

TO ALL SITE PERSONNEL
THINK SAFETY
AT ALL TIMES
PROTECT YOURSELF

Safety helmets
must be
worn at all times



Remember
**NO HAT
NO WORK**



Conforming to General Health, Safety
and Welfare in the Workplace

A/503/1170

- CITB Level 2 NVQ Diploma In Removal Of Hazardous Waste (Construction) - Licensed Asbestos
- Edexcel Level 2 NVQ Diploma In Construction Operations And Civil Engineering Services – Highways Maintenance (Excavation And Reinstatement) (Construction) (QCF)
- Edexcel Level 2 Diploma In Plant Operations - Excavating Plant (Construction) (QCF)
- Edexcel Level 2 NVQ Diploma In Thermal Insulation

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WELCOME

Welcome to your competence based qualification and your guided learning materials. These learning materials are designed to increase your knowledge, whilst at the same time help you gather evidence in support of your vocationally related award.

There can be no standard delivery model for a vocationally related award as each candidate will require varying amounts of time and support to complete their programme. If further support is required your assessor will be only too pleased to assist - You are not alone in your studies!

This workbook contains the activities for unit A/503/1170 within your qualification. This unit workbook has indicative learning of approximately 7 hours. As an experienced worker, you will have undergone learning throughout your career that you can apply when answering the questions within this workbook. However, you will be expected to advance your studies by undertaking additional reading and research in order to complete the learning activities.

SELF ASSESSMENT

The self assessment is designed to allow you to quickly identify areas of your knowledge which you would like to enhance, study further, or allow you to prioritise your learning by tackling those areas you are unsure of first.

Once you have completed the self-assessment you will be able to start your learning with the areas you have identified, or you may choose to follow the learning materials in numerical order. The learning materials are designed to be completed in any order without prior experience and at a pace you are content with. Good luck with your studies and we would like to wish you every success in utilising your new found knowledge.

Check the listed tasks or responsibilities below and gauge your knowledge and understanding of each unit, low, medium or high. This will allow you to direct your learning energy to those areas needed the most.

Unit: A/503/1170 Conforming to General Health, Safety and Welfare in the Workplace			
Activity	Low √	Medium √	High √
Comply with all workplace health, safety and welfare legislation requirements.			
Recognise hazards associated with the workplace that have not been previously controlled and report them in accordance with organisational procedures			
Comply with organisational policies and procedures to contribute to health, safety and welfare.			
Work responsibly to contribute to workplace health, safety and welfare whilst carrying out work in the relevant occupational area.			
Comply with and support all organisational security arrangements and approved procedures.			

Now you have identified the areas which are low, medium or high you are ready to begin your learning journey.

- High – You may wish to read through the information quickly to check there are no new areas of knowledge you could use in your work. You may find the activities and knowledge assessment easier in these areas.
- Medium – Read all of the information well and ensure you gain a detailed understanding of new areas to you. Complete the activities in detail for those areas you are unsure of.
- Low – Focus your learning energies in these areas. Read the information carefully, complete the activities and ask for assessor support if you have difficulty. Ensure you have all the knowledge needed before progressing onto the candidate knowledge assessment pack.

Once the unit activities have been completed and you have enhanced your knowledge and understanding you should answer the questions in the candidate knowledge assessment pack.

Remember, the candidate knowledge assessment pack is used to help you with your qualification and provides valuable evidence. Complete the answers with as much detail as you are able. Any areas you are unsure of leave blank and request assistance from your assessor.

A/503/1170

Conforming to General Health,
Safety and Welfare in the
Workplace

Learning

THE HEALTH AND SAFETY AT WORK ACT 1974

This act was a milestone in bringing in laws dealing with health, safety and welfare of persons at work.

Duties are placed on all persons connected with Health and safety at work, whether as employers, employees, self-employed workers, manufacturers or suppliers of plant and materials. Protection is also given to members of the public affected by the activities of persons at work.

This act is aimed at people and their activities, rather than at factories or construction sites and the processes carried out there.

The purpose of the act is to provide a legal framework to encourage high standards of Health and Safety at work.

WHAT ARE THE AIMS OF THE ACT?

- To secure the Health, Safety and Welfare of people at work
- To protect other people against the risk to health or safety arising from the activity of people at work
- Controlling the keeping and using of dangerous substances and preventing people from unlawfully having or using them
- Controlling the release into the atmosphere of noxious or offensive substances from prescribed premises

EMPLOYERS' RESPONSIBILITIES

Employers have a general duty under the HASWA to ensure, so far as is reasonably practical, the health, safety and welfare at work of their employees.

The HASWA specifies FIVE areas that in particular are covered by the employers' general duties:

- To provide and maintain machinery, equipment and other plant and systems of work that are safe and without risk to health
- Ensure ways in which particular articles and substances (e.g. machinery and chemicals are used, handled, stored and transported are safe and without risk to health)

- Ensure any place under their control and where employees work is kept in a safe condition and does not pose a risk to health, this includes ways in and out of the workplace, heating, lighting and adequate ventilation
- Employers must also provide adequate arrangements for welfare at work, this would include seating, washing and toilets
- Provide information, instruction, training and supervision necessary to ensure health and safety at work

EMPLOYEES' RESPONSIBILITIES

- You must take care of your own health and safety and that of your work mates
- You must not misuse or interfere with anything provided for your health and safety
- Co-operate with your employer to enable him to comply with all safety laws.

Remember: You can be prosecuted for breaking safety laws.

WHAT IS PPE?

PPE is equipment that will protect the user against health or safety risks at work. It can include items such as safety helmets and hard hats, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses.

Hearing protection and respiratory protective equipment provided for most work situations are not covered by these Regulations because there are other more specific regulations that apply to them. However, these items need to be compatible with any other PPE provided.

The Employment Act 1989 gives an exemption for turban-wearing Sikhs working on construction sites from the need to wear head protection.



WHAT DO THE REGULATIONS REQUIRE?

PPE should be used as a last resort. Wherever there are risks to health and safety that cannot be adequately controlled in other ways, the Personal Protective Equipment at Work Regulations 1992 require PPE to be supplied.

The Regulations also require that PPE is:

- properly assessed before use to make sure it is fit for purpose;
- maintained and stored properly;
- provided with instructions on how to use it safely;
- used correctly by employees.

ASSESSING SUITABLE PPE

To make sure the right type of PPE is chosen, consider the different hazards in the workplace and identify the PPE that will provide adequate protection against them; this may be different for each job.

Ask your supplier for advice on the types of PPE available and their suitability for different tasks. In some cases, you may need to get advice from specialists or from the PPE manufacturer.

Consider the following when assessing suitability:

- Does the PPE protect the wearer from the risks and take account of the environmental conditions where the task is taking place? For example eye protection designed to protect against agricultural pesticides may not offer adequate protection when using an angle grinder to cut steel or stone.
- Does using PPE increase the overall level of risk or add new risks, eg by making communication more difficult?
- Can it be adjusted to fit the wearer correctly?
- What are the needs of the job and the demands it places on the wearer? For example, the length of time the PPE needs to be worn, the physical effort required to do the job or the requirements for visibility and communication.
- If someone wears more than one item of PPE, are they compatible? For example does using a respirator make it difficult to fit eye protection properly?

SELECTION AND USE

When selecting PPE:

- choose good quality products which are CE marked in accordance with the Personal Protective Equipment Regulations 2002 – suppliers can advise you;
- choose equipment that suits the wearer – consider the size, fit and weight; you may need to consider the health of the wearer, eg if equipment is very heavy, or wearers have pre-existing health issues, standard PPE may not be suitable;

THE HAZARDS AND TYPES OF PPE

Eyes

Hazards: Chemical or metal splash, dust, projectiles, gas and vapour, radiation.

Options: Safety spectacles, goggles, face-shields, visors.

Note: Make sure the eye protection has the right combination of impact/dust/ splash/molten metal eye protection for the task and fits the user properly.



Head



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

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

Note: Some safety helmets incorporate or can be fitted with specially-designed eye or hearing protection. Don't forget neck protection, eg scarves for use during welding. Do not use head protection if

it is damaged – replace it.

Breathing

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

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

Note: The right type of respirator filter must be used as each is effective for only a limited range of substances. Where there is a shortage of oxygen or any danger of losing consciousness due to exposure to high levels of harmful fumes, only use breathing apparatus – never use a filtering cartridge. Filters only have a limited life; when replacing them or any other part, check with the manufacturer's guidance and ensure the correct replacement part is used.



Protecting the body

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, eg chain-mail aprons, high-visibility clothing.

Note: The choice of materials includes flame-retardant, anti-static, chain mail, chemically impermeable, and high-visibility. Don't forget other protection, like safety harnesses or life jackets.



Hands and arms

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



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

Note: Avoid gloves when operating machines such as bench drills where the gloves could get caught. Some materials are quickly penetrated by chemicals so be careful when you are selecting them.

Barrier creams are unreliable and are no substitute for proper PPE. Wearing gloves for long periods can make the skin hot and sweaty, leading to skin problems; using separate cotton inner gloves can help prevent this. Be aware that some people may be allergic to materials used in gloves, eg latex.

Feet and legs

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.

Note: Footwear can have a variety of sole patterns and materials to help prevent slips in different conditions, including oil or chemical-resistant soles. It can also be anti-static, electrically conductive or thermally insulating. It is important that the appropriate footwear is selected for the risks identified.



MAINTENANCE

Make sure:

- equipment is well looked after and properly stored when it is not being used, eg in a dry, clean cupboard, or for smaller items in a box or case;
- equipment is kept clean and in good repair – follow the manufacturer’s maintenance schedule (including recommended replacement periods and shelf lives);
- simple maintenance can be carried out by the trained wearer, but more intricate repairs should only be done by specialists;
- replacement parts match the original, eg respirator filters;
- you identify who is responsible for maintenance and how to do it;
- employees make proper use of PPE and report its loss or destruction or any fault in it.

CE MARKING

Ensure any PPE you buy is 'CE' marked and complies with the requirements of the Personal Protective Equipment Regulations 2002. The CE marking signifies that the PPE satisfies certain basic safety requirements and in some cases will have been tested and certified by an independent body.



Other regulations

The PPE at Work Regulations do not apply where the following five sets of regulations require the provision and use of PPE against these hazards. For example, gloves used to prevent dangerous chemicals penetrating the skin would be covered by the Control of Substances Hazardous to Health Regulations 2002 (as amended). The Regulations are:

- The Control of Lead at Work Regulations 2002.
- The Ionising Radiations Regulations 1999.
- The Control of Asbestos Regulations 2012.
- The Control of Substances Hazardous to Health Regulations 2002 (as amended).
- The Control of Noise at Work Regulations 2005.

ACTIVITY: List the PPE you use on a daily basis



WHAT IS RESPIRATORY PROTECTIVE EQUIPMENT?

Respiratory Protective Equipment (RPE) is a particular type of personal protective equipment (PPE) designed to protect the wearer from breathing in harmful substances or from oxygen-deficient atmospheres when other controls are either not possible or insufficient on their own.

Work activities may result in harmful substances contaminating the air in the form of dust, mist, vapour, gas or fume. For example, when:

- cutting a material such as stone or wood;
- using a product containing volatile solvents;
- handling a dusty powder;
- welding stainless steel.



Workers may also need to work in areas where oxygen levels are or may become low, for example:

- confined spaces, such as a trench, silo or tank.

DECIDING TO USE RPE

The laws governing the control of harmful substances in the workplace, and their supporting ACOP, say that you should only use RPE after you have taken all other reasonably practicable measures to prevent or control exposure. By going through the risk assessment process required by these laws, you can determine whether the use of RPE is necessary in your workplace. If you write your justification for using RPE on your risk assessment record you should remember the reasons behind your chosen control regime and be able to adapt it in the future as necessary. If you have fewer than five employees you are not legally required to record your risk assessment.

You should only select and use RPE:

- where an inhalation exposure risk remains after you have put in place other reasonable controls (residual risk);
- while you are putting in place other control measures (interim measures);

- for emergency work or temporary failure of controls where other means of control are not reasonably practicable;
- for short-term or infrequent exposure, such as during maintenance work, where you decide that other controls at the source of the exposure are not reasonably practicable.

There are situations where specialist advice may be needed to select the right RPE.

These include:

- emergency escape – where you need to provide RPE for safe exit from an area where hazardous substances may be released suddenly after control systems fail;
- emergency rescue.

Under the law, RPE is the last line of protection. Remember, RPE can protect only the wearer and if it is used incorrectly, or is poorly maintained, it is unlikely to provide the required protection. Note also that RPE can be uncomfortable to wear and may interfere with work, which can lead to incorrect use.

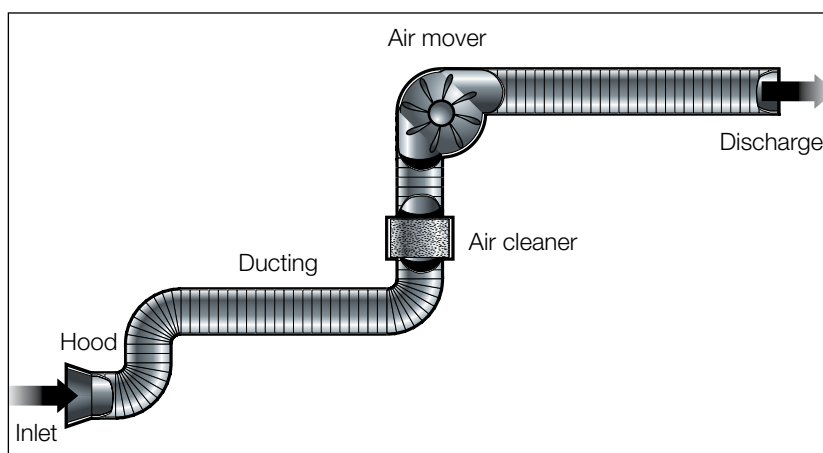
ACTIVITY: Describe a working environment where RPE would be required



LOCAL EXHAUST VENTILATION

Local exhaust ventilation should:

- collect or contain the airborne contaminant;
- carry it away from workers for treatment and/or discharge to a safe place; and
- ensure adequate control of exposure and, where applicable, below relevant workplace exposure limit (WEL).



Loss of LEV control can lead to ill health.

CHECKING AND MAINTAINING EXISTING LEV

You need to know that the system is performing to its design specification.

The LEV user manual and logbook should set out the frequency of checking, maintenance and parts replacement.

If the LEV has no user manual or performance data, hire a competent ventilation engineer and occupational hygienist to determine the performance needed for adequate control.

Checks and maintenance cover four types of parts:

- moving parts that wear, eg fan bearings, filter shakers;
- hoods, ductwork and seals that can get damaged;
- parts that deteriorate with use, eg filters, flexible ducting; and
- items needing regular attention, eg filter bins, sludge collectors.

Make sure relevant COSHH assessment for cleaning and maintenance is carried out.

Make sure everyone knows who is responsible for what checks, and for completing the records.

Caution: You may need to use permit-to-work procedures.

THOROUGH EXAMINATION AND TEST

Most LEV needs a statutory test at least once every 14 months to make sure it works well.

Exceptions to this are given in Schedule 4 of the COSHH Regulations.

The test must be done by a competent person, testing against standards in the LEV commissioning report.

- You must implement the report recommendations.
- Keep records of all examinations and tests for at least five years.

Caution: The thorough examination and test can be used by an employer as an audit of the past year's LEV system management. A long list of actions arising from this test shows that your checking and maintenance are not thorough enough.

INSTALLATION AND COMMISSIONING

The LEV supplier should give you three documents:

A user manual describing what the LEV is designed to control, and how it achieves control. It should also contain the following:

- the LEV description, with diagrams;
- the LEV performance from commissioning;
- checks, maintenance and parts replacement schedules;

- description of the statutory ‘thorough examination and test’ and exposure targets;
- signs of wear and control failure to look out for;
- description of how operators should use the LEV so it works effectively; and
- list of replaceable parts.

A logbook that includes:

- schedules for regular checks and maintenance;
- records of checks, maintenance, replacements and repairs; n checks that the LEV is being used in the right way; and
- the name of the person making the checks.

A commissioning report that includes:

- diagrams and a description of the LEV, including test points;
- details of the LEV performance specification;
- results, such as pressures and air velocities at stated test points; n calculations made;
- written descriptions of commissioning, the tests made, and the outcome along with any air sampling results; and
- a description of how operators should use the LEV so that it works effectively.

If any of these is missing, your LEV needs recommissioning to produce a user manual, a logbook and a commissioning report.

The LEV also needs recommissioning if it is changed in any way.

ACTIVITY: Describe a working environment where LEV would be required



A large, empty rectangular box with a thin blue border, intended for the user to describe a working environment where LEV would be required.

SAFETY SIGNS AND SIGNALS

The Health and Safety (Safety Signs and Signals) Regulations 1995 implemented a European Council Directive on minimum requirements for the provision of safety signs at work. The Directive standardised safety signs throughout EU member states so that wherever a particular safety sign is seen it provides the same message.

WHAT DO THE REGULATIONS REQUIRE?

The Regulations require employers to use a safety sign where there is a significant risk to health and safety that has not been avoided or controlled by the methods required under other relevant law, provided use of a sign can help reduce the risk. Safety signs are not a substitute for those other methods of controlling risks such as engineering controls and safe systems of work.

They apply to all workplaces and to all activities where people are employed, but exclude signs used in connection with transport or the supply and marketing of dangerous substances, products and equipment.

The Regulations require, where necessary, the use of road traffic signs in workplaces to regulate road traffic.

WHAT IS A SAFETY SIGN?

The Regulations cover a variety of methods of communicating health and safety information in addition to the traditional safety sign or signboard. The terms used in the Regulations mean the following:

- **safety and/or health sign** – a sign providing information or instruction about safety or health at work by means of a signboard, a colour, an illuminated sign or acoustic signal, a verbal communication or hand signal;
- **signboard** – a sign which provides information or instructions by a combination of shape, colour and a symbol or pictogram which is rendered visible by lighting of sufficient intensity. In practice many signboards may be accompanied by supplementary text (eg ‘Fire exit’ alongside the symbol of a moving person). Signboards can be of the following types:
 - **prohibition sign** – a sign prohibiting behaviour likely to increase or cause danger (eg ‘no access for unauthorised persons’)

- **warning sign** – a sign giving warning of a hazard or danger (eg ‘danger: electricity’);
- **mandatory sign** – a sign prescribing specific behaviour (eg ‘eye protection must be worn’);
- **emergency escape or first-aid sign** – a sign giving information on emergency exits, first- aid, or rescue facilities;
- **safety colour** – a colour to which a specific meaning is assigned (eg yellow means ‘be careful’ or ‘take precautions’);
- **symbol or pictogram** – these appear in Schedule 1, although some variation in detail is acceptable provided the meaning is the same. They are for use on a signboard or illuminated sign (eg the trefoil ionising radiation warning sign);
- **illuminated sign** – a sign made of transparent or translucent materials which is illuminated from the inside or the rear to give the appearance of a luminous surface (eg many emergency exit signs);
- **acoustic signal** – a sound signal which is transmitted without the use of a human or artificial voice (eg fire alarm);
- **verbal communication** – a predetermined spoken message communicated by a human or artificial voice;
- **hand signal** – a movement or position of the arms or hands giving a recognised signal and guiding persons who are carrying out manoeuvres which are a hazard or danger to people;
- **fire safety sign**

SIGNBOARDS APPEARING IN SCHEDULE 1

Prohibitory Signs

Intrinsic features:

- roundshape;
- black pictogram on white background, red edging and diagonal line (the red part to take up at least 35% of the area of the sign).



No smoking



Smoking and naked flames forbidden



No access for pedestrians



Do not extinguish with water



Not drinkable



No access for unauthorised persons



No access for industrial vehicles



Do not touch

Warning Signs

Intrinsic features:

- triangular shape;
- black pictogram on a yellow background with black edging (the yellow part to take up at least 50% of the area of the sign).



Flammable material or high temperature*



Explosive material



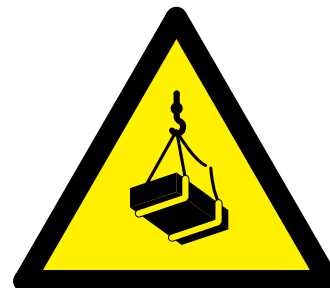
Toxic material



Corrosive material



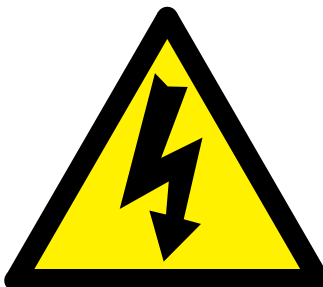
Radioactive material



Overhead load



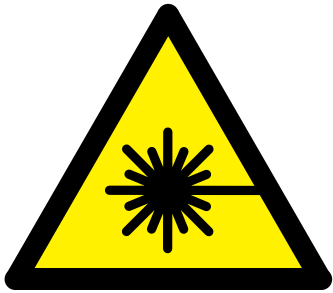
Industrial vehicles



Danger: electricity



General danger



Laser beam



Oxidant material



Non-ionising radiation



Strong magnetic field



Obstacles



Drop



Biological risk*



Low temperature



Harmful or irritant material†

Mandatory Signs

Intrinsic features:

- round shape;
- white pictogram on a blue background (the blue part to take up at least 50% of the area of the sign).



Eye protection must be worn



Safety helmet must be worn



Ear protection must be worn



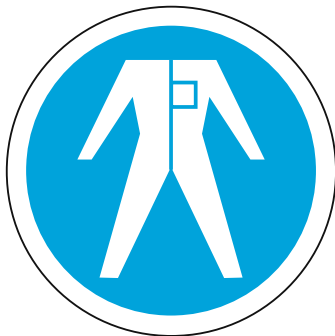
Respiratory equipment must be worn



Safety boots must be worn



Safety gloves must be worn



Safety overalls must be worn



Face protection must be worn



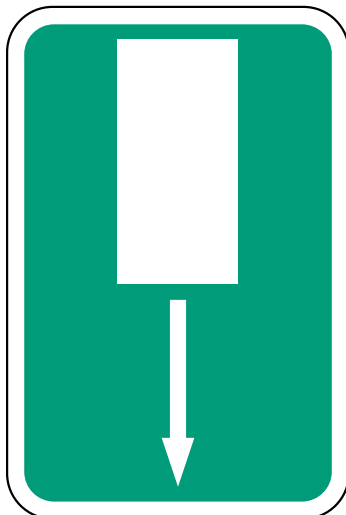
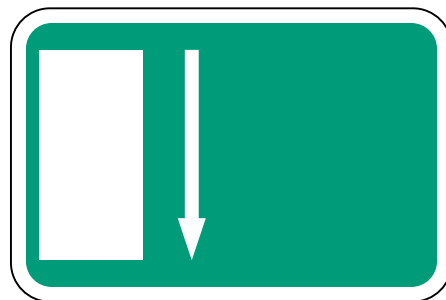
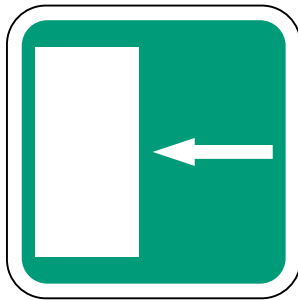
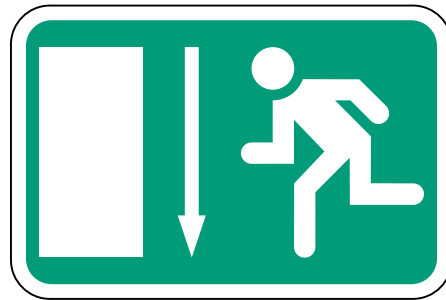
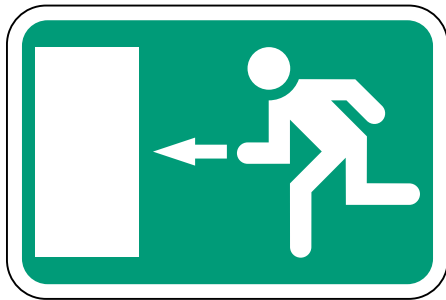
Safety harness must be worn

Emergency Escape or First-Aid Signs

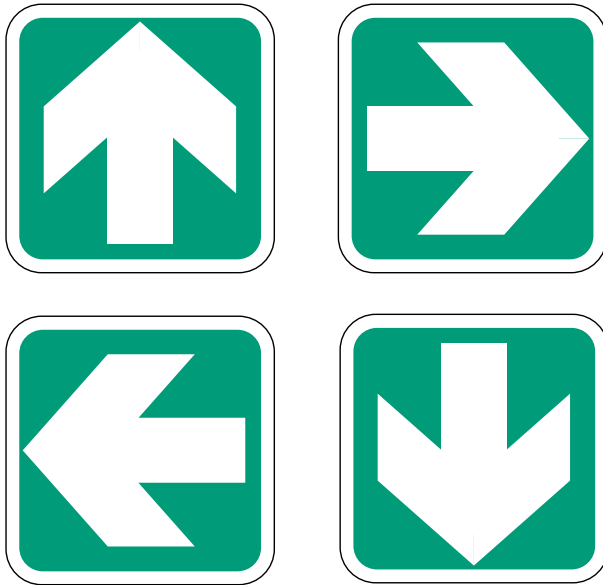
Intrinsic features:

- rectangular or square shape;
- white pictogram on a green background (the green part to take up at least 50% of the area of the sign).

Emergency Exit / Escape Route Signs



Supplementary 'This Wa' Signs for Emergency Exits / Escape Routes



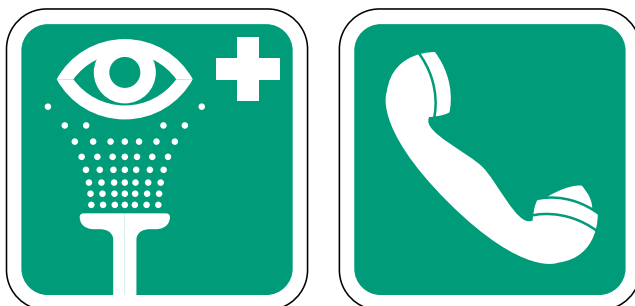
First Aid Signs



First-aid poster

Stretcher

Safety shower



Eyewash

**Emergency telephone
for first-aid or escape**

Firefighting Signs

Intrinsic features:

- rectangular or square shape;
- white pictogram on a red background (the red part to take up at least 50% of the area of the sign).



Fire hose



Ladder

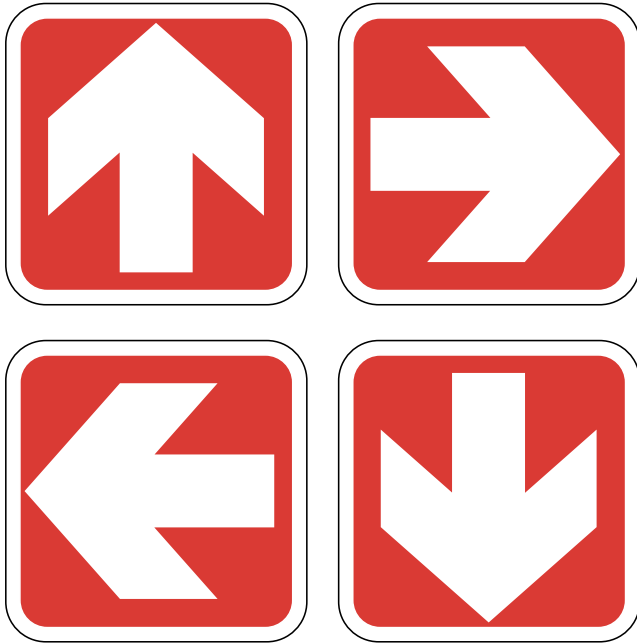


**Emergency fire
telephone**



Fire extinguisher

Supplementary 'This Way' Signs for Firefighting Equipment



ACTIVITY: List 5 Safety Signs you see on a daily basis

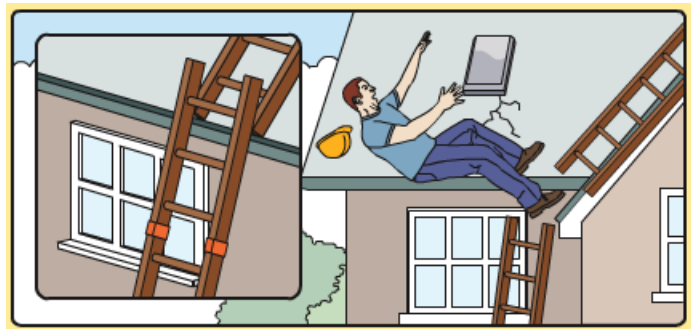


TOP 10 SAFETY RISKS

Fall From a Ladder

Preventing a fall from a ladder:

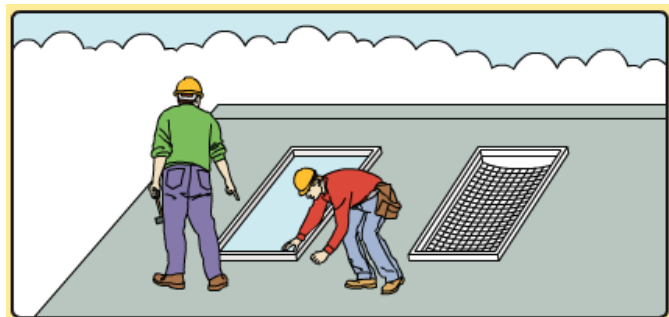
- Only do the job if you have the knowledge and experience to do it safely
- Follow the plan – use the correct equipment
- Raise any concerns about safety
- Ensure that the risks are identified before the job starts
- Ensure you have enough time
- Take responsibility for the job – minor tasks at height often means big risks
- Ensure the correct equipment is available for the job
- Plan the job so that risks are controlled



Fall through a Fragile Roof

Preventing falling through a fragile roof:

- Check how the work is to be carried out safely
- Put safety first when you are on the roof
- Ensure that you identify the risks before the job starts
- On site, check the safety measures are in place
- Stop work in the face of clear danger
- Plan how the job can be carried out safely

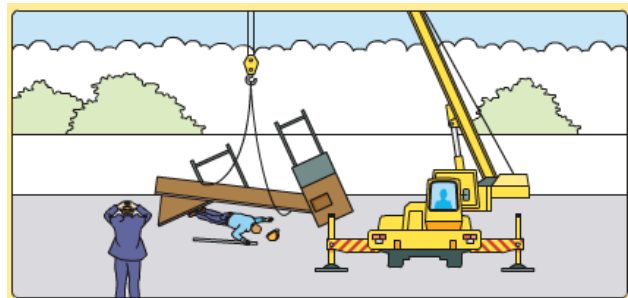


- Confirm that safety measures are in place before work starts

Lifting Operations

Preventing accidents whilst performing lifting operations:

- Ensure that you understand and work to recognised lifting signals
- Ensure everyone involved is competent for their task in the lifting operation
- Avoid working under a suspended load – recognise the danger
- Assess the work area, identify risks that may affect the lifting operation



- Only take part in lifting operations that are properly planned
- Check ground conditions and that there are no obstructions or overhead dangers such as overhead power lines
- Plan the job, taking account of the environmental conditions, and the complexity of the lift

Struck by Plant

Preventing being struck by plant:

- Ensure that you have been briefed on your site traffic plan and site access procedures
- Keep alert to risks around you during reversing operations
- Take account of background noise, and how this can affect communication
- Only act as a banksman if you are trained and authorised to do so

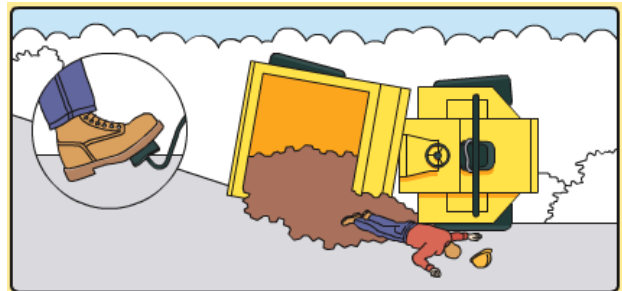
- Assess environmental noise and how this may affect your work
- Ensure adequate supervision of lorry movements at all times
- Ensure that a clear traffic management plan is in place, e.g. one way systems and areas for plant to reverse



Overtuning Plant

Preventing injury from overturning plant:

- Ensure you wear your seat belt correctly
- Take the time you need to do the job safely
- Drive the correct way up and down slopes, keep the greater weight of plant plus load uphill at all times
- Design safe traffic routes, set and enforce speed limits



- Allocate enough time per task to do it safely
- Remember, diggers can go where dumpers cannot – know the limits of your machine
- Monitor your site to identify changes to traffic routes

Fall from Scaffolding

Preventing falls from scaffolding:

- Only alter a scaffold if you are competent and authorised to do so

- Before work – check the scaffold has been inspected
- Ensure scaffolds are inspected regularly
- Ensure that risks introduced by work process changes are properly assessed
- Ensure only competent scaffolders move boards and alter scaffolds



- Report obviously unsafe scaffold immediately
- Ensure scaffolds are completed, checked and ready for use
- Check all minor alterations to scaffolds

Fall through an Internal Void

Preventing falls through internal voids:

- Follow the plan – use the correct equipment
- Only remove a cover or other protection to an internal void if you are authorised to do so
- Don not work close to an open edge



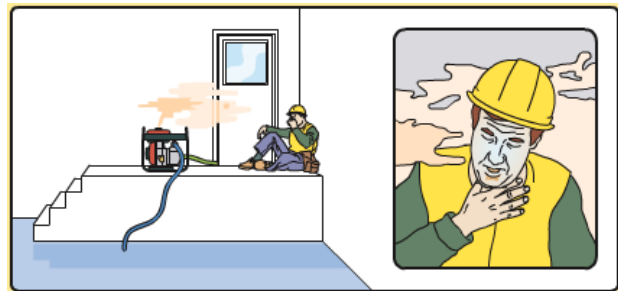
- Raise any concerns about your safety
- Assess the severity of the risks correctly, for short duration tasks
- Take responsibility to protect all those who might be affected
- Ensure the correct equipment is available for the job

Asphyxiation Poisoning

Preventing apshyxiation poisoning:

- Recognise if your workplace is a confined space – ask for advice
- Always read safety instructions on equipment

- Plan to eliminate use of petrol or diesel engined equipment in poorly ventilated areas
- Always site petrol or diesel engined plant in open air or vent the exhaust to open air

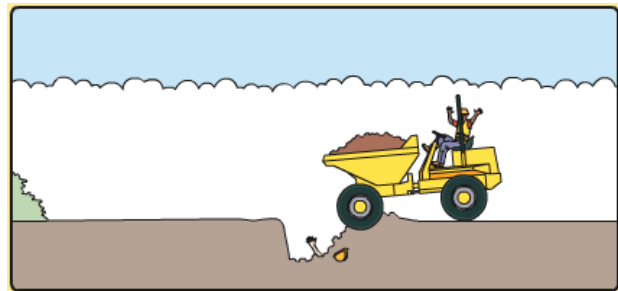


- Assess the job, identify the risks and plan a safe system of work
- If the work involves a confined space – get competent advice
- Understand which equipment or heaters can produce dangerous fumes

Crushed by Falling Excavation

Preventing being crushed by falling excavation:

- Never go into an excavation where the sides are not supported or battered back
- If you have a concern about the stability of an excavation – stop work and report it to your supervisor

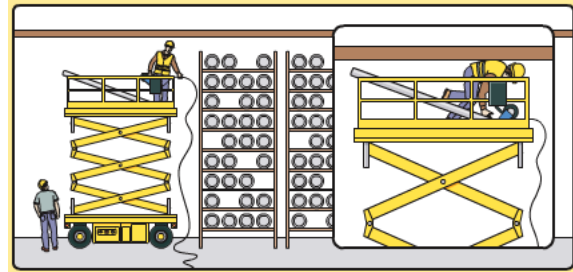


- Keep plant such as dumpers a safe distance from the excavation edge
- Make sure you are briefed on the safe system of work to follow in excavations
- Ensure that excavation sides are supported or battered back
- Specify safety barriers to prevent plant moving too close to the excavation edge

MEWP Crushing Entrapment

Preventing MEWP crushing entrapment:

- Be aware of potential trapping points around you
- Familiarise yourself with the MEWP controls – if in doubt, ask
- Ensure that the right type of MEWP is selected for the task
- Ensure that only trained and authorised operators operate MEWPs
- Take enough time to carry out your task safely
- Recognise the dangers of being distracted whilst raising or lowering a MEWP



ACTIVITY: What of the above safety risks are you exposed to on a daily basis?

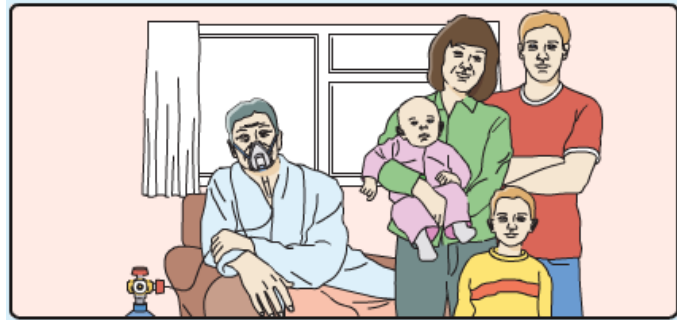


TOP 5 HEALTH RISKS

Asbestos

Preventing exposure to asbestos:

- Make sure you have been properly trained for work with asbestos and understand what is required of you in the plan of work.
- Use HSE's guidance to help you carry out the job properly and ensure that exposure to asbestos is kept as low as possible.
- If you have any concerns, stop work and talk to your supervisor.

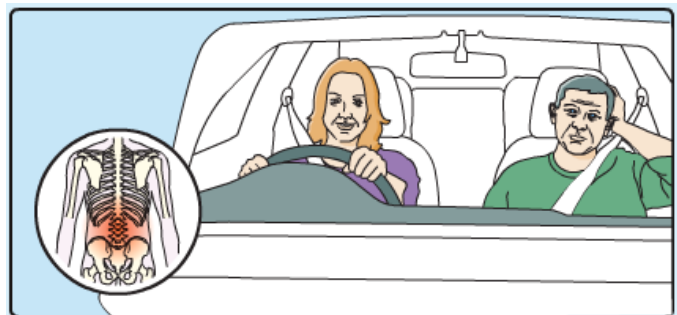


- Don't eat, smoke or drink in the work area.
- Use any equipment provided, including that for personal protection; ensure it is clean and in good working order.
- Make sure the work area is clean at the end of the job. Don't sweep up dust and debris – use a Type H vacuum cleaner and wet rags.
- Ensure asbestos waste is disposed of safely.

Manual Handling

Preventing injury from manual handling:

- Take the time to work safely. Low level blocks may be awkward and will take longer to lay comfortably.
- Keep blocks covered so they do not absorb rain water, which may add unnecessary extra weight.
- Keep blocks close to the point of use.

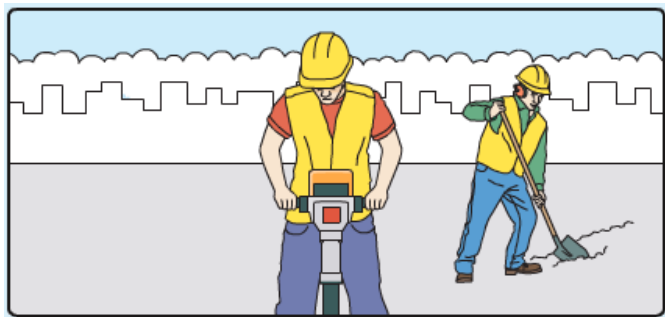


- Use any manual handling aids you are provided with.
- Take time to organise your work so you can maintain a comfortable rate and avoid unnecessary bending or reaching, eg put spot mortar boards at a comfortable height.
- Keep your work area free from obstructions.
- Let your supervisor know if you are experiencing pain.

Noise

Preventing exposure to excessive noise:

- Use ear defenders for noisy activities and ensure you wear them correctly. Keep them in good condition and report any faults.
- Ensure you understand the risks to your hearing and take action to protect yourself.
- Ensure you participate in health surveillance, if it has been identified that you need it.
- Report any signs of discomfort or deteriorating hearing to your supervisor, safety representative or occupational health department.



Silica

Preventing exposure to silica:

- Be aware of the dangers of working with RCS dust.
- Check the equipment you've been provided with is right for the job, in good working order and that you know how to use it.

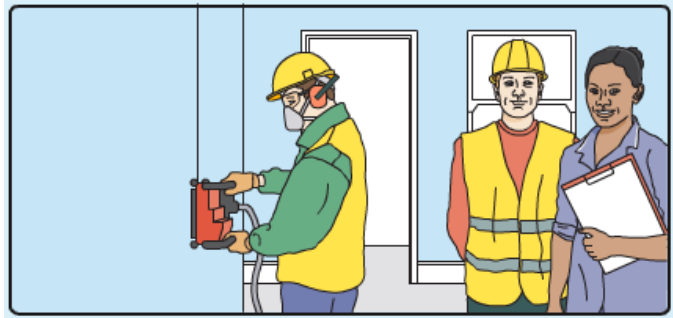


- Follow the method of work you've been given.
- If in doubt, stop work and ask your supervisor / manager for more information.

Vibration

Preventing exposure to excessive vibration

- Maintain tools and report any faults with them that may be increasing the level of vibration.
- Participate in job rotation, where these systems are in place.
- Participate in health surveillance, where this is provided



ACTIVITY: What of the above health risks are you exposed to on a daily basis?



RIDDOR - REPORTING OF INJURIES, DISEASES AND DANGEROUS OCCURRENCES REGULATIONS 2013

RIDDOR puts duties on employers, the self-employed and people in control of work premises (the Responsible Person) to report certain serious workplace accidents, occupational diseases and specified dangerous occurrences (near misses).

If you are an Employer

If you are an employer, you must report any work-related deaths, and certain work-related injuries, cases of disease, and near misses involving your employees wherever they are working.

If you are Self Employed

If you are working in someone else's work premises and suffer either a specified injury or an over-seven-day injury, then the person in control of the premises will be responsible for reporting, so, where possible, you should make sure they know about it.

If there is a reportable accident while you are working on your own premises or in domestic premises, or if a doctor tells you that you have a work-related disease or condition, then you need to report it.

TYPES OF REPORTABLE INCIDENTS

Deaths and Injuries

If someone has died or has been injured because of a work-related accident this may have to be reported. Not all accidents need to be reported, other than for certain gas incidents, a RIDDOR report is required only when:

- the accident is work-related
- it results in an injury of a type which is reportable
- Types of reportable injury
- The death of any person

TYPES OF REPORTABLE INJURY

The Death of any Person

All deaths to workers and non-workers, with the exception of suicides, must be reported if they arise from a work-related accident, including an act of physical violence to a worker.

Specified Injuries to Workers

The list of 'specified injuries' in RIDDOR 2013 replaces the previous list of 'major injuries' in RIDDOR 1995. Specified injuries are (regulation 4):

- fractures, other than to fingers, thumbs and toes
- amputations
- any injury likely to lead to permanent loss of sight or reduction in sight
- any crush injury to the head or torso causing damage to the brain or internal organs
- serious burns (including scalding) which:
 - covers more than 10% of the body
 - causes significant damage to the eyes, respiratory system or other vital organs
- any scalping requiring hospital treatment
- any loss of consciousness caused by head injury or asphyxia
- any other injury arising from working in an enclosed space which:
 - leads to hypothermia or heat-induced illness
 - requires resuscitation or admittance to hospital for more than 24 hours

Over-Seven-Day Incapacitation of a Worker

Accidents must be reported where they result in an employee or self-employed person being away from work, or unable to perform their normal work duties, for more than seven consecutive days as the result of their injury. This seven day period does not include the day of the accident, but does include weekends and rest days. The report must be made within 15 days of the accident.

Over-three-day incapacitation

Accidents must be recorded, but not reported where they result in a worker being incapacitated for more than three consecutive days. If you are an employer, who must keep an accident book under the Social Security (Claims and Payments) Regulations 1979, that record will be enough.

Non Fatal Accidents to Non-Workers (eg Members of the Public)

Accidents to members of the public or others who are not at work must be reported if they result in an injury and the person is taken directly from the scene of the accident to hospital for treatment to that injury. Examinations and diagnostic tests do not constitute 'treatment' in such circumstances.

There is no need to report incidents where people are taken to hospital purely as a precaution when no injury is apparent.

If the accident occurred at a hospital, the report only needs to be made if the injury is a 'specified injury' (see above).

Occupational Diseases

Employers and self-employed people must report diagnoses of certain occupational diseases, where these are likely to have been caused or made worse by their work: These diseases include (regulations 8 and 9):

- carpal tunnel syndrome;
- severe cramp of the hand or forearm;
- occupational dermatitis;
- hand-arm vibration syndrome;
- occupational asthma;
- tendonitis or tenosynovitis of the hand or forearm;
- any occupational cancer;
- any disease attributed to an occupational exposure to a biological agent.

Gas Incidents

Distributors, fillers, importers & suppliers of flammable gas must report incidents where someone has died, lost consciousness, or been taken to hospital for treatment to an injury arising in connection with that gas. Such incidents should be reported using the online form.

Registered gas engineers (under the Gas Safe Register,) must provide details of any gas appliances or fittings that they consider to be dangerous, to such an extent that people could die, lose consciousness or require hospital treatment. The danger could be due to the design, construction, installation, modification or servicing of that appliance or fitting, which could cause:

- an accidental leakage of gas;
- incomplete combustion of gas or;
- inadequate removal of products of the combustion of gas.

ACTIVITY: Have you ever suffered injury on site? Was it properly reported?



DISPOSAL OF WASTE MATERIALS

Most engineering sites produce significant waste, which if allowed to accumulate, can create new, or complicate existing, health and safety hazards. These range from basic nails in wood to attracting vermin.

Waste Control

Non-Hazardous General Waste:

- This can be termed as day to day waste and is disposed off at a suitable refuse tip, contents include paper, timber, cardboard, food waste, cardboard etc.

Hazardous Waste:

- This can be paint, hydrocarbons, etc. The disposal of this class of waste is highly regulated and can only be undertaken at a licensed tip by an approved, licensed carrier.

Recoverable Waste:

- Waste such as scrap metals, timber, paper and hydrocarbons can be recovered through specific processes, if there is a viable facility, available to us, to recover these materials and process them back into useable resources this will always be undertaken.

Sourcing suitable recycling means for waste will always be a priority to site management. Recycling our waste means that we are conserving natural resources and minimising the quantity of materials sent to landfill.

Basic Principles

- Consider how you are going to separate waste where applicable, such as using different skips, etc.
- Ensure nails etc, are removed from wood or hammered flat to avoid puncture wounds to other persons
- Consider how waste is going to be lowered to ground level from height. It should never be thrown down! Consider hoists, waste chutes, etc.

- If lightweight waste is produced, it may need to be bagged and tied to prevent the wind blowing it all over the site
- Never overload skips – they should not be loaded higher than the sides
- Beware of accumulating flammable waste and thus creating a serious fire risk
- Never burn or bury waste on site
- Dispose of any foodstuffs carefully to avoid attracting vermin and the risk of disease such as Weil's disease
- Inspect your waste! Can it be reduced? Can any of it be reused? Is any of it recyclable?
- All waste that leaves the site is costing money

ACTIVITY: What waste materials do you recycle on a daily basis?



GENERAL FIRE SAFETY

The Regulatory Reform (Fire Safety) Order 2005 (FSO) sets out the law on construction site general fire safety.

The FSO requires that a 'responsible person' must carry out, and keep up to date, a risk assessment and implement appropriate measures to minimise the risk to life and property from fire.

The responsible person will usually be the main or principal contractor in control of the site.

Fire Fighting Equipment

As well as providing fire extinguishers for specific activities, such as hot work or LPG storage, they should also be located at identified fire points around the site. Unless the equipment itself is predominantly red in colour and the location self-evident, identification of the fire point can be achieved by providing a stand which is substantially red in colour, or providing an appropriate safety sign (ie one which complies with the Health and Safety (Safety Signs and Signals) Regulations 1996 or BS 5499: Part 1: 2002. Fire extinguishers should be located on hooks or stands to keep them above ground level.

The primary purpose of fire extinguishers is to tackle incipient fires to prevent them becoming larger, or to aid an escape. Putting out larger fires is the fire service's role and, as such, should not be tackled by site workers.

The extinguishers should be appropriate to the nature of the potential fire. For:

- wood, paper and cloth, use a water, foam or multi-purpose dry powder extinguisher;
- flammable liquids, use a dry powder or foam extinguisher; and
- electrical items, use a carbon dioxide (CO₂) or dry powder extinguisher.

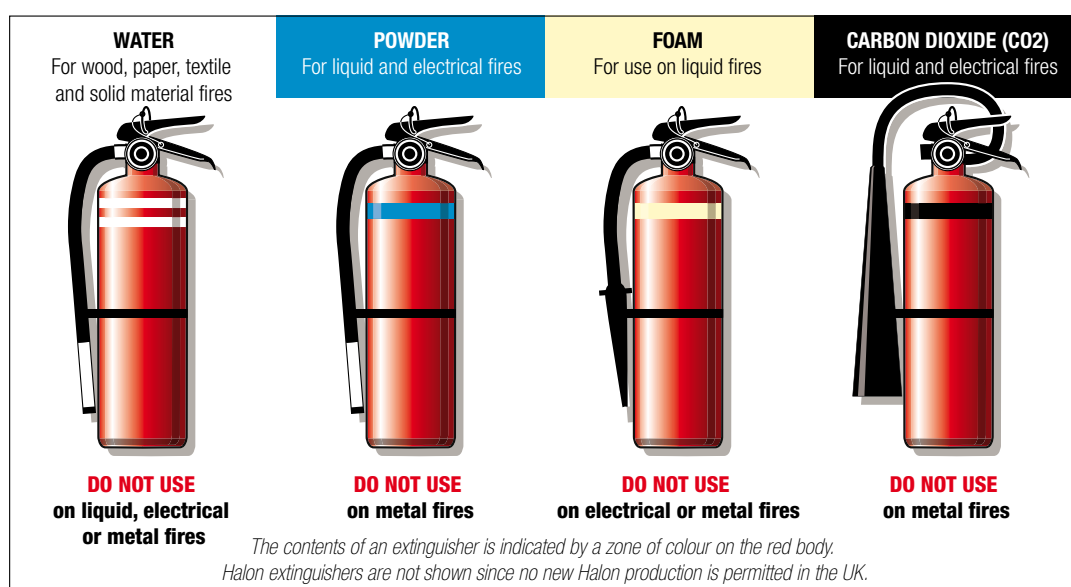
Extinguishers should conform to a recognised standard, such as BS EN 3–7: 2004. It is also important that there is an appropriate scheme to ensure they are regularly checked and properly maintained. This is not only to ensure that they are available and ready for use, but that accidents do not occur to the person using them.

Fire extinguishers and hose reels need to be inspected at least annually in accordance with a recognised procedure, such as that in BS 5306: Part 3, 2009 and BS 5306: Part 1, 2006 respectively. The work should be carried out by a competent person who has received appropriate training. The date and results

of the examinations should be recorded, often on a service sticker attached to the individual piece of equipment, so that the particular extinguisher or hose reel checked is identifiable.

The number and type of extinguishers present depends on the fire hazard. For a typical spread of fire hazards, the following is considered to provide a reasonable level of cover per 200 m² of floor area, with no fewer than two each of (a) and (b) on each floor:

- one 9 litre water or foam; and
- one CO₂ extinguisher (at least 1.1 kg).



Note: Dry powder extinguishers may be provided in addition or substituted for any of these extinguishers, especially where the nature of the fire hazard warrants this. Dry powder does not have a cooling effect and may reduce visibility.

Hose reels may also be used instead of the water-based extinguishers. One per 800 m² of floor area is recommended, but make sure it can reach all points of the area to be covered. Hose reels should be of an appropriate standard, such as BS 5306: Part 1, 2006 and, as with extinguishers, they need to be regularly checked, properly maintained and used by trained personnel.

It is important that everyone knows how to use the fire-fighting equipment. All fire-fighting equipment should have clear operating instructions with it. Those carrying out higher risk activities, such as hot work, need to be competent in the use of the fire-fighting equipment provided and training will normally be required to achieve this.

Larger and more complex structures, such as multi-storey buildings, may have fixed fire-fighting systems installed. These may range from dry and wet risers to automatic sprinkler systems. Dry and wet risers are provided for the fire service to tackle a fire quickly. The continued availability of these in existing buildings, and their early commissioning in new buildings, is therefore recommended. Similarly with sprinkler systems, it is worth planning the work so that these are available for as much of the construction phase as possible. Where risers are provided, liaison should be established with the fire service and the access points should be reviewed periodically.

Recognition should be given that sprinkler provision may have allowed for reduced fire resistance or extended travel distances. At construction stage this should be considered and be incorporated into any fire evacuation planning.

If working on an existing building fitted with fire-engineered solutions such as sprinklers or smoke control and these are put offline, this needs to be reflected in the assessments and it may be necessary to liaise with the local fire service.

ACTIVITY: Is your site fitted with adequate fire fighting equipment?



WORKPLACE BEHAVIOUR

'Human factors refer to environmental, organisational and job factors, and human and individual characteristics which influence behaviour at work in a way which can affect health and safety'. A simple way to view human factors is to think about three aspects: the job, the individual and the organisation and how they impact on people's health and safety-related behaviour.

The Job

Tasks should be designed in accordance with ergonomic principles to take into account limitations and strengths in human performance. Matching the job to the person will ensure that they are not overloaded and that the most effective contribution to the business results. Physical match includes the design of the whole workplace and working environment. Mental match involves the individual's information and decision-making requirements, as well as their perception of the tasks and risks. Mismatches between job requirements and people's capabilities provide the potential for human error.

The Individual

People bring to their job personal attitudes, skills, habits and personalities which can be strengths or weaknesses depending on the task demands. Individual characteristics influence behaviour in complex and significant ways. Their effects on task performance may be negative and may not always be mitigated by job design. Some characteristics such as personality are fixed and cannot be changed. Others, such as skills and attitudes, may be changed or enhanced.

The Organisation

Organisational factors have the greatest influence on individual and group behaviour, yet they are often overlooked during the design of work and during investigation of accidents and incidents. Organisations need to establish their own positive health and safety culture. The culture needs to promote employee involvement and commitment at all levels, emphasising that deviation from established health and safety standards is not acceptable.

ACTIVITY: Have the behaviour of others ever influenced you?



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A/503/1170

Comply with all workplace health, safety and welfare legislation requirements.

Questions

1.1 List the duties / responsibilities of all employees under the Health and Safety at Work Act.

1.2 State the likely impact on the work programme in the event of health and safety guidelines not being fully complied with.

1.3 State the purpose of a work permit.

1.4 Explain the reason for using a method statement.

1.5 State the reason for using a risk assessment.

1.6 Explain your lines of reporting responsibility within the site organisation.

1.7a

Explain the company reporting procedure for an accident.

1.7b

Explain the company reporting procedure for a near miss.

1.8

Explain how a person could identify that they were competent.

1.9 State any areas in which your own competence could be developed.

1.10 List TWO training / development opportunities available.

1.11 List the minimum PPE required when working on site.

1.12 List FIVE suitable items of PPE to be worn in the setting up of work locations.

1.13 State how often non-powered hand tools are to be inspected to ensure safe operation.

1.14 State what action should be taken in the event that a powered hand tool issued is identified as potentially dangerous or found to be faulty.

1.15a Care and control of hand tools is an important requirement. State: ONE action to ensure accuracy in the use of tools.

1.15b Care and control of hand tools is an important requirement. State: TWO actions to ensure safety.

1.15c Care and control of hand tools is an important requirement. State: ONE action to ensure security of tools.

1.16 State the location of the first aid facility and the nearest first aider.

1.17 List SIX hazards to health and safety which can occur when working in a trench.

1.18 State where information on shut down and evacuation can be obtained.

1.19 Explain the procedure for shut down and evacuation in case of an emergency.

1.20 State the type of accident that should be reported.

Thank you for completing the
A/503/1170 Workbook.

Please return the completed
Question section to you Assessor.