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## **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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### **A. Introduction:**

There are functions, operations and environments within the city workforce where personal protective equipment (PPE) has been determined to be necessary. PPE is provided to city employees and usually takes the form of hard hats, gloves, coveralls, safety shoes, hearing protection, eye protection and respiratory protection but may also include other types.

### **B. General Rules for PPE:**

All personal protective equipment shall be of safe design and construction for the work to be performed. The employee must meet the following responsibilities when it has been determined that PPE is necessary for the performance the employee's duties:

- Defective or damaged PPE shall not be used.
- Utilize all required PPE when instructed or required to do so.
- Report all failures of PPE to your supervisor immediately.
- Maintain all PPE in a clean sanitary fashion.
- Know the limitations of the prescribed PPE.
- Report to the worksite with the required PPE.
- Contact lenses are not permitted during welding operations or when wearing full-face piece respirators.
- Employees may be held responsible for the replacement (if lost or damaged) of all issued PPE.

PPE will be periodically inspected to ensure cleanliness, adequate maintenance and the ability to protect the employee.

PPE devices alone should not be relied on to control hazards or provide protection against hazards, but should be used in conjunction with guards, engineering controls, and safe operating practices.

### **C. General Selection of PPE:**

The general procedure for selection of protective equipment is to:

- Become familiar with the potential hazards and the type of protective equipment that is available and what it can do (splash protection, impact protection, etc.).
- Select the protective equipment that ensures a level of protection greater than the minimum required to protect employees from the hazards.
- Fit the use 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.

### **D. Fitting the PPE:**

Careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. It is more likely that the employee will continue to wear the device if it fits the employee comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the correct size is selected.

## E. Training:

Employees will be trained on the proper use and care of PPE where necessary. Appropriate training will include:

- When the use of PPE is necessary.
- What type of PPE is necessary.
- How to properly put on (don), take off (doff), adjust and wear PPE.
- The limitations of the PPE.
- Proper care, maintenance, useful life and disposal of PPE.

Each employee shall demonstrate an understanding of the training and the ability to use PPE properly before being allowed to perform work requiring the use of PPE.

## F. Specific PPE Requirements:

### Eye and Face Protection

Employees shall use appropriate eye or face protection when exposed to hazards from flying particles, liquid chemicals, acids or caustic liquids, chemical gases, vapors or potentially injurious light radiation.

Employees shall use eye protection that provides side protection when there is a hazard from flying objects.

Any employee, who wears prescription lenses while engaged in operations that involve eye hazards, shall wear eye protection that incorporates the prescription in its design, or wear eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

Eye and face PPE shall be distinctly marked to identify the manufacturer and the ANSI standard Z87.1.

Selection guidelines for eye and face protection:

Source	Hazard	Protection
<b>Impact</b> – Chipping, grinding, machining, masonry work, woodworking, sawing, drilling, chiseling, riveting and sanding, mowing, weed trimming, edging	Flying fragments, objects, large chips, particles, sand, dirt, etc.	Spectacles with side protection, goggles, face shield
<b>Heat</b> – Open flame operation and welding	Hot sparks	Faceshields, spectacles with sideshields. For severe exposures use faceshield
<b>Chemicals</b> – Acid and chemical handling, stripping and degreasing	Splash	Goggles, eyecup and cover types. For severe exposure, use faceshield
<b>Dusts</b> – Woodworking, buffing and general dusty conditions	Nuisance dust	Goggles, eye cup and cover type

## **Head Protection**

Employees must wear head protection when working in areas where there is a potential for injury to the head from falling objects or overhead equipment. All head protection is designed to provide protection from impact and penetration hazards caused by falling objects. Head protection is also available which provides protection from electric shock and burn.

When selecting head protection, knowledge of potential electrical hazards is important:

Selection guidelines for head protection:

Class A Helmet – In addition to impact and penetration resistance, also provides electrical protection from low-voltage conductors (Proof tested to 2,200 volts).

Class B Helmets - In addition to impact and penetration resistance, also provides protection from high-voltage conductors (Proof tested to 20,000 volts).

Class C Helmets - Provide impact and penetration resistance (usually made of aluminum which conducts electricity) and should not be used around electrical hazards.

Some examples where head protection must be worn include: working below other workers who are using tools and materials which could fall; working below machinery or processes which might cause material or objects to fall; and working on exposed energized conductors.

## **Foot Protection**

Each employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole and where feet are exposed to electrical hazards.

Safety shoes and boots provide both impact and compression protection (safety toe). Where necessary, safety shoes can be obtained which provide puncture protection. Safety shoes or boots with safety toe protection are required within certain worksites of the city as per individual department policy or through individual bargaining agreements. In general, safety shoes shall be utilized when carrying or handling materials such as packages, objects, parts or heavy tools, which could be dropped and for other activities where objects might fall onto the feet.

## **Hand Protection**

Hand protection is required when employees' hands are exposed to hazards such as those from skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, puncture, chemical burns, thermal burns and harmful temperature extremes.

Each department shall contact the Office of Risk Management prior to issuing any hand protection for use with chemicals. The selection of hand PPE shall be based on an evaluation of the performance characteristics of the hand protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified. Gloves are often relied upon to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure. There is no glove that provides protection against all potential hand hazards and commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn and whether it can be reused. It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated such as chemical hazards, cut hazards and flame hazards.

### Selection guidelines for gloves for protection against chemical hazards:

- The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects. This information can be found in the MSDS or on the container label.
- Generally, a “chemical resistant” glove can be used for dry powders.
- For mixtures and formulated products (unless specific test data are available), a glove should be selected on the basis of the chemical component with the shortest breakthrough time, since it is possible for solvents to carry active ingredients through polymeric materials.
- Employees must be able to remove the gloves in such a manner as to prevent skin contamination.

### **Hearing Protection**

It is the policy of the City of Pittsburgh that employees are required to wear hearing protection when potentially exposed to increased noise levels. Appropriate personal hearing protection devices are made available and issued to employees where exposure may exceed 85dBA as measured in a time weighted average of 8 hours. If you are in doubt of noise levels, wear an approved hearing device - either ear plugs or ear muffs and contact the Office of Risk Management for consultation.

### **Respiratory Protection**

Toxic materials can enter the body in three ways: through the gastrointestinal tract, through the skin, and through the lungs. Of these three modes the respiratory system presents the quickest and most direct avenue of entry.

City of Pittsburgh employees shall protect themselves by wearing the appropriate class of respirator for the job they are to perform. The most common class of respirator issued by the city is either air purifying or supply air type. Each employee shall follow their individual department policy for the care, use and maintenance of their respiratory protection. All respirators utilized by City of Pittsburgh employees shall be approved by NIOSH. All employees required to wear a respirator through department policy must complete a medical questionnaire. Information on this program can be obtained from the Office of Risk Management.

Employees should contact the Office of Risk Management with questions regarding the appropriate class of respirator or the appropriate filter to be used.

### **High-visibility Apparel**

City of Pittsburgh employees shall assure they are adequately visible when working within 50 feet of any roadway and whenever there are employees working in the immediate vicinity of operating motorized equipment.