visibility safety apparel is not federally mandated, yet companies in the sector are recognizing the value of protecting employees who face hazards while working in low-visibility situations.

“People working in facilities often take visibility for granted, until an accident occurs. But ensuring visibility is within our reach in most any work environment—with people wearing safety vests whenever they are in areas where they might be hard to see.”

Ned Hickok

OccuNomix International LLC

Considerations for Picking High-Visibility Safety Apparel

A risk assessment of your operation will help you determine what types of high-visibility safety apparel you need for your facility. Beyond technical specifications and minimum standards, consider these factors:

- **Color.** High-visibility safety apparel must be one of three fluorescent colors: yellow-green, orange-red or red. Choose the color that provides the greatest contrast against the background, which may be different for each area in the facility. For example, if employees are working around yellow equipment, the gear should not be yellow. Instead, choose orange-red or red.
- **Fit.** Poor-fitting clothing can be uncomfortable—and if it's uncomfortable, workers are less likely to wear it. But there is a safety component, too: Ill-fitting clothing poses a catch risk. Have different sizes of high-visibility safety apparel available, or adjustable garments.
- **Job specifics.** If a task includes moving parts that present a catch hazard, consider break-away vests for workers doing that job. Workers operating around flammable materials should have a flame-resistant garment (this will be on the label). It's a good idea to survey your workforce and understand what your employees need. For example, is it convenient to have a spot for an ID badge on the garment? Should a vest have pockets for mobile devices? Should it provide access to D-rings for fall protection?
- **Climate.** Workers spending time outside in rain or snow should have high-visibility gear that provides comfort as well as visibility in those conditions. Indoor workers may have to contend with heat, humidity and dust, and the gear should be suitable for their unique needs.

"People working in facilities often take visibility for granted, until an accident occurs. But ensuring visibility is within our reach in most any work environment—with people wearing safety vests whenever they are in areas where they might be hard to see," says Ned Hickok, president of OccuNomix International LLC, a designer and manufacturer of personal safety equipment.

Setting the Standard for High-Visibility Safety Apparel (HVSA)

Today, high-visibility safety apparel is governed by a volunteer standard developed by the *International Safety Equipment Association* (ISEA) and approved by the *American National Standards Institute* (ANSI).

The American National Standard for High-Visibility Safety Apparel and Accessories (*ANSI/ISEA 107-2015*) sets parameters for vests, jackets, shirts, pants and coveralls that make a worker visible in hazardous situations.

"The beauty of the standard is that the worker doesn't have to be concerned with the environment—background complexity, level of light, etc.," Hickok says. "These garments function in day or night—most any environment."

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ANSI/ISEA 107-2015 groups high-visibility safety apparel by class and type, which specify the amount of visibility material the garment contains and the work environments where the garments should be worn. ([Click here](#) for more on this from the ISEA.)

Most manufacturing environments call for Performance Class 1 Type O safety gear. From the ISEA:

- Performance Class 1 provides the minimum amount of required material to differentiate the wearer visually from non-complex work environments.
- Type O (off-road), for non-roadway use, where workers are not exposed to highway traffic or temporary traffic control zones.

A higher classification, like Class 2, which has more high-visibility material, may better suit a manufacturing company's safety needs.

"The cost of a Class 2 garment—with its added visibility from the fluorescent background material—is often as inexpensive as Class 1 garments and may even be more fully featured," Hickok says. "This is why so many sites are incorporating the more strictly defined Class 2 high-visibility garment."

Read more: PPE Assessment Plan: Selecting the Best Type for Your Business

Qualities of High-Visibility Safety Apparel

To comply with ANSI/ISEA 107-2015, high-visibility safety apparel must meet several criteria:

- **Fluorescent material:** The background material of the garment must be one of three fluorescent colors: yellow-green, orange-red or red. Fluorescent material reflects sunlight to appear brighter during the day.
- **Reflective material:** Garments must provide 360-degree visibility and include reflective material that bounces artificial light back to the source to appear brighter at night or in low light.
- **Testing:** Manufacturers of high-visibility gear must have the garments tested in an accredited laboratory and verified to meet the minimum standards for visibility. Garments must include a label with the performance class and type. And although flame resistance is not required of these garments, the label must say whether it is flame-resistant or not flame-resistant.

The Case for High-Visibility Gear in Manufacturing Facilities

Manufacturing companies should consider high-visibility safety apparel for a few key reasons:

It protects employees working around moving vehicles and equipment. A forklift carrying a heavy load and traveling at 8 mph takes 21 feet to stop. At 10 mph, the stopping distance nearly doubles. It's vital that anybody who's near the forklift be clearly seen by the operator to avoid a collision.

"Workers must be visible to vehicle operators in all light conditions, and against complex backgrounds," the *ISEA* says. "The sooner a vehicle operator sees a worker, the longer the operator has to avoid an incident."

Even equipment that is stopped or paused poses a risk of restarting and injuring a worker. High-visibility gear gives the operator clear sight of anyone who might be in harm's way before engaging the machine.

In addition, Hickok notes, requiring the operator to wear a safety vest helps the people around the machine to see someone is operating it and take the proper precautions.

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It protects anyone who doesn't regularly work in a hazardous area. Employees who work together daily know the drill: They are more familiar with the people around them and the equipment that's in operation, and they recognize the risks of being in that area.

People who are not usually in the work area—such as maintenance crews, managers, inspectors and visitors—might not be expected by regular workers and need extra visibility. Maintenance employees, in particular, often work in hazardous, low-light situations, such as inside machines.

High-visibility gear allows these people to be seen.

It protects employees performing separate duties. High-visibility gear of different colors can help distinguish workers performing different tasks around the facility.

Workers in one area who are wearing the same color are more likely to know about the risks posed by the equipment in that area. A person entering the area wearing a different color is a clear, visible reminder of someone who might not be familiar with the risks of that area.

It underscores the importance of safety at the company. When visitors enter the workplace—whether they're customers, inspectors or prospective employees—they see workers wearing safety apparel and understand that the company takes safety seriously.

And the workers understand this, too. "It sets a model that visibly communicates positive messages about the company they work for," Hickok says.

Do you have a success story or a piece of advice about high-visibility gear to share? Let us know in the comments.

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