Personal Protective Equipment

OSHA Standard

OSHA created the PPE standard to protect employees who encounter workplace conditions that could be hazardous to health or body. Some of the questions that will be answered include:

- Is PPE needed?
- Who is responsible for purchasing PPE?
- What are the training requirements?
- What are the various types of PPE?

OSHA Standard

OSHA requires the use of personal protective equipment (PPE) to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective in reducing the exposure to acceptable levels.

Many of OSHA's standards, such as Hazard Communications, Bloodborne Pathogens, Electrical, and Permit-Required Confined Spaces, require the use of PPE as it pertains to that particular topic.

Financial Responsibility for PPE

Employers must pay for the protective equipment, including personal protective equipment that is used to comply with OSHA standards.

Employers are only responsible to provide:

- The minimum level of PPE necessary
- Any upgraded PPE needed to meet the requirements
- Replacement PPE for any PPE that is old and worn

Financial Responsibility for PPE

Employers are not required to pay for:

- Ordinary safety-toe footwear and ordinary prescription safety eye wear, as long as the employee is allowed to wear these items off the job site.
- Shoes with integrated metatarsal protection as long as they provide and pay for metatarsal guards that attached to the shoes.
- Logging boots but leaves the responsibility for payment open to employer and employee negotiations.
- 'Everyday' clothing such as long-sleeve shirts, long pants, street shoes, normal work boots, and other similar types of clothing.
- PPE intentionally damaged or lost by employee

Hazard Assessment

A hazard assessment of each work area must be completed by the employer to determine if hazards exist, or are likely to exist.

Employers must use engineering and work practice controls to eliminate and reduce hazards <u>first</u> and foremost before using PPE.

Steps of Assessing Hazards

1. A Company Safety Officer should conduct a walk-through of the areas in question to identify sources of hazards. Dangers should be determined by assessing the tasks involved, the employee performing tasks, and/or group of employees.

Some hazard categories to keep in mind will include, but are not limited to:

Impact	Heat
Penetration	Harmful Dust
Compression	Light (Optical) Radiation

Steps of Assessing Hazards

2. Sources for hazards should be identified and recorded.

- High temperature sources that could result in burns, eye injury, ignition of protective equipment, heat/cold stress, frostbite, etc.,
- Sources of Chemical exposure,
- Sources of hazardous dust or particulates,
- Sources of light radiation such as welding, brazing, cutting, heat treating, lasers, growth lights, etc,
- Sources of falling objects or potential for falling objects,
- Sources of sharp objects which might pierce the feet or cut the hands,
- Sources of rolling or pinching objects which could crush the feet,
- Sources of any electrical hazards, and
- Layout of workplace and location of co-workers.

Steps of Assessing Hazards

3. Data and information obtained during walk-through should be organized and analyzed to enable proper selection of PPE.

Each hazard should be reviewed and a determination made as to the type, level of risk and seriousness of potential injury from each hazard found. The possibility of multiple hazards occurring simultaneously must be considered also.

Employee Training

Employees must understand:

1. When PPE is necessary.
2. What PPE is necessary
3. The limitations of the PPE.
4. How to properly put on, take off, adjust, wear and inspect PPE.
5. The proper care, maintenance, useful life and disposal of PPE.

Types of PPE: Eye and Face Protection

Employees who wear prescription lenses must wear protective devices that incorporate the prescription in its design or wears eye protection designed to be worn over the prescription eye wear.

Most task require safety glasses to have side guards.

Types of PPE: Eye and Face Protection

Eye protection is provided in many forms for better protection from the different hazards.

A. Safety spectacles are made with either metal or plastic frames and are used for moderate impact from particles produced from carpentry, grinding, scaling, etc.

B. Goggles protect eyes and the surrounding facial area from impact, dust and splashes

C. Welding shields protect the eyes from burns caused by infrared or intense radiant light.

Types of PPE: Respiratory Protection

Respirators protect the lungs from atmospheres contaminated with harmful dust, fogs, fumes, mists, gases, smokes, sprays or vapors.

Respirators should be fit tested before each use.
Any facial hair that prevents a tight seal must be shaved.
The face piece should seal around the jaw and face.

Respirators have limitations. One of them is the range of motion an employee may need to perform tasks. It is important to know why the respirator is needed, how to use the respirator properly, as well as proper maintenance and storage of the device.

Types of PPE: Head Protection

Employee's must wear a protective helmet when working in areas where there is a potential for injury to the head from falling objects.

Hard hat features include:

- A shell that resists and deflects objects from hitting the head.
- A suspension system inside the hat that acts as a shock absorber against falling objects.
- Some hard hats insulate against electrical shock.
- Hard hats shield your scalp, face, neck and shoulders against falling fluids.
- Some can be modified by adding face shields, goggles, hoods or hearing protection.

Types of PPE: Head Protection

Head protection is divided into three classes:

Class

C

E

G

C - hard hats are designed for comfort and limited protection against bumps, but not falling objects.

E - hard hats (formerly Class B) are manufactured for tasks around high voltage lines.

G - hard hats (formerly Class A) are for general service such as mining, building construction, lumbering and manufacturing.

Types of PPE : Foot Protection

Employees must wear foot protection when working in areas that contain potential for foot injury due to falling, rolling or piercing objects.

Some of the features of safety shoes include:

- Impact-resistant toes and heat-resistant soles that protect against falling objects and hot surfaces
- Metal insoles to protect against puncture wounds; and
- Protection against electrical conduction hazards.

Types of PPE: Hand Protection

Some injuries gloves guard against include: burns, bruises, abrasions, punctures, fractures and chemical exposure.

Types of PPE: Hand Protection

Different gloves protect the hands from different hazards.

- Cotton gloves - dirt, grease and paint while letting the hands breathe.
- Leather - abrasions, flexibility and better grip.
- Plastic gloves - chemicals, fluids and cuts, as well as providing flexibility and durability.

Types of PPE: Body Protection

Body Protection is designed to avert physical and health hazards from the body.

There are many types of body protection:

- Laboratory coats
- Aprons
- Coveralls
- Body suits
- Vests

Types of PPE: Body Protection

Body protection provides resistance to:

- Cuts;
- Splashes of hot metal or liquids;
- Impact from tools, materials and machinery;
- Hazardous chemicals; and
- Radiation.

Types of PPE: Body Protection

Heat Stress is a major concern for employers whose employees wear body protection especially when worn in hot environments. Employees suffering from heat stress should be given plenty of rest and liquids.

Body protection can sometimes have loose parts that can get caught in machinery. It is important to keep those parts of the PPE away from moving machinery

Types of PPE: Hearing Protection

Excessive noise exposure factors include:

- How loud is the noise as measured in decibels (dBA)?
- What is the duration of exposure to the noise?
- Is noise generated from multiple sources or a single source?

Types of PPE: Hearing Protection

The general rule is that the louder the noise, the shorter the exposure time before hearing protection must be provided.

Examples of hearing protection include:

- Earmuffs - cover both ears and reduce noise 15-30 dB depending on how they are manufactured and fit.

- Earplugs - insert into the ear and completely block the canal, reducing the noise 15-30 dB depending on manufacture and fit.

Maintenance and Storage of PPE

- PPE must be inspected before each use by the affected employee. Regular cleaning, maintenance, repairs (unless disposable) and replacement of PPE must follow manufacturer's directions. Maintenance records should be kept for each article of PPE.
- Store PPE in appropriate storage devices:
  - Storage procedures will prevent damage to PPE
    - Store separately from street clothes to avoid contamination.
      - Store in a ventilated space with plenty of breathing room
        - Different levels of PPE should be stored separately

Quiz

Click on the link below to take a 10-Question Quiz.

https://secure.rutherfordcountytn.gov/insquiz/ppe.aspx

Once you have linked to the quiz, please enter your Social Security Number at the top. You will need to enter it according to the example shown (ex. 999-99-9999 with hyphens included).

Once finished with the questions, please click the submit button and your training will be recorded.

Note: It takes 90 days for newly hired employees to be loaded to the training database. In this case print out the quiz and submit to your supervisor or safety training point of contact.