



TOOL BOX SAFETY TOPIC

PERSONAL PROTECTIVE EQUIPMENT

Introduction

OSHA standard for Personal Protective Equipment (PPE) is found in 29 CFR 1926 Subpart E.

Personal protective equipment, or PPE, is designed to protect employees' eyes, face, head and extremities from serious workplace injuries or illnesses resulting from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards.

Besides face shields, safety glasses, hard hats and safety shoes, PPE includes a variety of devices and garments such as goggles, coveralls, gloves, vests, earplugs, and respirators.

OSHA issued a final rule on employer payment of (PPE) on November 15, 2007. Under the rule, all required PPE, with a few exceptions, must be provided at no cost to the employee.

Prior to the job

Before work begins a Jobsite Safety Analysis (JSA) shall be performed to identify the potential hazards associated with the work being done.

As many supervisory personnel as possible should participate in the JSA to ensure knowledge of the hazards. All supervisory personnel should be made aware of the results of the JSA.

If the JSA identifies any hazards that call for a type of PPE in addition to the basic PPE required for everyday work, the additional PPE must be provided to each employee prior to starting work on the identified tasks or in the areas where those hazards exist.

Employees must have the knowledge to correctly wear, use, inspect, maintain, clean, and dispose of or store the PPE. Employees should also be aware of the limitations of the PPE they use.

If protective clothing increases the possibility of heat stress or stroke, the employee should be made aware of the symptoms and the related corrective and protective measures associated with those risks.

Types of PPE

Eye Protection

Protective eye and face equipment must comply with ANSI Z87.1-1968 guidelines. The most common type of protective equipment for the eyes is safety glasses. They have stronger, impact resistant lenses and frames which are heat-resistant and stronger than street frames. Although most modern styles of safety glasses are manufactured with a wraparound lens, side shields may be attached to other styles of safety glasses for protection from particles entering the eyes from the sides.

Goggles are similar to safety glasses but fit closer to the eyes and can provide additional protection in hazardous situations involving flying particles, liquid splashes, fumes, vapors, and dust.



Both safety glasses and safety goggles are available in styles to fit over eyeglasses. Some styles of both types of eye protection can be obtained with prescription lenses. The use of contact lenses is highly discouraged in work where there is a potential for foreign objects entering the eye!

Full-Face shields are often required to guard against flying particles, molten metal and chemical splashes. Face shields are available to fit over a hard hat or to wear directly on the head. A face shield should always be used with other eye protection such as goggles or safety glasses.

Welder helpers, and anyone else who works with tools that produce flying particles, shall wear a flip-up face shield attached to their hard hat as well as standard safety glasses or goggles.



Debris that has accumulated on the outside of safety glasses or stuck to sweaty skin can fall into the eye if care is not taken when putting on or removing safety glasses or goggles. Wiping the face or forehead after removing safety glasses or goggles can also drag foreign objects into the eyes.

Proper care for your eye protection is critical. Your face and eye protection equipment must be kept clean and in good repair. It should be inspected regularly for defects such as scratches, breaks and missing parts. The use of defective eye and face protection is prohibited.

Foot Protection

Foot protection must comply with ANSI standard Z41.1-1967. Foot protection protects your toes, ankles, and feet from injury. Protective footwear comes in many varieties to suit very specific work applications.

Safety shoes (boots) have toes that are reinforced to protect the wearer's toes. These shoes are worn in many construction jobs. Footwear with puncture-resistant soles is worn to protect the wearer from injury resulting from stepping on sharp objects that could penetrate the soles of standard shoes or boots. Metatarsal guards or instep guards extend over the foot rather than just over the toes. These can be attached to shoes for greater protection from falling objects.



Protective footwear should extend over the ankle and be constructed of leather. Athletic type footwear and low-cut shoes are not allowed.

Foot wear should be in good condition and free from missing parts or excessive wear.

Hand Protection

Hand protection should be used when you are exposed to hazards such as severe cuts or lacerations, severe abrasions, punctures, splinters, chemical burns, absorption of harmful substances through the skin or unsafe temperature extremes.

Gloves are used to protect the fingers, hands and sometimes wrists and forearms. Gloves should be selected to protect against the specific hazards of the job being performed. Types range from common canvas or leather work gloves to highly specialized gloves. Any tasks that require specialized hand protection should be identified during the pre-job JSA.



Wear only gloves that fit your hand. Gloves that are too small can tire your hands and gloves that are too large are clumsy to work with. Gloves should be worn with caution near moving equipment or machinery parts. It is a good work practice to wear gloves at *all* times while working. Gloves that fit properly will not interfere with most working tasks.

Gloves should be given proper care and cleaning. Inspect them regularly for change in shape, hardening, stretching, and rips or holes.

Head Protection

Head protection must comply with ANSI standard Z89.1-1969 for normal construction activities or ANSI standard Z89.2-1971 for employees exposed to high voltage electrical shock and burns.

Head injuries are caused by falling or flying objects or by bumping your head against a fixed object. Other head injuries come from electrical shock and burns. Hard hats are designed to do two things: Resist penetration, and absorb the shock of a blow. They lessen the possibility of injury because they are designed with a hard outer shell and a suspension system inside.

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

The Types include:

Type 1 – Full brim, at least 1 ¼ inches wide.

Type 2 – No brim, peak extending forward from the crown.

The classes of hard hats are:

Class A – General Service which provides impact protection and limited voltage protection.

Class B – Utility Service which provides protection from impact, penetration and high voltage shock and burns.

Class C – Special Service that is designed for light weight comfort and impact protection.

Your hard hat should be checked daily for signs of dents, cracks or penetration. Do not use it if any of these signs are found on the shell, suspension, headband, or sweatband. Sunlight and heat can damage you hard hat. Clean once a month in warm, soapy water. Do not paint your hard hat. Some types of thinners may damage the shell or weaken the hard hat itself. The suspension is the most important part of the hard hat. It must keep the hard hat 1 ¼” off the head.

Hearing Protection:

When noise at your worksite is above the exposure levels listed in 29 CFR 1926.52, Permissible Noise Exposures, hearing protection devices must be provided and used.

Hearing protection that is inserted in your ear must fit. Plain cotton is not an acceptable protection device. There are ear plugs, muffs and ear caps.



Ear plugs should be changed regularly for sanitary reasons. Ear muffs should be examined for wear and loose parts. When defects are found they must be replaced.

Specialty Clothing:

Fire Retardant Clothing (FRC) shall be addressed in the JSA and provided if required. It shall meet the requirements set forth by the need for such clothing.

FRC clothing shall always be the outer layer of clothing. FRC clothing must be sized to comfortably fit over insulated overalls, heavy coats, etc.

KEEP IN MIND:

- Assess your workplace to determine if hazards are present that require the use of PPE.
- Know what kind of PPE is necessary.
- Select PPE that fits you correctly.
- Maintain your PPE properly and
- Understand the limitations of PPE in protecting you from injury.

PPE Test Questions

1. For personal protective equipment to protect you, it must be used, and worn properly?
 - a. True
 - b. False
2. You will need eye, face and hand protection if you work with molten metal, liquid chemicals and flying particles?
 - a. True
 - b. False
3. A hard hat's most important part is its suspension, which should keep the shell at least 1 ¼ inches from your head?
 - a. True

- b. False
- 4. Safety glasses or goggles are required anytime there is danger of something striking the eye?
 - a. True
 - b. False
- 5. Personal protective equipment should be uncomfortable and hard to use?
 - a. True
 - b. False
- 6. Cotton balls are a correct form of hearing protection?
 - a. True
 - b. False
- 7. Personal Protective Equipment should be inspected before each use.
 - a. True
 - b. False

1-T, 2-T, 3-T, 4-T, 5-F, 6-F, 7-T

Through the OSHA and American Pipeline Contractors Association (APCA) Alliance, APCA developed this Toolbox Talk for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. 03/2009

