

# TRAINING WORKERS TO CORRECTLY HANDLE PPE



Employers must supply personal protective equipment (PPE) to their workers and oversee its use in situations where engineering, work practices, and administrative controls are impractical or insufficient. **Effective use of PPE relies on understanding the equipment.** This includes proper training, selection, handling, maintenance, and inspection. Incorrect PPE use may result in injury or death.

Workers don't have the authority to choose when to wear required PPE. **The following Pro Tips offer insights to help workers use PPE correctly.**

**Leadership by example is one of the strongest ways to encourage workers to engage in safe behavior.** Encouraging a Behavioral Focus helps workers understand how and why PPE protects them.

## HEAD PROTECTION (§1910.135)



Wearing a safety helmet, hard hat, or bump cap can protect the head from contact hazards, dropped objects, and electrical exposure. The type of head protection used will depend on the hazards present. The worker must wear head protection correctly, maintain it properly, and let the employer know if it's damaged, doesn't fit properly, or needs to be replaced.

### Inspect your hard hat before and after each use.

- Examine the shell and suspension for wear and tear, loose or broken stitching, discoloration, loss of surface gloss, flaking, frayed or ripped straps, and loss of pliability.
- Even with no noticeable damage, a hard hat that has suffered an impact must be replaced.

### Use only mild soaps and warm water to clean your hard hat.

- Don't use abrasive solvents or harsh detergents.
- Allow the freshly cleaned hard hat to air dry.
- Consult the manufacturer's guidelines for specific care instructions.

### Store your hard hat in a safe place.

- Keep out of direct sunlight; don't place it on the dash or front seat of your vehicle. Prolonged exposure to sunlight can cause damage.
- Store where it won't get hit, dented, or damaged.

### Check with the manufacturer to determine if your type of hard hat is allowed to have certain stickers, markings, or decorations.

- Paint and stickers may eliminate electrical resistance.
- Decorations may conceal defects, cracks, penetration, or other damage.
- Hard hat manufacturers usually provide very specific instructions regarding paints, stickers, or decals that will not negatively affect the performance of the hard hat.

## PRO TIP:

Use caution when removing the hard hat to avoid eye injury from particulates. Pull the hard hat back off the head or use a magnetic strip around the hard hat to prevent or reduce injury to the eyes from any foreign body.

## BEHAVIORAL FOCUS:

- ➔ Never wear a hard hat backward or with a baseball cap underneath it. The hard hat could fall off and it won't fit correctly or provide sufficient protection.
- ➔ Don't discourage the camaraderie that comes with adornments on a hard hat. Rather, check with the manufacturer first and consider selecting equipment that will allow certain paints, stickers, or decals.

## EYES AND FACE (§1910.133)



Safety glasses protect the wearer from flying fragments, large chips, sand, and dirt. Side shields provide additional protection. Safety goggles offer the best protection from chemical splashes and sparks. Face shields provide complete face protection when working with hot materials, chemicals, or light radiation. Ensure workers are using the correct type of protection based on the work activities and hazards.

### Ensure your eye and face protection is clean and sanitary.

- Wipe the outside of the face shield, goggles, or safety glasses with cool water or alcohol wipes to remove any residue.
- Fully dry (air dry or use clean, lens-safe absorbent towels).
- Consider using a germicidal UV sterilizer cabinet for further sanitization.

### Check your eye and face protection for damage.

- Look for chips, cracks, scratches, clouding, discoloration, or breaks.
- Remove from service if damaged.

### Inspect and verify all parts are present (e.g., top shield, side shields, arms, bridge, and straps).

- Eye and face protection with missing parts need to be replaced.

### Ensure your eye and face protection has an ANSI Z87.1 marking.

- Prescription eyewear must have the Z87.1 marking.

### Wear comfortable, proper fitting eye and face protection.

- Poor fitting eye and face PPE can cause discomfort such as headaches, nausea, and eye fatigue.
- Signs of discomfort include dry or watery eyes, soreness of eyes, trouble focusing, blurred vision, light sensitivity, and headaches.

### Position your safety glasses correctly so they don't obstruct your field of vision.

- Frames should sit close to the face. Eyewear should rest comfortably on the bridge of the nose and not slide or pinch. The side arms should be above the temples and over the ears. The eyewear should stay in place when you move your head front to back and side to side.

### Verify that your face shield covers enough area of your face to provide necessary protection from flying particulates.

- A face shield should extend below the chin and above the eyes, as well as wrap around the sides of the face.

## PRO TIP:

Always wear safety glasses or goggles under your face shield or welding helmet. They provide closer protection around your eyes from flying particulates.

### BEHAVIORAL FOCUS:

- Improper use of eyewear often stems from poor fit. If employees wear it incorrectly or not at all, work with them to find a comfortable solution.
- Consider a prescription safety eyewear program if employees wear safety glasses for extended periods of time. Although OSHA does not require the employer to pay for prescription safety glasses if they offer eye protection that can be worn over the prescription lenses, it's seen as a best practice to offer at least a stipend or reimbursement program if possible.

## HEARING PROTECTION (§1910.95)



### BEHAVIORAL FOCUS:

➤ Hearing loss and tinnitus due to recreational noise exposure are major public health concerns. Encourage your employees to use hearing protection outside of work when noise level is elevated (e.g., going to concerts, using landscaping equipment, firing a weapon). When people need to shout in order to hold a conversation, it's probably a good idea to wear earplugs.

Occupational hearing loss is preventable. Employers must first attempt to reduce noise exposure through engineering and administrative controls. If these controls cannot reduce noise to acceptable levels, employers must provide hearing protection.

### SOFT FOAM EARPLUGS:

**Inspect earplugs for any dirt, debris, cracks, splits, or other visible signs of damage or compromise.**

**Roll the earplug up into a small, narrow cylinder with your fingers. Hands should be clean and dry to prevent any contamination.**

**Pull the top of your ear up and back with your opposite hand to straighten out your ear canal.**

**Slide in the rolled-up earplug. The entire length of the earplug should fit inside of the ear with only a small amount protruding.**

**Hold the earplug in with your finger.**

- Count to 30 out loud while waiting for the plug to expand and fill the ear canal.
- Your voice will sound muffled when the plug has made a good seal.

**Check the fit. If necessary, take the earplug out and try again.**

- Try cupping your hands tightly over your ears. If sounds are much more muffled with your hands in place, the earplug may not be sealing correctly.

### EARMUFFS:

**Inspect earmuffs for signs of damage, including cracks and splits.**

- Replace earmuffs when they are no longer flexible, pliable, or lose their resilience.
- Replace cushions whenever they become stiff, cracked, or do not seal.
- Follow manufacturer guidelines for replacement.

**Center the earmuffs over the head to fully enclose the ears and ensure a tight seal.**

- Pull any hair back and out from beneath the cushions that may interfere with the seal.

**Adjust the headband to evenly distribute pressure around the ears.**

**Clean cushions with warm soapy water and rinse thoroughly. Do not use alcohol or solvents as they can damage the integrity of the cushion. Allow to air dry.**

## PRO TIP:

Professional sound level meters are calibrated to comply with national and international standards. The NIOSH Sound Level Meter app, available for use on most smartphones, can measure and characterize occupational noise exposure similar to professional instruments when used accordingly.

## RESPIRATORY PROTECTION (1910.134)



Airborne contaminants that a worker can't see, feel, or smell can damage the lungs and other organs, and oxygen-deficient atmospheres can kill. When ventilation isn't sufficient to control respiratory hazards, appropriate protection is essential.

### Wear respiratory protection in all areas required by your employer.

- Determine which respirator to use based on its assigned protection factor (APF), which identifies the level of protection against hazard exposure levels.
- Ensure filters, cartridges and canisters are appropriate for the hazards present. They must be labeled and color coded, with a NIOSH approval label. That label must remain legible and cannot be removed.

### Inspect the respirator before each use and during cleaning. If maintained for an emergency situation, it must be inspected at least monthly and in accordance with the manufacturer's recommendations.

- Check for respirator function, tightness of connections, and the condition of the various parts including the facepiece, head straps, valves, connecting tube, and cartridges, canisters, or filters. Also check the elastomeric parts for pliability and signs of deterioration.

### Make sure the respirator fits you properly.

- Tight-fitting respirators form a seal with the face and limit unfiltered air from entering the respirator.
- Loose-fitting respirators cover the head completely. They are atmosphere supplying and provide clean, breathable air from an uncontaminated source. They do not depend on a tight seal to provide protection.
- Combination respirators use a supplied-air respirator that provides air. It also has a self-contained breathing apparatus for a backup supply with a minimum service life of 30 minutes. This type of respirator is used in atmospheres that could be immediately dangerous to life and health.

### Conduct a seal check every time you wear your respirator to ensure it won't leak when you enter a contaminated or oxygen-deficient atmosphere.

- Use your hands to cover the mask's air inlet area and gently inhale. If the seal is good, the mask should collapse slightly.
- Next, cover the mask's air outlet and exhale gently. If done correctly, the mask should bulge slightly.
- If the respirator fails the seal check, adjust, and reposition it on your face. Repeat the check until you have a good seal.

### Change filters according to the employers' change schedule.

- Time-use limitations are estimated by the manufacturer. Temperature, humidity, air flow through the filter, the work rate, and the presence of other potential interfering chemicals in the workplace all can have a serious effect on the service life.
- Leave the respirator use area before changing filters.

### Follow manufacturer's recommendations for cleaning and sanitizing. If not available, follow the respirator cleaning procedures in Appendix B-2 to 1910.134.

### Store your respirator in a clean, dry place that protects against damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals.

- Do not store in a plastic sealable bag unless the user can ensure it is 100% dry.

### Never remove your respirator in any contaminated environment.

### BEHAVIORAL FOCUS:

- ➔ Wearing respiratory protection can cause physical and mental stress. Stay connected with employees wearing respiratory protection to ensure strong mental health.

### PRO TIPS:

Respirators that require a face seal must not be worn by workers with facial hair, if it comes between the sealing surface of the facepiece and the face or interferes with valve function. Short mustaches, sideburns, and small goatees that are neatly trimmed so that no hair compromises the seal of the respirator usually do not present a hazard.

Disposable respirators like dust masks/ N95 masks are covered under OSHA's Respiratory Protection standard. When used voluntarily, employers must provide employees with the advisory information in Appendix D of 1910.134.



## HAND AND ARM PROTECTION (1910.138)



### PRO TIPS:

Employees that are allergic to latex could substitute with nitrile gloves. However, allergic reactions to nitrile may also occur. If that is the case, consider accelerator-free nitrile gloves. Rubber accelerators (chemical additives) are used to manufacture most nitrile gloves. These added chemicals may cause allergic contact dermatitis in some individuals.

Remember that cut resistant gloves do not mean they are cut proof. Train workers to respect the hazards that are present, even with the use of PPE.

### BEHAVIORAL FOCUS:

Disincentives for not wearing hand protection include discomfort, poor performance (lack of grip or dexterity), and ingrained habits. The first two can be addressed through employee involvement and an effective inventory selection process. The latter involves a more concerted effort. Changing habits involves identifying the trigger that tells the brain to go into automatic mode (i.e., location, time of day). This is followed by identifying the reward that the habit brings (i.e., not wearing gloves). Once you have identified the trigger and the reward, you can come up with a plan to replace the current habit with a new one (i.e., properly fitted gloves are required in this area, while performing these tasks, during set hours).

Gloves protect the wearer against specific hazards, including mechanical, environmental, chemical, and toxic/biological agents. Choose the right type of glove for the work being done.

**Wash your hands and keep any cuts bandaged before putting gloves on.**

**Inspect your gloves and arm protection for defects and excessive wear every time you put them on.**

- Under regular use, gloves that provide electrical protection should be tested as frequently as monthly.

**Wear gloves and arm protection that properly fits you.**

- Practice using gloves before the work begins to determine proper fit and identify any limitations.

**When removing gloves, always consider them as contaminated.**

- For single-use gloves, follow proper removal procedures. Discard gloves in the appropriate waste container.
- For gloves that can be reused (assuming they are not contaminated), keep them clean and dry between uses. Consult with the manufacturer on proper washing techniques.
- Replace soiled gloves before they lose their grip and dexterity.

## BODY PROTECTION, INCLUDING HI-VIS (1910.140, 1926.201)



Various forms of body protection can shield the worker from hazards such as falls, chemicals, electricity, fire, and bloodborne pathogens. They include arc-rated and flame-resistant clothing; aprons; body suits and harnesses; coveralls; jackets; and welding leathers. High-visibility apparel increases worker visibility from a distance or during inclement weather or poor air quality conditions.

**Use body protection to shield yourself from exposure and the particular hazards present.**

- Paper-like fiber is used for disposable suits to provide protection against dust and splashes.
- Treated wool and cotton adapts well to changing temperatures, is comfortable and fire-resistant and protects against dust, abrasions, and rough and irritating surfaces.
- Duck is a closely woven cotton fabric that protects against cuts and bruises when handling heavy, sharp, or rough materials.
- Leather is often used to protect against dry heat and flames.
- Rubber, rubberized fabrics, neoprene, and plastics protect against certain chemicals and physical hazards.

**High-visibility PPE must meet specific requirements.**

- ANSI rates hi-vis apparel for either Roadway (R), Off-Road (O), or Public Safety (P) performance class.

**Know the difference between fall protection and fall prevention.**

- Fall protection can stop you from hitting the ground during a fall event.
  - Inspect your personal fall arrest system (PFAS) before each use and at least once a year by a Competent Person. PFAS usually consists of a body harness, anchorage, and connector. It also includes a lanyard, deceleration device, lifeline, or a suitable combination of these.
  - Check your body harness to ensure proper rated weight capacity.
- Fall prevention aims at preventing a fall before one occurs.
  - Types of fall prevention include restraints, positioning systems, guardrails, warning lines, controlled access zones, and safety monitors.

**Replace your body protection if it's damaged, and in accordance with manufacturer guidelines.**

**Follow manufacturer guidelines when washing body protection, especially arc-rated (AR) and flame-resistant (FR) clothing. If using an industrial laundering service, make sure they are aware of what exactly they are washing. The efficacy of AR and FR clothing can diminish depending on the temperature of the washer/dryer and any detergents used to clean the material.**

### BEHAVIORAL FOCUS:

» Employers relying on back belts should be aware of the lack of scientific evidence supporting their use. There is some research showing that workers believe they can lift more when wearing a back belt, which can have potentially harmful effects. Discourage the use of back belts through informed education and training. Also, employers should implement a comprehensive ergonomics program that strives to protect all workers.

### PRO TIPS:

All arc-rated clothing is flame resistant, but not all flame resistant clothing is arc rated.

Every fall protection manufacturer has a slightly different way of sizing harnesses. Just because you have worn a particular size harness doesn't mean that will be your size with a different manufacturer. Read the sizing chart and try before you buy.

Replace your hi-vis apparel regularly. Normal wear and tear will degrade the reflective properties, making it more difficult to be seen. Industry standard recommends replacing hi-vis apparel after 25 washes and when showing rips/tears, cracks, or damaged reflective striping.

## FOOT AND LEG PROTECTION (1910.136)



Employees who face possible foot or leg injuries from falling or rolling objects, crushing or penetrating materials, exposure to hot substances, corrosive or poisonous materials, or electrical hazards should wear protective footwear.

**Understand how and when to use the required foot and leg protection for the particular hazard.**

**Observe any limitations and precautions indicated by the foot and leg protection manufacturer and your employer.**

**Follow the manufacturers' recommendations for cleaning and maintenance.**

- Inspect before each use for wear and tear. This includes looking for cracks or holes, separation of materials, and broken buckles or laces. Check the soles for pieces of metal or other embedded items that could present electrical or tripping hazards.

**Replace defective leg and footwear immediately.**

### PRO TIP:

The best time to try on and buy foot protection is when feet are likely at their largest, which is at the end of the day or after exercise. If shoes feel tight, they are. Don't count on a "breaking in" period. It's also best to try on foot protection while wearing the type of socks you would typically wear.

### BEHAVIORAL FOCUS:

➔ Maintaining proper foot hygiene is just as important as purchasing the right size shoe. Foot hygiene includes keeping feet clean and dry, and checking regularly for signs of irritation, excess rubbing, or injury. Employers should provide their workers with appropriate facilities to maintain foot hygiene and educate employees on its importance.

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#### ABOUT THE CONTRIBUTING EDITOR

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