

# PPE (PERSONAL PROTECTIVE EQUIPMENT)

What you need to know

## INTRODUCTION TO PPE

Personal protective equipment (PPE) is equipment that will protect you against health and safety risks at work. It's not a new idea.

People have used PPE for centuries to protect themselves.

But in the modern workplace, PPE includes items like safety helmets, gloves, eye protection, face masks and safety footwear.

PPE is incredibly important, because it provides a last line of defence against injury, and it can save your life. But only if you use it.

Regrettably, people continue to sustain head injuries because they don't wear hard hats.

Feet are damaged because people choose to not wear safety shoes.

And people foolishly risk their sight, because they won't wear eye protection.

Injuries can result in permanent disabilities, blindness, or even death.

So, knowing all of this, why do people choose to not wear PPE?

For some, it's a matter of comfort.

Others feel that it slows them down.

Some people simply don't see the need to wear it, especially for quick jobs.

And most astonishingly of all, some people choose to put their lives in danger because they think it makes them look silly.

Whatever the reason, there is no excuse for not wearing PPE.

In this PPE Awareness factsheet, we will explain why not taking PPE seriously can have devastating consequences.

We'll look at some common PPE types and the hazards they protect people from.

And we'll discuss how you can look after your PPE, so it can continue to look after you.



## CONSEQUENCES OF GETTING PPE WRONG

Have you ever thought “accidents happen to other people - not me”?

It’s a common thought process that is underpinned by something called optimism bias.

Optimism bias is essentially a mistaken belief that our chances of experiencing negative events are lower than those of our peers.

The phenomenon is often referred to as the “illusion of invulnerability”.

Younger workers often think they’re invincible – that nothing bad will ever happen to them.

Whilst more experienced workers who have gone through their entire career without a serious workplace injury, may adopt the rationale “I’ve always done it this way and haven’t been hurt so far”.

Optimism bias can lead to poor decision making, especially when it comes to wearing PPE.

As demonstrated in this tragic story...

A construction worker was using a power-activated nail gun while attempting to anchor a plywood concrete form.

A nail passed through the hollow form and travelled 27 feet before striking a 22 year-old apprentice.

The victim died from his injuries.

He was not wearing PPE at the time.

## TAKEAWAY

It’s easy to think that “this will never happen to me”, but accidents don’t just happen to other people.

Try to visualise what your life would be like now or during your retirement years if your health failed due to an injury or illness that could have been prevented.

What areas of your life would be compromised?

Try to remember that you’re not invincible, and take responsibility for your own safety.



## TYPES OF PPE

Different hazards require different types of PPE, and the hazards you face will largely depend on the type of work you perform.

But in this section of the course we'd like to explore some of the most common types of PPE.

## EYE PROTECTION

Thousands of people are blinded each year from work-related eye injuries. Injuries that could have been prevented, if only people would have used eye or face protection.

Besides spectacles and goggles, personal protective equipment such as special helmets or shields, spectacles with side shields, and face shields can protect you 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.



Hazards: Chemical or metal splash, dust, projectiles, gas and vapour, radiation.  
Options: Safety spectacles, goggles, face shields, visors.

## HEAD PROTECTION

Injuries to the head are very serious. For this reason, head protection and safety are very important.

Falling or flying objects are a common cause of head injuries. Also, falling or walking into hard objects can cause head injuries. These injuries include neck sprains, concussions, and skull fractures.



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

Hazards: Impact from falling or flying objects, risk of head bumping, hair entanglement.

Options: A range of helmets, hard hats and bump caps.

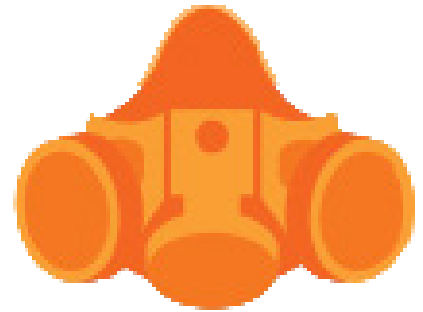
## RESPIRATORY PROTECTION

Because many substances which are health hazards can become airborne, knowing how to protect yourself is very important.

When engineering controls are not feasible, you 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 vapours. Respirators generally cover the nose and mouth or the entire face or head and help prevent illness and injury. A proper fit is essential for respirators to be effective.

Hazards: Dust, vapour, gas, oxygen-deficient atmospheres.

Options: Disposable filtering face-piece or respirator, half- or full-face respirators, air-fed helmets, breathing apparatus.



## BODY PROTECTION

In some cases, you must shield most or all of your body 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.

Hazards: Temperature extremes, adverse weather, chemical or metal splash, spray from pressure leaks or spray guns, impact or penetration, contaminated dust, excessive wear or entanglement of own clothing.

Options: Conventional or disposable overalls, boiler suits, specialist protective clothing, e.g. chain-mail aprons, high-visibility clothing.

## HAND AND ARM PROTECTION

If you are exposed to harmful substances through skin absorption, severe cuts or lacerations, severe abrasions, chemical burns, thermal burns, and harmful temperature extremes, you will benefit from hand/arm protection.

Hazards: Abrasion, temperature extremes, cuts and punctures, impact, chemicals, electric shock, skin infection, disease or contamination.

Options: Gloves, gauntlets, mitts, wrist-cuffs, armllets.



## FOOT AND LEG PROTECTION

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

**Hazards:** Wet, electrostatic build-up, slipping, cuts and punctures, falling objects, metal and chemical splash, abrasion.

**Options:** Safety boots and shoes with protective toe caps and penetration-resistant mid-sole, gaiters, leggings, spats.



## HEARING PROTECTION

Wearing earplugs or earmuffs can help prevent damage to hearing. 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 fibreglass wool are self-forming and usually fit well. A professional should fit you individually for moulded or preformed earplugs. Clean earplugs regularly, and replace those you cannot clean.

**Hazards:** Exposure to high noise levels.

**Options:** Foam earplugs, wax balls, earmuffs, silicon plugs, universal earplugs, otoplastics.

## HOW TO LOOK AFTER YOUR EQUIPMENT

The best PPE in the world is useless unless you know how to use it, and how to care for it.

You have a responsibility to make sure equipment is well looked after and properly stored when it is not being used. For example, in a dry, clean cupboard, or for smaller items, in a box or case.

It's also important that equipment is kept clean and in good repair. Any manufacturers' maintenance schedules (including recommended replacement periods and shelf lives) should be followed.

As a trained wearer of PPE, you can perform simple maintenance, but it's worth remembering that more intricate repairs should only be done by specialists.

For example, if a respirator filter needs replacing, the specialist will ensure that replacement parts match the original and the PPE is fit for purpose.

Your employer has a duty to make sure suitable replacement PPE is always readily available, so always make proper use of PPE and report any loss, destruction or any faults you spot immediately.

## FINAL SUMMARY

Let's quickly recap the key messages from this factsheet.

- PPE is incredibly important, because it provides a last line of defence against injury and it can save your life.
- For it to be effective, you must use PPE in accordance with instructions and any training provided.
- If your PPE is going to look after you, you need to look after it. Take reasonable care of and maintain your PPE.
- And remember to report any defects or loss to your employer.

If you need any further information on PPE then you can speak to your line manager or safety representative.

You should always wear the PPE supplied for the task. Because this looks better on you... than this.