

1) Personal protective equipment and you

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Safety professionals often call personal protective equipment (PPE) the 'last resort' when it comes to protecting workers but in practice, PPE plays an essential part in ensuring contractors' health and safety.

Your employer has a general legal duty to provide you with suitable PPE if you need it to be protected from workplace hazards. Your employer should also take reasonable steps, which can involve training, to ensure that you know how to use your PPE properly.

As an employee your legal responsibility is to use the required PPE properly, report if it has any defects (your employer must give you effective PPE) and to take reasonable care of it.

What is PPE?

PPE is any equipment (including clothing to protect against the weather) that you need to wear to be protected from exposure to one or more health or safety hazards. There is a wide range of PPE, for dealing with a wide range of hazards. Examples are gloves, eye protection, high-visibility clothing, safety helmets, footwear or harnesses, and hearing or respiratory (breathing) protection.

What do health and safety regulations require?

The general requirements on employers to provide suitable PPE are in the Personal Protective Equipment at Work Regulations 1992 (PPE 92). Other safety regulations also require the provision and use of PPE to protect against specific workplace hazards. For example, the:

- Control of Asbestos Regulations
- Control of Substances Hazardous to Health Regulations
- Control of Noise at Work Regulations
- Construction (Head Protection) Regulations

These - and several other Regulations - include specific requirements on when and how employers should provide PPE, and any training requirements.

Should you be charged for PPE?

No. Your employer should not ask you to pay for any PPE that is provided to protect you from workplace hazards, whether it is returnable to the employer or not.

Even so, in some companies you may have to pay a 'top up' if you want to wear PPE that is more expensive than necessary to provide you with proper, wearable protection. For example, if you need basic safety footwear costing £40 and your employer allows you to wear designer safety footwear that you want to wear at work but which costs £60 then, depending on what you have agreed in writing with your employer, you may have to pay up to £20 yourself. However, your employer must cover the full cost of providing sufficiently protective and comfortable PPE for you to wear, when it is required.

If you leave a company but keep your former employer's PPE without their express permission then, particularly if it says so in your contract of employment, the employer may deduct all or some of the cost of replacing the PPE from your outstanding wages. Whilst this situation is not very likely for very personal items like safety footwear, it might be applied to PPE such as hearing protection or harnesses.

Choosing and using the right PPE

Sometimes there are standing 'site instructions' about wearing PPE (for example, a main contractor may require everyone on site – including you - to wear safety gloves, head protection or eyewear, whatever you are doing). Beyond this, you may need PPE to protect you from the hazards of specific jobs (often as one of several health and safety measures to keep you from harm). Your method statement for a given job should tell you what sort of PPE you need, but if you are in any doubt, or the safety requirements of the job are different to what you expect, stop and talk to your supervisor.

When working with PPE, consider the following:

- Are there ways (other than PPE) in which the risk could be better controlled e.g. local exhaust ventilation instead of a mask? If not, check with your supervisor that your PPE offers adequate protection for its intended use;
- Is the PPE right for the risks involved? For example, eye protection that only resists chemicals will not protect you from flying objects from an angle grinder.
- Does the PPE protect you from certain risks without increasing the overall level of risk?
- Can you adjust it to fit you correctly?
- Does wearing it place any extra demands on you? For example, the length of time it needs to be worn, any physical effort required to do the job with the PPE, and the requirements for good vision or effective workplace communication.
- Are recovery procedures in place if you need to use a safety harness?

Training

As an employee, you need to be aware of why you need your PPE, when it is to be used, repaired or replaced, and its limitations. For example, working too long in a very noisy environment with badly fitting PPE can still lead to hearing damage.

Although PPE is regarded the 'last resort' after other methods of protection have been considered, when you have been issued with PPE:

- wear it all the time you are exposed to the hazard it is protecting you from. Do not take it off for jobs which take 'just a few minutes'
- remember that the PPE is there to protect you – but it does not protect anyone else around you.

Ensure that PPE:

- is properly assessed before use, to ensure it is suitable;
- is maintained and stored properly; and
- has instructions on how to use it safely.

Do you have to take care of your PPE?

Yes. Most PPE is company property and even though, due to theft, damage or even loss, the company must give you new PPE if you need it, it could choose to take similar disciplinary

measures in relation to not taking reasonable care of PPE as for other company property. 'Wear and tear' to PPE may not be unreasonable – your employer should encourage you to return worn equipment for replacement, and to only wear PPE that is in good working condition. However, losing or dumping a set of hearing protection, particularly if it is repeated, might be regarded as unreasonable, as would reckless behaviour or an unauthorised modification that damages the PPE.

So look after your PPE:

- store it properly when you are not using it (e.g. in a dry, clean cupboard, or in the case of smaller items, such as eye protection, in a box or case)
- where possible, store it securely to help prevent damage or theft, and
- keep it clean and in good repair - follow the maintenance schedule (including the company's recommended replacement periods and shelf lives).

Make sure you know where suitable replacement PPE is kept, just in case.

While you may be able to do some simple adjustments and maintenance (like cleaning) if you are suitably trained, significant repair or modification should only be done by competent specialists.

Typical hazards and examples of PPE:

- **Breathing Hazards:** dust, fibres, other harmful substances or materials (for example, see 'Silica dust', below) Example types: dust mask, respirator
- **Eye Hazards:** dust, projectiles, gas and vapour, radiation. Example types: safety spectacles, goggles.
- **Head Hazards:** impact from falling or flying objects, risk of head impact, hair entanglement. Example types: helmets or 'bump caps'.
- **Protecting the Body Hazards:** temperature extremes, adverse weather, spray from pressure leaks or spray guns, impact or penetration, contaminated dust, excessive wear or entanglement of own clothing. Example types: disposable overalls, specialist protective clothing, e.g. high-visibility clothing.
- **Hand Hazards:** abrasion, adverse or extreme temperature, cuts and punctures, impact, electric shock, infection. Example types: gloves. Feet Hazards: wet, electrostatic build-up, slipping, cuts and punctures, falling objects. Example types: safety boots and shoes with protective toe caps and penetration-resistant mid-sole.

Further reading

- HSE information leaflet INDG174 a short guide to the Personal Protective Equipment at Work Regulations 1992
- HSE information leaflet INDG363 Protect your hearing or lose it!

2) Major hazard from silica dust

Crystalline silica is one of the Earth's most abundant minerals, and the most common form is quartz (found in most types of rock, sand, clay, shale and gravel). Crystalline silica is a major constituent of basic construction materials such as bricks, tiles and concrete. Many everyday activities such as cutting, drilling, grinding and polishing produce dust that contains respirable crystalline silica (RCS). The term 'respirable' means that the silica dust particles are small enough to get deep into the lungs if inhaled. Several hundred thousand workers in construction – including electrical workers - could occasionally be exposed to silica dust,

while around 140,000 workers could be exposed on a more regular basis. Some tasks, such as cutting blocks with a disc cutter, can generate high airborne concentrations of RCS.

Jobs where there could be significant exposure to silica dust include:

- Drilling in poorly ventilated undercroft
- Drilling into brickwork under arch blocked at one end
- Using jackhammers to break out concrete in large open indoor area
- Chasing out cracks in screeded cement floor in large open indoor area
- Chasing out mortar between bricks prior to re-pointing
- Cutting paving kerb (33% silica) in open area
- Cutting breeze block (3% silica) in open area, or
- General clearing and removing rubble.

Harmful effects of RCS It has been known for a very long time that exposure to respirable crystalline silica (RCS) dust can cause lung damage known as silicosis. In fact, silicosis is the world's oldest known occupational disease. Silicosis usually takes years to develop and it is irreversible.

Severe cases of silicosis can lead to early death, lung cancer or chronic obstructive pulmonary disease (COPD). The symptoms, as with most serious lung diseases, include a chronic cough, sputum and breathlessness. Lesser exposures can still cause mild to disabling breathing problems. Proper exposure control is essential Under the Control of Substances Hazardous to Health (COSHH) Regulations, the workplace exposure limit (WEL) for RCS is given as an airborne concentration (0.1 mg/m³). This WEL is the airborne concentration of the substance, averaged over a period of time, above which workers must not be exposed. COSHH also requires your employer to ensure that controls on exposure to RCS are based on good practice, so that your risk of inhaling silica dust is reduced to as low as is reasonably practicable.

Whatever you are working on, or if you are working near someone else, be aware of the risk from any processes that produce silica dust such as dry grinding, polishing, drilling, cutting or chiselling. Effective controls must be in place to protect you. If PPE (such as a suitable dust mask or even a respirator) is required, you must be trained or sufficiently informed about how to use and maintain it properly.

Further reading

- HSE information leaflet INDG315 Stone dust and you
- HSE information leaflet CIS54 Dust control on cut-off saws used for stone or concrete cutting
- HSE COSHH essentials in construction CN series: Silica HSE's 'COSHH Essentials' programme gives advice on good practice. The information sheets set out what must be done to limit silica dust levels and properly control the risk of exposure. They also advise on how often tasks should be carried out, such as testing, cleaning and maintaining protective equipment to help keep silica exposures within the WEL