

Safety Circular



March 2019

Personal Protective Equipment (PPE)

Personal Protective Equipment, or PPE, is designed to protect workers 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, protective equipment includes a variety of devices and garments such as goggles, coveralls, gloves, vests, earplugs, and respirators.

Importance of PPE

Risks are mitigated through a number of precautions, with PPE acting as a last line of defense when all other measures are exhausted. PPE protects workers in a multitude of ways, including:

- Hearing – from loud noises
- Eyes – from flying particles, splashes of liquid, or other substances
- Skin – from abrasions, burns or contact with hazardous materials
- Lungs – from breathing contaminated air
- Head – from falling objects

Educate Workers Required to Wear PPE

You must also train workers who are required to wear PPE on how to do the following:

- Use PPE properly
- Be aware of when PPE is necessary
- Know what kind of PPE is necessary
- Understand the limitations of PPE protecting workers from injury
- Put on, adjust, wear, and take off PPE
- Maintain PPE properly



How Can You Protect Yourself From Injuries?

Head Injuries

Hard hats can protect workers from head impact, penetration injuries, and electrical injuries such as those caused by falling or flying objects, fixed objects, or contact with electrical conductors. Ensure that workers cover and protect long hair to prevent it from getting caught in machine parts such as belts and chains.

Foot and Leg Injuries

In addition to foot guards and safety shoes, leggings (e.g., leather, aluminized rayon, or other appropriate material) can help prevent injuries by protecting workers from hazards such as falling or rolling objects, sharp objects, wet and slippery surfaces, molten metals, hot surfaces, and electrical hazards.

Eye and Face Injuries

Besides spectacles and goggles, PPE such as special helmets or shields, spectacles with side shields, and face shields can protect workers from the hazards of flying fragments, large chips, hot sparks, optical radiation, splashes from molten metals, as well as objects, particles, sand, dirt, mists, dusts, and glare.

Hearing Loss

Wearing earplugs or earmuffs can help prevent hearing damage. Exposure to high noise levels can cause irreversible hearing loss or impairment as well as physical and psychological stress. Earplugs made from foam, waxed cotton, or fiberglass wool are self-forming and usually fit well. Ensure that earplugs are cleaned regularly, and dispose of those that are not cleanable.

Hand Injuries

Workers will benefit from hand protection when exposed to harmful substances through skin absorption, severe cuts or lacerations, severe abrasions, chemical burns, thermal burns, or harmful temperature extremes.

Body Injuries

In some cases, workers must shield most or all of their bodies against hazards in the workplace, such as exposure to heat and radiation as well as hot metals, scalding liquids, body fluids, hazardous materials or waste, and other hazards. In addition to fire-retardant wool and fire-retardant cotton, materials used in whole-body personal protective equipment include rubber, leather, synthetics, and plastic.

When to Wear Respiratory Protection

When engineering controls are not feasible, workers must use appropriate respirators to protect against adverse health effects caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors. Respirators generally cover the nose and mouth, the entire face or head, and help prevent illness and injury.



Take Responsibility for PPE

Always ensure that:

- the needs for PPE are assessed by a person who is capable of determining whether other methods of risk control can offer better protection of safety and health than the provision of PPE.
- professional advice is obtained, where necessary, to identify the most suitable types of PPE for the tasks to be carried out.
- orientation is provided to all workers to enable them to ensure the proper selection, fit, use, cleaning and maintenance of PPE.
- supervision and enforcement of the PPE is undertaken.
- evaluation of the effectiveness of the PPE program is carried out on a regular basis.
- suitable PPE is provided for visitors who may be exposed to hazards in the workplace.
- equipment is properly cleaned before re-issue.
- any damaged PPE should be discarded and replaced with the proper equipment.



84%
of employees who sustain a head injury are not wearing head protection



50%
of construction workers will suffer a serious eye injury during their career



99%
of noise induced hearing loss is preventable if proper hearing protection is used



25%
of all workplace accidents involve hands and fingers



25%
of all reported disabling injuries involved foot injuries

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The Safety Circular, a publication of the Texas Department of Criminal Justice Risk Management Department, is published monthly in an effort to promote and enhance risk management awareness on issues relating to TDCJ employees. Design and layout of the Safety Circular is performed by Cliff Prestwood, Risk Management. Comments, suggestions and safety related items are welcome.

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References: ♦ osha.com ♦ safetysign.com ♦ safety.uwa.edu.au ♦ fallprotectionsystems.com