



# Risk Control Services Technical Bulletin

## Personal Protective Equipment

### Background

A basic management tool in any hazard awareness program is a Personal Protective Equipment Program. It is a guide to be used in the selection, use and maintenance of PPE in the workplace. PPE alone should not be relied upon to provide protection. It should be used in conjunction with guards, engineering controls and sound manufacturing practices.

The Federal Personal Protective Equipment Standard (29 CFR 1910 Subpart I) requires that protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.

All employers need to provide a hazard assessment to determine which hazards are present. Employers need to select proper personal protective equipment, provide training on its proper use and establish an inspection program.

### Hazard Assessment

A physical assessment of all workplace activities must be performed. The assessment allows observers to identify the potential hazards that currently exist in the workplace. Current personal protective equipment requirements should be reviewed and engineering controls considered and implemented (if possible) to eliminate the need for the personal protective equipment. The assessment needs to be in writing and must identify the specific workplace evaluated, identify the person(s) certifying the evaluation and also include the date the assessment was performed. The hazard assessment can be a check sheet or a written paragraph that states who, what, where, and when. The document should then be signed and dated. Appendix B of 29 CFR 1910 Subpart I provides guidelines to perform the assessment according to the federal standard.

A walk-through survey should be used to identify sources of hazards to workers. Basic hazards to consider include:

- Impact
- Penetration
- Compression (roll-over)<sup>2</sup>
- Chemical
- Heat
- Harmful dust
- Light (optical) radiation

During the walk-through the safety officer should observe the following sources of:

- Motions
- High temperature
- Chemical exposures
- Harmful dust objects
- Falling/dropping objects
- Rolling or pinching
- Layout of the workplace and location of co-workers
- Electrical hazards
- Injury/accident data

Following the walk-through survey, organize the data and information for use in hazard assessment. Based on the data obtained, estimate potential for injuries for each of the basic hazard categories. Determine the level of risk and seriousness of potential injury from each of the hazards found. Consider possible exposure to several hazards simultaneously. Next you should select the PPE which ensures a level of protection greater than the minimum required. Care should be taken to fit the user and provide instructions on care and use. Users must know about related warning labels and limitations of PPE.

## Fitting The Device

Careful consideration must be given to comfort and fit. Employees need to ensure that the correct size for each employee is selected. If the device has adjustable features, adjustments should be made on an individual basis. Devices for eye protection against dust/chemical splash must be sealed to the face. Helmets should not fall off during work operations.

## Training

All employees who use PPE must be trained. The training must address knowledge and skills development. Testing to assure employees know the use and care of PPE is required. Training should also include when PPE is necessary, what PPE is necessary, how to don/doff/adjust/wear PPE, limitations of PPE, proper care and maintenance, and the useful life and disposal of PPE.

Training must be completed prior to the employee starting any operations requiring PPE. Retraining should occur if there are any changes in the workplace, changes in type of PPE or if there is evidence that an effected employees knowledge or use of PPE is in need of refreshing.

The employer must certify in writing that each employee has received and understood the required training. Logs should be kept to identify names of employees trained, dates of training, and subject of the training/certification.

## Reviewing Personal Protective Equipment

Periodic review of the Personal Protective Equipment Program as well as the PPE itself should be completed on a regular basis. OSHA does not require annual reviews, but they recommend employers review the program annually to assure that no changes to the operations have been made. Safety officers must reassess hazard situations as necessary by identifying and evaluating new equipment and processes, reviewing accident records, and re-evaluating the suitability of previously selected PPE.

## Specific Personal Protective Equipment

### Eye and Face Protection

Protective eye and face devices purchased after July 5, 1994 shall comply with ANZI Z87-1989, “Practice of Occupational and Educational Eye and Face Protection.” If purchased prior to July 5, 1994 shall comply with ANZI Z87-1968.

The selection chart in Appendix B provides general guidance for the proper selection eye and face PPE to protect against the following hazard source: Impact, Heat, Chemicals, Dust, Light and/or radiation, flying objects.

### Head Protection

Protective helmets purchased after July 5, 1994 shall comply with ANZI Z89.1-1986, “Protective Headwear for Industrial Workers Requirements.” If purchased prior to July 5, 1994 shall comply with ANZI Z89.1-1969

All helmets should protect from impact and penetration hazards. When falling objects are present helmets must be worn when working below operations using tool/materials which could fall or working under conveyor belts carrying parts/materials. Helmets must also be worn when working on exposed energized conductors. Helmets providing protection from electric shock and burns are also available.

### Foot Protection

Safety shoes and boots shall comply with ANZI Z41-1191. Protective footwear provide both impact and compression protection. They should include puncture protective safety shoes or electrical conductive or insulated safety shoes when necessary. Safety shoes/boots should provide impact protection when carrying or handling materials which could be dropped, compression protection is required for work activities involving heavy equipment, and puncture protection should be used where sharp objects could be stepped on.

### Hand Protection

Select the most appropriate glove for a particular application. Consider the length of time the gloves can be worn and if they can be reused. Performance characteristics of gloves relative to the specific hazard must be assessed. Consider factors related to gloves for chemical hazards.

The MSDS should be incorporated into company safety meetings. The MSDS is an invaluable information and educational tool in helping to ensure a safe workplace. Facility management must stress the importance of MSDS use to all levels of management. Line supervision should reinforce this communication on a regular basis to all employees.

If you have any questions or would like additional information, please contact your local PMA Risk Control Consultant.

**IMPORTANT NOTICE** - *The information and suggestions presented by PMA Companies in this risk control technical bulletin are for your consideration in your loss prevention efforts. They are not intended to be complete or definitive in identifying all hazards associated with your business, preventing workplace accidents, or complying with any safety related or other laws or regulations. You are encouraged to alter the information and suggestions to fit the specific hazards of your business and to have your legal counsel review all of your plans and company policies.*