

Personal Protective Equipment

A discussion of the regulations requiring PPE and some common applications for the equipment.

Regulations

- **OSHA 1910.132, 1910.132(d)(1)**
 - The **employer shall assess the workplace** to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall:
- **1910.132(d)(1)(i)**
 - Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment;
- **1910.132(d)(1)(ii)**
 - Communicate selection decisions to each affected employee; and,
- **1910.132(d)(1)(iii)**
 - Select PPE that properly fits each affected employee. Note: Non-mandatory Appendix B contains an example of procedures that would comply with the requirement for a hazard assessment.

Documentation

1910.132(d)(2)

The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.

Personal Protective Equipment (PPE)

- Personal Protective Devices
 - Head Protection
 - Eye and Face Protection
 - Body Protection
 - Hand Protection
 - Foot Protection



Hearing Protection - OSHA

1. Employers shall make hearing protectors available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater at no cost to the employees. Hearing protectors shall be replaced, as necessary.
2. Employers shall ensure that hearing protectors are worn by all employees:
 - A. Who are required by Section 5096(b) to wear personal protective equipment; or
 - B. Who are exposed to an 8-hour time-weighted average of 85 decibels or greater, and who:
 1. Are required by Section 5097(c)(9) to wear hearing protectors because baseline audiograms have not yet been established; or
 2. Have experienced a standard threshold shift.

Hearing Protection - OSHA

3. Employees shall be given the opportunity to select their hearing protectors from a variety of suitable hearing protectors provided by the employer.
4. The employer shall provide training in the use and care of all hearing protectors provided to employees.
5. The employer shall ensure proper initial fitting and supervise the correct use of all hearing protectors.

Types of Hearing Protectors

- Foam Plugs
 - Plugs should be used in a sanitary manner to prevent ear infection. Always follow the manufacturer's guidelines.
- Earmuffs



Respiratory Protection

- Factors That Can Influence Respirator Selection
- Worker Medical Condition
 - Wearing respiratory protection poses a physical burden on the wearer. When a worker's medical condition would prohibit restrictive breathing conditions, negative pressure respirators would not be an appropriate choice.
- Worker Comfort
 - Worker preferences should be a consideration during the respirator selection process. Among air purifying respirators, powered air purifying helmets have been subjectively rated the best for breathing ease, skin comfort, and in-mask temperature and humidity while filtering facepieces rated high for lightness and convenience. Each, however, has its own drawbacks, and all these factors should be taken into account during selection.

When Must an Exposure Assessment Take Place?

- When you expose your employees to a respiratory hazard and/or require them to wear respirators.
- Examples of when you should consider assessments may include but are not limited to:
 - When OSHA has a substance specific standard (e.g., lead, methylene chloride).
 - When employees notice symptoms (e.g., irritation, odor) or complain of respiratory health effects.
 - When the workplace contains visible emissions (e.g., fumes, dust, aerosols).

Air Purifying Respirators

- Limited by filter type and duration.
- Offer no protection from oxygen-deficient atmospheres.



Medical Requirements

- Fitness to wear the respirator as determined by a Pulmonary Function Test.
- Fit test to assure facial seal and motion integrity of the unit.
- Annual re-evaluation.



Common Respirator Problems

- Improper fit
- Facial hair interfering with fit
- Improper respirator type or filter selection
- Lack of training for affected employee
- Poor maintenance of respirator
 - Sealing surfaces
 - Filter changes/exceeding service limits

Eye Protection

- Data shows that about **one in every ten** injuries reported by industry tradespersons is an eye injury!
- Studies have shown that 1,000 eye injuries occur every day at work sites in the US.
- Since eyesight is generally not recoverable, it just makes good sense not to lose it.

Basic Eye Safety Rules

Be aware of your surroundings

- Flying particles, dust, etc.
- Other tradespeople working in close proximity grinding, chipping, spraying, or any other activity that could cause eye injury.

Keep your safety glasses or goggles with you at all times and wear them when they are needed/required.

- Make sure you use the right eye protection for the job.
 - Safety glasses with side shields for most jobs.
 - Goggles for fine dust and some liquids.
 - Full face shields when splash hazards are present.

Never perform or observe welding operations without wearing eye protection approved for this use.

Types of Eye Protection

- Safety Glasses
- Goggles
- Full Face Shield



Hand Protection

- Hand Protection
- Hand and finger injuries are among the most common injury types in industry.
 - These injuries often result when workers handle materials.
 - Chemical burns, cuts and abrasions, and splinters are common hand injuries.
 - Using the right type of gloves can help to reduce your chances of suffering a hand/finger injury.

Different Types of Hand Protection



For handling chemicals, always consult the MSDS sheet for the chemical product to assure that you are using the correct glove.

- Just because the gloves appear to be rubber or plastic and seem to be “leak proof,” that does not mean that they will provide protection against the hazards associated with the chemical you are using.
- If you have any doubts, consult with your supervisor.

Hand Protection - Wood and Metal

For handling metal and wood where splinters or sharp edges may be present, leather or Kevlar gloves are often used. These gloves are cut resistant and come in a variety of sizes and styles.



Hand Protection - Temperature

- For light material handling and to protect against cold temperatures, cotton gloves may be suitable.
- Consult with your supervisor to assure that you have the type of glove that is best suited to provide protection from the hazards at your job location.



Hard Hats

Head Protection Can Include:

- Typical Hard Hats
 - To protect from falling material
- Bump Caps
 - To prevent injury from working in close quarters
- Protective Caps
 - To retain warmth in cold areas or reflect heat in high temperature locations.



Summary

- PPE is more than just good common sense. It is the law!
- Remember, the entity that supplies the PPE is also responsible for the training in its use, care, and maintenance.
- More info: [osha.gov/SLTC/personalprotectiveequipment/index.html](https://www.osha.gov/SLTC/personalprotectiveequipment/index.html)