

PERSONAL PROTECTIVE EQUIPMENT IN GENERAL INDUSTRY

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation. Featured are:

INTRODUCTION: A brief description of the program and the subject that it addresses.

PROGRAM OUTLINE: Summarizes the program content. If the program outline is discussed before the video is presented, the entire program will be more meaningful and successful.

PREPARING FOR AND CONDUCTING THE PRESENTATION: These sections will help you set up the training environment, help you relate the program to cite specific incidents, and provide program objectives for focusing your presentation.

REVIEW QUESTIONS AND ANSWERS: Questions may be copied and given to participants to document how well they understood the information that was presented. Answers to the review questions are provided separately.

ATTENDANCE RECORD: Document the date of your presentation as well as identify the program participants. The attendance record may be copied as needed.

INTRODUCTION

The Occupational Safety and Health Administration has recognized that a significant number of employees who sustain work-related injuries have not been trained in the proper use of personal protective equipment. As a result, OSHA revised PPE standards in 1994 to ensure that employees are aware and trained in the use of PPE. OSHA estimates that more than 69% of all production workers in the United States should be wearing some form of PPE.

OSHA estimates that compliance with the revised PPE standards will prevent 37,924 lost work day injuries per year with a n expected annuyal savings to the affected industries exceeding \$150 million. Other benefits include improved worker/employer relations and good public perception of companies as responsible employers.

This program shows the viewer how to use all types of personal protective equipment and covers the training requirements in 29 CFR 1910. 132:

- When PPE is necessary;
- What PPE is necessary;
- How to properly don, doff, adjust and wear PPE;
- The limitations of PPE;
- The proper care, maintenance, useful life and disposal of PPE.

PROGRAM OUTLINE

BACKGROUND

- Personal protective equipment is the last line of defense against potential hazards encountered on the job.
- Proper selection of PPE and clothing is based on the type and extent of hazard present in the workplace.
- PPE training explains when/what PPE is necessary; how to wear it; the limitations of PPE; and, how to properly care for and maintain PPE.

EYE PROTECTION

29 CFR 1910.133 Eye and Face Protection. General Requirements. Each affected employee shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acides or caustic liquids, chemical gases or vapors or potentially injurious light radiation.

HAZARD: Flying objects

PPE REQUIRED: Safety Glasses with permanent or detachable side shields

Safety glasses with side shields are held in place by temple bars or head bands; lenses must always bear the manufacturer's mark, and the frames will have the ANSI number on the temple pieces.

HAZARD: Chemical or biological material splashes, mists, fumes and optical radiation

PPE REQUIRED: Goggles: eyecup and cover types, and welding goggles

Eyecup goggles cover only the eyes while cover goggles may be worn over prescription glasses and cover the eyes and surrounding face area.

HAZARD: Severe exposure conditions

PPE REQUIRED: Face shields over other eyewear

Face shields do not provide primary eye protection and must never be worn alone. Face shields must extend below the chin. Face shields with reflective surfaces reflect heat to reduce heat exposure to eyes and face.

HAZARD: Optical radiation from welding, cutting and laser operations

PPE required: Welding helmets and goggles with appropriately colored lenses shades

The darkness and color of the lens shade provides protection from different intensities and types of optical radiation.

- Eyewear should be washed in warm soapy water; rinsed with cool water; air dried.
- Inspect eyewear for conditions that reduce its effectiveness.

HEAD PROTECTION

29 CFR 1910.135 Head Protection. General Requirements 1) Each affected employee shall wear protective helmets when working in areas where there is a potential for injury to the head from falling objects. 2) Protective helmets designed to reduce electrical shock hazard shall be worn by each such affected employee when near exposed electrical conductors which could contact the head.

HAZARD: Light impact

PPE REQUIRED: Bump caps

Bump caps protect the head against light impact but not the impact or penetration of falling objects.

HAZARD: Potential injury from impact or penetration of falling objects

PPE REQUIRED: Hard hats

Hard hats distribute the force of impact over the suspension system inside the hat.

- Proper protection from a hard hat is afforded by obtaining a snug fit, wearing the hat with the brim facing forwards and never putting anything between the suspension and the shell of the hard hat.
- Metal hats must not be worn around electrical equipment or when doing electrical installations.
- Inspect and clean hard hat.

RESPIRATORY PROTECTION

- Use of equipment that purifies or delivers breathable air requires training and authorization;
- Air purifying devices use replaceable cartridges to filter inhaled air; cartridges must be selected as a result of air sampling or calculating the concentration of contaminant in the air.
- Supplied-air devices deliver air through hoses; self-contained breathing apparatus normally delivers air from a tank or, less commonly, as a result of a chemical reaction that produces breathable air.

HEARING PROTECTION

- Hearing protection devices are worn both inside and outside of the ear.
- Wear hearing protection devices in accordance with manufacturer's instructions.
- Keep ear plugs clean and insert only clean plugs.

HAND PROTECTION

29 CFR 1910.138 Hand Protection. General requirements. Employers shall select and require employees to use appropriate hand protection when employee's 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.

- Gloves must be matched to the type of work performed to provide adequate protection.
- Gloves must not be worn while working around machines that present a grabbing hazard.
- Select chemical gloves by considering the type and concentration of chemical, and length of time the gloves are to be worn. Check the MSDS for chemical properties that may affect the usefulness of gloves.
- Select electrical insulating gloves by voltage rating; routine checks of these gloves should include dielectric, visual and air tests.
- Use the most common glove, the general purpose glove, to provide protection from minor cuts or abrasions only.
- Clean hands before using gloves; clean reusable gloves after each use.

FOOT PROTECTION

29 CFR 1910.126 Foot Protection. General requirements. Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling and rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards.

- The reinforced toe box on a safety shoe offers more protection than a shoe or boot without it; soles of safety shoes are puncture resistant.
- Approved safety footwear is rated as 30, 50 and 75 ft/lbs of force they can safely stand.
- Metatarsal guards in some footwear protect the upper foot from the impact of falling objects.
- Specialized footwear includes conductive shoes to dissipate static electricity; non-conductive shoes for electrical work, and shoes to prevent thermal exposure.
- Replace broken laces and replace footwear with worn soles.

PROTECTIVE CLOTHING

- The types of protective clothing range from cotton coveralls to Tyvek vapor barrier clothing used in handling hazardous wastes.
- Selection of protective clothing should be based on the type and severity of potential exposure to specific hazards.

HAZARD ASSESSMENT & TRAINING

29 CFR 1910.132 General requirements. d) Hazard assessment and equipment selection. 1) The employer shall assess the work place to determine if hazards are present, or are likely to be present which necessitate the use of PPE. f) Training. 1) The employer shall provide training to each employee who is required by this section to use PPE. 2) Each affected 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.

- The company's hazard assessment and PPE training program are designed to inform workers of existing and potential hazards and how to prevent exposure to them.
- Wear of PPE is mandatory when hazards requiring the use of such protection has been determined. Workers must continually demonstrate understanding and skill in the use of PPE in their jobs.

PREPARE FOR THE SAFETY MEETING OR TRAINING SESSION

Review each section of this Leader's Guide as well as the videotape. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the videotape program. Play the videotape without interruption. Review the program content by presenting the information in the program outline.

Copy the review questions included in this Leader's Guide and ask each participant to complete them.

Copy the attendance record as needed and have each participant sign the form. Maintain the attendance record and each participant's test paper as written documentation of the training performed.

Here are some suggestions for preparing your Videotape equipment and the room or area you use:

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the videotape program.

Place or secure extension cords to prevent them from becoming a tripping hazard.

CONDUCTING THE PRESENTATION

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to review the requirements of the revised PPE standards as well as review the principles of using PPE and clothing.

Introduce the videotape program. Play the videotape without interruption. Review the program content by presenting the information in the program outline. Lead discussions about specific job-related accidents, illnesses or injuries involving eyes, hands, the head and feet that may have been prevented by the proper wear of PPE. Use the review questions to check how well the program participants understood the information.

After watching the videotape program, the viewer will be able to explain the following:

- OSHA's revised PPE training requirements;
- The major concepts of wearing PPE to prevent potential exposures to injury and illness;
- The use of respirators, hearing protection and protective clothing.

Make sure to have your employees "sign-in" on the attendance record to document your training session.

**PERSONAL PROTECTIVE EQUIPMENT GENERAL INDUSTRY
REVIEW QUESTIONS**

Name _____ Date _____

The following review questions are provided to determine how well you understand the information presented in this program.

1. The type of eyewear commonly worn to prevent exposure to flying objects is _____.
 - a. chemical goggles
 - b. welding goggles
 - c. safety glasses with side shields
 - d. face shields

2. The type of eyewear that should never be worn alone is _____.
 - a. chemical goggles
 - b. welding goggles
 - c. safety glasses with side shields
 - d. face shields

3. Which type of head gear provides only very limited protection? _____

4. Before inserting an ear plug into your ear, always be sure that the plugs and your fingers are _____.

5. The reason gloves should not be worn when operating rotating or turning equipment is _____.

6. A feature of safety shoes that makes them different from street shoes and boots is _____.
 - a. stronger laces
 - b. a strong toe box
 - c. thicker soles
 - d. an unfashionable look

7. Wear of specific PPE to prevent exposure to potential hazards in the work place is _____.
 - a. mandatory
 - b. optional
 - c. recommended
 - d. optional unless required by your supervisor

8. Protection provided by hard hats is significantly reduced if the hat is worn _____.

ANSWERS TO THE REVIEW QUESTIONS

1. c
2. d
3. bump caps
4. clean
5. they can be grabbed and pulled into the equipment
6. b
7. a
8. backwards