



# Personal Protective Equipment (PPE)

Presented by: BKS Partners

# Learning Objectives

- After this training program, participants will understand:
  - What types of PPE available to them
  - How to wear and remove PPE
  - What the limitations of PPE are
  - How to maintain and care for PPE

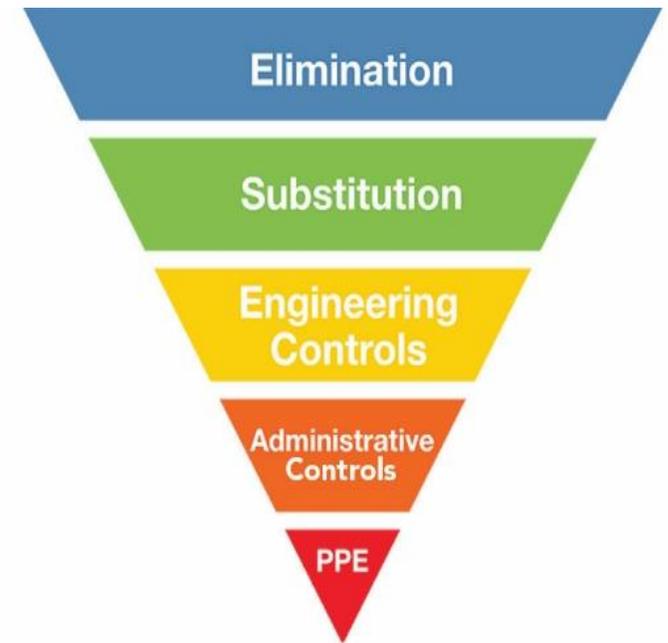


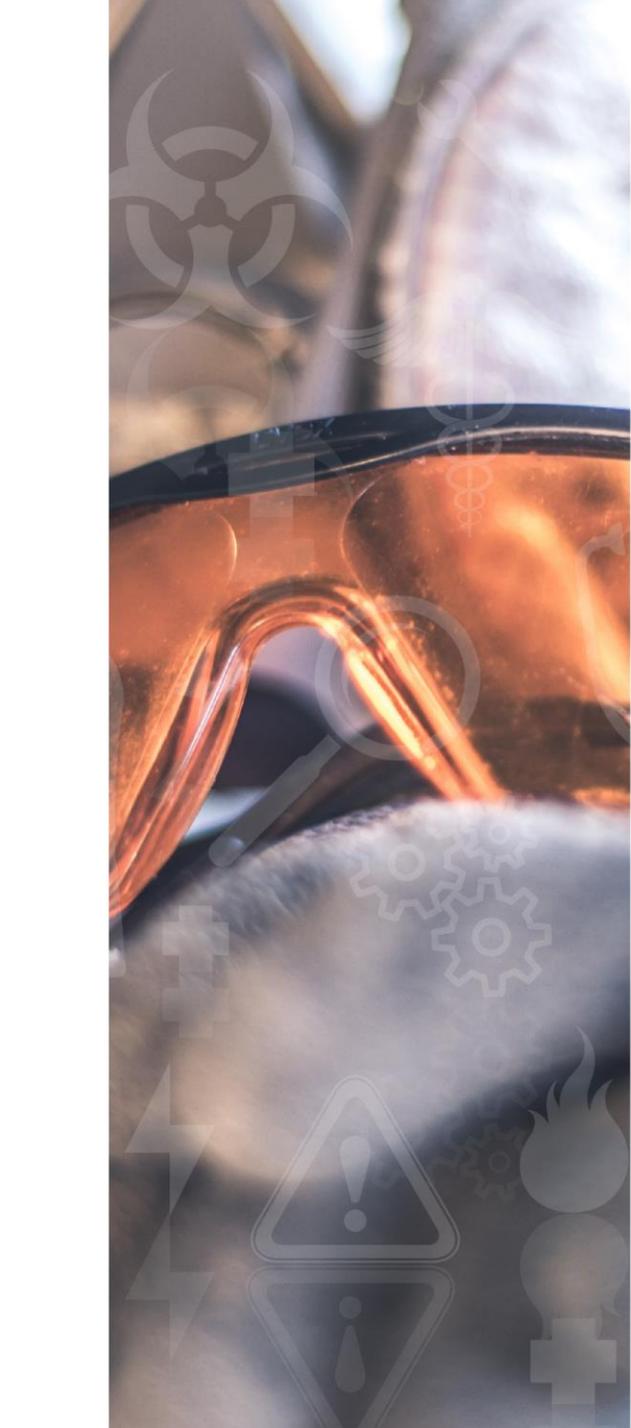
# PPE: What Is It?

- PPE is designed to protect employees from serious workplace injuries and illnesses resulting from contact with hazards (e.g., chemical, electrical, radiological, mechanical and physical hazards).
- In general, PPE works by creating a protective barrier between you and the hazard.

# Hierarchy of Controls

- PPE does not eliminate hazards—it simply provides a barrier between you and the risk. Because of this, PPE is considered to be less favorable than all other control methods listed in the Hierarchy of Controls.
- PPE is only effective if it is in good working order and worn correctly.





# Ensuring PPE Is Effective

- To ensure your PPE effectively protects you from workplace hazards, do the following:
  - Inspect all PPE before using it.
  - Never use damaged or defective PPE.
  - Never use PPE if you haven't been properly trained on its use. If you require additional training, inform your supervisor.



# Eye and Face Protection

- Examples of eye and face protection include safety glasses, goggles, face shields and welding helmets.
- Potential hazards eye and face PPE protect against include:
  - Flying particles
  - Chemical splashes
  - Intense light
  - Molten metal splashes

# Eye and Face Protection - Safety Glasses

- Safety glasses act as a shield, protecting your eyes from a variety of debris that may cause irritation or injury.
- Safety glasses include an American National Standards Institute (ANSI) Z87 marking. This marking means the glasses provide the necessary protection from impact, nonionizing radiation and splash exposures. Additionally, safety glasses differ from regular glasses in the following ways:
  - Frames on safety glasses are stronger than regular glasses.
  - Safety glasses include side shields for additional protection from workplace hazards.
  - Lenses on safety glasses are stronger than regular glasses, as safety eyewear must conform to a higher standard of impact resistance.





# Eye and Face Protection - Safety Glasses (Continued)

- Safety glasses do have some limitations, including the following:
  - They have gaps, making it possible for projectiles to reach your eyes and damage them.
  - They may not provide chemical protection.
- To ensure safety glasses are effective, they need to be properly cared for and maintained. This involves:
  - Avoiding harsh chemicals during cleaning
  - Cleaning and drying the glasses with a soft material (e.g., a microfiber cloth)
  - Replacing the glasses when pits, scratches or cracks impede your vision

# Eye and Face Protection - Goggles

- Safety goggles are a type of eye protection that fit tightly to the eyes, often with suction. They are then secured with a strap that goes around the back of the head.
- Given their tight fit and the way they encase your eyes, goggles provide protection that safety glasses can't. This is especially true when goggles are used around chemicals, mists, dusts and similar hazards.
- However, goggles can be uncomfortable and hot. They are also prone to fogging and are generally used for specific tasks.



# Eye and Face Protection – Face Shields

- Face shields protect the face from dusts, and hazardous liquid splashes or sprays.
- Given their coverage, face shields provide protection for the entire face that goggles or glasses can't.
- However, face shields do not provide any impact protection. For improved safety, face shields must be worn alongside safety glasses or goggles.



# Eye and Face Protection – Welding Shields

- Infrared and intense radiant light are common in welding and can cause serious eye damage. Welding shields can provide some protection from these hazards.
- Welding shields can also provide protection from potentially harmful debris, including sparks, metal spatter and slag chips.
- Welding shields should be selected for the type of welding being performed.



# Head Protection

- Injuries to the head can be very serious and potentially life-threatening, underscoring the importance of proper head protection (e.g., hard hats).
- There are several types of hard hats, including the following:
  - **Class C – Conductive Hard Hats:** These hard hats provide limited protection, and are typically used to safeguard workers from injuries related to bumps. They do not provide adequate protection from falling objects or electrical hazards.
  - **Glass G – General Hard Hats:** These hard hats protect against impact and penetration hazards. They also offer protection for low voltage hazards.
  - **Class E – Electrical Hard Hats:** These hard hats provide some protection against high voltage, typically up to 20,000 volts. They also provide some protection against impact hazards.

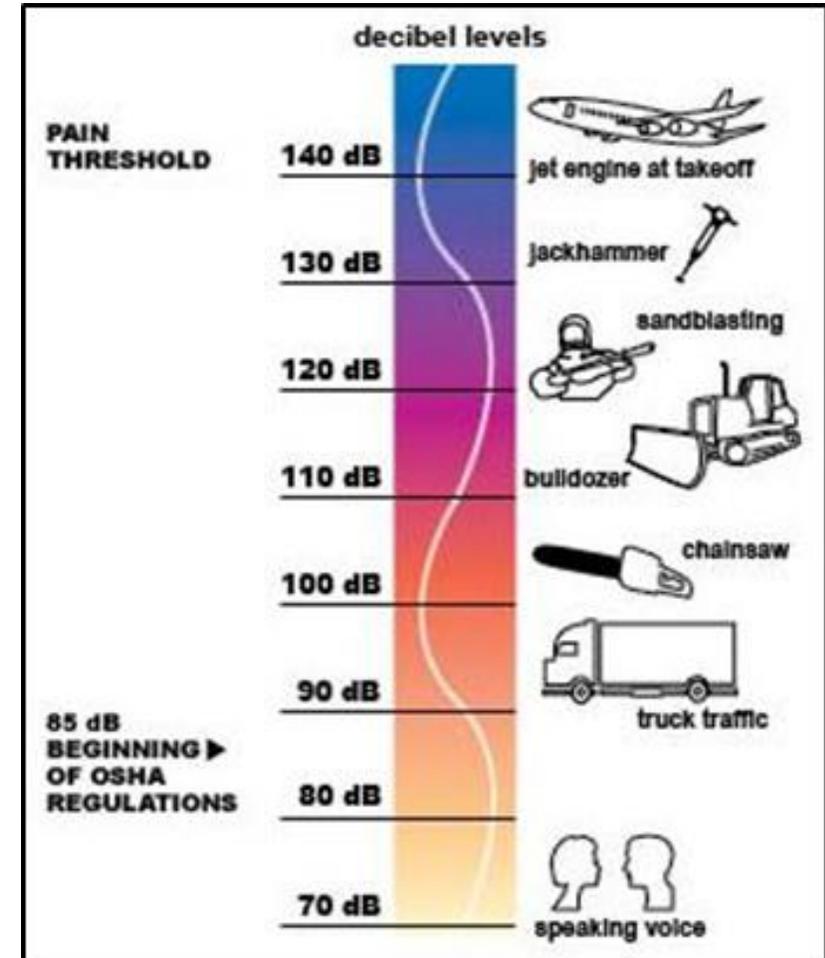
# Head Protection (Continued)

- To ensure your hard hat remains effective:
  - Inspect hard hats before using them. Be sure to inspect both the hard hat's shell and its suspension.
  - Keep hard hats clean. Avoid getting chemicals on your hard hat, and keep it out of direct sunlight when it's not in use.
  - Follow the manufacturer's instructions regarding the use and maintenance of your hard hat.



# Hearing Protection

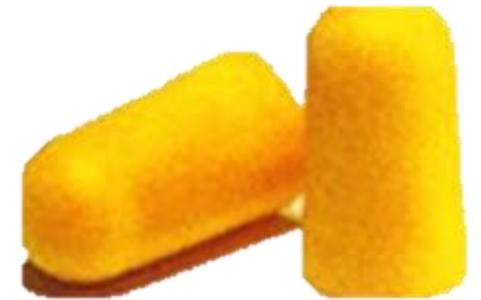
- The permissible exposure limit (PEL) is the maximum amount or concentration of a hazard that a worker may be exposed to under OSHA regulations.
- Per OSHA, the PEL for noise is 90 dB over an eight-hour workday. At this level, employees are required to wear hearing protection.
- Per OSHA, the action level for noise is 85 dB. At this level, hearing protection is recommended and must be available to employees.



# Hearing Protection – Earplugs

- Earplugs form a seal inside the ear canal, and can be made of a disposable foam or molded.
- **Pros:** Earplugs are light, and do not interfere with other personal protective equipment (PPE). They are also a cost-effective safety device.
- **Cons:** In order for earplugs to be effective, they must have a good fit. Additionally, they can be uncomfortable for some employees.

Let's go over how to properly wear earplugs.



# Hearing Protection – Earmuffs

- Earmuffs work by forming a seal around the ear.
- **Pros:** Earmuffs are easy to wear and quick to put on.
- **Cons:** Earmuffs can be bulky and could interfere with other PPE. Some wearers may also find them hot.

Let's go over how to properly wear earmuffs.



# Hearing Protection - Other Hearing Protectors

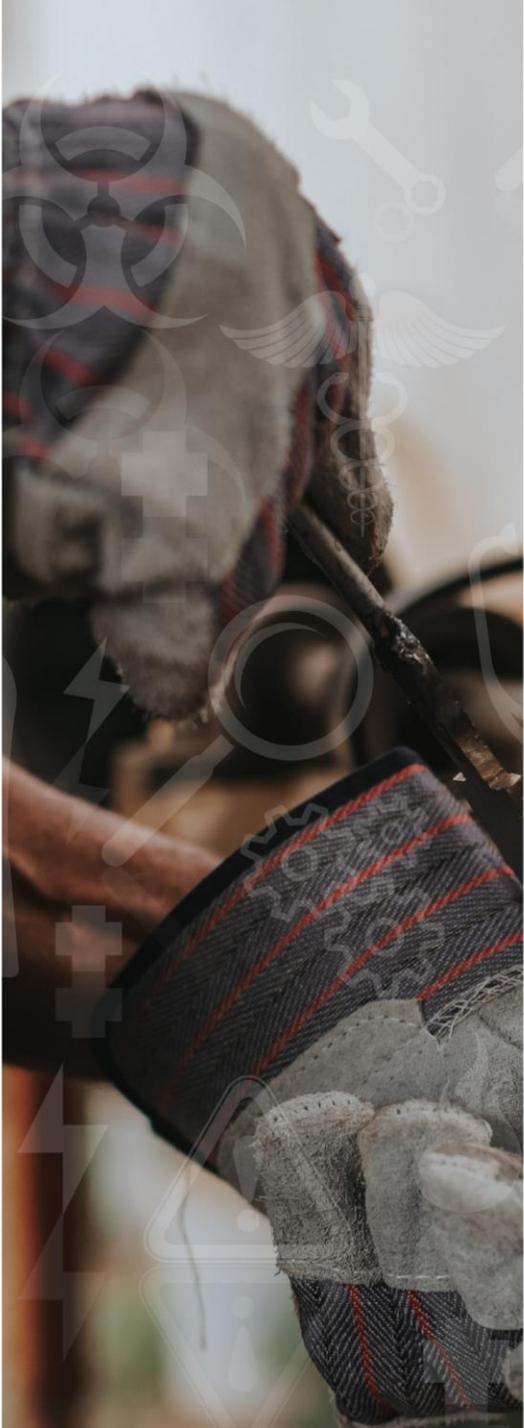
- Other hearing protectors, such as canal caps, can be effective in protecting workers from noise.
- Whatever hearing protector you use, it's critical that the noise reduction rating (NRR) is enough to reduce noise to safe levels.
- Follow the instructions on the hearing protector's package to determine the NRR.

# Foot Protection

- Foot injuries are common in the workplace. Causes of these injuries include:
  - Falling objects
  - Rolling objects
  - Sharp objects that pierce the sole of the shoe
  - Hot objects or heat
  - Slippery surfaces
  - Electrical hazards
- To protect against foot injuries, the proper protection is necessary.

# Foot Protection (Continued)

- There are many different types of protective footwear, including:
  - Shoes equipped with a steel or composite toe
  - Shoes equipped with metatarsal guards
  - Shoes equipped with steel shank soles
  - Heat-resistant shoes
  - Chemical-resistant shoes
  - Nonconductive shoes
- The type of footwear you choose will depend on the hazard.



# Hand Protection

- Without the proper protection, your hands are exposed to a variety of potential hazards, including:
  - Hazardous substances
  - Lacerations or severe cuts
  - Punctures
  - Chemical burns
  - Thermal burns
  - Extreme temperatures

# Hand Protection (Continued)

- There are many types of gloves available today to protect your hands from a wide variety of hazards.
- The nature of the hazard and the job will affect the type of glove you select. Common safety gloves include:
  - Anti-vibration gloves
  - Chemical-resistant gloves
  - Leather-palm gloves
  - Cut-resistant gloves
  - Heat-resistant gloves
  - Permeation-resistant gloves

# PPE Body Protection

- The following types of PPE may be appropriate to protect the body from workplace hazards:
  - Aprons
  - Leggings and spats
  - Suits
  - Sleeve guards



# Our PPE Requirements

- PPE required in our plant and how to use the PPE:
  - [Insert information]
- PPE storage and sanitation locations:
  - [Insert information]
- Questions regarding PPE can be addressed to your supervisor.
  - [Insert information]
- Replacement and special PPE can be found at:
  - [Insert information]

# Summary

- PPE is the last line of defense against workplace hazards.
- Always wear PPE when required.
- Inspect PPE before each use.
- Clean and store PPE properly after use.

# For More Information

For more information regarding PPE or other safety issues please contact:

BKS Partners

<https://bks-partners.com>

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