



Loss Control Department
Technical Information Paper Series

Personal Protective Equipment

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Personal Protective Equipment

What is Personal Protective Equipment?

Personal protective equipment (PPE) is any equipment intended to protect a worker's head, face, eyes, hands, or feet. The Occupational Safety and Health Administration (OSHA) revised the personal protective equipment regulations (29 CFR 1910.132-138), effective July 5, 1994. These revised standards apply to almost all workplaces under OSHA's jurisdiction and impose additional duties upon employers. The revised standards are more consistent with today's industry practices, as reflected in the latest ANSI standards. The final rule also provides guidance for the selection and use of personal protective equipment, as well as performance-oriented requirements, where required.

PPE is Only One Part of an Overall Safety Program

Personal protective equipment does not eliminate hazards. Protective equipment is just one part of an overall safety program that includes administrative and engineering controls, workplace analysis, training, and a strong commitment on the part of management and workers. PPE is a "last resort" strategy to be used in the following situations:

- As an interim technique before other controls are put in place
- In special situations (such as clean-up and repair jobs) where use of normal controls is temporarily impossible
- In emergency situations
- As a back-up measure to protect a worker against existing and unexpected hazards

General Requirements

Remember these general requirements for a personal protective equipment program:

- If employees provide their own equipment, the employer is responsible to assure its adequacy, including proper maintenance and sanitation of the equipment.
- All equipment must be of a safe design and construction for the work to be performed.
- Employers must assess the workplace to determine if hazards are present, or are likely to be present, and necessitate the use of personal protective equipment. If such hazards are present, or are likely to be present, the employer shall select, and have each affected employee use the types of PPE that will protect against the identified hazards. This selection must be communicated to the employee. PPE must fit each affected employee properly. The employer shall verify the hazard assessment in writing.
- Employees must not use damaged or defective personal protective equipment.

- The employer must provide training to each employee who is required to use PPE. Training shall include information on:
 - When PPE is necessary
 - What PPE is necessary
 - How to wear PPE
 - The limitations of the PPE
 - The proper care, maintenance, useful life, and disposal of the PPE.
- Employees must be retrained when:
 - The employer has reason to believe that the employee does not have the understanding or skill required to use the PPE
 - Changes have occurred in the workplace operation that renders previous training obsolete
 - Changes in the type of PPE used occurs
- The employer must certify in writing that the employee has received and understands the training. This will be accomplished through a written certification that contains
 - the name of each employee trained
 - date(s) when training took place
 - the subject of the certification.

Eye and Face Protection

- Employees must use appropriate eye or face protection when they are exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.
- Protection for the side of the face must be used when there is a hazard from flying objects.
- For employees who wear prescription lenses while engaged in operations that involve eye hazards, employers must ensure that these employees 1) wear eye protection that incorporates the corrective prescription in its design, or 2) wear eye protection that can be worn over the prescription lenses without disturbing the proper position of either the prescription lenses or the protective lenses.
- Eye and face PPE must be clearly marked with the name of the manufacturer.
- When working with light radiation, employees must use the proper shade number for the filter lenses. (Refer to the OSHA standard for information about proper shade numbers for different operations.)
- Protective eye and face devices purchased *after* July 5, 1994 must comply with ANSI Z87.1-1989, or must be demonstrated to be equally effective. Devices purchased *before* July 5, 1994 must comply with ANSI Z87.1-1968, or be equally effective.

Respiratory Protection

The following is a brief overview of respiratory protection requirements. For a more detailed explanation, refer to OSHA's Respiratory Protection regulation (29 CFR 1910.134) and/or The Hartford's Respiratory Protection Technical Information Paper.

When effective engineering controls are not feasible, or while they are being instituted, respirators may be used. Respirators will be provided by the employer when necessary to protect the health of the employee. The employer is responsible for the establishment and maintenance of a respiratory protective program.

The following are the *minimal acceptable requirements* for a respirator program:

- Establish and document standard operating procedures regarding the selection and use of respirators.
- Select respirators on the basis of the hazards to which the workers are exposed.
- Train employees in the proper use of the respirators; include information about the limitations of respirators.
- Clean and disinfect respirators regularly, and store them in a convenient, clean, and sanitary location.
- Inspect respirators routinely for worn and deteriorated parts, and replace these parts as needed. Respirators used for emergency use *must* be inspected at least once a month *and* also after each use.
- Monitor surveillance of the work area conditions and the amount of employee exposure.
- Review the respiratory protection program at regular intervals to determine if it remains appropriate.
- Only persons who are physically able to perform the work and use the respiratory protection equipment should be assigned to tasks which require the use of respirators.
- Select respirators from those which are jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11.
- Develop standard operating procedures for respirator use and any dangerous atmospheres that might be encountered in normal operations.

Head Protection

- Employees must wear protective helmets when they are working in areas where there is a potential for injury to the head from falling objects.
- Employees must wear protective helmets designed to reduce electrical shock hazard when they are near exposed electrical conductors which could contact the head.
- Protective helmets purchased *after* July 5, 1994 shall comply with ANSI Z89.1986, or be equally effective. Helmets purchased *before* July 5, 1994 shall comply with ANSI Z89.1-1969, or be equally effective.

Foot Protection

- Employees must wear protective footwear when they are working in areas where there is a danger of foot injuries due to falling or rolling objects or objects piercing the sole, or where employees' feet are exposed to electrical hazards.
- Protective footwear purchased *after* July 5, 1994 must comply with ANSI Z41-1991, or be equally effective.
- Protective footwear purchased *before* July 5, 1994 must comply with ANSI Z41.1-1967, or be equally effective.

Hand Protection

- Employers must select and require employees to use appropriate hand protection when employees' hands are exposed to hazards such as those from
 - skin absorption of harmful substances
 - severe cuts or lacerations
 - severe abrasions
 - punctures
 - chemical burns
 - thermal burns
 - harmful temperature extremes.
- Employers shall base the selection of the appropriate hand protection on evaluation of the performance characteristics of the hand protection relative to the tasks to be performed, conditions present, duration of use, and the hazards and potential hazards identified.

Appendix B of the OSHA Regulation

Appendix B provides non-mandatory compliance assistance for employers and employees implementing requirements for a hazard assessment and the selection of personal protective equipment.

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