

## Personal Protective Equipment

### **Description:**

Personal protective equipment (PPE) is required under OSHA standards to protect employees from workplace hazards when and where hazards cannot be sufficiently controlled by the use of engineering controls such as machinery guards, filtration, ventilation, enclosures, or other measures, or by the use of administrative procedures and workplace rules and practices.

### **Regulatory Reference**

29 CFR Subpart I Personal Protective Equipment

29 CFR § 1910.132 General requirements.

29 CFR § 1910.133 Eye and face protection.

29 CFR § 1910.134 Respiratory protection. (Also see Respirator Training in OSHA Guide No. 27.)

29 CFR § 1910.136 Foot protection.

29 CFR § 1910.137 Electrical protective equipment.

29 CFR § 1910.138 Hand protection

### **Applies to:**

OSHA PPE standards apply to employers and employees when any employee operation exposes the employee to hazards that cannot be fully controlled by engineering and administrative processes. Exposure to chemicals, electricity, propelled objects, falling objects, excessive noise, intense ultraviolet radiation (welding processes), excessive heat or cold, fumes, dust, dangerous vapors, falling from heights, and other workplace hazards may require the use of PPE by employees.

### **General Requirements:**

- (1) Controlling hazards. PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound work practices.
- (2) Hazard assessment and PPE selection. It is necessary to consider certain general guidelines for assessing the foot, head, eye and face, and hand hazard situations that exist in an occupational process, and to match the protective devices to the particular hazard. It should be the responsibility of the employer or person designated by the employer, such as a safety officer, to exercise common sense and appropriate expertise to accomplish these tasks.
- (3) Hazard assessment survey. Conduct a walk-through survey of the areas in question. The purpose of the survey is to identify sources of hazards to workers and co-workers. Consideration should be given to the basic hazard categories:
  - (a) Impact
  - (b) Penetration
  - (c) Compression (roll-over)
  - (d) Chemical
  - (e) Heat

- (f) Harmful dust
  - (g) Light (optical) radiation
- (4) Sources. During the walk-through survey the safety officer or person designated by the employer should observe:
- (a) sources of motion; i.e., machinery or processes where any movement of tools, machine elements or particles could exist, or movement of personnel that could result in collision with stationary objects;
  - (b) sources of high temperatures that could result in burns, eye injury or ignition of protective equipment, etc.;
  - (c) types of chemical exposures;
  - (d) sources of harmful dust;
  - (e) sources of light radiation, i.e., welding, brazing, cutting, furnaces, heat treating, high intensity lights, etc.;
  - (f) sources of falling objects or potential for dropping objects;
  - (g) sources of sharp objects which might pierce the feet or cut the hands;
  - (h) sources of rolling or pinching objects which could crush the feet;
  - (i) layout of workplace and location of co-workers; and
  - (j) any electrical hazards. In addition, injury/accident data should be reviewed to help identify problem areas.
- (5) Organize and analyze the data collected. The objective is to prepare an analysis of the hazards in the environment to enable proper selection of protective equipment.
- (6) Selection guidelines. After completion of the procedures in steps (3) through (6), the general procedure for selection of protective equipment is to:
- (a) become familiar with the potential hazards and the type of protective equipment that is available, and what it can do; i.e., splash protection, impact protection, etc.;
  - (b) compare the hazards associated with the environment; i.e., impact velocities, masses, projectile shape, radiation intensities, with the capabilities of the available protective equipment;
  - (c) examine chemical manufacturers' Material Safety Data Sheets for PPE recommendations;
  - (d) select the protective equipment which ensures a level of protection greater than the minimum required to protect employees from the hazards; and
  - (e) fit the user with the protective device and give instructions on care and use of the PPE. It is very important that end users be made aware of all warning labels for and limitations of their PPE.
- (7) Fitting the device. Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.
- (8) Reassessment of hazards. It is the responsibility of the employer to reassess the workplace hazard situation as necessary, by identifying and evaluating new equipment and processes, reviewing accident records, and reevaluating the suitability of previously selected PPE.

### **Training Requirements:**

Specific PPE training requirements are set out in several OSHA standards, such as the Hazwopper training regulation, the respirator training regulation, regulations on electricity, bloodborne pathogens, permit-required confined space, occupational noise exposure, and others. For those

specific standards, PPE training for affected employees must be provided and documented as set out in the specific standard.

In the absence of a more specific standard, general PPE training should be provided all affected employees who are likely to need PPE protection. General training requirements can be found in 29 CFR § 1910.132(f), and each affected employee must be trained to know:

- (a) when PPE is necessary,
- (b) what PPE is necessary,
- (c) how to properly put on, take off, adjust and wear PPE,
- (d) the limitations of PPE, and
- (e) the proper care, maintenance, useful life, and disposal of PPE.

Employees, who transfer, transport or handle LP-gas, methanol, solvents, and other chemicals should be trained on proper use of hand and face protective equipment, and suitable respiratory protection as needed.

Manager and supervisor training that focus on assuring consistent and proper employee use of PPE is important as well.

### **Maintenance and Review**

Many employers have specific written PPE programs. Others incorporate PPE requirements at appropriate places in Standard Operating Procedures. Periodic review of any written PPE plans and procedures is an important compliance method.

Documentation of employee, supervisor and manager PPE training should be periodically reviewed. New employees and existing employees need general PPE training. Employee job descriptions and duty task lists should be compared to any OSHA PPE training requirements that apply.

OSHA inspectors readily notice improper cleaning and storage practices for PPE, and triggers for violations commonly cited. Also, the lack of PPE or insufficient PPE, and lack of employee training and required PPE records are often cited violations.

### **Additional Information and Resources**

Appendix A to Subpart I to Part 1910	References for Further Information (Non-mandatory)
Appendix B to Subpart I to Part 1910	Compliance Guidelines for Hazard Assessment and Personal Protective Equipment Selection (Non-mandatory)