

# Personal Protective Equipment

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# Introduction

- Occupational Health & Safety Administration established 29 CFR 1910.132-138 the Personal Protective Equipment Standard
- **This standard requires that employers must provide at no cost to their employees PPE when such equipment is necessary to protect employees from job related injuries, illnesses and fatalities**



# Protecting Employees from Workplace Hazards

- The University protects employees from workplace hazards and dangerous work procedures that can cause injury, illness and fatalities.
- The University conducts an assessment to determine the various physical hazards that may be present in the work area.
- The University:
  - Uses all feasible engineering and work practice controls to eliminate and reduce hazards
  - Then uses appropriate PPE if these controls do not eliminate hazards
  - **Remember: PPE is the last control**

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# PPE Assessment

As part of the assessment, the University identifies the various health hazards that may be present in the work area.

Health hazards include:

- Types of chemicals hazards
- Sources of biological hazards
- Sources of radiation



# Employee Responsibilities

You are responsible for:

- Attending all PPE training sessions
- Wearing your assigned PPE
  - NOTE: If you have your own personal protective equipment, it must be approved before you can use it on the job. Check with your supervisor before using your own equipment.
- Following ALL warnings and precautions
  - Take time to read any and all warnings and precautions that may appear on tools, equipment, chemicals, SDSs and personal protective equipment
- Following procedures
  - Listen to and follow the directions that you may be given by your supervisor.
- Reporting
  - Report any and ALL unsafe conditions you may find in your work area to your supervisor.
  - REMEMBER: Safety is a team effort!

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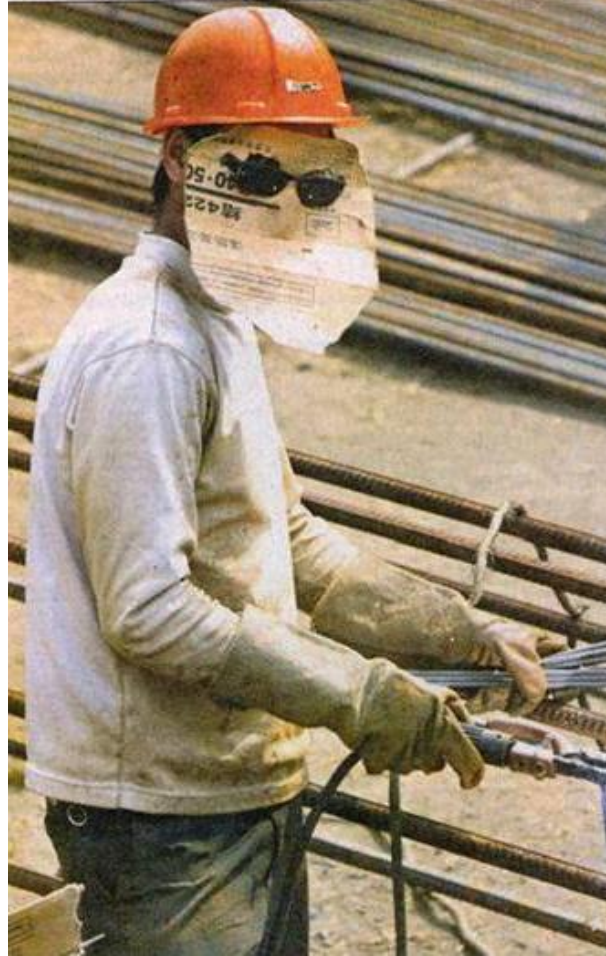
# Is This an Appropriate Hard Hat?



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# Is This an Appropriate Welder's Mask?



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# Is This an Appropriate Scaffolding?



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# Training

**Employees required to use PPE must be trained to know at least the following:**

- When PPE is necessary
- What type of PPE is necessary
- How to properly put on, take off, adjust, and wear
- Limitations of the PPE
- Proper care, maintenance, useful life and disposal

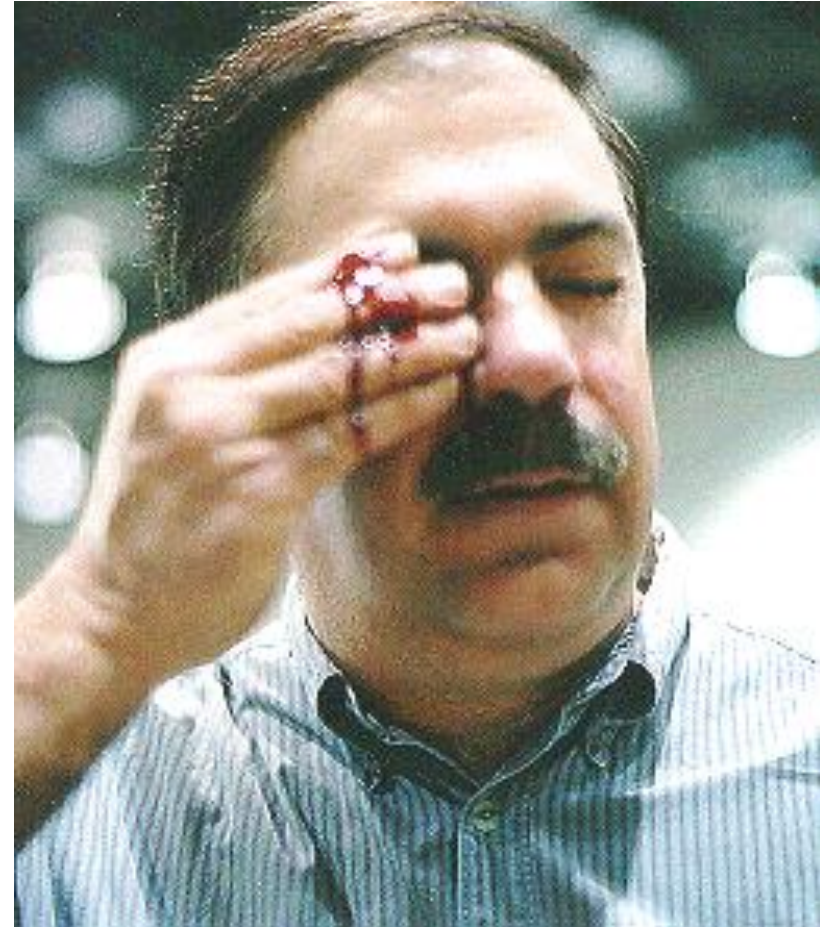
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# Eye and Face Protection

## Why Eye and Face Protection is Important

Thousands of people are blinded each year from work related eye injuries. Injuries that could have been prevented, if only people would have used eye or face protection.



# Eye and Face Protection

## Types of eye/face hazards:

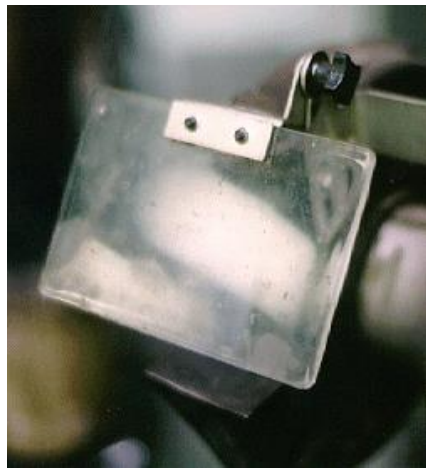
- Impact
- Heat
- Chemicals
- Dust
- Light and/or Radiation



# Eye and Face Protection

## Elimination or Control of Hazards

- Machine Guards
  - Many types of machines such as lathes, grinders, and sanders are equipped with guards, shields and screens
- Work Area Barriers
  - Operations such as sanding, grinding, welding, and lathe operations produce dust, vapors, and flying particles. To protect other workers, work area barriers such as movable screens and barriers should be set up to separate workers and bystanders from hazardous operations



# Eye and Face Protection

## Elimination or Control of Hazards

- Ventilation
  - Ventilation, along with damping systems, can significantly reduce the amount of airborne particles that could be hazardous to your eyes
- Lighting
  - Good lighting reduces eye strain and glare



# Eye and Face Protection

## Elimination or Control of Hazards

- Safe Work Practices
  - Read and follow all warnings and precautions that may be found on equipment and hazardous materials
  - Do not throw tools or participate in horseplay
  - Keep sharp or pointed objects away from your eyes
  - Follow your supervisor's suggestions and recommendations for working safely

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# Eye and Face Protection

## Safety Glasses

- Much stronger and more resistant to impact and heat than regular glasses
- Equipped with side shields that give you protection from hazards that may not be directly in front of you
- Safety glasses should be Z-87 approved to meet OSHA regulations
- Should fit comfortable on face through all job tasks. Ensure that glasses are not too big or too tight

## Limitation

- Does not seal around eyes, could allow small droplets to come in contact with eyes



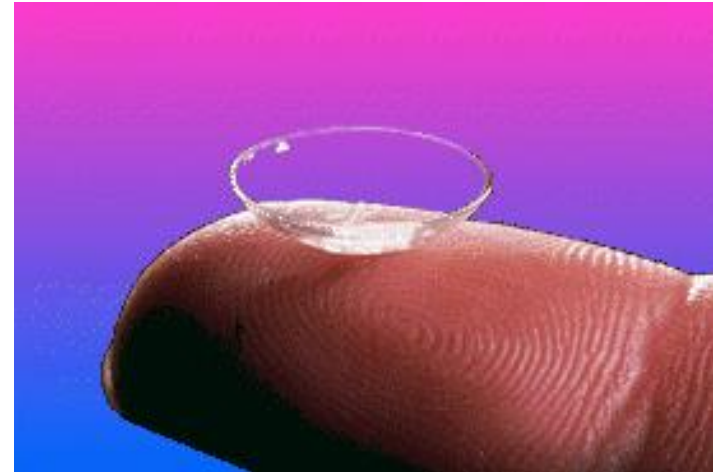
Regular glasses  
or sunglasses are  
not appropriate  
**SAFETY GLASSES**

# Eye and Face Protection

## Safety Tip

### Contact Lenses

- Wear your contacts with caution if you work in areas where you might be exposed to fumes, dusts, powders, vapors, chemical splashes, molten metals, or intense heat, light or glare
- Some chemicals can react with contacts and cause permanent injury





# Eye and Face Protection

## Care of Eye Protection Equipment

- Clean your eye protection equipment. You can usually use mild soap and water
  - Never use abrasive soaps, rough paper, or cloth towels
- Keep PPE in good working condition
  - If damaged, replace as soon as possible
- Store your eye protection equipment in a sanitary, cool, dry area away from moisture
- Read the manufacturer's directions and warnings before using any eye protection equipment
- If you have any questions concerning your eye protection equipment, talk with your supervisor
  - Eyewash Stations
    - If you accidentally get something in your eyes, go directly to the eyewash station and flush your eyes with water for 15 minutes. Be sure to hold your eyes open with your fingers and "look" directly into the water streams.



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# Head Protection

**Injuries to the head are very serious. For this reason, head protection and safety are very important.**

**The following hazards are examples of when head protection is required**

- Impact
  - Falling or flying objects
  - falling or walking into hard objects
  - injuries include neck sprains, concussions, and skull fractures
- Electric Shock
  - Live exposed electric wires
  - Injuries include electrical shocks and burns
- Drips
  - Toxic liquids such as acids and caustics can irritate and burn the head/scalp.

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# Hand Protection

## Why is Hand Protection Important?

- It has been estimated that almost 20% of all disabling accidents on the job involve the hands
- Without your fingers or hands, your ability to work would be greatly reduced

## Types of Hand Hazards

- Traumatic Injuries
- Contact Injuries
- Repetitive Motion Injuries



# Hand Protection

## Proper Fit and Use of PPE

- Select and use the right kind of glove for the job you are going to be performing
  - Check fit, always use correct size
  - Make sure chemical resistant to chemical being used
- Inspect your gloves before you use them
  - Remove any rings, watches, or bracelets that might cut or tear your gloves
  - Look for holes and cracks that might leak
  - Replace gloves that are worn or torn
- Housekeeping and Hygiene
  - Poorly maintained machinery, tools, sloppy work areas, and cluttered aisles all contribute to hand injuries



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# Hand Protection

Never wear gloves around powered rotating equipment—  
drills, lathes, etc.



Pay attention to Engineering and Administrative controls and  
use proper LOTO procedures

# Foot Protection

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- **Why is Foot Protection Important?**
- The human foot is rigid enough to support the weight of your entire body, and yet flexible enough to allow you to run, dance, play sports, and to take you anywhere you want to go. Without your feet and toes, your ability to work at your job would be greatly reduced.



# Foot Protection

## Types of Foot Hazards

- Impact Injuries
- Injuries from Spills and Splashes
- Compression Injuries
- Electrical Shocks
- Extremes in Cold, Heat, and Moisture
- Slipping

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# **Body Protection**

## **Why is Body Protection Important?**

- The skin acts as a natural barrier to the elements
- Chemicals can break down the skin barrier and allow secondary infections to manifest

## **Types of Body Hazards**

- Temperature stress
- Chemical Contact
- Radiation



# Body Protection

## Elimination or Control of Hazards

- Signage
  - Communication of hot/cold or radiation
- Physical Barriers
  - Metal shielding or cement barrier
  - Splash guards on chemical hoods
  - Closed chemical systems
- **Select and use the right kind of body protection for the job you are going to be performing**

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# Body Protection



Is that Butch?!

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# Questions?

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