Estates and Facilities Department of the University of Bradford

Personal Protective Equipment Policy

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Document Review Date	February 2015

Health and Safety at Work etc Act, 1974
The Personal Protective Equipment at Work Regulations

This policy and its accompanying procedures apply to all Estates & Facilities activities and workplaces.

Introduction

It is important that where health and safety risks cannot be controlled by other means, suitable and sufficient Personal Protective Equipment (PPE) must be provided. PPE should be provided as a last resort and not as a primary means of protection where there are other more effective means of control.

The advice provided in this policy should assist line managers to identify and provide suitable personal protective equipment for ensuring the risk of exposure to hazards is reduced.

PPE is all equipment, including clothing affording protection against the weather, which is intended to be worn or held by a person at work and which protects them against one or more risks to their health and safety.

Examples of PPE therefore includes jackets, gloves, safety footwear, safety helmets, high visibility wear, eye protectors, respirators, safety harnesses etc.

PPE does not include:-

- Uniforms provided for the primary purpose of presenting a corporate image; and
- Ordinary working clothes.

It is important to note that persons other than employees may also need to be provided with PPE where identified via risk assessment e.g. PPE provided to visits.

Aims and Objectives

To comply with the Personal Protective Equipment at Work Regulations by ensuring suitable and sufficient PPE is provided to Estates & Facilities employees where risks cannot be controlled by other means.

Arrangements for Applying the Policy

1. Provision, Selection and Issue of PPE

Line managers are responsible for ensuring in relation to employees and other persons such as visitors for whom they may have responsibility for that:-

(a) Wearers are provided with suitable PPE to control the risks to health or safety where those risks cannot be adequately protected against by other means. Risk assessments will help determine the need for PPE provision. Where risk assessment identifies PPE as necessary it shall be provided to wearers free of charge.

(b) PPE shall be selected which is:-

- appropriate for the risks involved;
- suitable for the actual conditions of use;
- compatible with other forms of PPE to be worn; and
- suitable for the wearer and fits him/her correctly.

(c) Before choosing any PPE, ensuring it is suitable and that all new items carry a CE mark to show that it complies with relevant European standards.

(d) Guidance for managers and wearers on the selection, use and maintenance of the main types of PPE will be produced shortly.

(e) An up-to-date record is kept of PPE issued to individual wearers by completing the Personal Protective Equipment (PPE) to Employees Form.

2. Use of PPE

Line managers shall take all reasonable steps to ensure that PPE is properly used where required. They shall take appropriate disciplinary action in cases where wearers deliberately damage or misuse any item of PPE.

3. Maintenance, Replacement and Accommodation of PPE

Line managers should ensure that PPE is maintained in an efficient state of repair, in good working order and in a hygienic condition.

The above can be implemented by ensuring:-

(a) suitable storage is provided for PPE when it is not in use to avoid the equipment from being damaged from chemicals, sunlight, high humidity, heat and accidental knocks; contaminated from dirt and harmful substances; and the possibility of losing it.

Storage may be simple, for example, pegs for weatherproof clothing or safety helmets. PPE used by mobile workers can be stored in suitable containers in their vehicles.

(f) an effective maintenance system is in place that includes the following:-

- examination – checking for faults, damage, wear and tear, dirt etc;
- testing – to ensure PPE is operating as intended; and
- cleaning – including disinfection if appropriate.

(g) arrangements are made to ensure that employees are aware of their responsibilities for the care of PPE issued to them and that they regularly check its condition.

(h) in the case of respiratory protective equipment (RPE), that arrangements are in place for employees to record examinations of RPE using the Record of Employee Examinations before every use.

(i) arrangements are made to ensure that wearers can effectively report any loss of, or defective PPE; and

(j) prompt action is taken to repair or replace PPE that is reported as being defective or lost.

4. Information, Instruction, Supervision and Training

Line managers shall ensure that adequate information, instruction, supervision and training are provided to enable wearers to use PPE correctly. Line managers must also be aware of why PPE is being used and how to use it properly. This can be shown via risk assessment, toolbox talk or specific protocol.

Users must be correctly trained in the proper use of PPE, how to correctly fit and wear it, and what its limitations are.

The extent of the instruction and training will vary with the complexity and performance of the equipment. For PPE which is simple to use and maintain, such as safety helmets, some basic instructions to the users will be all that is required; whereas, employees who use respirators (i.e. those with screw in replacement filters) **must** be provided with adequate information, instruction and training.

Information, instruction and training shall be deemed adequate where it enables the wearer to know:-

- the risk or risks which the personal protective equipment will avoid or limit;
- the purpose for which and the manner in which personal protective equipment is to be used; and
- any action to be taken by the employer to ensure that the personal protective equipment remains in an efficient state, in efficient working order and in good repair as required by these arrangements.

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RECORD OF ISSUE OF PERSONAL PROTECTIVE EQUIPMENT (PPE) TO EMPLOYEES

Completion of this form will enable managers to maintain a record of PPE for individual employees. Details of training (where applicable) are also included. This form is to be kept up-to-date and retained by the Line Manager for future reference.

Name of employee issued with PPE		Job Title	

Item of PPE	Type	Date of Issue	Employee's Signature as Proof of Receipt and Understanding of Responsibility to Wear, Maintain and Store the PPE	Training Required is specific training required for PPE	Re-Issue Dates (if issue is daily or freely accessible enter frequency or F/A)		
Head Protection							
Hearing Protection							
Eye Protection							
Respiratory Protective Equipment (RPE)				Face fit test to be carried out. Please see additional guidance			
Overalls							
Gloves							
Footwear							
Safety Harness				Working at height training required			
High Visibility Clothing							
Other (Specify)							

Members of staff are responsible for inspecting their own PPE before and after use; reporting any defects in their PPE; wearing PPE as instructed (either verbally or in writing); and storing their PPE appropriately.

Record maintained by (Line Manager)		Signature	

RESPIRATORY PROTECTIVE EQUIPMENT (RPE)
RECORD OF EMPLOYEE EXAMINATIONS

Name of Responsible Employee	

Make/Model of RPE	
Identification Number	
Examination Details	To be inspector prior to use

Date	Condition of Filter and Mask/Defects Identified	Action Taken	Signature

To be stored with RPE. Once complete return to Line Manager and start a new record. Line Manager to retain for future reference.

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PPE/RPE Guidance

Scope

This guidance has been produced to assist managers and staff in the selection, use and maintenance of personal protective equipment. It describes the PPE used for different parts of the body (head, eyes and face, hand and arm, body (including the legs) and feet and also covers PPE used to prevent falls from height. This guidance is not meant to exhaustive. It also provides guidance on maintenance etc. to employees who use items of personal protective equipment (PPE)

Guidance in the Selection, Use and Maintenance of PPE

This guidance is to assist managers and staff in the selection, use and maintenance of personal protective equipment.

Some general selection, use and maintenance points for PPE are:-

a) PPE should be labelled to show what it protects against and is resistant to.

b) Always use PPE according to the manufacturer's instructions. All PPE on the market must be supplied with relevant information on:-

- Storage, use, cleaning, maintenance, servicing and disinfecting;
- The level of protection provided by the PPE;
- Suitable PPE accessories and appropriate spare parts;
- Limitations on use; and
- The period of use for the PPE or its components,

c) Ensure items of PPE used together are compatible with each other to ensure they continue to be effective against the risks.

d) Train and instruct workers to put on and remove contaminated clothing without contaminating themselves. (Specific training course maybe required)

e) Do not reuse disposable PPE.

f) Do not leave contaminated work areas without removing the contaminated clothing in appropriate changing areas.

g) Do not store PPE in direct sunlight or in hot and humid places as this can cause damage.

h) Do not use PPE if it is damaged or heavily worn. If it is unfit for use or past its usable protective life, dispose of it properly and replace it.

Types of PPE

Body Protection

Hazards

Protective clothing must offer some specific protection – if it does not, it is classified as 'workwear'. Workwear is not covered by this policy. Body Protection is required in relation to hazards, which include cold, heat, inclement weather, chemicals and hazardous substances, machinery and situations requiring high visibility clothing or life-jackets/buoyancy aids.

Processes and activities that require protective clothing for the body include:-

- Construction and Outdoor Work
- Highway and Road Works
- Pesticides Applications
- Forestry Work
- Welding

Employees who undertake any work where there is a foreseeable risk adversely affecting the body must wear the appropriate protective equipment as identified via job specific risk assessment.

Selection of Body Protection

Types of protection could include:-

- Coveralls, overalls, aprons and leggings to protect against chemicals and other hazardous substances such as fibres and dusts.
- Outfits to protect against cold, heat and bad weather such as anoraks, jackets, trousers and leggings.
- Clothing to protect against contact with machinery such as chainsaws.
- High Visibility clothing where it is important for workers to be seen on highways and in other areas where vehicles are moving or plant is in operation. There are three classes of high-visibility clothing. Each has minimum areas for the background and retroflective bands:-
    - Class 1 – the least conspicuous (waistcoats and most trousers).
    - Class 2 – more conspicuous than Class 1 (waistcoats, jackets and some trousers), when working on highways.
    - Class 3 – the most conspicuous (full length sleeves - jackets, coveralls etc), a must when working on dual-carriageways etc. with a speed limit of 50mph or above.
- Harnesses where there is a foreseeable risk of falling from height.

Maintenance

Protective clothing should be maintained in good condition (cleaned) and checked regularly. High-visibility wear should be suitable for the task and maintained in a clean condition to ensure no loss of visibility. It should be repaired or discarded if damaged.

Eye and Face Protection

Hazards

Eye/face protection serves to guard against the hazards of impact, splashes from chemicals or molten metal, liquid droplets (chemical mists and sprays), dust, gases, welding arcs, non-ionising radiation and the light from lasers.

The following are examples of activities and processes involving a risk to the face and eyes for which eye/face protectors should be worn:-

- Handling or coming into contact with acids, alkalis and corrosive or irritant substances.
- Working with power-driven tools where chippings or abrasive materials are likely to be ejected.
- Working with molten metal or other molten substances.
- During welding operations etc. where intensive light or other harmful optical radiation is emitted.
- Using any gas or vapour under pressure.

Employees who undertake any work or visit any area where there is a foreseeable risk of eye or face injury must wear the appropriate protective equipment if their continued presence in that area is a requirement of the job as identified via risk assessment, if in doubt contact line manager (supervisor) or Estates & Facilities Health & Safety Officer.

Selection of Eye/Face Protection

The selection of the correct type of eye/face protection depends primarily on the hazard.

There are three types of eye protection commonly available:-

Safety Spectacles	Similar in appearance to prescription spectacles but may incorporate optional side shields to give lateral protection. Provide protection against low level projectiles such as metal swarf.
Safety Goggles	Made with a flexible plastic frame and one-piece lens and have an elastic headband. They afford the eyes protection from all angles. Goggles provide protection against high-energy projectiles, dusts or against chemical or metal splashes depending upon the type acquired. Some goggles are ventilated and may be unsuitable for protection against gases and fine dusts.
Faceshields	These have one large lens with a frame and an adjustable head harness or are mounted on a helmet. They protect the face but do not fully enclose the eyes. They may be worn over standard prescription spectacles.

Maintenance

The lenses of eye protectors must be kept clean as dirty lenses restrict vision. They should be issued on a personal basis and used only by the person they are issued to. If re-used they should be thoroughly cleaned and disinfected. Eye protectors should be protected by being placed in suitable cases when not in use. Lenses that are scratched or pitted must be returned to stores and replaced as they may impair vision and their resistance to impact may be impaired.

Foot Protection

Hazards

Activities and processes involving risks to the feet include:-

- Building and demolition work where the hazards include falling objects, sharp objects (e.g. nails) on the ground piercing the sole of the foot.
- Mechanical and manual handling where the hazards include the risks of objects falling on or crushing the front of the foot, there may also be a risk of slipping/falling over.
- Working in cold conditions requiring thermal insulation or hot conditions requiring heat resistance or protection against molten substances.
- Working with hazardous chemicals requiring footwear that is both impermeable and resistant to chemicals.

Employees who undertake any work in areas where there is a foreseeable risk of foot injury must wear their safety footwear in such situations.

Selection of Safety Footwear

Footwear types used by employees include:-

Safety Boots or Shoes These are the most common type of safety footwear and they normally have protective toe-caps. They may also have other safety features including slip resistant soles, penetration-resistant mid-soles and insulation against extremes of heat or cold. Boots and not shoes are required where ankles need protection.

Footwear with penetration-resistant mid-soles should be used where there is a risk that the sole could be pierced by nails etc. Soles can be heat and oil resistant, slip resistant, shock resistant, anti-static or non-conductive. Footwear intended to protect against oils, solvents or liquids need soles that are moulded or bonded to the upper.

Wellington Boots Protect against water and wet conditions or irritant materials such as cement. They can be obtained with protective toe-caps and penetration-resistant mid-soles.

Maintenance

Safety footwear should be checked regularly and discarded if worn or deteriorated. Materials lodged into the tread should be removed and any broken laces replaced.

Hand and Arm Protection

Hazards

Processes and activities for which hand/arm protection may be necessary include:-

- Manual handling: where hands may be pierced by abrasive, sharp or pointed objects.
- Vibration: gloves should be worn to keep hands warm and dry in cold/wet weather when operating machines that cause vibration such as pneumatic drills, chainsaws etc. Vibration white finger occurs more frequently and more severely when hands are cold.
- Outdoor work: manual dexterity is lost when the hands are cold, which can lead to accidents if articles are dropped such as when handling bricks and timber. Gloves protect against site clearance hazards such as contact with soil containing disease spores that may infect cuts and abrasions.
- Handling hot and cold materials.
- Work involving danger from electric shock.
- Contact with toxic or corrosive substances.

Employees who undertake any work where there is a foreseeable risk of hand or arm injury must wear the appropriate protective equipment as identified via risk assessment.

Selection of Hand/Arm Protection

The choice should be made on the basis of suitability for protection, compatibility with the work and the requirements of the user. The types of hand/arm protection commonly available:-

- Penetration and Abrasion: chain-mail or leather. Also Kevlar provides protection against cuts and Kevlar needlefelt is puncture resistant.
- Thermal Protection: terrycloth gloves provide protection against heat and cold. Neoprene gloves for handling oils in low temperatures and Kevlar, glass fibre and leather can provide protection at higher temperatures.
- Chemical Protection: gloves are available in a range of materials including rubber, neoprene, nitrile, butyl, PVA, PVC etc. The degree of protection against chemical permeation depends on the glove material, its thickness and method of construction.
- General use gloves: rubber, plastic or knit fabric gloves are flexible, resist cuts and abrasions, repel liquids and offer a good grip. Rubber gloves allow a sensitive touch and give a firm grip in water or wet conditions. Leather, cotton knit, or other general purpose gloves are suitable for most other jobs.

Barrier creams: cover the skin with clean inert materials which helps to prevent the entry of contaminants. They **do not** give the protection afforded by gloves and would not prevent the entry of strong acids, alkalis or poisonous materials.

Maintenance

Gloves etc. should be checked regularly and return to stores if worn or deteriorated. Gauntlets should be worn if there is a danger of chemicals or molten metal etc. entering the glove at the cuff.

When wearing protective gloves do not touch other exposed parts of the body as contamination can be transferred to them. Cotton liners can be worn if hands sweat profusely. Ensure that you are not allergic to or sensitised by the material, for example latex gloves maybe skin sensitisers. If possible use an alternative glove than latex or if you have to use latex, use a powder-free type.

Handle and remove gloves carefully to avoid contamination of hands and the insides of the gloves.

Head Protection

Hazards

Head Protection is required for activities and processes involving risk of falling objects or impacts and include:-

- Construction work, particularly work on, underneath or in the vicinity of scaffolding and elevated workplaces; erection and stripping of form work; assembly and installation work;, demolition work; masts; towers; hydraulic structures; service ducts and other large plants.
- Work in pits, trenches, shafts and tunnels, underground workings.
- Work near hoists, lifting plant, cranes and conveyors.
- Tree-felling and tree surgery.

Employees who visit or undertake any work on construction sites or areas where there is a foreseeable risk of head injury must wear their safety helmets in such situations. Safety helmets must be worn in designated “hard hat” areas. Only turban wearing Sikhs are exempt from these requirements.

Compatibility with the work to be done

Wherever possible, the head protection should not hinder the work being done. For example, a safety helmet with little or no peak is useful for a surveyor taking measurements using a theodolite. If a job involves work in windy conditions, especially at heights, or repeated bending or constantly looking upwards, chin straps should be worn to secure the helmet.

If other PPE such as ear defenders or eye/face protectors are required, the design of the head protection should be compatible.

Maintenance and Storage

Head Protection must be maintained in good condition and should:-

- be stored, when not in use, in a safe place (e.g. on a peg or in a cupboard)
- be visually inspected regularly for signs of damage or deterioration
- have the sweat-band regularly cleaned or replaced.

Deterioration

To avoid deterioration you should **not**:-

- store the helmet in heat or direct sunlight (such as the rear window of a car)
- apply paint or solvents to the helmet or stick labels to it - these may chemically weaken the shell
- store materials in your helmet
- modify, cut or drill your helmet
- share your helmet with anyone else.

Replacement

As a general guide, industrial safety helmets should be replaced three years after manufacture, but always check with the manufacturer. It will also need replacing if inspection reveals that the shell is damaged or it is suspected that its shock absorption resistance has deteriorated. Return defective helmets to stores and obtain a replacement.

Hearing Protection

Hazards

Excessive noise can damage your hearing. Where the noise level is at 80 dB(A) employees wanting ear protectors must be provided with them. Where the noise level is at 85 dB(A) and it is not reasonably practicable to reduce the noise at source, by enclosure, etc. then suitable ear protectors must be provided and worn. As a general rule of thumb, if you have to shout when you are one metre from another person it is too noisy.

Employees who undertake any work or visit any area where there is a foreseeable risk of hearing damage must wear the appropriate hearing protection if their continued presence in that area is a requirement of their job.

Selection of Hearing Protection

The three main types of hearing protection are:-

Earplugs These fit inside the ear canal and may be disposable or re-usable. They have to fit tightly in the ear canal to give proper protection, and some people do not like the feeling.

They are not suitable for anyone susceptible to ear infections. On the other hand they can be worn in heat or humidity and do not constrict movement in confined spaces. They can also be worn with other head or face protection.

Earmuffs These are normally hard plastic cups with sound absorbent filling which fit over and surround the ears and are sealed to the head by cushion seals. They need to be pressed to the head by a headband or by special fittings attached to some types of safety helmet. Earmuffs can be slipped on and off more easily, and one size fits most people. It is awkward to wear safety or prescription glasses with them. They can also feel uncomfortable in hot weather when the seal inhibits the evaporation of sweat from the skin.

Canal Caps These have soft rubber caps attached to a headband which presses them into the openings of the ear canals. Some people find the pressure intolerable, especially over long periods. Others find them convenient because they can be stripped off easily in quiet periods.

When purchasing protectors the supplier should be asked to supply test data showing the attenuation claimed. The protectors should be chosen so that the assumed protected level of noise is below 85 dB(A).

All protectors are likely to be somewhat uncomfortable, especially in hot, sweaty conditions. Careful selection can minimise this, but it is often necessary to strike a balance between comfort and other requirements such as durability, degree of protection and suitability for the job.

Wherever possible more than one type of protector should be selected and the user allowed a personal choice.

Whichever type of protection is used, it will only provide the assumed protection if it is in good condition, it fits, is suitable for the individual and is worn properly.

The efficiency of the protection provided may be adversely affected by:-

- Interference with earmuff seals by the wearing of glasses, beards, long hair, etc.
- Incompatibility with other equipment worn such as helmets.
- Poor seating of plugs due to improper insertion.
- Failure to use protectors all of the time in noisy areas.

Maintenance

Re-useable ear plugs need to be checked regularly and replaced when they have lost efficiency. The supplier should be asked to provide advice on suitable methods of cleaning and the life expectancy of the plugs.

Earmuffs should be checked on a regular basis and the check should cover:-

- the condition of ear muff seals;
- the tension of headbands;
- general condition and functioning of the various parts; and
- general cleanliness.

Respiratory Protection

Hazards

Breathing in contaminants such as harmful and toxic dusts, fibres, fumes, vapours, gases and micro-organisms can cause significant damage to health and even death. Inhaled contaminants may also be absorbed into the bloodstream and cause damage to internal organs such as the heart, brain, kidneys and liver.

Employees who undertake any work or visit any area where there is a foreseeable risk of breathing in contaminants likely to cause ill-health or death **must** wear the appropriate respiratory protection if their continued presence in that area is a requirement of their job. A job specific risk assessment should be done with line management to identify suitable RPE.

Selection of Respiratory Protective Equipment (RPE)

Basically a respirator is designed to make air safe to breathe. RPE includes a very wide range of devices, from simple respirators offering basic protection to self-contained breathing apparatus. There are two main classes of RPE:-

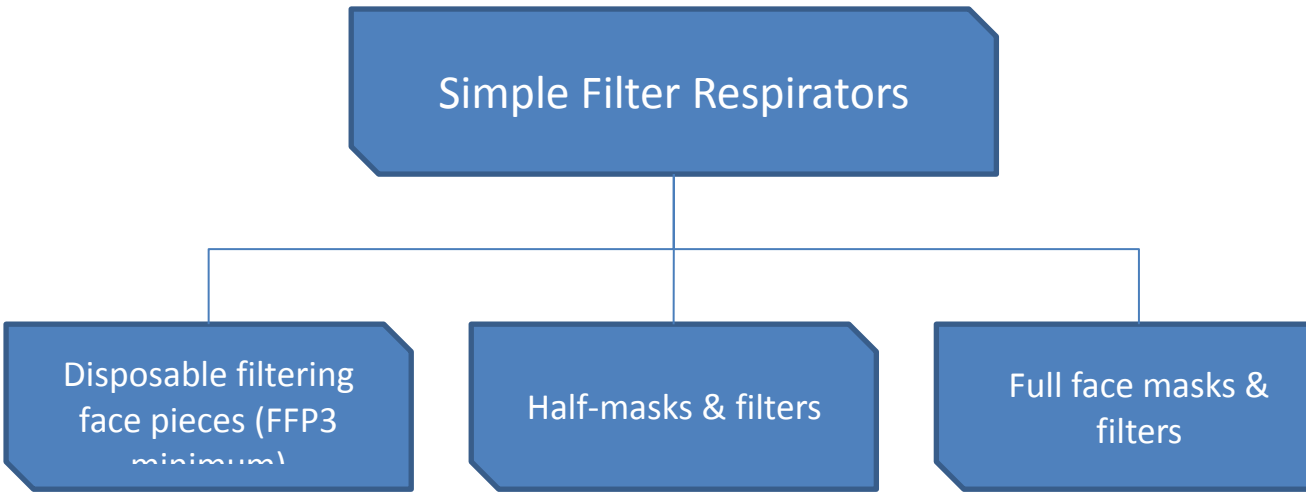
1. Supplied - Air Equipment

Equipment such as air-fed hoods and helmets and self-contained breathing apparatus which deliver uncontaminated air from an independent source to the wearer. Supplied - air equipment is used in very hazardous circumstances where there is a lack of oxygen, etc.

2. Air Purifying Respirators

These take in air from the work area and filter it before it is inhaled. They rely on lung power (negative pressure) or on an external power source (positive pressure) to draw contaminated air through a filter. Respirators do not protect against low oxygen levels. They can only be used in conditions where the atmosphere - although contaminated is not immediately life threatening. Air Purifying respirators are of two types:-

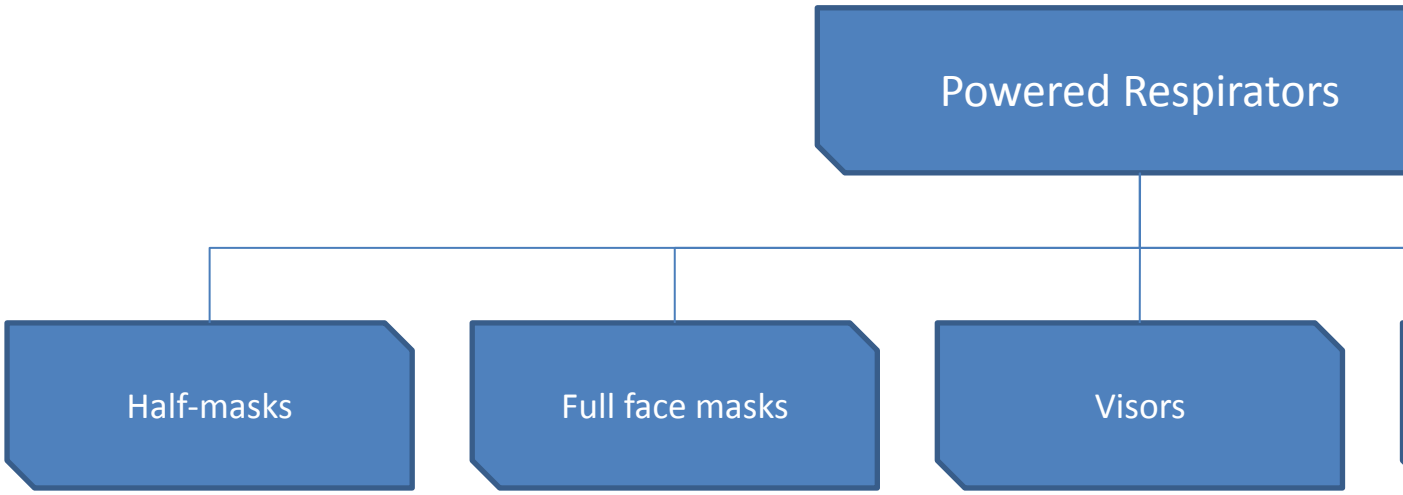
(a) Simple Filtering Respirators



Non-disposable respirators are designed for extended use and may be either half mask (i.e. covers the nose, mouth and chin) or full face mask.

Note: Nuisance dust masks that resemble disposable respirators are not regarded by the HSE as protective devices for people who work with harmful dusts. They perform badly and do not meet basic health and safety requirements.

(b) Powered Respirators



Each type of respirator is available in 3 performance classifications. For each type of respirator the following types of filter may be available:-

1. For dusts and other particulate materials only.

2. For certain gases and vapours only.

3. Combination types for particulates and some gases and vapours.

It is important that the correct filter is fitted each time the respirator is used. Filters have only a limited life.

Dust respirators give no protection against poisonous gases or lack of oxygen

RPE should always be thought of as a last resort when preventing or controlling exposure to substances hazardous to health. It can only help the person who wears it. Effective protection only comes when the RPE is in good condition and is worn properly by someone who has been **trained** to use it.

The Code of Practice to the Control of Substances Hazardous to Health (COSHH) Regulations requires that any RPE must be capable of controlling the exposure and be suitable for the intended purpose. The selection and provision of suitable RPE should be based on the following considerations:-

- The level of protection claimed by manufacturers and the identification of the type that will provide a greater degree of protection than that required for likely or known exposure.
- The type of work to be done; the physical effort required to do it; the length of time the equipment will have to be worn; the requirements for visibility, comfort and the need for employees to communicate with each other.
- The different facial characteristics of the RPE wearers, to ensure that the equipment fits correctly, and is matched to the wearer. In addition the equipment should be matched to the job and environment in which it is to be used. The wearers should be fully consulted to ensure that they have the most comfortable equipment best suited for them.
- It must be 'CE' marked.
- Employees must be properly trained in its use and supervised.
- It should be regularly cleaned and checked to ensure that it remains effective.

Stages of RPE Selection

Stage 1 Determine the nature of the hazard. Account should be taken of:-

- The hazardous properties of the substance.
- The nature and degree of exposure.
- The conditions of work and the specific work circumstances.

Workplace monitoring may be necessary to assess the level of exposure to the respirable hazard. The correct Occupational Exposure Limit for the hazardous substance can be obtained by referring to HSE Guidance Note EH40. Compare this to the results obtained from monitoring.

Stage 2 Consider the control measures available (i.e. substitution, elimination, separation, engineering control, hygiene and PPE). Where it is necessary to select RPE to reduce exposure to respirable hazards, an evaluation should be undertaken of the different types of RPE taking into account the hazardous properties of the substance, requirements of the job etc.

Stage 3 Select the appropriate respirator for both the hazard type and level of protection and in consultation with the RPE wearers. Ensure that the selected facepiece is of the right size and can correctly fit each wearer. For tight fitting facepieces (filtering facepieces usually known as disposable masks, half and full-face masks) the initial selection should include fit testing.

Respirators are designed specifically to deal with particular types of hazards or a combination of hazards. A dust respirator provides no protection from the effects of solvent vapours just as a vapour respirator provides no respiratory protection against dust. The RPE selected must be capable of reducing exposure and must be matched to the job and the wearer. When selecting the type of RPE, you should therefore consider:-

- Level of oxygen in the atmosphere (see relevant risk assessment)
- Compatibility of the chosen RPE with other safety equipment (e.g. glasses that may interfere with face seal, ear defenders, goggles, etc).
- Medical fitness of the worker. Is there a history of respiratory disorders or heart problems (e.g. persons with asthma may find difficulty with respirators which rely on lung-power to draw air through filters)?
- Face size and shape. Where a wearer cannot achieve a good fit, alternative types of RPE which do not rely on a face seal for their effectiveness should be considered.
- Beards and sideburns that interfere with the face seal reduce the effectiveness of filtering respirators. The use of hoods, visors, blouses or air-fed suits should be considered as an alternative to equipment relying on a face seal.
- All types of RPE restrict the wearer to some extent, by imposing extra breathing resistance on the lungs, by restricting visibility or mobility, or by simply being additional weight to carry around.

Fit Testing of Facepieces

The COSHH ACoP requires employers to ensure that the selected facepiece is of the right size and can correctly fit each wearer. For tight fitting facepieces (filtering facepieces usually known as disposable masks, half and full-face masks) the initial selection should include fit testing to ensure the wearer has the correct device. The test will assess the fit by determining the degree of face-seal leakage of a test agent while the RPE user is wearing the facepiece under test. Qualitative fit testing makes use of bitter or sweet tasting aerosols.

For full-face masks, a suitable quantitative fit test should be used. This must be carried out using a test chamber, or particulate or pressure variation measuring devices.

Training

Everyone involved in the use of RPE should be appropriately trained. The extent of training will vary with the complexity and performance of the equipment. In general the following items should be covered:-

- an explanation of the risks presented by exposure to the hazardous substances and why RPE is needed to control exposures;
- the operation, performance and limitations of the equipment used;
- instruction on RPE selection, use, maintenance and storage relating to the intended use. Written operating procedures (e.g. permits to work) should be explained; and
- factors which can influence the protection provided by RPE, e.g. other protective equipment, personal factors, severe environment conditions, inadequate fitting and maintenance.

Practical training should include:-

- practice in putting on, wearing and removing the equipment;
- for equipment incorporating a face mask, instruction in obtaining a good facelift;
- practice and instruction in the replacement of parts such as filters and cartridges which can be changed by the wearer;
- practice and instruction in the cleaning of the equipment and inspection before use; and
- instruction in the safe storage of equipment.

Use of RPE

RPE should be used in accordance with the manufacturer's instruction for use, and should only be worn after adequate training has been given to the wearer. Equipment should always be examined before it is put on, and should not be worn if it is found to be defective or has not been cleaned and disinfected since the previous use.

For equipment which relies on a face seal, a fit test should be performed each time before the RPE is put on. The seal may be tested as follows:-

1. Remove the filter from the respirator.

2. Put the respirator on and adjust the headband straps until it fits snugly, but not too tight.

3. Place your hand over the hole to seal it without pressing the mask against your face.

4. Inhale slightly until the walls of the face piece are partially collapsed. Keep this up for about 10 seconds.

5. If the walls stay collapsed the seal is good.

Never tighten the headband straps until they are uncomfortably tight simply to get a good seal.

The wearer should always be aware of the likely duration of the filter cartridges. Check cartridges and filters regularly and change them (outside the contaminated area) well before they are likely to be saturated or clogged.

The following conditions should be enough warning that the respirator is either not functioning properly, or that abnormal conditions may be creating contaminant levels which are beyond its compatibilities:-

- it becomes difficult to breathe;
- you smell or taste contaminants;
- your eyes, nose or throat become irritated;
- the air you are breathing becomes uncomfortably warm; or
- you feel nauseous or become drowsy.

Storage of RPE

The RPE should be stored in a holder or box when not in use. The storage should protect the equipment from harmful contaminants, excess moisture, heat, cold, sunlight or corrosive substances.
A sufficient stock of spare filters should be available so that wearers can replace them as they are needed.

Maintenance, Examination and Testing of RPE

COSHH states that, with the exception of disposable respirators, all types of RPE must be subject to thorough examination and, where appropriate, testing carried out at suitable intervals. Records of examinations and tests shall be kept for 5 years. It must be maintained in an efficient state, in efficient working order, in good repair and in clean condition.

The maintenance, examination and tests should be in accordance with the manufacturer's instructions. Examinations should comprise a thorough visual examination of all parts of the respirator to ensure that all parts are present, correctly fitted, and the equipment is in good working order. In particular, the examination should ensure that the straps, facepieces, filters and valves are sound and in good working condition.

The COSHH Approved Code of Practice requires thorough examinations and, where appropriate, tests of RPE, other than one-shift disposable respirators, to be made at least once every month, and more frequently where the conditions are particularly severe. However, in situations where respirators are used only occasionally, an examination and test should be made prior to next use and maintenance carried out as appropriate. In any event, the intervals between examinations should not exceed 3 months.

Where employees have been issued with a respirator, they should personally carry out regular examinations of the RPE, and record such examinations using the Respiratory Protective Equipment (RPE) Record of Employee Examinations. The form should be kept readily available on request for inspection by their line manager or Estates & Facilities Health & Safety Officer. Any defects must be reported to their line manager immediately.

RPE should be cleaned and disinfected after each use. Rubber face pieces can usually be cleaned with soap and lukewarm water. Manufacturer's instructions for cleaning should always be followed, particularly with regard to the materials used.

After washing, soap or detergent should be thoroughly rinsed from the equipment. The equipment should be thoroughly dried, re-assembled and placed in a protective container such as a re-sealable polythene bag. Rubber items should generally not be heated to more than 60ºC, as damage may occur above this temperature and in general, chemical solvents should not be used to clean equipment.

Safety Harness

Hazards

Falls from height are one of the leading causes of death and injury. The use of a harness like any PPE should always be regarded as a final consideration when protecting employees. However, the use of harnesses and fall arrest devices play an important role in ensuring work can continue safely where there is no other means of protection. Use a job specific risk assessment to identify the best control measures.

Identification

A record sheet should be provided with each harness giving the product make, model and serial number.

Inspection

All component parts of the fall arrest system must be given a formal examination by a competent person every six months.

It is the responsibility of the harness user to carry out a visual inspection and functional check (if applicable) of every part of the fall arrest system prior to every use. If any component part of the fall arrest system is defective or damaged it must not be used and withdrawn from service immediately. A decision will need to be made as to whether it should be repaired by the supplier/manufacturer or discarded. Users must never attempt to repair any equipment themselves. Return defective item to stores or your line manager.

Inspection Checklist

When inspecting the harness, users should check for the following:-

- **Webbing** - should be checked thoroughly. There must be no evidence of fraying, tears, cuts, burns, mould, discolouration or chemical attack.
- **Stitching** - every stitch pattern should be examined carefully. There must be no evidence of broken stitches, loosening, pulling or cuts.
- **Buckles** - all buckles and “D” rings must be totally free from rust, pitting, distortion, cracks or excessive wear. Moving parts such as sliding buckles should move freely. Special attention should be given to the integrity of the connecting “D” rings.
- **Karabiners and Snaphooks** - These should be checked as for buckles and “D” rings. All moving parts should be kept clean and lubricated. Ensure that the bar or snap closes itself fully and that the locking device prevents opening under very firm pressure. Check for misalignment of the closing bar or snap, and any distortion of the hook generally.
- **Rope Grabs and Rope Adjusters** - Inspect as for buckles and “D” rings. You must also fully check that all moving and working parts are operating freely.
- **Ropes** - check for loose strands, cuts and abrasions, excessive flattening on outer faces, chemical attacks, burns or evidence of powdered fibre. The length of the rope MUST be checked every month against the “AS NEW” length. An extension of more than 10% indicates excessive and heavy loading/use and MUST be immediately withdrawn from service, returned to stores and destroyed. Strong sunlight can cause some degradation often indicated by bleaching. The best protection against this is to avoid long and unnecessary exposure to strong sunlight. Excessive heat can also cause some degradation and this is not visibly identifiable. NEVER dry a rope in front of a fire or store near a source of excessive heat.

- **Arrester Blocks** - There is a separate instruction manual supplied with every arrester block. This must be read carefully by both the eventual user of the arrester block and by any person who is involved in inspection or training for use. Particular attention must be paid to the "CHECK LIST" procedures.

Storage

Harnesses should be stored in a cool dry place that is not subject to direct heat or sunlight. The designated storage area should be exclusively for this equipment and should ensure that no excessive strain, pressure, heat or humidity is exposed to any of the equipment.

Wet or damp equipment should be allowed to dry naturally first. When the equipment is away from the main storage area for some time a transit container or holdall should be used.

Training

All users of fall arrest products should be fully trained on both the equipment they are to use and on how to use it practically in the work place. It is MANDATORY that every user of fall arrest equipment is totally familiar with the specific fitting instructions.

Chemical Attack

Avoid all contact with chemicals and immediately remove the affected product from service. Oil, grease, creosote and paint stains are harmless. Other forms of chemicals can be identified by the softening of the webbing or fibres and powdering in extreme cases. Mineral acids will cause rapid weakening. If you have any doubts **DO NOT USE** the affected product or expose anyone else to the possibility of using the product.

Cleaning

Light soiling of fabrics and webbing can be removed with a damp sponge. More ingrained dirt can be removed with warm water and pure soap or mild detergent. Avoid getting soap into the adjuster buckles. Rinse with clean domestic tap water and after removing the surplus moisture with a cloth, allow to dry naturally away from any direct source of heat.

Heavy deposits of creosote or grease may be removed with diluted solution of heavy duty detergent and water. Rinse with clean domestic water and allow to dry naturally away from any direct source of heat.

When the equipment is dry it MUST be given a full inspection before being put back into use or storage.

Life-span

A conservative estimate of the potential life of a fall protection product is 5 years providing they are used, inspected, maintained and stored in accordance with the product fitting/user instructions and instructions contained within this section.

However, the actual life will vary considerably with frequency of use and conditions under which the individual product is used and stored. Always follow the manufacturer's recommendations as regards the lifespan of the equipment.

Equipment and Standards

- Work Positioning Systems EN 358
- Restraint Belts EN 359
- Full Body Harnesses EN 361
- Rescue Harness EN 1497
- Lanyards EN 354/355
- Anchorage Points EN 795
- Retractable Fall Arresters EN 360
- Guided Fall Arresters with Flexible Anchorage Lines EN 353/2
- Descent Devices EN 341

Safe Working Load

The manufacturer's safe working load i.e. the maximum weight that the harness will sustain must be followed. No person who is above the recommended manufacturer's guideline shall use a harness. Generally, harnesses are tested to a weight of 15 stone. But manufacturers may vary the maximum weight above this figure.

DO' S AND DON'TS

DO

- Ensure that an emergency procedure is in place just in case you become ill or suffer an injury while undertaking your work. If you require assistance a suitable procedure should be in place i.e. provision of a mobile phone to maintain communication with another person, dual working, etc.
- Carry out a full visual inspection of your "Fall Arrest" system every time before use.
- Make sure that every part of your "Fall Arrest" system is fully compatible.
- Use an anchorage point that is located directly above the working position.
- Where possible, use approved permanent anchorage points that have been built or installed by professionals.
- Use only attachment hooks that are recommended by the manufacturer. That have been thoroughly tested, approved and are compatible.
- Always ensure that the closing bar on the karabiner hook is locked shut. Kwiklok types do this automatically but should still be checked. Screwgate types must be screwed home manually and checked by applying pressure against the closing bar.
- Make sure that the space you would travel through in the event of a fall is free from protrusions and hazards.
- Ensure that your harness is fitted as close to your body as is comfortable to prevent its' upward movement in the event of a fall.
- Only use compatible ancillary equipment provided.

DO NOT

- Anchor to a structure that itself can fall i.e. a free standing ladder or other loose structures.
- Use an anchorage point that will not take a shock load of 1000kg.
- Use an anchorage point that is located below the point of attachment to your harness.
- Use waist connection points on a harness for “Fall Arrest”. Waist connection points are for work positioning or restraint only.
- Use loop lanyards around structures with sharp edges.
- Use any “Fall Arrest” equipment without reading both the user Manual and individual product Fitting Instructions.
- Use any “Fall Arrest” equipment without familiarisation training and if possible practical training.
- Mix different manufactured products into your “Fall Arrest” system without checking and confirming their compatibility.
- Use any “Fall Arrest” products that are showing signs of wear and tear. Return for formal inspection.
- Extend the length of your lanyard beyond 2m. For greater working distances use a “Fall Arrest” Block.

If you have any doubts on any equipment DO NOT use it.