

Guidance on Use and Selection of Eye and Face protection

The Personal Protective Equipment at Work Regulations 1992 (as amended) require that employers provide, free of charge, appropriate PPE where the risk assessment has identified that exposure cannot be adequately controlled by other means.

Responsibilities

Line management and supervisors are responsible for:

- identifying eye hazards associated with work activities undertaken by staff and students
- carrying out risk assessments to eliminate, or where this is not possible, control these hazards
- providing any eye protection identified as being necessary.
- ensuring that eye protection is used as instructed, is maintained in good condition and is replaced when damaged.

Risk assessments must also identify any others who may be harmed by the activity and who may need protection (for example, but not limited to, other facility users, visitors, maintenance staff).

Employees or students who are provided with eye protection must wear it when engaged in any process that could potentially cause damage to their eyes. PPE must be worn in accordance with the information, instruction and training received from their line manager or supervisor. Users issued with eye protection should ensure it stays in good condition, is kept clean and is maintained and stored in a safe, clean location after use. Users should report any loss or obvious defect in their eye protection to their line manager, supervisor or representative.

Assessing need

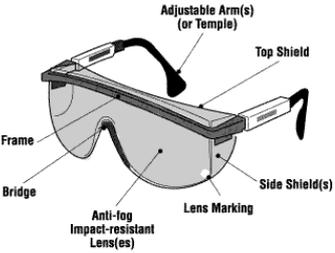
In laboratories or workshops where caustic/corrosive /irritant chemicals or biological agents are used in large quantities and/or where use is widespread it is advised that wearing eye protection be mandatory for anyone working in the area to wear eye protection and the following signage be displayed on the entrance to the area.



In laboratories/areas where use of the aforementioned substances is very limited and/or the nature of hazard is low then a risk based approach may be deemed appropriate whereby eye /face protection is worn at specific points within a procedure where the risk of eye/face splash is significant. However consideration will need to be given to any other workers in close proximity to the process who may be affected, hence why mandatory areas may be the preferred approach.

Types of eye protection

There are various types of eye protection that are appropriate for a given situation. A summary of the different types of PPE for eyes and what they may protect against is described briefly below.

	<p>Safety spectacles – look very similar to ordinary prescription spectacles but very often have side shields fitted to them. The lenses are usually made of toughened glass or polycarbonate. They are available in a range of styles and as such can be matched to the wearer. Most manufacturers can supply safety spectacles with prescription lenses. Moreover, when prescription lenses are fitted, the cost of these falls upon the employer under Regulation 4 of the PPE at Work Regulations 1992 (as amended) – see below.</p> <p><u>Typical activities</u> – bench level work with chemicals and biological materials, domestic cleaning activities (dependent on COSHH assessment), use of hand tools, handling compressed gas cylinders.</p>
	<p>Eye shields & Over-specs. Eye shields have a frameless, one-piece moulded lens. Some designs of eye shields can be worn over prescription spectacles where necessary. Additionally some safety spectacles are designed to be worn over prescription glasses.</p> <p><u>Typical activities</u> – as above.</p>
	<p>Goggles – very often these are held in place by an attached elastic headband. They give greater protection than the two pieces of protective eyewear already mentioned as they form a seal around the entire periphery of the eyes. The lenses are often made of plastic or toughened glass. They are more prone to misting up unless they have ventilation holes.</p> <p><u>Typical activities</u> – certain chemical handling, dusty processes.</p>
	<p>Face shields – these tend to be heavier and bulkier than other forms of PPE for eyes. They usually have an adjustable headband or harness fitted with either a one piece ear shield protecting the entire face, a metal mesh screen or an opaque shield into which lenses are fitted.</p> <p><u>Typical activities</u> – UV light sources, arc welding (additional requirements), liquid cryogenics, handling of very hazardous chemicals that present a skin hazard, certain machining activities.</p>



Combined protection – may incorporate eye protection. There are a number of designs that integrate head, eye and respiratory protective in one unit. The eye protection can stop projectiles and chemicals from entering and injuring the wearer's eyes and provides head protection at the same time, in addition to respiratory protection, usually by supplying the wearer with filtered air or air via a compressed air line.

Typical activities – handling chemicals that pose a serious respiratory hazard as well as skin/eye hazard (consider alternative methods of worker protection first).

Selection

Eye/face protectors should be "suitable and sufficient" for the hazard and risk identified in the task(s). Harm to eyes/face may arise due to

Impact injury e.g.:

- Machining of metal, wood and plastic.
- Grinding and chipping with power operated tools.
- The use of hand tools, chisels and wire brushes for certain operations
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- The handling of molten metal.
- The use of compressed air "blow guns".
- Handling cylinders of compressed gases.

Interaction with hazardous substances:

- Handling and use of caustic, corrosive, irritant chemicals, vapours, dusts and infectious biological agents, where there is a risk of eye /face splash due to the nature of the processes involved (e.g. pipetting liquids at eye level, handling liquids under pressure.)
- Work in laboratories containing experiments involving chemicals which are liable to react violently.

Interaction with ionising and/or non-ionising radiations:

- Working with radioactive substances
- Exposure to lasers or UV light sources
- Arc welding

CE Marking & Standards: All PPE should be marked with a 'CE' symbol. This demonstrates that it meets the minimum legal standards, usually by conforming to a European Standard EN166:2002 which comprises many different levels of impact resistance.

British Standard *BS 7028: 1999 Eye protection for industrial and other uses. Guidance on selection, use and maintenance* is also relevant.

The range of symbols used in lens marking are:

Symbol Property:

- S** Increased robustness
- F** Low energy impact
- B** Medium energy impact

- A** High energy impact
- K** Resistance to damage by fine particles
- 9** (number 9) Non-adherence of molten metal and resistance to penetration of hot solids
- N** identifies lenses with non-fogging properties. These are recommended where the wearer alternates between cold and hot environments.

- Safety spectacles may be considered as suitable where full all-round eye or full face protection is not necessary.
- There should be an adequate gap between prescription spectacles and eye protectors that are worn over the top of them.
- Goggles are more likely to mist up therefore full face shields may be preferable for hazards such as molten metal and chemical splashes.
- Care must be taken to ensure the protective eyewear fits correctly and is comfortable. If PPE is uncomfortable wearers will be tempted not to use the glasses or remove them during work. A good fit is essential to provide the intended level of protection.
- If eye protection is required in addition to Respiratory Protective Equipment or hearing protection they must be compatible in terms of fit and comfort.
- Where eye protection is to be re-issued to another employee or there is a communal supply items should be thoroughly cleaned and disinfected before re issue or use by another person

Prescription safety eyewear

With respect to employees who wear spectacles, there is no specific obligation for prescription lens safety glasses to be provided by the individual's School/Department and in some instances goggles or over-glasses may be worn on the top of normal spectacles. However, in some circumstances the wearing of safety glasses over existing spectacles may be impracticable (e.g. long term use) and in such instances approval will be given for the purchase of prescription lens safety spectacles from a suitable University supplier.