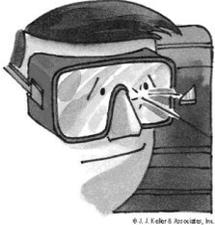


Personal Protective Equipment (PPE)

Eye Protection

It can only take a moment for you to lose your sight. Because of workplace hazards, OSHA requires that employers supply appropriate eye protection. However, the employee must take responsibility and use the personal protective equipment (PPE) that is provided. OSHA reported that in 1994 there were 83,500 disabling eye injuries. However, eye injuries can be prevented if you use proper eye protection and maintain that eye protection.

What must my employer do?



Your employer must ensure that:

- all workers required to wear eye protection understand how to use it so that it offers the most protection.
- workers must demonstrate understanding of the training and the ability to use it properly before being allowed to perform work requiring its use.

What must I do?

As an employee who is required to wear eye protection, you must:

- understand how to use the required PPE.
- know how to properly clean and maintain the PPE.
- know the locations of and how to use the eyewash stations.

What must eye protection do?

At a minimum, eye protection must:

- adequately protect against the particular hazards for which they are designed.
- be reasonably comfortable when worn under the designated conditions.
- fit snugly without interfering with the movements or vision of the wearer.
- be durable and be capable of being disinfected.
- be easily cleanable and be kept clean and in good repair.

PPE – Glove Selection

Hand protection is extremely important in jobs that can be dangerous to the hands.

Glove selection

Employers must select, and require you to use, appropriate hand protection when your 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; and harmful temperature extremes.

Determine the types of features that are needed:

- Palm grip type (rough, smooth);
- Sewn or molded;
- Curved or straight finger design;
- Insulated (for protection against heat or cold);
- Wrist, elbow, or shoulder length;
- Cuff or no cuff;
- Coating (for chemical resistance);
- Cut resistant (usually made of Kevlar fabric).



Length & Size

Determine the length of the glove by measuring how far you will need to immerse your arm into a solution. Take into account any splash protection that is needed. Gloves that are too tight can cause fatigue and numbness. Ones too loose can fall off or get caught in equipment. Determine the proper size by using a cloth measuring tape to measure around the circumference of your hand. Measure around the widest point of the palm. If it's 8 inches then you need a size 8 glove. (Remember actual sizes vary by manufacturer and even by different styles from the same manufacturer.)

Disposable or reusable

Select either a disposable or reusable glove. Some tasks require a disposable glove.

Personal Protective Equipment (PPE)

Foot Protection

Your feet are subject to many types of skin diseases, cuts, punctures, burns, sprains, and fractures. But sharp or heavy objects falling on the foot are the primary source of foot injury in the workplace. One study of workers who suffered foot injuries showed that less than 25 percent were wearing safety shoes or boots at the time of the accident.

Foot protection is important

Foot protection is guarding your toes, ankles, and feet from injury. Manufacturers now offer a wide variety of protective devices. Manufacturers also continually update materials and engineering of their products to ensure protection from new hazards.

Specific types of safety shoes

Safety shoes come in many descriptions of some types of



varieties to suit very specific industrial applications. Here are safety footwear.

1. **Safety shoes**—have toe guards that meet testing requirements found in the American National Standards Institute (ANSI) consensus standard on protective footwear (ANSI Z41-1991). Steel, reinforced plastic and hard rubber are used for safety toes, depending on their intended use.
2. **Metatarsal guards**—or instep guards protect the upper foot from impacts. In these shoes, metal guards extend over the foot rather than just over the toes.
3. **Conductive shoes**—prevent the accumulation of static electricity that builds up in the body of the wearer. Employees in munitions factories or refineries often wear these type of shoes.
4. **Electrical hazard shoes**—offer protection against shock hazards from contact with exposed circuits. These shoes are most effective when they are dry and in good repair.
5. **Puncture resistant shoes**—protect against hazards of stepping on sharp objects that can penetrate standard shoe soles. They are used primarily in construction work.

The above list is just a few of the many safety shoes available for a wide range of applications.

The hazards in the workplace

Foot protection should not be used as a substitute for engineering, work practices, and/or administrative controls. Foot protection should be used in conjunction with these controls to provide for employee safety and health in the workplace. But, sharp or heavy objects falling on the foot are the primary source of injury. Other hazards include:

1. **Compression**—the foot or toe is squeezed between two objects or rolled over.
2. **Puncture**—a sharp object like a nail breaks through the sole.
3. **Electricity**—a hazard when working around unguarded electrical equipment.
4. **Slipping**—contact with surface hazards like oil, water, or chemicals causes falls.
5. **Chemicals**—and solvents corrode ordinary safety shoes and can harm your feet.
6. **Molten metal**—can splash into the tops of shoes and cause severe burns.
7. **Wetness**—the primary hazard may be slipping but others may also include discomfort and even fungal infections if your feet are wet for long periods of time.

Does your safety footwear meet the OSHA requirements?

When selecting safety footwear, it is important to look for shoes that meet the ANSI requirements. OSHA regulations state that safety shoes must meet the requirements of ANSI Z41-1991. These standards set the requirements for safety shoes in the areas of impact, compression, conductivity, and puncture resistance performance. You always want to match the footwear to the job and its hazards.

Training

OSHA's general industry standard on personal protective equipment (PPE) at 29 CFR 1910.132 requires training that applies to the use of protective footwear. You should know:

- When & What PPE is necessary.
- How to properly don, doff, adjust, and wear PPE.

- The limitations of the PPE.
- The proper care, maintenance, useful life, and disposal of the PPE.

Personal Protective Equipment (PPE)

Head Protection

Common sense normally dictates when you need head protection. However, if common sense doesn't prevail, then we have the OSHA regulations to fall back on. In general industry the regulations state that employees must be protected in work areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns. Therefore, the environment will dictate the need for head protection.

How hard hats protect you

Head injuries are caused by falling or flying objects or by bumping your head against a fixed object. Other head injuries are from electrical shock and burns. Hard hats are designed to do two things: resist penetration and absorb the shock of a blow.

Hard hats lessen injury because they are designed with a hard outer shell and a suspension system inside. You should use hard hats when you are working in an area where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns.

Types of hard hats

Hard hats fall into two types and three classes and are intended to provide protection against a specific hazardous condition.

The types include Type 1 and Type 2:

- A **Type 1** helmet is one with a full brim that is at least 1.25 inches wide.
- The **Type 2** hard hat has no brim and has its peak extending forward from the crown.



The classes of hard hats are class A, B, and C:

- **Class A** hard hats provide general service, limited voltage protection. Class A hats are used for protection against impact hazards. Mining, building construction, tunneling, and lumbering are examples of industries that use Class A hard hats.
- **Class B** hard hats provide utility service, high voltage protection. A Class B hat protects the head from impact and penetration from falling and flying objects and high-voltage shock and burn. It is mainly used during electrical work.
- **Class C** helmets provide special service, no voltage protection. The design of Class C hats provides lightweight comfort and impact protection. They are used where there is no danger from electrical hazards.

In 1997, the American National Standards institute (ANSI) released a revised standard (ANSI Z89.1-1997) which made revisions to the types and classes of hard hats. If you purchase new hard hats, you may find these revised classifications:

- A **Type 1** helmet is intended to reduce the force of impact resulting from a blow only to the top of the head.
- A **Type 2** helmet is intended to reduce the force of impact resulting from a blow which may be received off center or to the top of the head.
- **Class G** (General) hard hats are intended to reduce the danger of contact exposure to low voltage conductors (proof-tested at 2,200 volts (phase to ground)).
- **Class E** (Electrical) hard hats are intended to reduce the danger of contact exposure to high voltage conductors (proof-tested at 20,000 volts (phase to ground)).
- **Class C** (Conductive) hard hats are not intended to provide protection against contact with electrical conductors.

Maintenance of your head protection

In order to prolong your hard hat and provide head safety, you should:

- Check your hat daily for signs of dents, cracks, or penetration. This inspection should include the shell, suspension, headband, and sweatband. A hard hat should not be used if signs of damage to any of these parts are found.
- Keep your hat out of the rear window shelf of your car. Sunlight and heat can affect the degree of protection the hat provides.
- Clean your hat once a month in warm, soapy water. You should scrub and rinse the shell with clear, hot water.

- Avoid getting paint on the hard hat. Some types of paints and thinners may damage the shell or weaken the hard hat itself.