

Personal Protective Equipment Handbook – Use & Maintenance

Introduction

When the hazards could not be eliminated, reduced or control; PPE would be issued to use in the dangerous environment. Therefore, this handbook will give you information on the usage, inspection, maintenance, cleaning and storage of the PPE.

Practical strategies to eliminate hazards include:

- Eliminate on-the-job hazards
- Engineering controls
- Material substitution
- Process change
- Work practices revised
- Equipment change
- Administrative controls
- Personal protective equipment being used

∴ Personal protective equipment (PPE) is often referred as ‘last resort’ or ‘the last line of defence.’

PPE

is any form of protection from your head right down to your feet and just about anywhere in-between e.g. safety helmet, ear muff, ear plug, gloves and safety shoes.

Using PPE – Remember

- Select the correct type of PPE for the hazards
- Proper use of the PPE
- Proper inspection, maintenance, cleaning and storage
- In case of damages or problems arise, inform your supervisor

Head Protection

Safety helmet

Usage

For head protection against falling objects particularly, in construction sites and building works

Type

Safety helmet



Inspection

Before use, inspect the headwear, shelf, chinband, for any cracks, damages, dents, etc.

Maintenance & cleaning

- All helmets must be kept in good, clean condition. They should be regularly checked and replaced if damaged, dented, cracked or shelf life expired
- Don' t disturb the shelf by chemical, paint, drill hole, etc.
- Use water for cleaning only
- Shelf life normally 4-5 years, frequent usage 2 years.

Storage

Store in a clean and dry place/polybag.

Ear Protection

Usage

Required for work area of high noise level (85db(A) and above)

Type

Ear plug and ear muff



Inspection

Before use, inspect the headband, cup, plug, for any cracks, damages, dents, etc.

Maintenance & cleaning

All ear protectors must be kept in good, clean condition. They should be regularly checked and replaced if:

- Damaged (e.g. cracks or holes in muffs)
- Ear muff seals are torn or hardened or the sound absorbent lining is exposed and damaged.
- Ear plugs are not soft and resilient.
- Headbands have lost their tension.

Storage

- Store in a clean and dry place e.g. a plastic bag for ear plug; a locker or box for ear muffs.
- Plugs not designed to be used again should be thrown away.
- Those plug re-used must aware the hygiene condition.

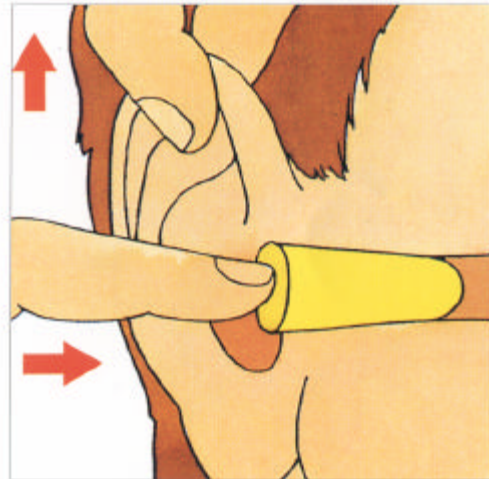
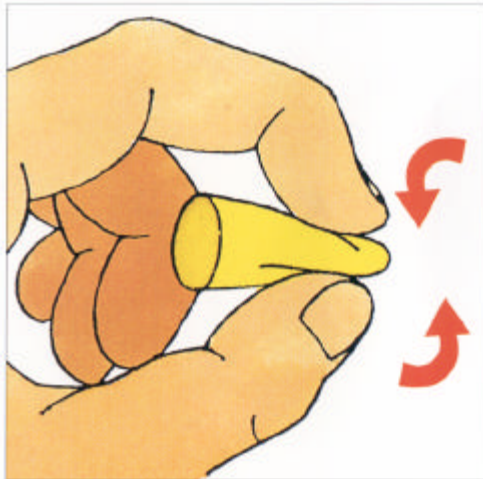
Procedures for using the ear muff - :

- Slide the ear cups to their lowest positions on the headband. Spread the cups apart and place surround both ears.

- For best results, remove all hair from under the cushions. The entire cushion surface should press firmly, but comfortably against your head.
- Adjust band for minimum space between head and band. Keep all foreign objects from under cushions and do not attempt to alter band.

Procedures for using the ear plugs:

- Roll to a small crease free cylinder.
- Pull the top of the ear upward slightly.
- Insert the ear plug into the ear canal properly.
- Hold until plug expands.



Eye Protection

Usage

For protection against impact by flying objects in workshops, for protection in general chemical works and against chemical splashing and laser beams.

Type

Chemical goggles, goggles against flying particles, chemical face shields with chin guards, laser goggles



Inspection

Before use, inspect the condition of the eyewear, frame and lens/shields for any cracks, damages, dents, etc.

It is important that you must clearly see what you are doing when wearing the protector. For laser goggles, you must ensure that the goggles can sufficiently protect your eyes against the intended laser wavelengths.

Maintenance & cleaning

- The lenses of eye protectors could be kept clean by thoroughly wetting both sides of the lens and drying them or removing grit with a brush.
- Regularly checked for signs of damage and replaced if they become warped, scratched or brittle with age.

Maintenance of Laser Goggles

- Wash laser goggles with mild detergent, or clean with warm water and a gentle dishwashing soap solution. Wipe with soft cloth and dry in air. The lenses and frames of the goggles are made of plastic that may not be durable enough against solvents, acids and alkalis.
- Store them in a cool environment. Never leave them under direct sunlight, high temperature or high humidity.
- Check the lenses regularly for any cracks or scratches.

Storage

Stored in clean, dry conditions away from chemicals e.g. polybag or case.

Respiratory Protection

Usage

Working with or near any process likely to result in any harmful emissions or contaminants.

Type

Half-face respirator with cartridge, disposable particulate respirator.



Inspection

Look for any torn rubber, dents, cracks and damages on the respirator. Always perform the fit test before wearing it for the first time and check it before each use.

Fit test

Negative fit check: Place the palm of the hand over the disposable respirator/cartridge and inhale for 5-10 seconds. If the respirator collapses slightly a proper fit has been achieved.



Positive fit check: Cover the exhalation valve of the half face respirator or disposable respirator with your palm and exhale gently. If the respirator bulges slightly and no air leaks between the face and facepiece, a proper fit has been achieved.



Maintenance & cleaning

- Replace with a new half face respirator if it is damaged
- Washed in water with mild detergent
- Discard the disposable respirator if breathing becomes difficult or damaged

Storage

- Store in a dry clean polybag/box or air tight container, protected from harmful contaminants, excessive moisture, heat, cold, sunlight and corrosive substances.

Remember

- Use correct cartridge for the type of contaminants/emission.
- Replace the cartridge/disposable respirator if difficult to breathe through or an odour or taste is detected.

Hand Protection

Usage

To protect hands against organic chemicals and aqueous chemicals in general chemical works, liquid nitrogen and thermal risk.

Type

Chemical gloves, non-latex gloves, cryogenic gloves and gloves against heat



Inspection

Before using, inspect the gloves for any defects or imperfections. If in doubt, do not use and get a new glove. If gloves become ripped or punctured during use, dispose of them and get a new pair.

Donning of chemical gloves

- Hold cuff with thumbs inside and stretch cuff slightly
- Swing glove outward and over towards the face two or three times, trapping air inside
- Squeeze inflated portion of glove with one hand, causing rubber to distend and magnify any defect



Maintenance & cleaning

- Gloves should be maintained in good condition, checked regularly and discarded if worn or deteriorated.
- Use water for cleaning

Storage

- Store in a clean and dry place.

Foot Protection

Usage

To protect wearers' feet and toes

Type

Safety shoes, safety boots



Inspection

Visually inspect the safety shoes/boots for cracks and damages.

Maintenance & cleaning

- Safety footwear should be kept in good condition, checked regularly and discarded if worn or deteriorated.
- Laces should be checked and replaced if necessary. Materials lodged into the tread of the sole should be removed.
- The stitching should be checked for loose, worn or cut seams.
- Spraying the upper layers of new footwear with a silicone spray or applying a protective wax will give extra protection against wet conditions.

Storage

Store in a clean and dry place.

Fall Protection

Usage

To be worn by those who are at risk of falling at a high level workplace where working platform is not practicable.

Type

Full body safety harness



Other accessories

Fixed lanyard, lanyard with shock absorber, slide chuck, independent lifeline

Inspection

- Before each use, a close visual examination should be made on the straps, seams, buckles, karabiner hook and fittings, make sure that the harness is in perfect working order.
- Check that the harness is compatible with the other components of the fall arrest system, or the restraining system
- Check karabiner hook before each use, in particular for deformation, signs of wear and correct locking system operation

Maintenance

- Clean the straps and buckles in water and household soap. Never use acid or alkalis (caustic soda).
- Allow the harness to dry in a ventilated place far from any open fire or any other source of heat. This also applies for harness that have gotten wet during use.

Storage

Store in a clean, dry area and in such a way that it does not warp or distort the belt. Avoid corrosive atmospheres and excessive heat or cold.

Remember

- Safety harnesses are recommended in preference to safety belts.
- Whenever it is liable to fall, the harness should provide with a slide chuck or some devices which could attach to an independent lifeline.

- Use a reliable anchoring point above the user which is at least 6 metres above the floor when using lanyard with shock absorber.

The protection you need

- No matter how good the fit or how safe the design of your PPE – you are the key ingredient
- You have to wear your PPE to make it work
- Put it on, leave it on and take care of it