

**Personal
Protective
Equipment**

The Basics

***Safety Awareness Training Program Series
2021***

Sponsored by:

UHCC Environmental Safety & Health

Personal Protective Equipment

- Personal Protective Equipment or PPE is selected based on the specific job hazards you face.



Job Hazards

- Examples of Job Hazards are:
 - Noise
 - Chemicals
 - Accidental Impact
 - Sharp Objects
 - Flying Particles
 - Dust & Mists
 - Bright Light
 - Vibration

29 CFR 1910

Occupational Safety and Health Standards

1910 Subpart I Personal Protective Equipment

1910.132 General requirements.

1910.132(a) *Application*. Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

1910.132(f) Training.

1910.132(f)(1) The employer shall provide training to each employee who is required by this section to use PPE. Each such employee shall be trained to know at least the following:

1910.132(f)(1)(i) When PPE is necessary;

1910.132(f)(1)(ii) What PPE is necessary;

1910.132(f)(1)(iii) How to properly don, doff, adjust, and wear PPE;

1910.132(f)(1)(iv) The limitations of the PPE; and,

1910.132(f)(1)(v) The proper care, maintenance, useful life and disposal of the PPE.

1910.132(f)(2) Each affected employee shall demonstrate an understanding of the training specified in paragraph (f)(1) of this section, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

1910.132(h) *Payment for protective equipment.*

1910.132(h)(1) Except as provided by paragraphs (h)(2) through (h)(6) of this section, the protective equipment, including personal protective equipment (PPE), used to comply with this part, shall be provided by the employer at no cost to employees.

1910.132(h)(2) The employer is not required to pay for non-specialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and non-specialty prescription safety eyewear, provided that the employer permits such items to be worn off the job-site.

1910.132(h)(4) The employer is not required to pay for:

1910.132(h)(4)(i) The logging boots required by 29 CFR
1910.266(d)(1)(v);

1910.132(h)(4)(ii) Everyday clothing, such as long-sleeve shirts,
long pants, street shoes, and normal work boots; or

1910.132(h)(4)(iii) Ordinary clothing, skin creams, or other items,
used solely for protection from weather, such as winter coats,
jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary
sunglasses, and sunscreen.

1910.132(h)(5) The employer must pay for replacement PPE,
except when the employee has lost or intentionally damaged the
PPE.

**What You
Should Know**

About PPE

- You know:
 - **WHEN** to use PPE
 - **HOW** to use PPE
 - **LIMITATIONS** of PPE
 - How to **INSPECT** before use
 - When to **REPLACE**
 - How to **CLEANING** & **STORAGE**

PPE Limitations

- PPE acts as a barrier between you and a hazard
-
- PPE will not protect you if it is:
 - not designed for the specific hazard
 - damaged or worn
 - not adjusted properly



For Example . . .



Using PPE

- For PPE to be effective:
 - Use it in the manner you have been trained
 - Use it only for the specific hazards for its design

Inspect before using

- Before using your PPE, inspect it for:
 - Worn or damaged parts
 - Leaks, cracks or deformities
 - Cleanliness
 - Correct size



Replace

- If any PPE is damaged or worn
 - Get it repaired or replaced immediately
 - Do not work without replacement PPE
 - TELL your supervisor you need new PPE

Cleaning & Storage

- Clean your PPE regularly
- Do not store PPE where it will be in contact with:
 - Dust & Dirt
 - Chemicals
 - Sunlight
 - Water

**Eye & Face
Protection**

Protecting your eyes

- Your eyes are very sensitive organs and may be easily injured. Eye hazards include:
 - Chemical splashes
 - Airborne dust, chips, sparks
 - High heat
 - Intense or UV light



Specific hazards include...

IMPACT - Chipping, grinding machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding.

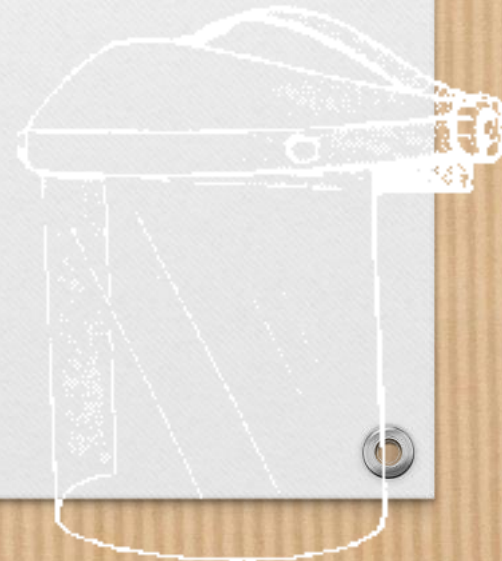
HEAT - welding, brazing

LIGHT or RADIATION - Electric arc welding, gas welding, gas cutting

IRRITANTS / CORROSIVES - mists, dusts, sprays, splashes

Face Protection

- Use a faceshield when any of the following hazards exist:
 - Chemical splashes
 - Liquid spray
 - Flying chips or sparks
 - High Heat
 - Special faceshield



When using a faceshield...

- Always use the correct type eye protection with a faceshield....
- A faceshield is **NOT** designed to protect your eyes



Types of Eye Protection



- Safety Glasses – for flying chips & low hazards

- Vented Goggles – for dust and non-hazardous mist
- Non-Vented Goggles – hazardous chemicals

Dark Lenses – intense or UV light



Safety Glasses vs. Safety Goggles

Safety goggles will be worn where there is a splash exposure.

Safety glasses will protect from potential impacts.

Head Protection





Hardhats...

Hard hats are needed to protect against

- Falling objects
- Accidental impact



Use an electrically rated hard hat when there is a potential for contact with live circuits

Replace your hard hat if...

- The suspension system shows signs of deterioration such as:
 - Cracking,
 - Tearing, or
 - Fraying
- The suspension system no longer holds the shell from 1 inch to 1 1/4 inches away from the head.

Replace your hard hat if...

- The brim or shell is cracked, perforated, or deformed.
- The brim or shell shows signs of exposure to heat, chemicals, ultraviolet light, or other radiation. Signs include:
 - - Loss of surface gloss,
 - -Chalking, or
 - - Flaking



Foot Protection



Chemical Resistant Boots



Aluminum Toe Boots
with Metatarsal Guard



Rain Boots



Snow Boots



Steel Toe Boots

Foot Hazards

- Heavy objects such as forklifts or tools that might roll over or fall onto your feet.
- Sharp objects such as nails or spikes that might pierce the soles or uppers of ordinary shoes.
- Hot, slippery or wet surfaces
- Corrosive chemicals

Hazardous conditions...

IMPACT - Carrying or handling materials such as packages, objects, parts or heavy tools which could be dropped

COMPRESSION - Work activities involving mobile equipment (forklifts), manual material handling carts, jumping jacks, heavy pipes, etc.

PUNCTURE - Sharp object hazards such as nails, wire, tacks, screws, large staples, scrap metal, etc

CHEMICAL - Check MSDS for protection

Inspect footwear daily...

- Look for
 - Cracked, torn or worn areas
 - Wear, holes, tears, cracks, loss of tread on bottom
 - Separation between soles & shoe



**Hand
Protection**

Hand Hazards

- Cuts & punctures
- Chemical exposure
- Vibration
- Electric shock
- Burns
- Heat & Cold
- Biohazards

Glove selection

- Not all gloves are created equal....
Ensure the glove you use will protect your hands from the specific hazards of the job.
- Chemical gloves do not last forever...
understand the chemical and “break-through” characteristics of your specific glove

STOP for a minute . . .

- Use the proper glove for the task
- Remove rings & bracelets
- Do not wear gloves if they can be caught in machinery
- Check gloves for wear and damage

Be Aware.....

- Just because you are wearing PPE does not mean you cannot be injured. Use safe work practices during every aspect of your job.



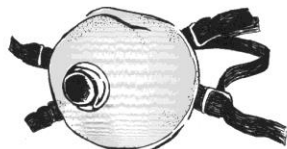
Protect yourself...

- Use the right PPE for the task
- Inspect your PPE before using
- Replace damaged or worn PPE
- Store your PPE properly so it will be ready for the next use
- Keep your PPE clean
- Notify your supervisor if you need new PPE



Respiratory Protection

(To be covered in a separate session)



Half Mask,
Particulate



Half Mask,
Dual Cartridge
Disposable



Half Mask,
Dual Cartridge
Reusable



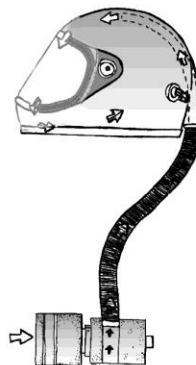
Self Contained Breathing Apparatus (SCBA)



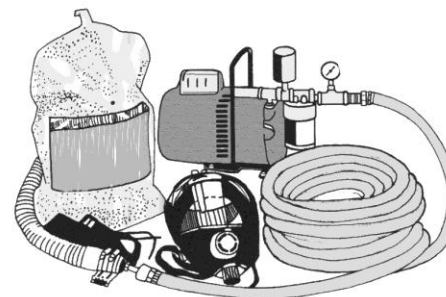
Full-Face
Dual Cartridge
Reusable



Canister Type
Gas Mask



Powered air Purifying
Respirator (PAPR)



Continuous Flow Supplied Air Respirator

Questions?