

Types of personal protective equipment (PPE)

Respiratory protection

The most important defence against respiratory hazards is to control the contamination at its source and prevent it from entering the air. However, in some situations it may be necessary to wear respiratory protective equipment (RPE) when this is not possible or entirely effective. Respirators can be disposable or reusable.



Relevant standard

AS/NZS 1715:2009 Selection use and maintenance of respiratory protective devices

Selection

A respirator enables inhaled air to be drawn through a filter that will remove the harmful substance. It purifies the air the person breathes. The type of filter required will depend on the composition of the contaminant.

There are three main types of air-purifying filters:

- **particle canisters:** these filter out only thermally and/or mechanically generated particles (dust, mist, smoke, fume)
- **gas filters:** these filter out certain gases and vapours
- **filter combination:** these are used when particulate and gas hazards exist.

When selecting your respiratory protection:

- refer to the safety data sheet (SDS) in order to select the correct respirator with the appropriate filter for the job
- disposable respirators have an advantage of requiring no maintenance, they need to be stored before use in a sealed container so they are not absorbing dust, fumes, etc. from the work environment
- individuals that have facial hair will need to check with the manufacturer to ensure the product will give an adequate facial seal against leakage
- respirators are available with an air valve to increase worker comfort e.g. in hot environments

Maintenance

- With the exception of disposable respirators, RPE requires continual inspection and maintenance.
- All respirators should be inspected at least once per month, and cleaned and examined after each use for wear and replacement of worn components.
- Record date of issue, maintenance and visual checks in a [PPE Register](#)
- Face-pieces should be washed in warm water and detergent, rinsed and air dried.
- Respirators with activated charcoal filters will continue to absorb contaminants in the air even when they are not being worn. After use, ensure they are stored in a sealed container.

Replacement

- Disposable respirators cannot be cleaned and should be replaced daily or when breathing becomes noticeably more difficult, indicating that the filter is becoming clogged.
- All gas/vapour filters need to be discarded six months after opening regardless of being used.
- Respirators should not be shared – they need to be for one individual's use.

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Foot protection

Toes and feet can be injured during work through exposure to chemicals, heat, crush, cuts or impalement. Poorly fitting or improper footwear can also cause slips, trips or falls.



Relevant standard

AS/NZ 2210:1:2010: *Occupational protective footwear – Guide to selection, care and use*

Selection

- There are many different kinds of safety footwear on the market. To determine the right footwear for your job, you need to think about the tasks that are going to be undertaken.
- Different footwear has different features. Steel reinforced safety shoes protect your feet from common machinery hazards such as falling or rolling objects, cuts and punctures. The entire toe box and insole are steel-reinforced, and steel, aluminium or plastic materials protect the instep.
- Some safety boots also insulate against temperature extremes and may be equipped with special soles to guard against slips, chemicals and electrical hazards.
- Safety boots that provide ankle protection may be preferred to safety shoes, particularly in grassy environments, when whipper snipping, and where snakes may be a hazard.
- When trying on footwear, wear socks that would normally be worn while working. This will ensure a proper fit.

Maintenance

- Protective footwear should be inspected regularly. Clean and condition the leather regularly. Make sure the shoe laces are not fraying and cannot be caught in equipment. Replace laces that are worn out or are too long.
- Record date of issue, maintenance and visual checks in a PPE Register (see example in folder).

Replacement

- Once safety boots have lost the protective properties required for the job you are doing, dispose of them and purchase new ones.

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Hand protection

Hand protection is used to prevent harm from a range of hazards e.g. mechanical or chemical. Care needs to be taken to make sure that wearing gloves does not introduce or increase any workplace hazard e.g. entanglement of gloves with moving parts of machinery.

Please note: most gloves are not puncture resistant and may not protect against needle stick injuries.



Relevant standard

AS/NZ 2161:1:2000 Occupational Protective Gloves Part 1: selection, use and maintenance

Selection

The following should be considered:

- What is the nature of the risk to the hands/arms based on the activity e.g. exposure to heat, chemical burns, cuts, scratches, sharps, blood or bodily fluids?
- Gloves that are suitable for one application may not be suitable for a different application.
- What is the extent of bodily protection required e.g. glove length?
- What is the level of manual dexterity required?
- Ensure that the glove is made of suitable material to give required protection e.g. PVC, rubber, nitrile. Refer to the safety data sheet (SDS) for specific type of glove as some may dissolve upon contact with a substance and cause harm to the wearer.
- Are they of a suitable style and fit?
- Are they disposable (e.g. gloves for blood and bodily fluids) or re-useable?

Maintenance

Gloves should be closely inspected to detect potential weaknesses or defects as a result of manufacture or wear. Common signs of failure include:

- wear between fingers
- seam failures
- cracking or bubbling of material such as waterproofing agents.

Cleaning should be undertaken as part of a regular program of maintenance. Refer to the manufacturer's instructions for any special cleaning procedures and/or frequency.

Record date of issue, maintenance and visual checks in a PPE Register (see example in folder).

Replacement

Gloves with obvious faults should be replaced.

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Eye and face protection

The eyes are susceptible to short-term, prolonged or permanent damage from a variety of hazards ranging from contact with sharp objects to chemical exposure. Eye and face protectors include glasses, goggles and face shields.



Relevant standards

AS/NZS 1336:1997 *Recommended practices for occupational eye protection.*

Selection

The following should be considered:

- What is the nature of the risk to the eyes or face e.g. impact from flying objects when mowing/whipper snipping, chemical splash, irritant or corrosive vapour, heat, welder's flash, UV protection or general irritation to eyes such as dust?
- What are the work conditions like? E.g. indoors or outdoors, are side shields required?
- What is the personal preference of the wearer e.g. wrap around, tinted or clear?
- What is the condition of operator's eyesight e.g. does the protection need to be worn over glasses?
- Plastic generally has a higher resistance to breakage from sharp objects and hot materials.
- Glass has high abrasion and scratch resistance.

When should goggles or a face mask be selected instead of glasses?

Goggles provide a more reliable seal to keep products out of the sensitive eye area. They are useful for protection against chemical splash, dust or vapour.

Face shields are appropriate when the entire face including the eyes need protection e.g. during activities where the worker may be welding or exposed to other burns or chemicals that are a skin irritant.

Maintenance

- Store correctly to minimise scratches.
- Scratches and dirty lenses may restrict vision.
- Clean regularly.
- Record date of issue, maintenance and visual checks in a PPE Register (see example in folder).

Further information

Access to [Australian Standards](#) for department staff.

WorkSafe Queensland: <https://www.worksafe.qld.gov.au/safety-and-prevention/creating-safe-work/managing-risks/personal-protective-equipment-ppe>