

# Technical Instruction Manual

## Introduction

As part of the Guardian Electricals commitment to improving the level of Health & Safety awareness of its staff and operatives it has been decided to produce a practical, simple to follow 'technical instruction' manual for all employees.

The aim of this manual is the development and maintenance of a safe working culture at all levels within the organisation. The Company feels that the use of 'technical instructions' is an invaluable means of involving those most at risk, these people being our employees and sub-contractors.

## Format

Whilst a standard format has been adopted throughout the 'technical instructions' contained in the manual, there remains considerable flexibility enabling Managers and Supervisors to adapt the content to their specific requirement.

The standard format used comprises the following:

- A Technical Instruction and Title: Purely for reference purposes.
- An introduction: A few lines that are used to introduce the particular talk, most including why it is important.
- The body of the text describes the actual risks and working practices to be adopted along with general information.
- An area to the foot of the page identifies mandatory requirements and significant hazards.

## Frequency

The Company has made a commitment to carry out 'toolbox talks' on a regular basis on all sites, dependant upon the size of the site or the potential risks involved on a particular site the frequency may be increased as required. There is no reason why each 'toolbox talk' should need to last more than 10 to 15 minutes. The company feels that the benefits of adopting this method of training will include greater awareness, with the potential to reduce accidents and possibly even save lives.

## Which talks

When starting any project a 'Project Method Statement & Risk Assessment' will be carried out by your project manager, within this document there are identified risks and hazards along with materials, plant and equipment to be utilized on your project, each one of these hazards is referenced to a Technical Instruction sheet within this manual. It would therefore be sensible to conduct 'toolbox talks' initially relating to the specific hazards identified on your site, although the 'toolbox talks' should not be limited to those items only.

## Summary

Toolbox talks provide a convenient and effective method of communicating and reinforcing the safety message throughout the workforce, and, used properly, can significantly enhance the development of a safe working culture.

In preparing this manual much research has been undertaken to ensure that the information provided is accurate, the major source of this information has been the Health & Safety Executive.

Although every care has been taken in producing this manual the contents are to be used in promoting safety awareness and safe working practices. It is not a substitute for the statutory regulations and may not address all safety issues on a specific site.

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**Title: Storage of Material on Site**

**Ref: TI001**

**Introduction:**

Materials should be stored in a properly organised area with clear access and egress routes. Cupboards and racks must be properly constructed bearing in mind the load they are required to bear. Special arrangements need to be made for combustible materials, compressed gases and flammable liquids.

**Information:**

**Storage of Ladders/Steps/Trestles**

- Store upright if possible.
- If stored flat, keep clear of the ground.
- Never hang by stiles or rungs.
- Store square to prevent distortion.
- Secure to prevent unauthorised use.

**Storage of Scaffolding**

- Must be stored safely to prevent mechanical or chemical damage.

**Storage of Hoists**

- Must be suitably secured when not in use so as to prevent unauthorised use.

**Storage of General Hand/Power Tools**

- Must be kept in a clean, dry store (preferably locked to prevent unauthorised use).

**Storage of Cartridge Operated Tools**

- Must be stored unloaded at all times in a locked cabinet.

**Safe stacking of materials on site**

- Only stack materials in designated areas ensuring that escape routes, doorways etc, are not obstructed. Stack on level, firm surfaces, use packing where appropriate, and never stack materials higher than three times the base width.
- Make sure you wear suitable protective clothing such as gloves and safety boots, and use handling accessories as appropriate.
- Do not stack pipes in pyramids – they are not sufficiently stable.
- Large concrete rings must be laid flat so they cannot roll.
- Small sized timbers should be stacked in racks.
- Bearers should be used for larger timbers and joists – use cross packing to keep level.
- Where possible keep different length timbers in different stacks.
- Large prefabricated panels should be stacked flat or in suitable racks -they should never be leant against temporary structures, parts of buildings, or where the wind could affect them.
- Store bricks/blocks/palleted materials on level surfaces and ensure heights are controlled - only stack two packs high, and place upper stacks squarely on lower stacks.
- If banding is damaged or materials are displaced then do not stack other materials on top - where necessary make lower stacks safe.



For information regarding the storage of LPG and highly flammable liquids, please refer to Technical Instructions TI030

**Significant Hazards**

The risk of falling objects.

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Title: Working alone

Ref: TI002

**Introduction:**

This Technical Instruction highlights information when working alone in environments which are occupied by third parties, or unoccupied premises. When working in situations like these alone it is necessary to evaluate the risk associated with your activity and communication in the event of an accident.

**Information:**

**Planning**

**People in fixed establishments**

- People working alone in premises, eg in small workshops, petrol stations, kiosks or shops
- People who work from home
- People working separately from others, eg in factories, warehouses, some research and training establishments, leisure centres or fairgrounds
- People working outside normal hours, eg cleaners and security, production, maintenance or repair staff

**Mobile workers working away from their fixed base**

- Workers involved in construction, plant installation, maintenance and cleaning work, electrical repairs, lift repairs, painting and decorating or vehicle recovery
- Agricultural and forestry workers
- Service workers, eg rent collectors, postal staff, social workers, home helps, doctors, district nurses, pest control workers, drivers, engineers, architects, estate agents, sales representatives and similar professionals visiting domestic and commercial premises

**During Works**

- Does the workplace present a special risk to the lone worker such as automatic machinery
- Is there a safe way in and a way out for one person
- Can any temporary access equipment which is necessary, such as portable ladders or trestles, be safely handled by one person
- Is there a risk of violence
- Are women especially at risk if they work alone
- Are young workers especially at risk if they work alone
- Is the person medically fit and suitable to work alone
- What happens if the person becomes ill, has an accident or there is an emergency
- Physical barriers and notices should be installed to isolate work from occupants and members of the public.
- Fire exit routes should be kept free from obstruction, or alternate routes should be clearly signed.
- Working in a high-risk confined space, where a supervisor may need to be present, along with someone dedicated to the rescue role;
- people working at or near exposed live electricity conductors;
- other electrical work where at least two people are sometimes required.
- Where work at height is to be done,
- Site supervisors should make sure safe systems of work are in place before work begins. This will include regular communication with lone workers via telephone.

**Training**

- Induction training should include any hazards and necessary precautions required.
- Operative training should include safe systems of work and precautions designed to prevent injuries to third parties.

**Mandatory Requirements:**

Construction (Health, Safety and Welfare) Regulations Electricity at Work Regulations and Memorandum HS(R)25

HSE Guidance Booklet H(G)85: Electricity at Work - Safe working practices

COSHH Regulations

Management of Health and Safety at Work Regulations

Health and Safety at Work Act

HSE Health and safety guidance on the risks of lone working INDG73 (rev2)

**Significant Hazards**

The risk of falling objects.

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**Title: Work in Occupied Premises**

**Ref: TI003**

**Introduction:**

This Technical Instruction highlights information when working in environments which are occupied by third parties. When working in situations like these, the use of barriers, notices and safe systems of work are extremely important.

**Information:**

**Planning**

- Should include exchange of information with owners/occupiers to ensure full reciprocal knowledge of existing hazards, demarcation of areas of responsibility and work hazards.
- Access equipment should be provided to ensure maximum safety of workers and occupants.
- Details of existing services should be obtained before the start of works.
- COSHH and noise assessments should be available for materials and tools to be used.

**During Works**

- Physical barriers and notices should be installed to isolate work from occupants and members of the public.
- Fire exit routes should be kept free from obstruction, or alternate routes should be clearly signed.
- Hot work should be controlled and fire extinguishers should be available for use.
- Where work at height is to be done, debris netting or other suitable measures to protect the public should be installed.
- Flammable and hazardous materials should be correctly controlled and stored.
- Site supervisors should make sure safe systems of work are in place before work begins and that areas are left safe at the end of each work period.
- Regular liaison should take place with occupants to co-ordinate work and eliminate hazards to them.
- Use of PPE and ventilation equipment should be monitored to ensure compliance with COSHH assessments.

**Training**

- Induction training should include any hazards and necessary precautions required for the workplace.
- Operative training should include safe systems of work and precautions designed to prevent injuries to third parties.
- Site supervisors should be trained in site safety supervision.

**Mandatory Requirements:**

Construction (Health, Safety and Welfare) Regulations Electricity at Work Regulations and Memorandum HS(R)25 HSE Guidance Booklet H(G)85: Electricity at Work - Safe working practices COSHH Regulations Management of Health and Safety at Work Regulations

**Significant Hazards**

The risk of falling objects.

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**Title: Setting Up Site Facilities: Offices, Welfare and Storage**

**Ref: TI004**

**Information:**

**Rest facilities**

- Provide rest facilities for taking breaks and meal breaks. The facilities should provide shelter from the wind and rain and be heated as necessary.
- The rest facilities should have;
- tables and chairs
- a kettle or urn for boiling water
- a means of warming up food (for example a gas or electrical heating ring, or microwave oven).
- Non-smokers should be able to use the facilities without suffering discomfort from tobacco smoke.
- Provide ventilation, or if this is not possible, you may need to provide separate areas for smokers and non-smokers, or ban smoking in the presence of non-smokers.
- On small sites, the site office can make a suitable rest area.
- Plant, equipment or materials should not be stored in rest areas.

**Drinking Water**

- Make sure there is a supply of drinking water readily available. Where possible it should be supplied direct from the mains.
- If water is stored, protect it from possible contamination and make sure it is changed often enough to prevent it from becoming stale or contaminated.
- Clearly mark the drinking water supply to prevent it being confused with water which is not fit to drink. Provide cups or other drinking vessels at the water tap, unless the water is supplied in an upward jet which can be drunk easily (eg drinking fountain).

**Heating**

- Inadequately ventilated LPG cookers and heaters can produce carbon monoxide. Gas may escape from leaking cylinders which have not been properly turned off. You can eliminate these risks by using properly maintained electrical equipment instead.
- If this is not possible, reduce the risk by;
- -Using and storing the cylinders in a safe, well ventilated places outside the accommodation (including overnight). -Providing adequate combustion ventilation (provide fixed grills at high and low level).
- -Checking that cylinders are properly turned off when not in use. Turn off the tap at the appliance and isolate the cylinder.
- -Using wall or ceiling mounted carbon monoxide detectors.

For more information on the storage and use of LPG, please refer to Toolbox Talk TI031

**Mandatory Requirements:**

Electricity at Work Regulations  
Control Of Substances Hazardous to Health Regulations  
Provision and Use of Work Equipment Regulations  
Construction (Health, Safety and Welfare) Regulations  
Fire Precautions Act (as amended)  
Fire Certificate (Special Premises) Regulations

**Significant Hazards**

Fire/Explosion, Trespassers,  
Exposure to hazardous substances, Collapse of structure

**Introduction:**

Construction site workers need adequate toilet and washing facilities, a place to warm up and eat their food and somewhere to store clothing. Good facilities can have a positive benefit on health and wellbeing and can help prevent dermatitis. This Technical Instruction describes the minimum welfare facilities which should be provided/made available on fixed construction sites.

**Information:**

**Duties**

- If you have overall control of the site, you are responsible for making sure that legal requirements for welfare are met for the site. This means, as the principle contractor or other person in control of the site will often either provide or arrange for common facilities for everyone.
- If you are a visiting contractor, you need to ensure that everyone working under your control is either provided with or has access to suitable welfare facilities. This will need to be agreed with the person who has overall control of the site.
- If work is carried out in occupied premises, eg offices, factories etc, it may be possible to make arrangements with the client to use the permanent facilities at the premises.

**Planning**

- Consider welfare facilities, their location on site and regular maintenance during the planning and preparation stage of any project.
- Arrange for equipment to be available, provided, sited and connected to services before construction work starts or where additional numbers of workers start on site.
- Make sure the facilities reflect the site size, nature of work and numbers of people who will use them. If a large number of people are working on site or the work being carried out is particularly dirty or involves a health risk, you will need more washing facilities (which may include showers), toilets etc.

**General welfare requirements**

- Ensure that all toilet, washing, changing, personal storage and rest areas are accessible and have adequate heating, lighting and ventilation.
- Facilities may need to be provided at more than one location to make sure workers have easy access.
- Make sure someone is responsible for keeping the facilities clean and tidy. How often the facility will need cleaning will depend on the number of people on site and on how quickly they become dirty.

**Toilet facilities**

- Make sure that an adequate number of toilets are provided at all times.
- Wherever possible, connect toilets to a mains drainage system and ensure they are water flushing. If this is not practicable, use facilities with built in supply and drainage tanks.
- Where portable no-mains (chemical) toilets are used, make sure they are serviced regularly in accordance with the suppliers recommendations. The frequency of servicing will depend on the amount of use.
- Make sure adequate supplies of toilet paper are always available.
- Washing facilities
- Put washing facilities next to both toilets and changing areas and make sure they include;
  - -Basin(s) or sink(s) large enough for people to wash their face, hands and forearms
  - -A supply of hot and cold or warm running water
  - -Soap and towels (either cloth or paper) or dryers

- If mains water is not available, use clean water supplied from a tank
- You may need more washing facilities, including showers where work is particularly dirty or when workers are exposed to hazardous substances. These will need to be separate from the main facilities.

**Storing and changing clothing facilities**

- Every site should have arrangements for storing clothing not worn on site and protective clothing that may be needed for site work.
- Where there is a risk of protective site clothing contaminating everyday clothing, store items separately.
- Make sure wet site clothing can be dried
- If electrical heaters are used, ensure they are properly ventilated and if possible fitted with a high temperature cut-out device.

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Title: Use Of Skips

Ref: TI005

**Introduction:**

This Technical Instruction points out important facts regarding the best way to dispose of large amounts of rubbish and the use of skips.

**Information:**

**General**

- Skips should be placed on firm level ground where possible
- A safe means of access should be provided if tipping into a skip
- Fires are not permitted in skips
- Never overload skips - they should not be loaded higher than the sides
- If disposing of different types of waste, use several skips to keep it separated from each other



**Location of skip and requirements**

Conditions to be met by the owner (the person with the hire contract) of a Builders Skip when placed on the Highway;

- 1 Each skip shall be deposited on the carriageway/verge and shall be positioned  
-so that its longer sides are parallel to the edge of the carriageway and as near to the edge of the carriageway as is reasonably practicable and  
-so that it does not impede the surface water drainage of the highway nor obstruct access to any manhole or the apparatus of any statutory undertaker or the Council and
- 2 No skip shall be deposited in or partly in the carriageway of the road such as to prevent the free passage of vehicles or pedestrians along the carriageway in at least one direction; nor shall it prevent the free passage of pedestrians when deposited in a pedestrian precinct.
- 3 No skip shall be deposited in or partly in the carriageway of the road such as to prevent the free passage of vehicles and or pedestrians to any premises unless the consent of the occupier of those premises has been obtained.
- 4 Each skip shall not exceed 5 meters in length by 2 meters in width.
- 5 Each skip or group of skips shall while on the highway be marked, guarded and lit in accordance with the following requirements: -
- 6 The ends of each skip (the sides of the skip facing traffic in both directions when the skip is positioned as mentioned in condition 2 above) shall be painted yellow and must be fitted with vertical markings in accordance with the "Builders' Skips (Markings) Regulation 1984", in having broad red fluorescent and yellow reflecting diagonal stripes. The painting and stripes of material shall be at all times kept clean. Damaged skips are not acceptable and may result in a skip being required to be removed.
- 7 Each skip shall be guarded by a line of at least 4 traffic cones (complying with B.S.873: Part 8 1985), placed on the carriageway at 1.2m centres on the approach side of the skip, at 45° to the edge of the carriageway (see diagrams overleaf). Where 2 or more skips are deposited in a row, so that the distance between adjacent skips does not exceed 2 mtrs, the row shall be guarded as if it were 1 skip.
- 8 At night (between half-an-hour after sunset and half-an-hour before sunrise); A lamp should be placed against or attached to each corner of the skip or the end corners of the row of skips where two or more skips are deposited in a row and the distance between adjacent skips does not exceed 2 meters and shall also be placed between each cone and the next (see diagrams overleaf).  
- It is a condition of this permission that all necessary cones and lamps are provided for the customer's use by the skip owner and all are in good working order.  
-The skip owner must ensure that the necessary cones and lights are placed in position immediately the skip is deposited on the highway.
- 9 Each skip or container shall be clearly and legibly marked with the owners name, address, and telephone number including out of hours emergency contact number.
- 10 No skip when standing in the highway shall contain any inflammable, explosive, noxious or dangerous material or any material which is likely to putrefy or which otherwise is, or is likely to become, a nuisance to users of the highway.
- 11 No skip shall remain on the highway after the period of the permission specified has expired.
- 12 Once the skip has been filled or work has finished, arrangements should be made for the collection of the skip

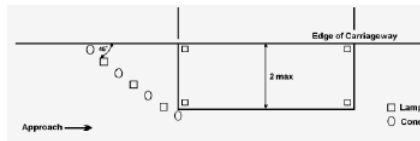
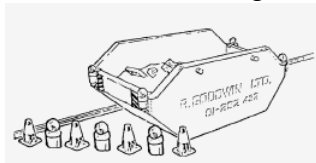
**Title: Use of Skips**

**Ref: TI005**

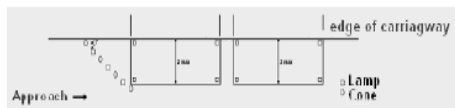
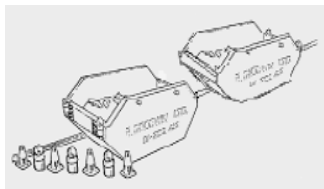
**Information (Continued):**

Skips located on highways should be marked as;

- For a single skip



- For two skips



**Disposal of hazardous materials**

When hazardous materials disposal is required, a separate skip is needed. It should be clearly marked with the skips contents and should be covered up. Special arrangements with the disposal company should have been made for the disposal of hazardous waste materials.

**Under no circumstance, should hazardous waste materials be disposed of along with general rubble!**

**Mandatory Requirements:**

- Provision and Use of Work Equipment Regulations
- Construction (Health, Safety and Welfare) Regulations
- Highways Act
- Builders Skips (Marking) Regulations
- Environmental Protection Act (Duty of Care) Regulations

**Significant Hazards**

- Road traffic accidents
- Materials falling from skip
- Trapping between skip and fixtures during raising and lowering
- Unintentional release of skip during raising and lowering

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**Title: Clearing of Sites, Cleaning of Premises and General House Keeping**

**Ref: TI006**

**Introduction:**

The purpose of this Technical Instruction is to point out, what you are required to do in keeping sites clean and tidy. Not only does a clean & tidy site influence the safety of the site but shows customers & clients that the installation is being undertaken by a professional company.

**Information:**

**General House Keeping**

- All stairways, passageways and gangways must be kept free of materials, supplies and obstructions of every kind.
- Materials and supplies must be kept away from the edges of hoistways, ladder access, stairways and floor openings.
- Spillages of oil or other substances must be cleaned up immediately using the appropriate procedure.
- Protruding nails in timber should be removed.
- Tools not in use should be placed in a toolbox or tool bag and not strewn about to cause tripping hazards.
- Toilets, wash-up facilities and drinking water are provided for your use and comfort. These facilities should be kept clean and tidy. Keep mess rooms clean. Do not let spoiled clothes, food scraps etc accumulate.

**Cleaning of premises**

- Work should be planned to ensure that the occupants/public will be isolated from the work and associated hazards.
- No hazardous chemicals are to be used unless a COSHH assessment has been made, recorded and brought to the attention of the users.
- External cleaning/maintenance will not be done in adverse weather conditions.
- Protective equipment required by the COSHH assessment should be provided and worn.
- Warning signs should be displayed in areas where floors are being cleaned.
- Adequate and suitable access equipment should be provided for those required to work at heights.
- Cleaning materials and equipment will be stored in secure areas when not in use.
- Dusty areas should be damped down to minimise airborne dust.
- Check that all floor coverings are being maintained in a safe condition, with no trip/slip hazards.
- Ensure that if cleaning and maintenance is carried out in public areas, adequate safeguards such as barriers and notices and diversion routes are in place.
- All operatives involved in handling/use of chemicals should undertake necessary training as set out in the COSHH assessment.

**Clearing of sites**

- Assess the need to use chemicals and burning (including their probable effects on humans, animals and the environment).
- COSHH assessments should be available for any hazardous substance to be used.
- Arrangements should be made for the safe storage of chemicals and pesticides.
- Personal protective equipment should be worn as required by COSHH assessments.
- The spraying of any chemicals should not be undertaken whilst other operatives or the general public are in the area and will take account of environmental conditions such as winds.
- Application rates of chemicals should not be exceeded.
- Supervisors should ensure that frequency of chemical application and mixing of

solutions is strictly controlled.

- Spray operators should be trained and certificated to the appropriate NPTC (National Training Proficiency Test Council) level.

**Mandatory Requirements:**

Workplace (Health, Safety & Welfare) Regulations  
Manual Handling Operations Regulations  
Provision and Use of Work Equipment Regulations  
Control Of Substances Hazardous to Health Regulations Personal Protective Equipment Regulations  
Management of Health and Safety at Work Regulations

**Significant Hazards**

Slips, trips and falls  
Exposure to hazardous substances  
Contact with moving plant

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**Title: Noise on Site**

**Ref: TI07**

**Introduction:**

It has been established that exposure to loud noise can effect hearing. Where there is a high level of noise, e.g. impact noise when a cartridge operated tool is used or white (background) noise from the site activity, use of machinery etc., ear protection should be used.

**Information:**

**What is sound?**

Sound may be defined as 'a variation in air pressure detected by the ear and subsequently interpreted by the brain as sound'. The loudness and frequency of the variations are detected by fine hairs located within the Cochlea in the inner ear. Exposure to prolonged and/or excessive noise levels can cause permanent damage to the fine hairs which cannot be improved by hearing aids.

When interpreting noise levels measured in decibels (dB), it is quite easy to assume that a noise level difference of 10dB isn't much, but because decibels are calculated as a logarithmic scale that difference of 10dB has an effect of doubling the sound intensity.

**Noise at work**

To minimise the exposure of employees to noise and thereby reduce the risk of noise induced hearing loss, the Noise at Work Regulations were introduced. The Regulations require;

- Reducing noise levels as low as reasonably practicable
- Designated hearing protection zones where necessary
- Provision and wearing of hearing protection as necessary
- Maintenance of supplied hearing protection
- Provision of information, instruction and training to employees
- Employees to use hearing protection equipment as supplied and required by the employer
- Report defects to the employer

**Noise Action Levels**

The Noise at Work Regulations require that when appropriate measures have been taken to reduce noise at source to the lowest reasonably practicable level, suitable hearing protection: must be readily available where noise levels, averaged over an eight hour working day are between 85dB and 90dB

**First Action Level.**

must be worn where noise levels exceed 90dB averaged over an eight hour working day

**Second Action Level.**

must be worn where noise levels peak at 140dB

**Peak Action Level. Sound Measurement**

The following list gives you an idea of the sound levels a human is likely to encounter;

- 20dB - Very quiet room
- 40dB - Quiet office
- 60dB - Office
- 75dB - Traffic
- 100dB - Pneumatic drill
- 120dB - Diesel engine room
- 140dB - Jet engine (Threshold of pain)

**Mandatory Requirements:**

To comply with the Noise at Work Regulations

**Significant Hazards**

**Damage to Hearing**

Exposure to noise can cause temporary and/or permanent and incurable hearing damage. It can be immediate but likely to be cumulative extending over many years. Some of the effects include; difficulty in Hearing certain high or quiet sounds, having to ask people to speak louder or raising the volume of the TV/Radio & Noises or 'ringing' sounds (tinnitus). Hearing aids will not improve the situation.

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**Title: Disposal of Fluorescent Luminaires**

**Ref: TI008**

**Introduction:**

The purpose of this Technical Instruction is to point out how to plan and actually dispose of fluorescent luminaires in a safe manner.

**Information:**

**Planning**

COSHH assessments should be carried out in case of lamps being broken or crushed on site. Quantities of waste fluorescent lamps should be estimated and disposal discussed with both those in control of the premises and the local waste disposal officer.

**Luminaire disposal**

- Fluorescent lamps where possible, should be kept whole and intact so as not to allow the escape of hazardous substances.
- If off-premises disposal has been arranged, a suitable storage area should be made available.
- Containers used for lamps awaiting disposal should be suitably marked.
- Appropriate PPE will be available as determined by the COSHH assessment.
- Fluorescent lamps will be treated as controlled waste, and should be kept separate from other building waste.
- If fluorescent lamps are to be stored in skips, you should ensure that contaminated water does not leak from the skip.
- COSHH control measures should be monitored where there is high risk of lamps being broken.

Guardian Electrical use their authorised suppliers to dispose of fluorescent lamps. If you have lamps to dispose of on site, contact your Line Manager.

**Mandatory Requirements:**

Control Of Substances Hazardous to Health Regulations  
Environmental Protection Act  
Environmental Protection Act (Duty of Care) Regulations  
Department of Environment Code of Practice : Waste Management - The Duty of Care  
Waste Electrical and Electronic Equipment (WEEE) Regulations

**Significant Hazards**

Absorption/inhalation of cadmium or mercury and compounds  
Injury from flying glass  
Land and water pollution

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Title: Vehicles on Sites

Ref: TI009

**Introduction:**

In the majority of site vehicle accidents, the principal factors are driver failure and vehicle failure, both of which can be controlled. A relatively small proportion of accidents is due to vehicle mechanical failure. This Technical Instruction highlights the risks and how to overcome them, when working on or around site vehicles.

**Information:**

**Causes of transport accidents**

Transport accidents occur because of;

- Contact - with structures, services etc
- Overturning - through incorrect loading, speeding & surface conditions
- Collision - with other vehicles or pedestrians
- Impact - materials falling or the vehicle overturning onto the operator
- Entanglement - in dangerous parts of machinery or controls
- Explosion - when carrying batteries or inflating tyres
- Operator/Supervisor error - through inadequate training or experience

**Preventing transport accidents**

These accidents are preventable by the use of a planned approach involving;

- Driver selection, training and supervision
- Selection -will require an evaluation of age, experience, driving record and attitude. People who drive safely also have other qualities such as courtesy and ability to get on well with others. These can be used to pick potential safe drivers. Local/ national driver qualifications must also be observed.
- Training -of drivers may be for remedial, refresher or special reasons in addition to basic instruction for drivers unfamiliar with the vehicle to be driven. Generally driver training courses should cover applicable local/national driving rules, company driving rules, what to do in the event of an accident and defensive driving techniques.
- Supervision -must ensure that all vehicle drivers engage in safe practices and should be aware of their drivers' safety performance. They will also be responsible for investigating and recording of accidents.
- Control of visiting drivers. For any workplace, visitors are unlikely to be familiar with work practices, layout and local rules and will required to have this information presented to them in the appropriate way. This is normally done either by publication of written material or by the positioning of signs. Control of visitors must be exercised, since if the breaking of local rules is condoned this will have a negative effect on attitudes of those who observe them.
- Traffic control in the workplace. Adequate clearance should be provided for the safe movement of vehicles, identifying overhead or floor- level obstructions. Vehicles and pedestrians should be separated where practicable, with warning lights and/or signs displayed as well as safe crossing places being clearly marked and mirrors fitted to improve visibility into blind areas. Speed limits should be controlled, backed where necessary with speed ramps. Movements should be properly supervised when reversing or where access is difficult using recognised signals. Vehicles should be checked that dangerous parts of machinery are guarded and that there is safe means of access/egress.
- Maintenance Procedures. Planned maintenance procedures prevent accidents and delays due to mechanical failures, minimise repair down-time and prevent excessive wear and breakdown. Drivers/operators are usually the first to notice when defects develop, and should check their vehicles before use. Brakes must be applied, wheels chocked before entry under vehicle bodies or propping up

raised bodies when carrying out vehicle repairs.

**Mandatory Requirements:**

- Provision and Use of Work Equipment Regulations
- Construction (Health, Safety and Welfare) Regulations
- Road Traffic Acts, Road Vehicle (Construction and Use) Regulations

**Significant Hazards**

- Contact with overhead power lines
- Vehicle overturning
- Collision with structures or pedestrians
- Collision with other vehicles
- Causing collapse of or falling into excavations

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**Title: Employees Duties**

**Ref: TI010**

**Introduction:**

This Technical Instruction contains duties to be undertaken by all employees. All information has been extracted from The Health and Safety at Work Act and the company's health and safety policy.

**Information:**

**Main Points**

- Employees must take reasonable care of their own health and safety and that of others who may be affected by their acts or omissions. They must also co-operate with their employer so far as is necessary to enable the Employer to comply with his duties under the health and safety at work act.
- It is an offence for anyone to intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare.

**Project/Site Supervisors duties**

- Overall implementation of the Company's Safety Policy on his Site.
- Liaison with all visitors to site and other contractors.
- Control and Assessment on site of hazardous substances.
- Regular inspection of Tools, Plant and Equipment used on his Site by the Company's Employees and Subcontractors and the reporting of any deficiencies to the Project Engineer or Director.
- Regular inspection of Access Equipment used on his Site by the Company's Employees and Subcontractors and the rectification of any deficiencies found.
- Ensuring the Workplaces are free of rubbish or any other items, which would interfere with safe working procedures.
- Ensuring the effective implementation of measures in respect of any Risk assessments, or Method statements that have been developed.
- Ensuring that there are adequate provisions of site safety equipment including Fire Extinguishers, Protective Equipment, Protective Clothing, First Aid equipment etc.
- Identifying, issuing and monitoring of Personal Protective Equipment.
- The obtaining of necessary Permits to Work or Test and for the activities all operatives and subcontractors under his charge covered by the Permit.
- At the completion of the activities the Supervising Site Foreman is responsible for cancellation of the Permit
- Reporting of accidents or dangerous occurrences to the Projects Engineer or Head Office.
- Provision of information regarding the Health and Safety competence of subcontractors and submission to the Director or Project Engineer.

**Site operative duties**

- His own safety, that of his work mates and other people in the vicinity of his work or who may be affected by his work.
- The implementation of the Company's Safety Policy in as much as it affects his own work.
- Compliance with the provisions of Risk Assessments, Method Statements and other Health and Safety Management requirements.
- Reporting of accidents or dangerous occurrences to the Contracts Engineer or Site Supervisor.
- Regular inspection of Tools, Plant and Equipment, which he is using, and the reporting of any deficiencies to the Contracts Engineer or Site Supervisor.
- Regular inspection of Access Equipment and Protective Equipment, which he is using, and the reporting of any deficiencies to the Contracts Engineer or Site

- Supervisor.
- Using protective equipment provided.
  - Alcohol – Anyone suffering from the effects of alcohol will be excluded from site immediately and reported.
  - Drug/Solvent Abuse – Anyone suffering from the effects of drugs/solvents will be excluded immediately from site and reported. That person will not be allowed to return to site without permission of the company.

**Mandatory Requirements:**

The Health and Safety at Work Act  
The Management of Health and Safety at Work Regulations  
The Manual Handling Operative Regulations  
Personal Protective Equipment at Work Regulations  
The Electricity at Work Regulations  
The Construction (Health, Safety and Welfare) Regulations

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**Title: General Hygiene**

**Ref: TI011**

**Introduction:**

Looking after personal hygiene is important. Bacteria which can cause a number of illnesses for example food poisoning, can be passed to food by hands. This Technical Instruction gives basic information on ways to reduce the risk of infection.

**Information:**

**Main Points**

- Wash hands with an appropriate cleaning/disinfectant agent before eating & drinking, smoking, using toilet & at the end of the work day
- Use barrier crème as much as possible and where applicable, use appropriate gloves
- Leave toilets, sinks and other areas clean after use
- Use disposable hand towels for drying hands rather than cloth towels
- Remove overalls & safety equipment before entering canteens or eating
- Only obtain water for drinking from taps which are marked 'drinking water'
- When preparing food, always clean table tops with a suitable cleaning fluid
- Store foods in refrigerator or covered up in a cupboard
- Make sure any pots or cutlery used are washed and put away
- If using respiratory equipment, clean with disinfectant wipes after use and remove pre filters if fitted
- Disposable ear plugs should only be used once

**Mandatory Requirements:**

Health and Safety at Work Act  
Management of Health and Safety at Work Regulations  
Workplace (Health, Safety and Welfare) Regulations  
Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of contact with germs from touch  
Risk of contact with germs through eating/drinking  
Risk of contact with germs through use of contaminated PPE

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**Title: Fire Safety**

**Ref: TI012**

**Introduction:**

Fire is a major risk both to persons and to property. You can either help prevent fires, or you can inadvertently help to start or allow them.

**Information:**

**Fire on site**

- The Prevention of fires on site is vital. Prevent fires on site by;
- Obeying 'NO SMOKING' signs
- Never use unofficial heating, lighting or cooking appliances
- Not placing cloths on or near heating appliances
- Not allowing combustible materials and debris to accumulate
- Using suitable fire blankets when carrying out hot work
- Making certain that you know the position of the fire extinguishers on site, how to identify the different types of extinguisher, their uses and also how to operate them
- Knowing the procedure to obtain assistance in the event of a fire

**Fire Extinguishers**

Type of Extinguisher	Colour Code	Type of Fire	
		Correct	Wrong
Water	Red	Wood, Paper, Fabrics etc.	Electrical Equipment, Flammable Liquids
AFF Foam	Cream	Flammable Liquids, Oils, Fats, Spirits etc.	Electrical Equipment
Powder	Blue	For All Fires	-
CO <sup>2</sup>	Black	Electrical Equipment, Flammable Liquids	Wood, Paper, Fabrics etc.

**In the event of a fire**

- Keep calm
- Sound the alarm or report the fire immediately
- Only attempt to put out SMALL fires if you can do so without placing yourself at risk
- On hearing the alarm, evacuate the building or site by the nearest fire exit route and assemble at the designated point

**Small fires quickly become major ones!**

**Smoke-filled room situations**

If you find yourself in a smoke-filled room, keep close to the ground where the air is cooler and cleaner. Crawl to a safe exit. Before opening doors, check for heat with the back of your hand - if it's hot, do not open.

**Mandatory Requirements:**

- Fire Precautions Act
- FPA Fire Prevention on Construction Sites: 7th Edition
- HSE Guidance Booklet HS(G) 140 - The safe use and handling of flammable liquids
- HSE Guidance Booklet HS(G) 168 – fire safety in construction

**Significant Hazards**

Hot work - welding, cutting etc  
 Smoking near flammable materials  
 Use of LPG heaters and cookers  
 Electrical faults  
 Arson

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**Title: COSHH (Control of Substances Hazardous to Health)**

**Ref: TI013**

**Introduction:**

Using chemicals or other hazardous substances at work can put people's health at risk. So the law requires employers to control exposure to hazardous substances to prevent ill health. They have to protect both employees and others who may be exposed by complying with the Control of Substances Hazardous to Health Regulations (COSHH).

**Information:**

**Substances hazardous to health under COSHH;**

- Substances or mixtures of substances classified as dangerous to health under the Chemicals (Hazard Information and Packaging for Supply) Regulations (CHIP).
- Substances with occupational exposure limits.
- Biological agents (bacteria and other micro - organisms)
- Any kind of dust
- Any other substance which creates a risk to health

**Substances hazardous to health NOT under COSHH?**

- Asbestos, lead or biological agents outside the employer's control, eg catching an infection from a workmate. Substances which are hazardous only because they are: radioactive; at high pressure; at extreme temperatures; or have explosive or flammable properties (other regulations apply to these risks).

**Examples of the effects of hazardous substances include:**

- Skin irritation or dermatitis as a result of skin contact;
- Asthma as a result of developing allergy to substances used at work;
- Losing consciousness as a result of being overcome by toxic fumes;
- Cancer, which may appear long after the exposure to the chemical that caused it;
- Infection from bacteria and other micro - organisms (biological agents).

**CHIP Regulations 2009**

CHIP helps protect people and the environment from the ill effects of chemicals by requiring suppliers to;

- Identify the hazards (dangers) of the chemicals they supply
- Give information about the chemicals' hazards to their customers
- Package the chemicals safely.

**Handling substances safely;**

- Look for the hazard symbol (see table overleaf) and always follow the manufacturer's instructions use PPE if necessary.

**Company Policy**

Guardian Electrical has a policy of assessing all products used by its operatives if you intend to use a substance and the COSHH Assessment for that substance is not available then ask your line manager for a copy before using the product.

**Significant Hazards**

Risk of contact with health hazardous substances through inhalation





Risk of contact with health hazardous substances through skin contact

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**Title: COSHH (Control of Substances Hazardous to Health)**

**Ref: TI013**

**When you see these symbols they mean**

Hazard	Symbol	Safety Precautions you must follow
<b>TOXIC &amp; VERY TOXIC</b> May cause serious health risk or even death if inhaled or if it penetrates the skin.		<ol style="list-style-type: none"> <li>1. Wear suitable clothing, gloves and eye/ face protection.</li> <li>2. After contact with skin, wash immediately with water</li> <li>3. After contact with eyes rinse immediately with water and seek medical advice</li> <li>4. In case of accident or if you feel unwell, seek medical advice immediately.</li> </ol>
<b>CORROSIVE</b> May on contact cause destruction of living tissue or burns		<ol style="list-style-type: none"> <li>1. Wear suitable gloves and eye/face protection.</li> <li>2. Take off all contaminated clothing immediately.</li> <li>3. In case of contact with skin, wash immediately with water.</li> <li>4. In case of contact with eyes, rinse immediately with water and seek medical advice</li> </ol>
<b>HARMFUL</b> May cause inflammation and irritation or ingested or if it penetrates the skin.		<ol style="list-style-type: none"> <li>1. Do not breathe vapour/spray/dust.</li> <li>2. Avoid contact with skin.</li> <li>3. Wash thoroughly before you eat, drink or smoke.</li> <li>4. In case of contact with skin, wash immediately with water and seek medical advice.</li> </ol>
<b>IRRITANT</b> May cause inflammation and irritation on immediate or prolonged contact with the skin or if inhaled		<ol style="list-style-type: none"> <li>1. In case of contact with eyes, rinse immediately with water and seek medical advice</li> <li>2. In case of contact with skin, wash immediately with water.</li> <li>3. Do not breathe vapour/spray/dust</li> </ol>

**Other hazards;**

Flammable



Oxidising



Explosive



Hazardous to the environment



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<b>Title: Manual Handling</b>	<b>Ref: TI014</b>
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**Introduction:**  
Many manual handling injuries build up over a period rather than being caused by a single handling incident. Most of the reported accidents involve back injury, though hands, arms and feet are also vulnerable. This toolbox talk sets out best practice approaches to dealing with manual handling.

**Information:**

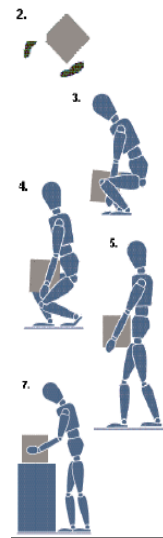
**Avoiding manual handling**  
Where possible use Mechanical Aids so that Manual Handling tasks are reduced to a minimum. Ensure that a Manual Handling Risk Assessment is carried out before attempting any abnormal lifting or carrying.

- Assessing and reducing the risk of injury**
- **What do the tasks involve, for example** – Holding loads away from the body trunk, Twisting stooping or reaching upwards, Long carrying distances, Large vertical movements etc?
  - **Are the loads** – Heavy, bulky or unwieldy, Difficult to grasp etc?
  - **The working environment, are there for example** – Constraints on posture, Poor floors, Variations in levels, poor lighting conditions?
  - **Individual capacity, does the job** – Require unusual capability, Endanger those with a health problem, Call for special information or training?

- Ways of reducing the risk of injury**
- Can you** – Reduce the amount of twisting and stooping, Avoid lifting from floor level or above shoulder height, Reduce carrying distances?
  - Can you make the load** – Lighter or less bulky, Easier to grasp, More stable?
  - Can you** – Remove obstructions to free movement, Avoid steps and steep ramps, Improve lighting, Take better care of those who have a physical weakness?

**Good Handling technique**  
Here are some important points, using a basic lifting operation as an example;

- 1 Stop and think** – Plan the lift. Where is the load to be placed? Use appropriate handling aids if possible. Do you need help with the load? Remove obstructions such as discarded wrapping materials. For a long lift, such as floor to shoulder height, consider resting the load mid-way on a table or bench to change grip.
- 2 Position the feet** – Feet apart giving a balanced and stable base for lifting (unsuitable footwear can make this difficult). Leading leg as far forward as is comfortable and if possible, pointing in the direction you intend to go.
- 3 Adapt a good posture** – When lifting from a low level, bend the knees. But do not kneel or overflex the knees. Keep the back straight, maintaining its natural curve (tucking in the chin helps). Lean forward a little over the load if necessary to get a good grip. Keep the shoulders level and facing in the same direction as the hips.
- 4 Keep close to the load** – Keep the load close to the trunk for as long as possible. Keep heaviest side of the load next to the trunk. If a close approach to the load is not possible, slide it towards you before trying to lift.
- 5 Don't jerk** – Lift smoothly, raising the chin as the lift begins, keeping control of the load.
- 6 Move the feet** – Don't twist the trunk when turning to the side
- 7 Put down, then adjust** – If precise positioning of the load is necessary, put it down first, then slide it into the desired position.



**Significant Hazards**  
Risk of Injury to back, Arms, Hands or Feet

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**Title: Accident Reporting Procedures**

**Ref: TI015**

**Introduction:**

Guardian Electrical has an accident reporting system in operation which requires the reporting of **ALL ACCIDENTS** and **NEAR MISSES**.

**Information:**

**General**

If you are unfortunate enough to be involved in safety related incident, either an accident or near miss, it is important that the details are reported for the following reasons:

- It is required by law.
- Examining the reasons behind the incident may prevent a repeat.

**Operative Duties**

Operatives have a duty to report to the company:

- Anything which may be hazardous to the operative or anyone else.
- All Accidents - No matter how minor.
- All Incidents (near misses) regardless of any lack of damage or injury.
- All accidentally or otherwise damaged equipment.
- Machine malfunctions and electrical defects.
- The discharge of any fire extinguisher.
- Any medical condition which may affect the operatives safety in the use of machinery or which may be hazardous to other persons.

**Accident and Incident Reporting Procedures**

In the event of an incident the following procedure should be followed:

- Seek medical assistance (if applicable) from a qualified first aider.
- Report the incident immediately to your supervisor.
- Supervisor to inform both Company and if appropriate Customer Representative.
- Within 24 hours of the incident a Guardian Electrical Accident Report Form must be completed including witness statements and returned to Head Office.

Depending on the nature of the incident it may be deemed appropriate to carry out an investigation in to the

Circumstance's surrounding the incident. Should an investigation take place it is an employee's duty to fully Co-operate with the parties carrying out the investigation.

Should an accident need to be reported under the provision of the Report of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) then the Health and Safety Administrator or other identified competent person will notify the HSE. For further information on RIDDOR please refer to Technical Instruction Sheet TI022.

The company keeps a record of all accidents and incidents in which the company is involved, this helps us to prevent further occurrences and makes the workplace safer for its operatives.

***Help make your workplace safer by reporting All Accidents and Incidents, so we can stop repetitions and in some cases stop them happening at all.***

**Mandatory Requirements:**

RIDDOR

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**Title: Safety Signs**

**Ref: TI016**

**Introduction:**

This Technical Instruction gives you a basic idea of the types of safety signs and their meanings used in the construction industry today. There are four main types of sign -Warning, Prohibition, Mandatory and Emergency/General Information.

**Information:**

**WARNING**

These signs are of triangular shape with yellow background, black triangular border with illustration shown in black. Their purpose is, identifying hazards and risk of danger for example;

- Danger - Electric shock risk
- Danger - Of death
- Danger - 400 volts
- Caution - Slippery surface
- Warning - Agricultural machinery operating



General danger

**PROHIBITION**

These signs are of circular shape with white background, red circular border with illustration shown in black. Their purpose is, telling you **NOT** to do something for example;

- No smoking
- No entry
- No forklift trucks beyond this point
- Not drinking water
- No parking



No access for pedestrians

**MANDATORY**

These signs are of circular shape with blue background and illustration shown in white. Their purpose is, telling you that you **MUST** do something for example;

- Wear safety helmet
- Wear ear protectors
- Eye protection must be worn
- Keep out
- Keep locked



Safety helmets must be worn

**Emergency/General Information**

These signs are of square shape with green background, white border with illustration/information in white.

Their purpose is to direct/inform you of something for example;

- Fire Exit
- Fire assembly point
- Push bar to open
- First aid Emergency eye wash



**Mandatory Requirements:**

Signpost to the Health and Safety (Safety Signs and Signals) Regulations

**Significant Hazards**

Risk of injury to yourself or other persons if you do not obey these signs.

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**Title: Employment of Young Persons**

**Ref: TI017**

**Introduction:**

This Technical Instruction indicates what you need to do when assessing the health and safety risks to all young people below the age of 18, including work experience students.

**Information:**

**Definitions of young people and children by age;**

- a young person is anyone under 18 years old
- a child is anyone who has not yet reached the official age at which they may leave school, just before or just after their 16th birthday (this is often referred to as the minimum school leaving age (MSLA)).

**Assessing the risks**

Under health and safety law, you must assess the risks to young people under 18 years old, before they start work/work experience and tell them what the risks are. You should also;

- take into account that these young people are likely to be inexperienced, unaware of health and safety risks and physically or mentally immature
- put in place measures to control the risks which will remove them altogether or reduce them to the lowest possible level.
- cover all the necessary features listed in the risk assessment
- keep the risk assessment up to date
- look again at the risks if you have reason to believe that the original assessment has changed.

**Special features of the risk assessment**

- You must not allow the young person to do the work where you find that a significant risk remains in spite of your best efforts to take all reasonable steps to control it.

**Outcome of the risk assessment**

Your risk assessment may bring to light certain risks which young people cannot be exposed to under health and safety law. You must protect your young employees and work experience students from the risk of accidents or ill health which they are unlikely to recognise because they are inexperienced, have not been trained or they may not pay enough attention to safety.

**Restrictions on work**

The overall rule is that young people under 18 years old must not be allowed to do work which;

- cannot be adapted to meet any physical or mental limitations they may have
- exposes them to substances which are toxic or cause cancer
- exposes them to radiation
- involves extreme heat, noise or vibration

**Young people who are over the MSLA can do this work under very special circumstances, which are;**

- the work is necessary for their training
- the work is properly supervised by a competent person
- the risks are reduced to the lowest level, so far as is reasonably practicable.

**In addition to these, they must not work on the following tasks;**

- Oxy-acetylene/arc welding
- LPG heating equipment
- Threading machines

- Lighting Scaffolding towers
- Ladders, Trestles or step ladders
- Lifting equipment
- Operating site vehicles
- Power tools which have cutting/abrasive wheels or Explosive power tools

**Training and supervision**

Young people need training most when they start a job or work experience. They need to be trained to do the work without putting themselves and other people at risk.

**Mandatory Requirements:**

The management of health and safety at work regulations: Provisions relating to young persons

**Significant Hazards**

The person(s) putting themselves or other people at risk if not aware of the dangers at the workplace or not properly trained/supervised on the tasks they undertake.

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**Title: Driving Company Vehicles**

**Ref: TI018**

**Introduction:**

This Technical Instruction highlights basic information when driving company vehicles. Further information can be found in the 'company drivers handbook' which is issued to employees at the handover of vehicles.

**Information:**

**Planning trips involving transportation of substances/materials**

- Vehicles will be correctly maintained to manufacturers/hire company instructions and service intervals adhered to (please refer to company drivers handbook).
- Transportation and handling of materials will be planned to ensure that the vehicle and driver are capable and competent to perform the task.
- COSHH assessments will be required for all substances to be transported.
- Site traffic routes will be established and specific traffic rules followed if applicable.
- Prior to transporting any gas cylinder, the driver should ensure they have the chemical data and safety sheet for each of the cylinders being transported. It is the driver's responsibility to check that the sheets correspond with the cylinders to be transported.
- The driver should read the chemical data and safety sheets paying particular attention to safety procedures in the event of an accident/emergency.

Note: Cylinders are painted in accordance with the correct British Standard to indicate the gas contained, however it can be dangerous to rely on the colour alone. Always check the official stamp/label.

**In the event of an accident**

- All accidents involving damage to vehicles, property or third parties should be reported to company management and to the police if injuries are involved without delay.
- In the event of a gas cylinder leak, always refer to the chemical data and safety sheet.

**Training**

Drivers must hold a current full driving licence for the type of vehicle they will drive and be instructed on the controls/operation of the vehicle before driving.

FURTHER GUIDANCE REGARDING COMPANY VEHICLES CAN BE FOUND IN YOUR COMPANY DRIVERS HANDBOOK

**Mandatory Requirements:**

Road traffic legislation and highway code  
Carriage of dangerous goods by road regulations  
Dept. of transport code of practice - Safety of loads on vehicles

**Significant Hazards**

Road Traffic Accidents (RTA)  
Fire/Explosion  
Occupants struck by loose articles  
Property damage

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**Title: Risk Assessments**

**Ref: TI019**

**Introduction:**

Guardian Electrical undertakes to make Risk Assessments of the work carried out by its employees and sub-contractors. For each individual project Risk Assessment are carried out to take into account the nature of the work and the hazards to be encountered.

**Information:**

**The Requirement for Risk Assessments**

Regulation 3 of the Management of Health and Safety at Work Regulations requires that:  
“Every employer or self employed person will make a suitable and sufficient assessment of the health and safety risks to employees and others not in his / her employment to which his / her undertakings give rise in order to put into place appropriate control measures. It also requires a review of the assessments as appropriate and for the significant findings to be recorded if five or more employed”.

**Definitions**

**Risk Assessments** – An identification of the hazards present in an undertaking and the extent of the risk involved, taking into account whatever precautions are already being taken.

**Hazard** – Anything with the likelihood to cause harm.

**Risk** – Is the chance great or small that someone will be harmed by the hazard.

**Risk Assessment Stages**

There are essentially three key stages to the risk assessment process:

- Identification of ALL the Hazards
- Evaluation of the Risks
- Measures to Control the Risks

In order for the assessments to be suitable and sufficient the assessment must:

**Identify the Hazards Associated with the Task:**

Look at the task practically to identify ALL the hazards associated with the task to be carried out. Examples of Hazards to look out for include: Falls of Persons, Falls of Objects, Dangers from Transport on Site, Electrical Dangers, Dangers from Machinery, Movement of Other Contractors, Slips, Trips, Dangers from Hazardous Substances etc.

**Identify those who may be harmed by the hazards:**

Identify all those who may be affected by the task not just employees. Take into account: Customers Employees, Sub-Contractors and the Public. Also consider the level of competence of the individuals.

**Evaluate the Risks and Existing Control Measures:**

Consider the Existing Control Measures, What are they? Are they adequate? What action should be taken? judge the probability or likelihood of an accident occurring as a result of an uncontrolled risk.

**Record All of the Significant Findings:**

All significant findings should be recorded on the relevant company paperwork.

**Review and Revise the Risk Assessment as Required:**

The risk assessment should be reviewed at regular stages to ensure that it is still relevant to the task being carried out. Should the task, environment or work conditions have changed then the risk assessment should be carried out again.

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**Title: Risk Assessments**

**Ref: TI019**

**Company Risk Assessment Procedures:**

The company has divided the Risk Assessment process into two sections, these being:

**1. The Site Safety, Toolbox Talk and Risk Assessment Manual**

The company has looked carefully at the tasks carried out on a day to day basis by their site operatives. The site Technical Instruction Manual and Risk Assessment Manual looks at these tasks individually and provides direction on potential hazards associated with the task and safe working guidance on how the task should be carried out to minimize any risk.

It is an Employees Duty to:

- Have a copy of the Manual – If you do not have a copy please ask for one.
- To carry the manual with them at all times whilst working for the company.
- To read and understand the contents of the manual – if you are unsure ask.

**2. Site Specific Risk Assessments**

Three site specific Risk Assessment documents have been produced to address the different needs of the individual contracts carried out by the company. The documents are:

- Site Risk Assessment Record Sheet
- Project Method Statement and Risk Assessment
- Task Specific Method Statement and Risk Assessment

Although all the documents have different applications they still require all the same information including:

**Description of the Work to be Carried Out** – A simple step by step explanation of how the task is to be completed.

**Hazard Identification** – Remember **ALL** hazards associated with the tasks Must be identified.

**Assessment of the Level of Risk** – To assess the level of risk multiply the Likelihood of injury with the severity of injury to gain the Overall Risk Rating. The various levels of scoring are detailed below:

**Likelihood of Injury (A)**

- 1 = Zero to Extremely Low
- 2 = Low
- 3 = Likely
- 4 = V Likely
- 5 = Almost Certain

**Severity of Injury (B)**

- 1 = Slight or No injury
- 2 = First Aid or Minor Injury
- 3 = Minor Injury or Illness
- 4 = Major Injury
- 5 = Major Injury / Fatality

**Assessment of Risks**

Low Risk = An overall Risk of 6 or Less – Carry out work activity.

Medium Risk = An overall Risk of between 7 & 9 – Implement control measures and conduct further assessment of risk

High Risk = An Overall Risk of 10 or more – Work is not to commence until the risk has been reduced or removed.

**Control Measures** – Refer to the relevant sections of the Site Safety Toolbox Talk and Risk Assessment Manual and provide details of all addition control measures required.

**REMEMBER**

- It is an operatives duty to read and understand all Risk Assessments and Method Statement
- If is an operatives duty to strictly follow the provisions details in the documents.

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Title: Emergency First Aid

Ref: TI020

**Introduction:**

People at work can suffer injury or illness. It doesn't matter whether this is caused by their work or not – what is important is that they received immediate attention if they are injured or taken ill at work. The initial management of injuries and illness, until expert medical attention is received, could make a difference between life and death.

**Information:**

**Priorities**

- Assess the situation – do not put yourself in danger;
- make the area safe;
- assess all casualties and attend first to any unconscious casualties;
- send for help – do not delay;
- follow the advice given below.

**Check for consciousness**

If there is no response gentle shaking of the shoulders and shouting, the casualty may be unconscious. The priority is then to check the Airway, Breathing and Circulation. This is the **ABC** of resuscitation.

**A) Airway**

To open the airway:

- place one hand on the casualty's forehead and gently tilt the head back;
- remove any obvious obstructions from the casualty's mouth;
- lift the chin with two fingertips.

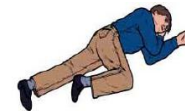


**B) Breathing**

Look along the chest, listen and feel at the mouth, for signs of normal breathing, for no more than 10 seconds.

**If the casualty is breathing;**

- place in the recovery position and ensure the airway remains open;
- send for help and monitor the casualty until help arrives.
- continue to assess that breathing remains normal. If there is any doubt about the presence of normal breathing start CPR



**If the casualty is not breathing:**

- Ask someone to call for an ambulance and bring an AED if available. If you are on your own, use your mobile phone to call for an ambulance. Leave the victim only when no other option exists for getting help.
- Start chest compression as follows:
  - o Kneel by the side of the victim.
  - o Place the heel of one hand in the centre of the victim's chest (which is the lower half of the victim's sternum (breastbone)).
  - o Place the heel of your other hand on top of the first hand.
  - o Interlock the fingers of your hands and ensure that pressure is not applied over the victim's ribs. Do not apply any pressure over the upper abdomen or the bottom end of the sternum.
  - o Position yourself vertically above the victim's chest and, with your arms straight, press down on the sternum 5 - 6 cm.
  - o After each compression, release all the pressure on the chest without losing contact between your hands and the sternum. Repeat at a rate of 100 - 120 min<sup>-1</sup>.
  - o Compression and release should take an equal amount of time.

**C) Combine chest compression with rescue breaths:**

- After 30 compressions open the airway again using head tilt and chin lift.
- Pinch the soft part of the victim's nose closed, using the index finger and thumb of your hand on his forehead.
- Allow his mouth to open, but maintain chin lift.

- Take a normal breath and place your lips around his mouth, making sure that you have a good seal.
- Blow steadily into his mouth whilst watching for his chest to rise; take about one second to make his chest rise as in normal breathing; this is an effective rescue breath.
- Maintaining head tilt and chin lift, take your mouth away from the victim and watch for his chest to fall as air comes out.
- Take another normal breath and blow into the victim's mouth once more to give a total of two effective rescue breaths. The two breaths should not take more than 5 s. Then return your hands without delay to the correct position on the sternum and give a further 30 chest compressions.
- Continue with chest compressions and rescue breaths in a ratio of 30:2.
- Stop to recheck the victim only if he starts to show signs of regaining consciousness, such as coughing, opening his eyes, speaking, or moving purposefully AND starts to breathe normally; otherwise **do not interrupt resuscitation.**

#### **Severe bleeding**

- apply direct pressure to the wound;
- raise and support the injured part (unless broken);
- apply a dressing and bandage firmly in place.

#### **Broken bones and spinal injuries**

If a broken bone or spinal injury is suspected, obtain expert help. Do not move casualties unless they are in immediate danger.

#### **Burns**

Burns can be serious so if in doubt, seek medical help. Cool the part of the body affected with cold water until pain is relieved. Thorough cooling may take 10 minutes or more, but this must not delay taking the casualty to hospital.

Certain chemicals may seriously irritate or damage the skin. Avoid contaminating yourself with the chemical. Treat in the same way as for other burns but flood the affected area with water for 20 minutes. Continue treatment even on the way to hospital, if necessary. Remove any contaminated clothing which is not stuck to the skin.

#### **Eye injuries**

All eye injuries are potentially serious. If there is something in the eye, wash out the eye with clean water or sterile fluid from a sealed container, to remove loose material. Do not attempt to remove anything that is embedded in the eye. If chemicals are involved, flush the eye with water or sterile fluid for at least 10 minutes, while gently holding the eyelids open. Ask the casualty to hold a pad over the injured eye and send them to hospital.

**The data on this information sheet was obtained from the Health and Safety Executive  
Basic Advice on First Aid at Work Leaflet. Ref:INDG347**

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Title: Permit Systems	Ref: TI021
<p><b>Introduction:</b>                      Guardian Electrical have adopted the use of several permit systems all of which are designed to safeguard its employees. These systems are there for your safety please take the time to read the following to ensure you understand why we use each system.</p>	
<p><b>Information:</b>                      The permit systems used by Guardian Electrical include:-</p> <p><b>Permit To Work System</b>                      The Permit to Work system is to be used either as an extension to your safe working procedures (isolation of services) or is to be used on sites where you alone do not have full control of all electrical services upon it.                      More detailed information on how to use this system can be found in the Guardian Electrical 'CODE OF PRACTICE FOR SAFE WORKING ON LOW VOLTAGE ELECTRICAL SYSTEMS'.                      It is the responsibility of the Inspector or Electrical Supervisor on each site to ensure that this system is implemented and maintained.</p> <p><b>Hot Work Permit System</b>                      It is essential that this permit system is used on all works undertaken in occupied premises; it may also be requested on new build sites as determined by your project team manager.</p> <p>This permit system is to be used for any of the following types of hot work:-                      Soldering                      Braising                      Welding                      Grinding                      It is the responsibility of the Senior Mechanical/Plumbing Operative on each site to ensure that this system is implemented and maintained. The completion of the form is self-explanatory and contains all necessary guidance notes and check boxes. Completed sheets to be retained on site.</p> <p><b>Scafftag Safety System</b>                      This system has been adopted by the Company for use on any scaffold tower either hired by or used by the companies operatives. The system is quick and easy to use and gives an instant visual indication as to whether or not a mobile scaffold tower is safe to use.</p> <p>The system works in three stages:                      1. Attach the Scafftag Holder to the mobile scaffold tower at the construction stage.                      2. When completely assembled and inspected insert the green Scafftag card into the Scafftag holder.                      3. When inspecting the scaffold remove the green Scafftag card and complete the inspection report on the rear. When complete re insert the card if the tower is safe to use. If the scaffold tower has been damaged or is not complete in any form remove the Scafftag card to indicate that the tower should not be used. Also remove the card when leaving the tower unattended for any length of time. For further guidance on the inspection of mobile scaffold towers refer to TI043</p> <p><b>Mandatory Requirements:</b>                      The Electricity at Work Regulations                      The Construction (Health, Safety &amp; Welfare) Regulations</p>	
<p><b>Significant Hazards</b>                      Electrocutation                      Fire &amp; Burns                      Falls from height                      Risk of Collapse of tower</p>	
<p>This data sheet is provided for use in promoting safety awareness and safe working practices. It is not a substitute for the statutory regulations and may not address all safety issues on a specific site.</p>	

**Title: RIDDOR (Reporting Injuries, Diseases & dangerous Occurrences Regulations)**

**Ref: TI022**

**Introduction:**

Reporting accidents and ill health at work is a legal requirement under RIDDOR. The information enables the Health and Safety Executive (HSE) and local authorities (referred to as 'the enforcing authorities') to identify where and how risks arise and to investigate serious accidents.

**Information: What is RIDDOR ?**

It stands for the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations. Sometimes referred to as RIDDOR 95, or RIDDOR for short, these Regulations came into force on 1 April 1996.

**When does a report have to be made**

Death or major injury

If there is an accident connected with work and;

- an employee is killed or suffers a major injury (including as a result of physical violence)
- a member of the public is killed or taken to hospital

The enforcing authority must be notified without delay (eg by telephone) and within ten days it must be followed up with a completed accident report form.

Over-three-day injury

If there is an accident connected with work (including an act of physical violence) and an employee suffers an over-three day injury, a completed accident report form must be sent to the enforcing authority within ten days. An over-three-day injury is one which is not major but results in the injured person being away from work or unable to do the full range of their normal duties for more than three days.

Disease

If a doctor sends notification that an employee suffers from a reportable work-related disease, a completed disease report form must be sent to the enforcing authority.

Dangerous Occurrence (Near Misses)

If something happens which does not result in a reportable injury, but which clearly could have done, it may be a dangerous occurrence which must be reported immediately (eg by telephone) to the enforcing authority and within ten days must be followed up with a completed accident report form.

**However all minor accidents e.g. cut finger should still be reported to the office on a accident report form!**

**Keeping Records**

You must keep a record of any reportable injury, disease or dangerous occurrence for three years after the date on which it happened. This must include:

- the date and method of reporting
- the date, time and place of the event
- personal details of those involved
- a brief description of the nature of the event or disease.

**Reportable major injuries are:**

- fracture other than to fingers, thumbs or toes
- amputation
- dislocation of the shoulder, hip, knee or spine
- loss of sight (temporary or permanent)
- chemical or hot metal burn to the eye or any penetrating injury to the eye
- injury resulting from an electric shock or electrical burn leading to unconsciousness or requiring resuscitation or admittance to hospital for more than 24 hours
- any other injury: leading to hypothermia, heat-induced illness or unconsciousness; or requiring resuscitation; or requiring admittance to hospital for more than 24 hours

- unconsciousness caused by asphyxia or exposure to a harmful substance or biological agent

**Reportable dangerous occurrences are:**

- explosion, collapse or bursting of any closed vessel or associated pipework
- plant or equipment coming into contact with overhead power lines
- electrical short circuit or overload causing fire or explosion
- accidental release of a biological agent likely to cause severe human illness
- collapse or partial collapse of a scaffold over five metres high, or erected near water where there could be a risk of drowning after a fall.

**Mandatory Requirements:**

Reporting of Injuries Diseases and Dangerous Occurrences Regulations

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Title: Installation and Use of Temporary Electrical Supplies	Ref: TI023
<p><b>Introduction:</b>                      In order for contractors to use their power tools or site lighting etc on construction sites where the fixed electrical installation has been isolated or does not exist, a temporary electrical supply will be needed. This normally comprises of a 110V supply around the construction site and 230V within site accommodation buildings.</p>	
<p><b>Information:</b></p> <p><b>Planning</b></p> <ul style="list-style-type: none"> <li>• Temporary supplies should be planned, taking into account foreseen load requirements, environmental conditions, progress of work and compatibility/maintenance of equipment.</li> <li>• The installation should be inspected and tested and a report on its condition issued before being brought into use.</li> <li>• Locked supply cabinets should form part of the temporary system.</li> <li>• Offices, stores, drying rooms and canteens should be regarded as permanent installations -IEE wiring regulations will apply.</li> </ul> <p><b>During installation</b></p> <ul style="list-style-type: none"> <li>• Supply and distribution units should be locked and the keys controlled by the overall site supervisor.</li> <li>• Signs warning of electrical hazard should be displayed on supply units, conforming to the Safety Signs Regulations.</li> <li>• Fire extinguishers (Carbon Dioxide) should be readily available adjacent distribution units.</li> <li>• Rubber gloves to BS697, and rubber mats to BS921 must be used for live work (if applicable).</li> <li>• All cables should be routed so as to prevent damage to cables and avoid tripping hazards.</li> <li>• Operatives will not be permitted to work alone.</li> <li>• Only competent electricians are authorised to install or modify temporary electrical supplies.</li> <li>• After completion of any modification to a temporary electrical supply system, it should be inspected &amp; tested, then a report on its condition issued.</li> <li>• Temporary supply systems should be monitored for physical damage and should be periodically inspected &amp; tested every 3 months.</li> </ul> <p><b>Mandatory Requirements:</b>                      Provision and Use of Work Equipment Regulations                      Electricity at Work Regulations                      Low Voltage Electricity (Safety) Regulations                      Electrical Equipment (Safety) Regulations</p>	
<p><b>Significant Hazards</b>                      Electrocutation                      Fire                      Damage to equipment</p>	
<p>This data sheet is provided for use in promoting safety awareness and safe working practices. It is not a substitute for the statutory regulations and may not address all safety issues on a specific site.</p>	



Title: Work in Confined Spaces

Ref: TI024

**Introduction:**

**What is a confined space ?** Any area that has limited openings for entry and exit that would make escape difficult in an emergency, has a lack of ventilation, contains known and potential hazards, and is not intended nor designated for continuous human occupancy.

**Information:**

**What are the dangers from confined spaces?**

- Dangers can arise in confined spaces because of:
- A lack of oxygen
- Poisonous gas, fume or vapour
- Liquids and solids which can suddenly fill the space, or release gases into it, when disturbed. Free flowing solids such as grain can also partially solidify or 'bridge' in silos causing blockages which can collapse unexpectedly
- Fire and explosions (eg from flammable vapours, excess oxygen etc)
- Residues left in tanks, vessels etc, or remaining on internal surfaces which can give off gas, fume or vapour
- Dust may be present in high concentrations, eg in flour silos
- Hot conditions leading to a dangerous increase in body temperature. Some of the above conditions may already be present in the confined space. However, some may arise through the work being carried out, or because of ineffective isolation of plant nearby, eg leakage from a pipe connected to the confined space. The enclosure and working space may increase other dangers arising through the work being carried out, for example;
- machinery being used may require special precautions, such as provision of dust extraction for a portable grinder, or special precautions against electric shock.
- gas, fume or vapour can arise from welding, or by use of volatile and often flammable solvents, adhesives etc

**Precautions to take**

If your assessment identifies risks of serious injury from work in confined spaces, such as the dangers highlighted above, the Confined Spaces Regulations apply. These regulations contain the following key duties;

- Avoid entering confined spaces -You need to check if the work can be done another way so that entry or work in confined spaces is avoided. Better work-planning or a different approach can reduce the need for confined space working.
- Safe systems of work -If you cannot avoid entry into a confined space make sure you have a safe system for working inside the space. Use the results of your risk assessment to help identify the necessary precautions to reduce the risk of injury. These will depend on the nature of the confined space, the associated risk and the work involved. Make sure that the safe system of work, including the precautions identified, is developed and put into practice. Everyone involved will need to be properly trained and instructed to make sure they know what to do and how to do it safely.
- Emergency procedures -When things go wrong, people may be exposed to serious and immediate danger. Effective arrangements for raising the alarm and carrying out rescue operations in an emergency are essential. Contingency plans will depend on the nature of the confined space, the risks identified and consequently the likely nature of an emergency rescue.

**Never enter a known or suspected confined space without a permit to work or without formal training to do so!**

**Mandatory Requirements:**

The Confined Spaces Regulations  
The Management of Health and Safety at Work Regulations  
Control Of Substances Hazardous to Health Regulations  
Personal Protective Equipment at Work Regulations  
Workplace (Health, Safety and Welfare) Regulations

**Significant Hazards**

Poisoning from toxic gasses  
Asphyxiation - lack of oxygen  
Fire/Explosion  
Excessive Heat

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Title: Work Near or Under Overhead Power Lines

Ref: TI025

**Introduction:**

Most incidents involve high-voltage lines supported on wooden poles, but the dangers of other power lines such as those supported on steel towers or steel poles and concrete structures cannot be ignored. This Toolbox Talk outlines the steps you can take to reduce the risks when working near overhead power lines.

**Information:**

**Important ! :** Contact with overhead powerlines does not need to be made. Electricity can flash over when machinery or equipment gets close to overhead lines.

**Planning precautions**

- Consult your local electricity company/National Grid Company for lines on steel towers operating at 275 and 400 kV. (The operating voltage will be displayed on a sign attached to the tower.) They will provide information about precautions & safe working procedures which can be followed near power lines.
- Find out the maximum height and maximum vertical reach of your machines and those used by contractors.
- Find out the routes of all overhead lines where the work is to be undertaken
- Make sure you have details of the maximum working heights permitted under each span of overhead line. In cases where there is a significant risk, it is sensible to discuss the following measures with the electricity company:
- **Access:** creating alternative access points and routes - this is often the cheapest option.
- **Divert lines:** benefits can arise from burying lines or changing routes
- **Barriers and goalposts:** by erecting goalposts and barriers, machines which have to pass beneath lines can be limited to a safe height

**Selection and Use of machinery**

**Selection** -The risks of contact or flashover can be greatly reduced by selecting machinery that will not reach

more than 4 m from the ground. Check the working heights of your machines and the maximum heights that folding elements can reach. Check with the manufacturer or supplier if necessary.

**Use** -Accidents can be prevented if high risk operations for example tipper lorries, are not carried out within a

horizontal distance of at least 9 m from power lines on wooden poles or at least 15 m from lines on metal towers. These distances should be measured from the line of the nearest conductor to the work, projected vertically downwards onto the floor, and perpendicular to the route of the line.

**Working safely**

Key elements of safe systems of work are;

- Training -Everybody who works near overhead power lines with a machine or equipment needs to know what the dangers of overhead lines are, the precautions to follow and what to do if they do contact a power line.
- Visitors -Contractors are at risk when they work where overhead lines are present. Make sure they know where the lines are and tell them the precautions they need to take. Routes can be marked with safety signs to warn all visitors of the dangers.

**Emergency action if there is an accident**

- Never touch an overhead line -even if it has been brought down by machinery, or has fallen.
- Never assume lines are dead.
- When a machine is in contact with an overhead line, electrocution is possible if anyone touches both the machine and the ground. Stay in the machine and lower any raised parts in contact or drive the machine out of the lines if you can.
- If you need to get out to summon help or because of fire, jump out as far as you can without touching any wires or the machine - keep upright and away.
- Get the electricity company to disconnect the supply. Even if the line appears dead, do not touch it -automatic switching may reconnect the power!

**be aware of line height and minimum distance from overhead lines**

275 or 400KV Minimum Clearance 7m

132KV Minimum Clearance 6.7m  
33KV 11KV and Low Voltage Minimum Clearance 5.2 m

**Mandatory Requirements:**

Electricity At Work Regulations

**Significant Hazards**

Contact by plant or vehicles  
Contact by long metal objects  
Arcing over because of proximity of plant etc.

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Title: Work in the Vicinity of Underground Services

Ref: TI026

**Introduction:**

Electricity cables and other services buried in the ground present hidden hazards. Where ever you excavate, assume there are buried services until you prove otherwise.

**Information:**

**Planning**

- Ensure that as much research as possible is carried out to identify underground services prior to any
- work commencing (existing plans, service authorities, etc).
- Clearly mark potential locations of underground services.
- Ensure only safe digging techniques are to be used wherever underground services are suspected.
- Ensure all employees are aware of actions to be taken in event of discovering possible services.

**Precautions to be taken**

- Use a cable avoidance tool (CAT), before and during digging, ensure a wide sweep of the area is made in all directions.
- Use safe digging techniques (spades and shovels).
- Remember that gas is both inflammable and explosive. If any gas leak is suspected, leave the area and call the gas and emergency services (do not smoke in vicinity!).
- Beware that modern house mains are often smaller diameter plastic pipes – do not confuse with electric cables!
- Beware when working with water mains; remember that water at high pressure can cause serious, and even fatal, injuries, and that a burst water pipe can fill an excavation very quickly. Contact the water services immediately if water pipes are damaged.
- Ladders should be provided for access/egress to excavations containing water pipes.
- Don't leave lengths of pipes unsupported, and don't drop tools/equipment onto exposed pipes.
- Be especially aware if foul sewers are damaged as they carry specific health hazards – evacuate immediately and contact the water company.
- If you have to work in or near foul sewers, then wear PPE to protect against sewage, and wash hands before eating, drinking or smoking.
- If you break a storm water sewer when rain is falling, then evacuate as it could flood without warning.

**Buried Services Underground Colour Coding**

Black or Red = Electricity  
Blue = Water  
Yellow = Gas  
Grey or White = Telecommunications  
Green = Cable Television

**Mandatory Requirements:**

Electricity At Work Regulations  
Construction (Health, Safety and Welfare) Regulations  
Highways Act

**Significant Hazards**

Contact with electricity or gas supplies  
Flooding from water services  
Contact with sewage

Explosion from gas leak  
Asphyxia from gas leak

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**Title: Work with Lead of Lead Compounds**

**Ref: TI105**

**Introduction:**

Working with lead can affect your health. This Technical Instruction tells you about the health problems that can occur if you absorb too much lead and the precautions you should take.

**Information:**

**How does lead get into your body?**

When lead and lead compounds are processed, worked or recovered from scrap or waste they can create lead dust, fume or vapour. Your body absorbs lead when you;

- breathe in lead dust, fume or vapour
- swallow any lead, for example if you eat, drink or smoke, or bite your nails without washing your hands and face. Lead is not absorbed through the skin - except in the form of lead alkyls (an additive to petrol) and lead naphthenate. So if you handle cold metallic lead you will not get lead poisoning.
- Any lead that you absorb at work will circulate in your blood. Your body gets rid of a small amount of lead each time you go to the lavatory, but some will stay in your body, stored mainly in your bones. It can stay there for many years without making you ill.

**How does lead affect your health?**

If the level of lead in your body gets too high, it can cause;

- headaches
- tiredness
- irritability
- constipation
- nausea
- stomach pains
- anaemia
- loss of weight

Continued uncontrolled exposure could cause far more serious symptoms such as;

- kidney damage
- nerve and brain damage
- These symptoms can also have causes other than lead exposure so they do not necessarily mean that lead poisoning has occurred.

**What should you do to protect your own health?**

- Make sure you have all the information and training you need to work safely with lead, including what to do in an emergency, for example a sudden uncontrolled release of lead dust or fume.
- Make full use of all the control measures, systems of work and equipment provided by your employer and follow instructions including those for using equipment.
- Follow good and well-tested work practices and especially;
  - keep your immediate work area as clean and tidy as possible
  - clear up and get rid of any lead waste at the end of each day or shift as directed by your employer
  - do not take home any protective clothing or protective footwear for washing or cleaning
- Wear any necessary protective clothing and respiratory protective equipment and return it at the end of the shift/day to the proper place provided by your employer.
- Report any damaged or defective ventilation plant or protective equipment to your supervisor or safety representative.
- Eat, drink and smoke only in the areas provided by your employer that are free from lead contamination.

- Practise a high standard of personal hygiene
- Keep your medical appointments with the doctor where you work.

**Mandatory Requirements:**

Control of Lead at Work Regulations  
Provision and Use of Work Equipment Regulations  
Personal Protective Equipment at Work Regulations

**Significant Hazards**

Inhalation of lead  
Ingestion of lead  
Absorption of lead through skin

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**Title: work Involving Asbestos – Containing Materials**

**Ref: T1028**

**Introduction:**

The use, handling and disposal of any article or substance containing asbestos fibrous material, can constitute a serious risk to health if exposure to such fibres is not strictly controlled.

**Information:**

**What is asbestos?**

Asbestos is a term used for the fibrous forms of several naturally occurring minerals. The three main types of asbestos which have been commercially used are;

- Crocidolite ( Often referred to as 'blue asbestos' )
- Amosite ( Often referred to as 'brown asbestos' )
- Chrysotile ( Often referred to as ' white asbestos' )

All are dangerous, but blue and brown asbestos are known to be more dangerous than white.

The different types cannot usually be identified by their colour alone. Where asbestos is affected by heat/chemicals, the colour and appearance can change.

**Where can it be found?**

The diagram shows the risk of fibres to be released into the air from different ACMs.

**How can asbestos affect you?**

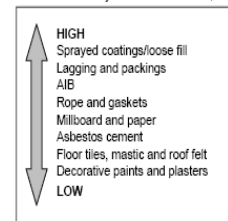
Breathing in asbestos fibres can lead to people developing one of three fatal diseases;

- Asbestosis - a scarring of the lung
- Lung cancer
- Mesothelioma - a cancer of the lining around the lungs and stomach

These diseases can take from 15-60 years to develop from first exposure - so you would not be aware of any sudden change in health after breathing in asbestos.

The likelihood that people may develop one of these diseases will increase with;

- The type of asbestos fibre you are exposed to
- The younger you are when exposure starts
- The number of fibres you breathe in
- The number of times you are exposed
- Smoking



**Safe Working Procedures**

***Guardian Electrical does not undertake works involved with the removal of asbestos. The only works undertaken include the removal and refitting of components to existing surfaces, in which case the following safe working procedures are to be adhered to.***

- Keep asbestos materials (including waste) damp while you work on them
- Don't use power tools on asbestos materials, they create dust - Use hand tools instead
- Use the personal protective equipment given to you. It may include a suitable respirator, disposal overalls etc
- Make sure you are properly trained to use a respirator, you know how to fit it properly and that it's clean. If the respirator has a separate filter, ensure it is changed regularly. Dispose of used and unwanted respirators and filters as asbestos waste. Report any defects in equipment to your main office.
- Don't allow waste to accumulate. Clear it up as you go.
- Put asbestos waste in a suitable sealed container such as a heavy duty polythene bag, put it in a second bag and label it to show that it contains asbestos.
- Dispose of all suitably bagged asbestos waste via an approved contractor.
- Clear up all asbestos dust using a dustless method -It is best to use a special 'type H' vacuum cleaner which has a high efficiency filter. If not, use damp cloths and dispose of them as asbestos waste. Don't use brooms or brushes.

- Wash your hands and face before eating, drinking, smoking and at the end of the day.
- Don't take home for washing any used non-disposable overalls you have worn for asbestos work –

Your supervisor should arrange to send them to a specialist laundry.

**Mandatory Requirements:**

Control of Asbestos at Work Regulations  
Asbestos (Licensing) Regulations

**Significant Hazards**

Inhalation of asbestos fibre

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Title: Work On or Near Water

Ref: T1029

**Introduction:**

This information sheet aims to improve safety for activities on inland or inshore waters at establishments which are covered by the Health and Safety at Work Act.

**Information:**

**Primary Aim - Prevention of falling**

- All working platforms near water must be properly constructed including the required guard-rails and toe-boards. Consider securing boards where water or high winds could affect them
- All ladders must be firmly secured
- Ensure there is a clear passage on all platforms and access/egress routes
- Safety harnesses should be employed where applicable
- Never work alone, always work in pairs and continually check on each other (never rely on a 'shout' as an indication of someone falling).

**Secondary Aim - Prevention of drowning**

- Accidental drowning can usually be linked to one or more of the following factors:
  - failure to provide personal buoyancy equipment
  - disregard or misjudgement of a hazard
  - inability to cope once a problem arises
  - the absence of rescuers and rescue equipment
  - Falling unexpectedly, fully clothed into cold water, and trying to swim or co-operate with rescuers, is often extremely difficult. Even strong swimmers may experience problems.
- Where there is a risk of falling into the water and drowning, it is essential to provide sufficient buoyancy to keep the person safely afloat.

**Requirements**

A risk assessment in accordance with the Management of Health and Safety at Work Regulations is required to identify any foreseeable hazard, assess the level of risk and identify measures necessary to prevent or adequately control the risk. Where there is a foreseeable risk of drowning, not controlled by other means, suitable personal buoyancy equipment needs to be provided and worn by employees. The Personal Protective Equipment at Work Regulations detail responsibilities about selecting, using and maintaining personal buoyancy equipment.

**Selecting personal buoyancy equipment**

When selecting the correct personal buoyancy equipment, you will need to consider a number of factors such as frequency of use, size/weight of the wearer, ability to swim, protective clothing in case of foul weather, use of tool belts or other loads, likely weather/water conditions at site and availability of help. Combined British and European Standards (BS ENs) exist for buoyancy equipment. Each Standard is intended to be suitable for different activities in various risk situations. Buoyancy equipment needs to be selected from the appropriate Standard, taking into account the factors already mentioned.

Buoyancy can be provided in a variety of ways, ranging from permanently buoyant material to inflatable chambers or combinations of both.

Automatically inflated lifejackets are suitable for those likely to fall into the water unexpectedly. Manually inflated lifejackets should only be used if it is certain that the wearer will have enough time to produce full buoyancy before entering the water.

It is vital that the lifejacket/buoyancy aid is the correct type for the water conditions where the work is to be carried out. Even if a lifejacket/buoyancy aid complies with a BS EN Standard, it does not mean that it is suitable for use in all water or work conditions.

The final decision on the design and level of buoyancy needed depends on the results of a suitable risk assessment and should only be made after discussion with the supplier/manufacturer on the intended use.

**Training in the use and maintenance of personal buoyancy equipment**

Refer to manufacturer's instructions

**Mandatory Requirements:**

Health and Safety at Work Act  
Management of Health and Safety at Work Regulations  
Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of persons falling into water  
Risk of drowning

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Title: Storage and Use of LPG

Ref: TI030

**Introduction:**

This guidance is aimed at small-scale users of Liquefied Petroleum Gas (LPG) in cylinders and does not apply to LPG from bulk tanks.

**Information:**

**Precautions**

For LPG Cylinders not in fixed positions, you should;

- keep all cylinders in a safe, well-ventilated place, preferably in the open air, and away from occupied buildings, boundaries and sources of ignition and of heat;
- make sure the cylinders are properly secured and are kept upright.
- keep rubbish and anything combustible well away from the cylinders, and keep weeds and grass in the vicinity cut down. Don't use a chlorate-based weedkiller, as it can be a fire hazard;
- not allow any electrical equipment, vehicles or other sources of ignition near the cylinders.

Exceptions are items purpose designed to use LPG e.g. gas-fired barbecues;

- not smoke when changing cylinders;
- keep people not involved with the installation well away from it, particularly children;
- make sure that the pipework or flexible hose from the cylinders to the point of use is protected against accidental damage, and is properly supported. For underground piping, make sure you know the route it takes, and avoid putting anything in the ground which may damage the pipework;
- report any equipment failure or damage to your supplier without delay, and ask them for advice about what you should do.

**Deliveries**

If you have cylinders delivered, make sure you order the right number and type of replacements. Don't order more than you need, as you may not have space to keep them safely. On delivery days, make sure the parking area is clear for the delivery vehicle and keep away from the vehicle while the cylinders are being handled.

**If a fire or leak occurs**

In the event of a fire or a leak, take the following action:

- Dial 999 to call the fire brigade. Tell them LPG cylinders are on the premises.
- Tell everybody to leave the premises and go to a safe place well away from the installation. If you have a fire alarm, activate it.
- If it is safe to do so, turn off all the LPG appliances.
- If you think you have an LPG leak at a cylinder or the associated pipework, call the LPG supplier so they can come and make safe. If an LPG appliance is leaking or is not working properly, ask a Gas Safe-registered gas fitter to check it.
- If the leak is indoors, open all the doors and windows.
- Do not switch any lights or electrical equipment on or off, as this may cause a spark.
- A leak in the pipework can be stopped by closing the valve on the cylinder or on the piping manifold, but only do this if you can approach the cylinders safely.

**Fire fighting**

Don't try to put out a fire involving LPG -leave it to the fire brigade. It is safer to evacuate everyone from the area. An overheated cylinder can explode. If you have fire-fighting equipment for use on paper, wood, rubbish, etc, make sure that you know how to use it, and that it is maintained regularly. Don't try to use it on burning LPG. A fire involving grass, rubbish, etc, can be tackled with a fire extinguisher or hose reel if it is safe to do so. Always call the fire brigade first. If the fire is near the cylinders or pipework, or if you can't put it out quickly leave it.

**Significant Hazards**

Risk of Fire ,  
Risk of Explosion  
Asphyxia

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Title: Work with Non-Asbestos Insulation Materials

Ref: TI031

**Introduction:**

Man Made Mineral Fibres (MMMMF) such as rock wool, glass wool and glass fibres are often used for insulation e.g. Domestic loft insulation. They are sometimes confused with asbestos but are much less dangerous. The fibres may cause irritation of the skin and eyes, and very fine fibres could cause respiratory problems.

**Information:**

When working with MMMF's the workplace should be kept as clean as reasonably practicable, all dry material should be thoroughly wetted before sweeping or brushing. Eye protection should be worn when working with mineral fibres overhead or when exposed to falling dust/fibres.

**Mineral Wools (Glass wool and Rock wool)**

Mineral wools can produce irritation amongst those handling the material for the first time, or after a period of absence from contact, but the effects are transitory.

To minimise possible irritation, take the following precautions;

- Wear long sleeved clothing with loose fitting neck and cuffs
- Wear gloves when handling material
- Wear safety goggles or glasses
- Wear an approved mask - P3 Respirator
- Shake clothing and/or vacuum immediately after use
- Wash thoroughly on completion of work
- Use scissors when cutting the insulation material - Do not Tear
- Avoid unnecessary contact with fibreglass materials

Before eating or drinking or when finishing for work at the end of the day, be sure to rinse the skin in warm water before washing with soap.

**Refractory Ceramic Fibres (RCF)**

RCF describes a family of synthetic vitreous fibres that have a range of compositions and uses. The largest single use of RCF is high temperature insulation for furnace linings and related applications. Recent studies involving laboratory animals that suggest these fibres may have potential to cause lung cancer or mesothelioma in humans.

The following gives some examples where RCF would be used;

- Power Stations
- Furnace linings
- Gas turbines

**Mandatory Requirements:**

To comply with COSHH Regulations

**Significant Hazards**

Inhalation of Glass wool/Rock wool fibres  
Inhalation of Ceramic fibres

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Title: Working with PCB's

Ref: TI032

**Introduction:**

PCBs (Polychlorinated Biphenyls), are a family of substances which are good electrical insulators. They are chemically stable, fire resistant and don't easily generate a vapour. The common trade names for PCBs are; Pyroclor, Aroclor, Inertech and Pyranol although there are many more.

**Information:**

**Where will I find PCBs?**

PCBs were used as dielectric filler liquids in some types of electrical equipment such as transformers, switchgear, capacitors and in the starter units of fluorescent lights. Some equipment is labelled as containing PCBs but if you come across old equipment with no identifying labels, you should check with your employer, manufacturer or owner of the equipment.

You should assume that any capacitor or transformer manufactured before 1976 may contain PCBs. It is also possible that there may be PCBs present in capacitors and transformers between 1976 and 1986. Even if the PCBs have been replaced by another liquid, significant amounts of PCBs may still be present. PCBs may occur as contaminants in the oil used in oil-filled electrical equipment. **IF IN DOUBT, ASK!**

**How can they enter my body?**

PCBs can enter the body in three ways;

- by direct contact with the skin. PCBs pass easily through intact skin, so this is likely to be the main way they get into your body.
- by breathing in fumes, spray or droplets if PCB-containing equipment is being cut or heated.
- by swallowing PCBs if you eat, drink or smoke in the workplace.

**What precautions should I take?**

All PCB-containing equipment needs to be checked regularly for signs of PCB leakage. If substantial leakage occurs, you should obtain the assistance of a specialist contractor immediately. You should not do any work where there is a possibility that you may come into contact with PCBs including dealing with split PCBs, unless you have been trained and authorised to do so.

Because PCBs can pass easily through your skin, you should wear PPE if there is any possibility of contact. The PPE may include;

- An impervious boiler suit or overall
- Suitable gloves
- Overshoes or Wellingtons
- Respirator

(no material is completely impervious to PCBs)

In some instances, capacitors in fluorescent light fittings may leak and need replacing. Here, only very small quantities of fluid are involved and it may not be required to obtain assistance of a specialist contractor. To deal with this, you need to wear disposable gloves, wipe down any spillage with paper or cloth wipes and wash your hands when you have finished the job.

**How do I dispose of PCBs?**

PCB waste (including contaminated PPE) and equipment containing PCBs must only be disposed of by specialist waste contracting firms which are licensed by the Waste Regulation Authority. You must not dispose of PCBs or PCB waste by pouring into drains, onto land or by burning. PCBs are normally destroyed in an incinerator, authorised to do so. Advice can be obtained from the local Waste Regulation Authority regarding disposal of very small amounts of PCBs (such as a few capacitors from fluorescent lights). The National Association of Waste Disposal Contractors (NAWDC) can provide a list of licensed members.



**Mandatory Requirements:**

To comply with the Environmental Agency & Local Authorities' Regulations under the Control of Pollution Act.  
To comply with COSHH.

**Significant Hazards**

Absorption of PCBs through skin contact  
Absorption of PCBs through inhalation  
Absorption of PCBs through indigestion

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Title: Leptospirosis (Weil's Disease)

Ref: TI034

**Introduction:**

When visiting farms, waterways, cableways and similar locations, you should be aware that coming into contact with sewage, refuse, rodents urine and solid waste, can occasionally lead to leptospirosis (Weil's Disease).

**Information:**

The symptoms of Weils Disease are similar to influenza and jaundice. It is essential that if you have been working in the types of situation detailed above & become ill that you inform your doctor of the type of location that you have worked in.

**Symptoms**

- Early symptoms are fever, chills, muscular aches and pains, loss of appetite, and nausea when lying down. These can easily be mistaken for influenza, meningitis or the classic physician's excuse, 'FUO' or Fever of Unknown Origin.
- Later symptoms include bruising of the skin, anaemia, sore eyes, nose bleeds and jaundice. The fever lasts for approximately five days, then a significant deterioration follows.

If you show any of the above symptoms after exposure to high risk areas, it is extremely important to contact your doctor as soon as possible. You should always tell your doctor that you suspect Leptospira infection, as many general practitioners do not associate fever-related symptoms to the infection without a helpful hint.

If you miss or ignore the early symptoms and start seeing the later and more serious indications of the disease then it is advised that you present yourself directly to a hospital accident and emergency department, again stating that you suspect you have leptospirosis. The later symptoms are the result of serious damage to the organs of the body and require urgent treatment with antibiotics not usually available outside a hospital.

**All patients should be identified and treated as soon as physically possible!**

Treatment with antibiotics is only effective if started rapidly after symptoms develop. The antibiotics of choice are only available via hospital doctors. Kidney dialysis may be necessary in some cases.

**Precautions to be taken:**

Basic hygiene precautions must be taken at all times, and should include;

- Apply barrier creams to hands
- Use appropriate PPE including disposable vinyl gloves & disposable waterproof coveralls
- Avoid rubbing nose, eyes or mouth with the hands
- Avoid smoking or eating

After contact with rodents, polluted water or anything that may be contaminated by any form of sewage, the hands and forearms should be thoroughly washed with soap and water, or disinfected with pre-prepared wipes

It is important that this is carried out before eating, drinking or visiting the toilet and at the end of the work day. Immediate action should be taken to wash any cut, scratch or graze of the skin, whether caused at work or not. The injury should be covered with the appropriate waterproof dressing, until completely healed.

**Personal hygiene is paramount in preventing infection from this disease**

**Significant Hazards:**

Contact with sewage & waste  
Contact with rodent urine

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Title: Dust & Fumes

Ref: TI034

**Introduction:**

Exposure to dust and fumes should be prevented where practicable, and must at least be controlled. Breathing in dust and fumes can have both acute and chronic effects, and can cause long-term health problems.

**Information:**

**Generation and the effects of site dust & fumes**

- Dust arise from cutting, sanding and grinding operations, and can also be found when working with old lead pipes (lead oxide dust) or stripping out fibrous insulation (a prime, and very dangerous example being asbestos)
- Fumes arise from a wider source of origins including welding operations, use of hazardous substances, heating metals such as lead, burning off old paints, etc.
- The effects vary greatly, but examples of potential hazards include lung disease from silica dust as a result of cutting/scabbling concrete, cancer from cutting/sanding hardwood dust, metal fume fever from welding fumes, and lung cancer/asbestosis from exposure to asbestos, to name but a few.

**Elimination/Control of Dust & Fumes**

Where practicable, plan operations/tasks to eliminate exposure to dust and fumes. If this is not possible, then exposure to dusts & fumes must be controlled. For example:

- Use tools with dust extraction systems if possible.
- Consider the use of portable extraction equipment
- Consider the use of local exhaust ventilation where practicable.
- As a last resort use personal protective equipment/respiratory protective equipment. Ensure it is suitable and that you know how to use it properly, and how to maintain it. Such information can be found in the manufacturers instruction that is included with the equipment.
- Always remember other workers in the area – they may also require protection.

**Having to resort to PPE**

When having to use PPE, the following will be available to choose from;

- Safety spectacles
- Goggles
- Face Screens
- Disposable filtering face mask (FFP1, FFP2 or FFP3,
- Half or Full Face respirators
- Air-fed helmets
- Breathing Apparatus

The latter two being used, when exposed to extreme cases of dust & fumes. When using filter masks & respirators, read manufacturer's instructions to make sure the filter is correct for the job at hand.

For more information on Eye Protection, please refer to Technical Instruction TI050

For more information on Masks & respirators, please refer to Technical Instruction TI056

For more information on COSHH Regulations, please refer to Technical Instruction TI013

**Mandatory Requirements:**

To comply with COSHH Regulations

**Significant Hazards:**

Exposure to dusts

Exposure to vapours

Working in oxygen deficient atmospheres

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Title: Working at Heights

Ref: TI035

**Introduction:**

Falls from height continue to be the biggest killer on construction sites.  
The following Toolbox Talk provides advice for people who work at height.

**Information:**

**Scaffolds**

**Only qualified operatives can build and use mobile scaffold**

Are scaffolds erected, altered and dismantled by competent people?  
Are all uprights provided with base plates (and, where necessary, timber sole plates)?  
Are all uprights, ledgers, braces and struts in position?  
Is the scaffold secured to the building or structure in enough places to prevent collapse?  
Are there double guard rails and toe boards, or other suitable protection, at every edge, to prevent falling?  
Are the working platforms fully boarded, and are the boards arranged to avoid tipping or tripping?  
Are there effective barriers or warning notices in place to stop people using an incomplete scaffold, eg where working platforms are not fully boarded?  
Is the scaffold strong enough to carry the weight of materials stored on it and are these evenly distributed?  
Are scaffolds being properly maintained?  
Does a competent person inspect the scaffold regularly, eg at least once a week; and always after it has been altered, damaged and following extreme weather?  
Are the results of inspections recorded?  
Have proprietary tower scaffolds been erected and are they being used in accordance with suppliers' instructions?  
Have the wheels of tower scaffolds been locked when in use and are the platforms empty when they are moved?  
For more information on scaffolding, please refer to Technical Instruction TI039 & TI040

**Ladders**

Are ladders the right way to do the job?  
Are they in good condition?  
Do ladders rest against a solid surface and not on fragile or insecure materials?  
Are ladders secured to prevent them slipping sideways or outwards?  
Do ladders rise a sufficient height above their landing place?  
If not, are there other hand-holds available?  
Are the ladders positioned so that users don't have to over-stretch?  
For more information on Ladders, please refer to TI046

Risk assessment and method statements

A risk assessment should be carried out for all roof work. Simple jobs may not require a great deal. More complex ones need to be assessed in much more depth. But all roof work is dangerous and it is essential that the risks are identified before the work starts and that the necessary equipment, appropriate precautions and systems of work are provided and implemented.

Getting on and off the roof

Getting on and off the roof is a major risk. A secure means of entry and exit is essential. A properly secured ladder is the minimum requirement.

Edge protection

Wherever anyone could fall more than 2 m, the first line of defence is to provide adequate edge protection. It needs to meet minimum legal standards of, or be equivalent to:

- a main guard rail at least 910 mm above the edge;
- a toe board at least 150 mm high; and
- an intermediate guard rail or other barrier so that there is no gap more than 470 mm.

#### Work platforms

As well as edge protection it is just as important to provide an adequate and secure working platform. In many cases the roof itself will provide this. If it does not, eg when working on a chimney on a pitched roof, a platform should be provided.

#### Fall arrest equipment

Providing adequate platforms and edge protection may not always be possible or reasonably practicable. If so Full Body Safety Harness & Lanyards will be required. They do not stop people falling, but minimise the potential injuries if they do. If harnesses are used make sure that they are securely attached to a sufficiently strong anchorage point and that they are always worn. This requires user discipline and active management monitoring.

#### Falling material

Keep a tidy site; stop material which could fall from accumulating.

Nothing should ever be thrown from a roof. Use enclosed rubbish chutes or lower material to the ground instead.

Prevent access to danger areas underneath or adjacent to roof work. Where this cannot be guaranteed, consider using debris netting, fans, covered walkways or similar safeguards to stop falling material causing injury.

Particular care is needed where there is public access close to roof work. If possible try to arrange for work to be carried out when passers-by will not be there, eg carry out repairs to schools during the school holidays. If this cannot be arranged minimise the public access to danger areas.

#### Training

Roof workers need the appropriate knowledge, skills and experience to work safely, or be under the supervision of someone else who has it. They need to be able to recognise the risks, understand the appropriate systems of work and be competent in the skills to carry them out such as:

- installing and wearing harness systems;
- installing edge protection; and
- operating a mobile access platform.

#### Weather conditions

Do not work on roofs in icy, rainy or windy conditions. Anyone carrying large materials can easily be blown off the roof if they are caught by a gust of wind.

#### Short-duration work

Short-duration work means lasting minutes rather than hours. It may not be reasonably practicable to provide full edge protection for short-duration work but it still needs to be considered during assessment and should not be automatically discounted. M.E.W.P.'s provide both edge protection and a working platform. It can do away with the need for scaffolding and can be particularly appropriate for short-duration minor work.

#### Rescue plan scaffold tower

Following investigation by PASMA, it was found that because there are so many variations in the circumstances that may be encountered when using mobile towers, it is not possible to give any specific guidance regarding rescue plans. These variations include; the reason for the rescue, the persons involved, the dimensions of the tower and its design, the state of build – either partial or complete, the location, the environmental conditions at the time, other local circumstances. All of these factors and more, create significant differences to the potential methods of rescue. However, we consider a general hierarchy of measures for rescue from a tower which will apply in many cases.

- Self-help comes first i.e. the person or persons are capable of descending the tower without outside assistance
- Next is an assisted descent i.e. the person or persons are capable of descending the tower with the assistance of others.
- Last is professional rescue i.e. the person or persons are totally incapacitated and incapable of descending the tower and need to be removed from the tower by others. If the person or persons are incapacitated such that they are unable to descend the tower even with the assistance of others, then their condition is likely to be such that only the professional medical or rescue services (ambulance and/or fire service) would have sufficient knowledge and skills to effect a safe and successful rescue.

It is highly likely that in such circumstance, persons without such professional medical and rescue knowledge and skills, could potentially cause further injury and/or significant risk to themselves or the person or persons in need of rescue.

**Significant Hazards**

Falling From Heights  
Falling Objects

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**Title: Precautions when Visiting Farms**

**Ref: TI036**

**Introduction:**

This Technical Instruction highlights the basic points of what you should and shouldn't do when working on agricultural premises.

**Information:**

When visiting farms or similar premises, you should be aware that such places often hide potential hazards. These can be avoided if the following are observed;

**You should:**

- Watch out for moving machinery
- Watch out for slurry pits
- Beware of animals, especially dogs
- Wear gloves, especially in soiled areas
- Practice good hygiene precautions
- Get first aid treatment for any cuts or grazes
- See that injuries are protected by a dressing
- Beware of any drums or bulk storage of pesticides, weed killer etc. Watch out for leaks and spillage

**You should not:**

- Enter fields during or within 24 hours of crop spraying, without expert advice
- Enter farms containing diseased animals without authorisation and necessary disinfectant
- Touch animal droppings
- Leave gates open

**NB** Rats and other rodents urine can be a source of human infection, known as Weils Disease. Infection is through wet skin or cuts in the skin.

For further information on Weils Disease, please refer to Technical Instruction TI033.

**Mandatory Requirements:**

**Significant Hazards**

- Struck by moving vehicles
- Caught in moving parts of plant/equipment
- Being exposed to hazardous substances
- Being exposed to animal diseases

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**Title: Harmonised Cable Colour Coding**

**Ref: TI037**

**Introduction:**

On the 31<sup>st</sup> March 2004, the IEE published BS7671:2001 Amendment No.2 The amendment specifies the new cable core colours for all new fixed wiring in electrical installations in the UK. These new colours are referred to as “Harmonised” colours, as they will bring the UK more closely in line with practice in Europe.

**Information:**

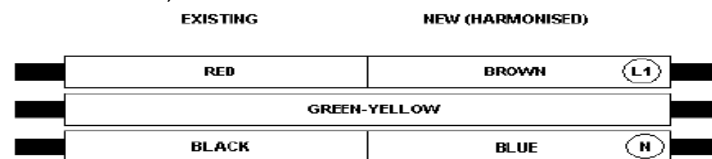
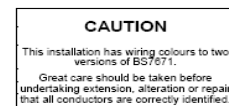
Electrical installation work commencing after 31<sup>st</sup> March 2004 may use the new harmonized cable colours or the pre-existing, but not both. Work commencing on site after 31<sup>st</sup> march 2006 will be required to comply with the harmonized cable core colours and **MUST NOT** use the old colours.

**Single Phase Installations**

The fixed installation colours of red phase and black neutral are replaced by brown line and blue line (neutral, respectively) (these are the colours that have been used in flexible cables for many years). The protective conductor is still identified by the colour combination green and yellow.

**Extension/Alteration to existing single phase installations**

Alteration or additions to a single phase installation do not require marking at the interface between old and new cabling providing that they are correctly coloured. However a warning notice must be fixed at the distribution board/ consumer unit, like this:

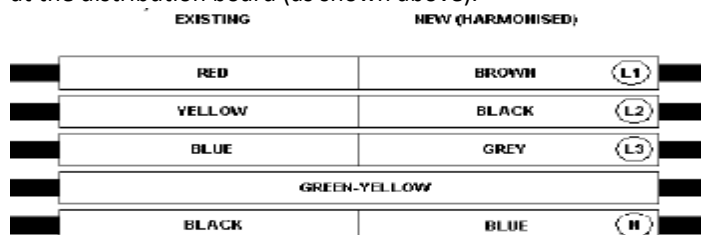


**Three Phase Installation**

For three phase cables the phase colours are brown, black and grey, instead of red, yellow and blue, respectively, and the neutral colour is now blue instead of black. Again the protective conductor is identified by the colour combination green and yellow. Alternatively all three of the line conductors may be coloured. brown and marked L1, L2, L3 at the terminations.

**Extension/alterations to existing three phase installations**

For alterations or extensions to three phase installations, it is recommended that the old and new cables are marked at the interface L1, L2, L3 for the phases and N for the neutral. The marking should be made to both the new and old cables and is preferred to the use of coloured tape. A caution notice is again required at the distribution board (as shown above).



**Requirements:**

BS7671:2008 IEE wiring regulations

**Significant Hazards**

Incorrect termination of conductors resulting in a possible injury or fire.

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Title: Work in the vicinity of live services

Ref: TI038

**Introduction:**

There are statutory requirements for those that install, maintain, operate, and use electrical systems and equipment in any work premises. While undertaking electrical inspection and testing, installation and maintenance work it is inevitable that work is carried out in the vicinity of live electrical systems. Examples of live working are the testing of electrical distribution equipment and accessories to measure Earth Fault Loop Impedance and Prospective Fault Current levels. Additional supplies being installed within electrical distribution equipment, and circuits being drawn into existing containment systems such as cable trunking.

**Information:**

**Planning**

Whenever possible, 'live' work is to be avoided. If 'Live' working is unavoidable the assessment procedure in Figure 1 of HS(G) 85 is to be followed and a safe system of work devised, preferably in writing. Sufficient personal protective equipment (PPE) is to be available at the workplace.

**Physical**

Access to live conductors is to be controlled, and appropriate signs are to be in place. Written information and instructions will be required for work on complex systems (control, metering & parallel circuits). A clear access of 1 m, insulated gloves and matting are to be provided for 'live' working. Electrical test equipment will be insulated and in date for calibration. Electricity supply authority seals will not be broken, and final connections will not be made without written authority.

**All circuits to be worked on will be treated as live until verified dead. There are no exceptions to this requirement; experience of employees is irrelevant.**

**Managerial/ Supervisory:**

Live work is only to be carried out by authorised competent electricians. Electricians will not be permitted to work unaccompanied on live connections above 50 volts AC or 120 DC (in accordance with HSG 85) unless specifically authorised to do so, and method statement, risk assessment, certificate to test live and good communications are in place. Adequate PPE, first-aid and qualified first-aiders are to be available at the workplace where live work is to be undertaken. If live work is not covered by a permit system, then switching off must be accompanied by a physical lock-off in addition.

**Training:**

Qualified and competent persons with recognised training and experience will only be permitted to undertake electrical work in LIVE electrical switch panels, motor control centres, and distribution boards, and must be authorised by Management to undertake this work. Before authorisation, operatives will be trained in the IEE Wiring Regulations 16th Edition, and the Electricity at Work Regulations and Guidance. Before authorisation to carry out "live" work, they will be trained in the safe working practices contained in HSG 85 and Guardian Electrical Safe Working on LV Electrical Systems Handbook. All electricians will be trained in the treatment of electric burns and shocks.

**Mandatory Requirements:**

Electricity at Work Regulations & Memorandum HS(R)25  
Health and Safety at Work Act  
Management of Health and Safety at Work Regulations  
HSE Guidance Booklet HS(G)85 Electricity at Work-Safe Working Practices

**Significant Hazards**

Electrocution  
Electric Shock leading to Fibrillation of the heart  
Electric burns  
Explosion  
Fire  
Secondary effects - fall from height

**Incidences of electric shock shall be reported as a near miss. There is documented evidence that there may be a delayed reaction to persons that receive an electric shock**

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Title: Use of Access Scaffolding

Ref: TI039

**Introduction:**

Falls from heights continue to be the biggest killer on construction sites. This information sheet provides advice for users of access scaffolds. Work at height should be carried out from a platform with suitable edge protection.

**Information:**

**Scaffold erection**

When the work at hand, requires the use of a fixed scaffolding system, a specialist contractor will be hired for the erection, any alterations and the dismantling of the system.

If any scaffold system is left incomplete, warning notices should have been put in place around the Scaffolding. The notices should be clearly visible and state, 'DANGER! Incomplete Scaffolding'.

Before use, it is essential to obtain or record sight of a scaffolding hand-over certificate.

Such a certificate will give written confirmation on the nature of use and the maximum loading which can be imposed upon it without adverse effect on the stability of the scaffold.

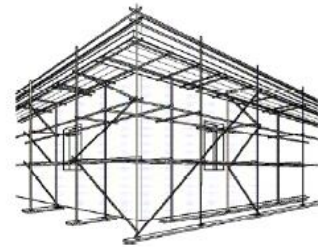
There is no legal requirement to issue such a certificate so if confirmation is denied/refused, these circumstances should be reported to senior management and authority given at that level.

When a certificate is received from the scaffolding erector, there is no legal requirement to make a signed and dated entry in the register regarding the condition of the scaffolding.

However, the scaffolding must be inspected before persons are allowed to work upon it. It is advisable to inspect the scaffolding jointly with the scaffold contractor whilst on site and record whether the structure is satisfactory or not.

An inspection register must be completed in every detail by a person deemed to be competent by the employer to inspect scaffolds of such complexity under his charge and no entry should be made regarding the condition of the scaffolding unless a physical check has been made.

It is advisable to record the time the scaffolding was inspected under the date the inspection took place in the register, in case scaffolding is altered by unauthorized persons later.



**Safe use of scaffolds**

- Do not take up boards, move handrails or remove ties to gain access for work.
- Changes should only be made by a competent scaffolder.
- Never work from platforms that are not fully boarded.
- Do not overload scaffolds. Make sure that are designed to take the loads put on them. Stores materials so the load is spread evenly
- Make sure there is suitable stair and ladder access onto the working platform.

**Protecting the public**

- Contact the appropriate highway authority before erecting a scaffold on a public highway or on any roads, pavements, paths or routes used by the public.
- Ensure the scaffold is designed to carry the load from stored materials and equipment
- Scaffolds should be designed to prevent materials falling. You may need to provide brick guards, netting or sheeting. Where the risk is high, or for example during demolition or façade cleaning, you should provide extra protection in the form of scaffold fans or covered walkways.
- In populated areas such as town centres, erecting and dismantling scaffolds should preferably be undertaken during quiet times. People should be

prevented, with suitable barriers and signs, from walking under the scaffold during erection or dismantling.

- Stop unauthorized access onto the scaffold, for example by removing all ladders at ground level, whenever it is left unattended.
- Never 'bomb' materials from a scaffold. Use mechanical hoists or rubbish chutes to move materials and waste.

For information regarding access via ladders, please refer to Technical Instruction TI046

**Significant Hazards**

Falling from heights

Falling objects

Collapse of structure

This data sheet is provided for use in promoting safety awareness and safe working practices. It is not a substitute for the statutory regulations and may not address all safety issues on a specific site.

Title: Mobile Scaffold Towers

Ref: TI040

**Introduction:**

Tower scaffolds are widely used and are involved in numerous accidents each year. These usually happen because the tower is not properly erected or used. Aluminium towers are light and can overturn. Towers rely on all the parts being in place to ensure adequate strength. They can collapse if sections are left out.

**Information:**

**Erecting the tower**

A wide range of towers are available. The manufacturer or supplier should provide an adequate instruction manual which should give advice on the erection sequence and bracing requirements. If the tower has been hired, the hirer should provide this information. This information should be passed on to the erector. The person erecting the tower should be competent and have completed formal training to do so.

**Stability**

A tower scaffold should only be used on firm level surfaces. The taller the tower the more likely it is to become unstable. As a guide, if towers are to be used in exposed conditions or outside, the height of the working platform should be no more than three times the minimum base dimension. If the tower is to be used inside, on firm level ground, the ratio may be extended to 3.5. Using this guide, if the tower base is 2m by 3m, the maximum height would be 6m for use outside and 7m for inside.

**Always check the safe height to base ratio in the instruction manual for specific data.**

**Before using the tower**

- Check that the scaffold is vertical.
- Check that **All** wheel brakes are on.
- Check that all tower parts are fitted and in place.
- Check that safe access to get to and from the work platform is provided.



**Access**

Only integral ladders should be used - **on no account** rest ladders on the outside of the tower or climb the tower externally.

**Moving the tower**

When moving a tower: check that there are no power lines or other overhead obstructions; check that the ground is firm and level; push or pull only from the base - never use powered vehicles; never move it while there are people or materials on the upper platforms; never move it in windy conditions.

**Mandatory requirements:**

**Edge Protection** -Provide suitable edge protection on all platforms where a person could fall. Guard rails should be at least 910 mm high and toe boards at least 150 mm high. An intermediate guard rail or suitable alternative should be provided so the unprotected gap does not exceed 470 mm.

**Scaffold Inspections** -Tower scaffolds must be inspected by a 'competent person': before first use; after substantial alteration; and after any event likely to have affected its stability. If the tower remains erected in the same place for any length of time, it should also be inspected at regular intervals (not exceeding seven days) and a written report made. Any faults found should be put right.

**Training** -The Construction (Health, Safety & Welfare) Regulations, require that the installation or erection of Mobile Access Towers should only be carried out by, or under the supervision of, a competent person. Such a person is someone considered to have the training, technical knowledge or experience as may be appropriate having regard to the nature of the activity. Such training is undertaken by authorised members of Prefabricated Access Suppliers' and Manufacturers' Association (PASMA).

**Significant Hazards:**

- Risk of falls from persons
- Risk of falls from materials
- Collapse of tower
- Overturning of tower
- Collision with overhead conductors

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Title: Use of Ladders

Ref: TI041

**Introduction:**

Work at height should be carried out from a platform with suitable edge protection. Occasionally this may not be possible and a ladder may have to be used. However, ladders are best used as a means of getting to a workplace and should only be used as a workplace for light work of short duration where 3 points of contact can be maintained.

**Information:**

**Selecting Equipment**

When deciding what equipment to use think about what the job includes, how long it will last and where it needs to be done. It is tempting to use a ladder for all sorts of work but you should always consider a working platform first, for example, a properly erected mobile scaffold tower or a mobile elevated working platform (MEWP).

**Ladders**

Ladders should be in good condition and examined regularly for defects. They should be secured so they cannot slip, usually by tying them at the top. The ladder should be angled to minimise the risk of slipping outwards and as a rule of thumb needs to be 'one out for every four up'. Access ladders should extend about 1 m above the working platform. This provides a handhold for people getting on and off. Do not overreach: if you are working from a ladder, make sure it is long enough and positioned to reach the work safely. Do not climb or work off a ladder unless you can hold onto it.

**Points to note**

- Ladders must extend sufficiently beyond working platforms to allow for safe access/egress.
- Ladders must not be painted (this hides defects), should be stored correctly, and be subject to regular inspection.
- Never take serviceability for granted, always carry out a visual check prior to use. Report any defects immediately.
- Never carry out homemade repairs on a ladder, and never use a ladder with existing home made repairs, and never use a homemade ladder!
- Always stand ladders on a firm base. Never use milk crates, oil drums, etc., to gain extra height, and if ground is soft use suitable support. Consider staking at bottom.
- Never use rungs as a support for planks, or rest rungs on planks.
- Remove excessive mud, grease, etc., from footwear prior to climbing/descending a ladder.
- Always use both hands to climb/descend, and face the ladder.
- Never over reach from ladders – get down and move them.
- Avoid using metal ladders against metal surfaces – the reduced friction makes them more liable to slipping.
- Beware of overhead obstructions, especially overhead power lines (metal ladders/metal reinforcements).

**Stepladders**

Do not use the top platform of a stepladder unless it is designed with special handholds. Ensure stepladders are positioned on level ground and used in accordance with the manufacturer's instructions. Ensure stepladder stays are in good order e.g. if webbing not frayed, if metal stays, not twisted and all fixings are intact.

**Significant Hazards:**

- Risk of falls from persons
- Risk of objects falling
- Collapse of steps Ladders/steps slipping

Back injuries when manual handling ladders and steps

This data sheet is provided for use in promoting safety awareness and safe working practices. It is not a substitute for the statutory regulations and may not address all safety issues on a specific site.



Title: Supermarket Chiller Distribution Access

Ref: TI041a

**Introduction:**

Chiller Unit Distribution equipment (DB) in a Supermarket environment is commonly installed on the top surface of the Unit. This DB may be located in any place along the length of the chiller, therefore access can be difficult. This TI is intended as a guide on how these DBs can be accessed and worked on safely. Ladders are best used as a means of access/egress to a workplace and should only be used for light work of short duration where 3 points of contact can be maintained.

**Information:**

**Selecting Equipment**

Given the common position for these DBs is on the top surface of the chiller, we have determined that ladders are the most practical way of accessing the equipment. If it considered practical for a MEWP or scaffold to be utilised, this would be the preferred method.

**Ladders**

Ladders should be in good condition and examined regularly for defects, with an updated ladder tag attached. Only glass fibre or other insulated non metallic ladders with anti-slip rubber feet should be utilised.

The ladder should be angled to minimise the risk of slipping outwards and as a rule of thumb needs to be 'one out for every four up'. Ladders are to be placed perpendicular against the top edge of the unit, taking care to not cause damage whilst doing so.

The ladders should clear the freezer-well handrail and barriers should be placed around the work area and warning signs displayed, segregating the inspectors from the Public and Tesco Colleagues. The ladders should always be footed by the inspector's teammate.

Do not overreach: if you are working from a ladder, make sure it is long enough and positioned to reach the DB safely.



**Points to note**

- Ladders must not be painted (this hides defects), should be stored correctly, and be subject to regular inspection.
- Never take serviceability for granted, always carry out a visual check prior to use. Report any defects immediately.
- Never carry out homemade repairs on a ladder, and never use a ladder with existing home-made repairs, and never use a homemade ladder!
- Always stand ladders on a firm base. Never use milk crates, oil drums, etc., to gain extra height, and if ground is soft use suitable support. Consider staking at bottom.
- Never use rungs as a support for planks, or rest rungs on planks.
- Remove excessive mud, grease, etc., from footwear prior to climbing/descending a ladder.
- Always use both hands to climb/descend and face the ladder.
- Never overreach from ladders – get down and move them.
- Avoid using metal ladders against metal surfaces – the reduced friction makes them more liable to slipping

**Significant Hazards:**

Risk of falls from persons  
Risk of objects falling  
Collapse of steps Ladders/steps slipping  
Back injuries when manual handling ladders and steps

This data sheet is provided for use in promoting safety awareness and safe working practices. It is not a substitute for the statutory regulations and may not address all safety issues on a specific site.

**Title: Use of Mobile Elevating Working Platforms**

**Ref: TI042**

**Introduction:** There are many different types of M.E.W.Ps for example, scissor lifts, self-propelled boom's and company AWP's. It is important to select the correct one, taking into consideration, the work to be carried out and the site conditions. This data sheet provides basic information on the correct selection of the appropriate M.E.W.P. **Only IPAF qualified operators may use a MEWP.**

**Information:**



Scissor Lift



Boom



Compact AWP

**Site Considerations**

All of the following will affect the choice of M.E.W.P. you will make;

- Are there any ramps, trenches or manholes on site?
- Is the ground tarmac, rough terrain, soft or wet?
- Is the ground uneven, sloping or flat
- Will the platform be used in an open or confined space or in the vicinity of overhead power lines?
- If working close by to power lines, there must be a minimum gap of 8m between the conductors and the M.E.W.P.
- Will there be any other vehicles on site including other M.E.W.P.s or Cranes?
- What are weather conditions like, do not be in use when wind speeds exceed 28mph.

**Safe Operation**

**Don't :**

- Use without being properly trained
- Inspect under raised boom/platform unless all movement has been totally prevented
- Use without authorisation
- Use with battery charger connected to mains
- Exceed Safe Working Load (SWL)
- Use on sloping ground
- Increase working height with steps, ladder etc
- Lean out of platform – Reposition!
- Move with platform in its elevated position unless designed to do so times
- Introduce anything that may affect wind loading
- Use emergency Lowering System except in an emergency
- Use in poor light
- Use if defective or malfunctioning

**Do:**

- Read manufacturer's instructions
- Carry out recommended daily checks before use
- Carry out maintenance programme as required
- Keep both feet on platform floor
- Use safely at all times
- Keep platform tidy
- Keep looking for obstructions
- Have a person at each end when moving
- Use Safety barriers
- Remove switch key when leaving unattended
- Use full Body Safety Harness & Lanyard at all
- Report defects/malfunctions immediately to supervisor

**Training** - In order to be licensed to operate powered access equipment, formal training must be completed by organizations such as the International Power Access Federation (IPAF) or equivalent. Once the training has been completed, operatives will be issued a powered access licence card which indicates the types of equipment they are trained to operate.

**Planning and operation** - Where required on client premises a permit to work will be completed by the IPAF qualified operative. This will normally include details of any Rescue Plan.

**Rescue Plan** - Under normal circumstances, back-up systems built into the machine will allow the operator to bring the platform of the machine to ground level under controlled conditions. It is extremely unusual for these systems to fail.

Where the operator is incapacitated and unable to lower the MEWP, an appointed person familiarised in the use of the lower 'ground' controls will lower the platform safely to the ground using the lower ground controls.

To ensure that a safe method of rescue is available when all other back-up systems for returning personnel to ground level have failed, the following procedures can be used.

#### **Standard Operating Procedure**

Ensure that all normal emergency lowering procedures have been activated.

Contact the site duty holder to report failure of back-up emergency lowering systems and request engineering back-up.

If, after inspection by the engineer, it is not possible to effect a repair to allow the machine to be brought to the ground, the site duty holder must be contacted for permission to carry out basket to basket rescue.

- A. The details of the risk assessment carried out shall be recorded onto the site-specific risk assessment form.
- B. The rescue machine must be positioned so as to enable the rescue procedure to be carried out without compromising the safety of personnel involved in the rescue.
- C. The platforms of both machines must be adjacent to each other with a minimal gap between them unless exceptional circumstances mean this is not possible. (Where this is not possible, the circumstances shall be recorded onto a task specific risk assessment form.)
- D. A double lanyard must be attached to the person being rescued and the anchor points on both machines before the rescue takes place.
- E. Care must be taken not to overload the rescue machine. This may mean making more than one journey to complete the rescue.
- F. Where alternative emergency systems are not possible, consideration should be given for the use of an emergency evacuation system, examples of which are: control descent systems, crane basket rescue (this is not exhaustive).

The site duty holder must be made aware of the rescue plan.

**The foregoing procedures are covered as part of IPAF training course.**

#### **Significant Hazards:**

Falls from platform – persons, tools or material  
Overturning – Overloading, gradient, wind, unstable ground, outriggers not used/not secure  
Collision – Vehicles/M.E.W.P./Articulated arm, structure, persons  
Contact – Live Electrical Conductors  
Mechanical power failure, Structural failure

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Title: Use of Hand Tools

Ref: TI043

**Introduction:**

Misuse and poor maintenance of hand tools result in countless injuries every year. Whilst many may be considered "minor" - all are avoidable by complying with relatively simple procedures.

**Information:**

**General**

- Only ever use the right tool for the job
- Maintain all tools in a serviceable condition - If unserviceable, either repair or replace.
- Control/protect tools with obvious risks, e.g. retract sharp blades or place cover over stanley knives. When handling sheet metal with sharp edges use cut resistant gloves

**Hammers**

- Avoid split, broken or loose shafts and worn or chipped heads.
- Make sure the heads are properly secured to the shafts.

**Files**

- These should have a proper handle.
- Never use as a lever.

**Chisels**

- The cutting edge should be sharpened to the correct angle.
- Do not allow the head of cold chisels to spread to a mushroom shape - grind off the sides regularly.

**Screwdrivers**

- Never use them as chisels and never use hammers on them.
- Split handles are dangerous.

**Spanners**

- Avoid splayed jaws.
- Scrap any which shows signs of slipping.
- Have enough spanners of the right size - Do not improvise by using pipes etc as extension handles.

**Stilson Wrench**

- Look out for worn threads and jaws.

**Mandatory Requirements:**

Provision of Use of Work Equipment Regulations (PUWER)

**Significant Hazards**

Risk of Injury to Hands  
Risk of Injury to Eyes  
Risk of Injury to Feet  
Risk of Injury to Body

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**Title: Use of Portable Electrical Equipment**

**Ref: TI044**

**Introduction:**

Electrical appliances used on site are subject to harsh treatment and can easily become worn and/or damaged. They then can become lethal pieces of equipment.

**Information:**

All portable electrical appliances should be subject to regular inspection and maintenance by a competent person - site equipment should be PAT tested every 6 months.

- The use of portable electrical equipment on site requires to be transformed down from a 230V supply to 110V by means of a portable site transformer.
- All equipment such as cables, casings and plugs should be visually checked before use. Any damage should be reported and the equipment removed from service immediately.
- Check that suitable protection devices such as fuses, circuit breakers and residual current devices are in place. Also check that fuses are of the correct rating.
- Portable electrical appliances should only be used for the purpose of which they were designed for.
- Ensure that all power tools are properly earthed unless it is an approved type that does not require earthing.
- The use of portable electrical equipment often requires the operative to wear PPE such as eye and/or ear protection. Ensure you wear them as required.
- Never use blunt, worn or damaged bits and accessories.
- Whenever power tools are not being used, they should be disconnected from the supply.

**Mandatory Requirements:**

Electricity at Work Regulations 1989 (EAWR)  
Provision of Use of Work Equipment Regulations 1998 (PUWER)

**Significant Hazards**

Risk of Electrocution  
Risk of Fire  
Risk of Injury to Body

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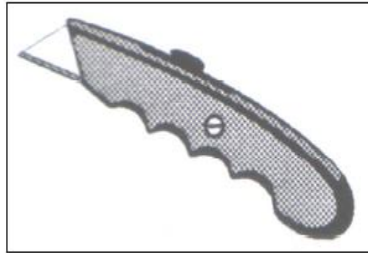
**Title: Use of Stanley Knives**

**Ref: TI045**

**Introduction:**

The 'Stanley' knife is now a generic term for the style of knife as shown below. It features short steel blades that are contained partially or fully within the cast iron handle.

**Information:**



**Advantages of Stanley knife's;**

- Very sharp and accurate blade
- A range of blades available
- Blades easily changed

**Disadvantages of Stanley knife's;**

- Blades not correctly stored are a hazard
- The blades can snap when put under pressure

This kind of knife should not be used in the following circumstances;

- On any electrical work for example stripping cables, cutting PVC trunking.
- Where the blade is twisted
- Where the blade is put under other undue pressures
- Whenever a customer prohibits their use All of the rules applied to the use of conventional knives, should always be observed for example whenever using a knife, you must always cut away from the body and never towards.

**Mandatory Requirements:**

To comply with good engineering practice and trade training  
Provision and Use of Work Equipment Regulations 1998 (PUWER)

**Significant Hazards**

Risk of injury to hands, feet and body

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Title: Use of stepladders	Ref: TI046
<p><b>Introduction:</b> The Work at Height Regulations 2005 (WHR 2005) came into force on the 6th April. They consolidate the previous working at height regulations, and include provisions in accordance with European Council Directive 2001/45/EC. To satisfy the requirements of WHR 2005 it is necessary to undertake a risk assessment based on the preceding items (Work at Height Risk Assessment) in accordance with Reg 3 of the Management of Health and Safety at Work Regulations 1999.</p>	
<p><b>Information:</b></p> <p><b>Planning</b></p> <p>Guardian Electrical Work at Height Risk Assessment has been produced to enable the use of step ladders to continue in a controlled manner. It takes into account guidance from the HSE and our industry sector, and will enable us to comply so far as is reasonably practicable, with WHR 2005. A Working at Height Risk Assessment must be completed by the Project Engineer prior to commencement of work at client's premises regardless of whether it is a clean office environment, an industrial installation, or a construction site.</p> <p>The project engineer will have assessed whether it is suitable to use step ladders to undertake the task, or whether other equipment such as podium steps, mobile scaffold, or MEWP are more appropriate due to height of work, conditions etc.</p> <p>The person undertaking the task must perform a WHR risk assessment if in their opinion site conditions, or task, are such that the original risk assessment is unsatisfactory, and that the use of step ladders is inappropriate.</p> <p><b>Points to note</b></p> <ol style="list-style-type: none"> <li>1. The maximum working height of feet on step treads from the ground is 3.0mtr.</li> <li>2. Step ladders will have a clear indication of the last tread that can be used to limit working height to 3.0mtr.</li> <li>3. All company issued stepladders are provided with ladder tags which must be updated on a monthly basis</li> <li>4. Steps are to be checked to ensure that they are safe to use.</li> <li>5. Ground must be clear, level, and capable of supporting the weight of the steps, operatives and equipment.</li> <li>6. Steps must be positioned in such a way that users are not over reaching or standing awkwardly whilst undertaking the task.</li> <li>7. The task undertaken off steps must be simple in nature, and the operative familiar with performing it</li> <li>8. The task should be non-repetitive and limited to 20 minutes in a hour.</li> <li>9. Equipment used to perform the task must be easily handled for example test instruments, hand tools.</li> <li>10. The installation or removal of heavy or irregular shaped objects should not be undertaken off stepladders.</li> </ol> <p><b>Managerial/ Supervisory:</b></p> <p>Site safety audits are to be undertaken by the project manager, site supervisor, or health and safety manager. The results of the audit are to be recorded on the site audit sheet, and stored within the project file. Stepladder tags will be checked for correct completion with inspection dates as applicable. Where it has been identified that step ladders are being used inappropriately the work activity must be halted, a risk assessment undertaken, and alternative access equipment utilised.</p> <p><b>Training:</b></p> <p>All management and operatives are trained/instructed on the contents and policies of Guardian Electrical Safety Manual. Further instruction is given on the Working at Height Regulations and the use of stepladders.</p> <p><b>Mandatory Requirements:</b></p> <p>Working at Height Regulations 2005 Health and Safety at Work Act 1974 Management of Health and Safety at Work Regulations 1999</p>	
<p><b>Significant Hazards</b></p> <p>Risk of falls from persons, Risk of objects falling, Collapse of stepladders                      Stepladders slipping on uneven unobstructed surfaces                      Injuries to the back as a result of manual handling stepladder.</p>	
<p>This data sheet is provided for use in promoting safety awareness and safe working practices. It is not a substitute for the statutory regulations and may not address all safety issues on a specific site.</p>	



Title: Use of non-contact voltage indicators

Ref: TI047

**Introduction:**

There are several manufacturers of these type of voltage indicators, they are commonly known as VOLT STICKS, although this is the tradename of the company that patented the first units. The original testers gave an indication of LIVE wiring by "glowing" and became known as magic pens, or wands. The many variants of non-contact voltage indicators now have audible signals, and can operate from 50V to 1000V AC. There are also versions available that are intrinsically safe and may be used in explosive atmospheres such as chemical plants, oil refineries, and off shore rigs.

**Information:**

Senses the steady state electrostatic field produced by ac voltage through insulation without requiring contact to the bare conductor. Depending on the manufacturer they will operate at frequencies between 50hz and 50khz.

**Advantages:**

- No contact with live parts required
- Identify if cable is live through insulation
- Identify if fuse blown within plug head without the need to remove from socket outlet, or remove cover
- Quickly identify if socket outlet or fused connection units etc are live
- Identify spurious voltages within control panels, switch panels, distribution boards.
- Identify spurious voltages on extraneous or exposed conductive parts.



**Dis-advantages:**

- Only reliable between 3mm and 25mm from potentially live parts
- Susceptible to false indication due to static electricity, may be operated by rubbing on shirt sleeve
- Manufacturers do not guarantee that the unit will sense live parts
- Will not sense through shielded, screened, steel wire armoured cables
- Only suitable for use on alternating current supplies.

**Mandatory Requirements:**

Health and Safety at Work Act 1974

Management of Health and Safety at Work Regulations 1999

Electricity at Work Regulations 1989 & Memorandum HS(R)25

HSE Guidance Booklet HS(G)85 Electricity at Work-Safe Working Practices

**THIS INSTRUMENT IS FOR INDICATION OF LIVE EQUIPMENT ONLY. UNDER NO CIRCUMSTANCES IS IT TO BE USED TO VERIFY THAT EQUIPMENT IS DEAD. APPROVED VOLTAGE INDICATORS AND PROVING UNITS MUST BE UTILISED (ref appendix 3 Guardian Electrical Safe Working on LV Electrical Systems Handbook).**

**Significant Hazards:**

Electrocution

Electric Shock leading to Fibrillation of the heart

Electric burns

Explosion

Fire

Secondary effects - fall from height

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**Title: Use of Hard Hats**

**Ref: TI048**

**Introduction:**

Every year in the construction industry, workers are killed and many others injured as a result of head injuries. Wearing a safety helmet greatly reduces the chances of being seriously hurt.

**Wearing one could save your life.**

**Information:**

**Selection of suitable safety helmets**

Helmets come in a variety of designs and it is important that the right type is provided for the work to be done. A properly fitting safety helmet should have the right shell size for the wearer and an easily adjustable headband, nape and chin strap. The range of size adjustments should be large enough to accommodate thermal liners used in cold weather. Safety helmets should be as comfortable as possible. Comfort is improved by the following:

- A flexible headband of adequate width and contoured both vertically and horizontally to fit the forehead
- An absorbent sweatband that is easy to clean or replace;
- Textile cradle straps;
- Chin straps (when fitted) which:
  - fit around the ears;
  - are fitted with smooth, quick-release buckles which don't dig into the skin;
  - are made from non-irritant materials;
  - can be stowed on the helmet when not in use.



Whenever possible, the safety helmet should not hinder the work being done. For example, an industrial safety helmet with little or no peak. Chin straps should be provided and used if a job involves work in windy conditions, especially at height, or repeated bending or constantly looking upwards.

Helmets should be compatible with any other PPE, eg ear defenders or eye protectors. The design should allow them to be worn comfortably and remain effective. Check manufacturer's instructions regarding the compatibility of safety helmets with other types of PPE. Don't attempt to modify existing helmets to take these fittings as this may weaken them.

**Helmets are always to be worn in the direction they were designed to be worn, i.e. not back to front!**

**Maintenance**

Safety helmets must be maintained in good condition. They should:

- be stored in a safe place, eg on a peg or in a cupboard on site;
- not be stored in direct sunlight or in excessively hot, humid conditions because long-term exposure can weaken the shell;
- be checked regularly for signs of damage or deterioration;
- have defective parts replaced (if the model allows this). Parts from one model cannot normally be interchanged with those from another;
- have the sweatband cleaned regularly or replaced. Before the safety helmet is issued to another person, it should be inspected to ensure it is serviceable and thoroughly cleaned in accordance with the manufacturer's instructions, eg using soap and water. The sweatband should always be cleaned or replaced.

**Damage to the shell**

Damage to the shell of a helmet can occur when:

- objects fall onto it;
- it strikes against a fixed object;
- it is dropped or thrown.

Certain chemicals can weaken the plastic of the shell leading to rapid deterioration in shock absorption or penetration resistance. Chemicals which should be avoided include aggressive cleaning agents or solvent based adhesives and paints. Where names or other markings need to be applied using adhesives, advice should be sought from the helmet manufacturer.

**Replacement**

Safety helmets should be replaced at intervals recommended by the manufacturer or if the helmet has become damaged.

**Mandatory Requirements:**

Construction (Head Protection Regulations)  
Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of obtaining head injuries if not wearing a safety helmet

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Title: Use of Safety Footwear

Ref: TI049

**Introduction:**

All operatives of Guardian Electrical are issued with safety footwear which incorporates steel toe caps and steel mid sole. This footwear should always be worn. Trainers do not provide adequate protection.

**Information:**

**User Guide**

The footwear issued to Guardian Electrical operatives are extremely robust and are suitable for most environments.

The life and performance of the product in some conditions however can be dramatically reduced.

All the footwear supplied features and 'Oil Resistant Sole' (the resistance to some chemicals is limited). You should make sure that the footwear is the right size and comfortable to wear.

All footwear should be regularly inspected and maintained (both upper and sole). New laces should be fitted when necessary to ensure secure fitting.

Replace excessively worn or damaged footwear to maintain the highest possible level of protection.

**Maintenance**

In order to keep your safety footwear in good condition, you should;

**Grain Leather** – Clean with a damp cloth to remove dirt and stains etc. Apply wax polish to improve water resistance and to keep leather supple.

**Soles** – Keep soles clean using a blunt knife.

**Storage**

When safety footwear is not in use, they should be cleaned, returned to their box and stored in a dry condition, (at a recommended temperature of 10-20Deg.C)

**You should never;**

- Wear flimsy trainers or sandals on site
- Wear footwear which has been so damaged that the protection is reduced e.g. steel toe cap separated from the rest of the boot.
- Use wire or string as a replacement for proper laces.
- Leave the footwear in wet or contaminated areas.

**Antistatic Footwear**

Antistatic footwear should be used if it is necessary to minimize electrostatic build up to avoid the risk of spark ignition of, for example, flammable substances and vapours and if the risk of electric shock from any electrical apparatus or live parts has not been completely eliminated. Antistatic footwear cannot guarantee protection against electric shock as it introduces only a resistance between foot and floor. If the risk of electric shock has been completely eliminated, additional measures to avoid this risk are required.

When the footwear is worn conditions where the sole becomes contaminated, you should always check the electrical properties before entering a hazard area.

No inner sole should be introduced to the footwear unless the sole has been checked for its electrical properties.

**Mandatory Requirements:**

Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of injury to feet and toes if safety footwear is not worn

This data sheet is provided for use in promoting safety awareness and safe working practices. It is not a substitute for the statutory regulations and may not address all safety issues on a specific site.

**Title: Use of Eye Protection**

**Ref: TI050**

**Introduction:**

It only takes a small fragment or splinter to cause irreparable damage to the eye, but most risks can be significantly reduced, if not eliminated, by simply wearing suitable eye protection.

**Information:**

Eye protection must be worn when carrying out any of the following:

- Grinding or dressing grinding wheels
- Breaking, cutting, dressing or drilling building materials such as:-
  - Glass
  - Hard plastic
  - Concrete
  - Plaster
  - Stone
  - Bricks
  - Block work
  - Tiles
- Application of paint, grease, silicone and other substances that may splash or flick into eyes.
- Cutting, striking or chipping of metals
- Use of compressed air tools

The standard eye protection is not suitable for use with welding/cutting equipment which can often produce fumes and heat and may result in ultra-violet and other radiation. In this case special face shields are required.

Eye protection equipment should always be kept in good condition, and should be replaced without delay if damaged or lost.

RIDDOR (Reporting injuries, diseases and dangerous occurrences regulations -requires you to report any of the following in the site accident book or on a accident report form;

- Loss of sight (temporary or permanent)
- Chemical or hot metal burn to eye
- Penetrating injury to the eye

**Mandatory Requirements:**

Personal Protective Equipment at Work Regulations 1992

**Significant Hazards**

Risk of injury to eyes if not wearing any eye protection

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Title: Use of Ear Protection

Ref: TI051

**Introduction:**

Noise induced hearing loss is the most common occupational health hazard there is, and it's incurable. This toolbox talk gives information on what you can do to protect your hearing.

**Information:**



**Do's**

- Do wear ear protectors if you work where it is noisy. Ask for them when you think there may be a serious risk that noise might be damaging your hearing.
- Do wear ear protectors whenever you go into specially marked Ear Protection Zones (as shown above)
- Do wear ear protectors in the right way, making sure that;
  - seals on ear-muffs fit tightly round the ear;
  - long hair or clothing is kept out from under the seal. If possible use ear-plugs if you wear glasses the frames make the seals leak;
  - ear plugs are clean and put into the ear properly.
- Do look after your ear protectors. Store them in the proper place when you are not wearing them. Look out for splits and cracks in the seal. Hand in any damaged ear protectors so that they can be replaced.
- Do keep the seals and foam inside the ear muffs clean.

**Dont's**

- Don't take your ear protectors off where it is noisy, even for a short time, or even if they feel hot or uncomfortable. It doesn't take much noise to damage your hearing. Find out if anything can be done to make them more comfortable. Some people get on better with ear-plugs than muffs and vice versa.
- Don't share or reuse disposable ear-plugs. They will not work and may be dirty.
- Don't overstretch the headband on ear-muffs. They will go out of shape and not work properly.
- Don't be put off wearing ear-muffs. The more people wear them, the more normal it will become.
- Don't think you can get used to noise. While your hearing can adjust for a short while, it does not take long for it to become damaged for ever.

**If people have difficulty speaking to each other over approximately 2 metres using normal speech levels, you may need to be provided with ear protectors.**

**Mandatory Requirements:**

Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of noise induced hearing loss

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Title: Use of Gloves

Ref: TI052

**Introduction:**

This tool box talk provides practical advice to operatives on how to select the best chemical protective gloves to withstand exposure to chemical agents and so meet the prime requirement of PPE, which is to protect the wearer.

**Information:**

**Chemical Resistance of Protective Gloves**

Protective gloves are available in a wide range of natural and synthetic materials; however, there is no single glove material (or combination of glove materials) able to provide unlimited resistance to any individual or combination of chemical agents. There are three ways in which any protective glove will, at some stage, fail to protect the wearer from exposure to any chemical agent and these are:

**permeation** – the process by which a chemical agent migrates through the protective glove at a molecular level;

**penetration** – the bulk flow of a chemical agent through closures, porous materials, seams and pinholes or other imperfections in the protective glove;

**degradation** – a damaging change in one or more physical properties of the protective glove as a result of exposure to a chemical agent.

**Selecting suitable protective gloves**

The selection of suitable protective gloves is a complicated procedure and the degree of protection they give is not always easy to establish. When choosing gloves, always seek expert help from the manufacturer/distributor of the chemical agent or glove.

There are four requirements which must be met for any protective glove selected to be suitable. The glove must:

- be appropriate for the risk(s) and the conditions where it is used;
- take into account the ergonomic requirements and state of health of the person wearing it;
- fit the wearer correctly, if necessary, after adjustments;
- either prevent or control the risk involved without increasing the overall risk.
- Proper selection should therefore take into consideration the wearer, the workplace conditions and the protective glove.

If protective gloves are selected or worn incorrectly there is every possibility that this may increase the wearer's overall risk to health because:

- contaminant may get inside the glove to reside permanently against the skin which could cause greater exposure than if a glove had not been worn at all; or,
- wearing a glove for extended periods can lead to the development of excessive moisture (sweat) on the skin which in itself will act as a skin irritant; or,
- wearing gloves manufactured in natural rubber (latex) can cause an allergenic reaction in susceptible individuals, causing the skin disease contact urticaria to occur.

Remember that gloves should be used as a control measure only as a last resort and where other methods of control are not reasonably practicable. This is because:

- gloves only protect the wearer – they do not remove the contaminant from the workplace environment;
- some types of glove are inconvenient and interfere with the way people work;
- wearing gloves interferes with the wearer's sense of touch;

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- the extent of protection depends upon good fit and attention to detail;
- for glove design to be effective, the glove needs to be used correctly in the workplace.

Because glove selection is a complex issue, the table overleaf gives a simple guide to selection to help with glove material choice.

**Glove selection guide**

Chemical Group	Glove Material					
	Natural Rubber	Nitrile Rubber	Neoprene TM	PVC	Butyl	Vitro TM
Water miscible substances, weak acids / alkalis	✓	✓	✓	✓	-	-
Oils	-	✓	-	-	-	-
Chlorinated hydrocarbons	-	-	-	-	-	✓
Aromatic solvents	-	-	-	-	-	✓
Aliphatic solvents	-	✓	-	-	-	✓
Strong acids	-	-	-	-	✓	-
Strong alkalis	-	-	✓	-	-	-
PCBs	-	-	-	-	-	✓

**Mandatory Requirements:**

Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of skin irritant/diseases to hands  
 Risk of cuts and abrasions

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**Title: Use of Protective Clothing**

**Ref: TI053**

**Introduction:**

Suitable and sensible clothing is an important part of site safety and can provide effective protection against a number of hazards e.g. protection against health hazardous substances and being highly visible to moving vehicles.

**Information:**

The Personal Protective Equipment at Work Regulations require many factors to be taken into account to ensure that the correct clothing is chosen for a particular task.

**When choosing types of protective clothing, ask the following;**

- Is it suitable for the risk?
- Is it suitable for the job?
- Is it suitable for the wearer?
- Is it compatible with other forms of PPE?
- Are there any standards which the CLOTHING should meet?

**If in doubt, ask your supervisor or PPE manufacturer.**

**High Visibility Clothing**

This type of protective clothing comes in a variety of forms such as HV Jacket, HV Waistcoat and HV Trousers. One or more of these are required when working in the vicinity of moving vehicles. It should provide adequate protection not only during the day but at night and in adverse weather also. As a rule: the darker the conditions/worksites, the greater the amount of HV clothing required.

To be effective HV Clothing should be of a colour that will allow the wearer to stand out against the ambient background found in the working environment. In practice the best colours for this purpose are likely to be dayglo, or fluorescent yellow. Where necessary the clothing should also incorporate reflective material to make the wearer visible when seen in headlights in poor lighting conditions or during darkness. This may require reflective strips at or below waist level on waistcoats or jackets, or strips on trousers. HV Clothing should be manufactured to a recognised standard. The new British Standard for high visibility warning clothing is BS EN 471. This is a harmonised European standard produced with the legal requirements for PPE in mind. Clothing which conforms to the standard is marked with the following pictogram as well as 'CE' marked.

The first number (X) indicates the class of conspicuity, this depends on the minimum area of conspicuous materials that are incorporated into the clothing, with Class 3 being the best and Class 1 the lowest; the second number (Y) indicates the retro-reflection performance with Class 2 being more visible than Class 1 when seen in headlights during darkness.



**Flameproof Overalls**

When undertaking welding operations heavy duty overalls made from 100% cotton conforming to standards EN470 and EN531 must be worn. These protect the operative from sparks igniting his/her overalls which could cause serious damage to their body.

**Overalls for the Food Industry**

When working in factory's that make/prepare food stuffs, it is mandatory to wear overalls which have pockets on the inside rather than the outside. This is to stop materials falling into the food materials when the operatives bend over. The overalls also need to have the fastening studs on the inside.

**Mandatory Requirements:**

Personal Protective Equipment at Work Regulations

**Significant Hazards**

Increased risk of being hit by site traffic if not wearing HV clothing.

Risk of burn injuries from welding sparks if wearing standard overalls and not flameproof.

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Title: General PPE Checklist

Ref: TI054

**Introduction:**

All employees are issued with both standard company PPE and additional items as dictated by the nature of work or work environment they about to undertake or work in.

**Information:**

**PPE Checklist**

Before you start a task ask the following questions:

- If in doubt ask your supervisor what, if any PPE should be used for your work activity.
- Check if a Risk Assessment has been prepared for your work activity and if it lists the item of PPE you should be using.
- Is your PPE suitable for the tasks in hand?
- If necessary, such as with safety harnesses and respirators, ask for training in the use of PPE, before you start work.
- Is the PPE properly adjusted for comfort and in compliance with the manufacturer instructions?
- Where more than one item of PPE is being worn ensure that the types of PPE being worn do not compromise the effectiveness of each other.

All PPE should be maintained in good condition, checked before use and always be available for use. Any damaged or lost equipment should be reported to your supervisor without delay.

**Standard Issue Company PPE**

As an operative of Guardian Electrical, you should have the following items as standard:

Safety Helmet complete with ear defenders

Safety Glasses

Safety Footwear

Company Overalls (the type of overall depends on which work you undertake)

High Visibility Waistcoat/Jacket (depending on the type of site your working on)

Company T-shirt Trousers

Anti-cut gloves

The following items may be issued, if the work activity requires them:

Respirator/Dust Mask

Full Body Safety Harness & Lanyard

Emergency BA Set (when working in confined spaces)

Or any other appropriate PPE required to undertake a specific task.

All PPE should be maintained in good condition, checked before use and always be available for use. Any damaged or lost equipment should be reported to your supervisor without delay.

**Mandatory Requirements:**

Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of injury to hands, feet or body if not wearing any PPE.

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**Title: Use of Full Body Harness & Lanyard**

**Ref: TI055**

**Introduction:**

Where there is risk of a fall from height when working on platforms and MEPS, a full body harness & lanyard must be worn at all times. The following information gives details on how to wear a safety harness and how to secure it to a suitable anchor point.

**Information:**

**Wearer Instructions**

The following instructions refer to Loadlok Easyfit Safety Harnesses & Lanyards as used by Guardian Electrical. For all other harnesses refer to the manufacturer instructions.

1. Place the harness over your head so that the two short straps and buckles are about chest height with the two long straps and safety line hanging behind you. Be sure that your safety line is on the **outside** of the harness and not between the harness and your body.
2. Reaching between your legs pull the strap (which is hanging behind your right leg) between your legs, feeding it up through the steel ring at your right hip and up behind the right hand securing buckle.
3. The strap should now be fed behind the buckle and out through the top slot.
4. After pulling the strap tight, feed it back down through the opening below the knurled bar. Now repeat this fitting procedure for the left side of the harness. It makes no difference if the left side of the harness is fitted first, however always check that the straps are lying flat to your body and are not twisted which would make the fit uncomfortable and less secure.
5. Pull downwards on both straps to ensure that the harness is both tight to the body and comfortable for you to work in.



**Anchor Point**

When you reach your place of work either pass the safety line around a safe anchorage point, **without sharp edges**, and fasten the line back on its self or clip the line securely to an anchorage point, ensuring that the karabina (safety hook) gate is fully closed and locked.



The latter two drawings illustrate the correct method to follow in making your connection to a girder or purlin when the gate opening of your safety hook is of insufficient size to enable it to connect directly. When using a 1.8m webbing lanyard, it is important that the unobstructed free fall area below the anchor point is a minimum of 6 metres. For distances less than this, the webbing lanyard must not be used. Under 6 metres a retractable lanyard must be used.

**Important Notes**

- Inspect your harness & lanyard for damage every time before you put it on and after you take it off.
- The energy absorber is enclosed in its own case - This should not be tampered with in any way.
- On no account should the harness be re-used after arresting a fall - Discard it and replace with new one.

**Mandatory Requirements:**

Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of falling

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**Title: Masks & Respirators**

**Ref: TI056**

**Introduction:**

Exposure to health hazardous substances should be prevented. Where this is not practicable, the risks should be minimised by taking proper precautions such as wearing respiratory equipment.

**Information:**

**Single Use Filtering Face-piece Respirators**

Single use respirators against solid and liquid aerosols are classified according to one of three categories - FFP1, FFP2, FFP3.

**FFP1** -Protection Factor 4, protects against coarse health hazardous dry and liquid-born particles.

**FFP2** -Protection Factor 12, protects against health hazardous dry and liquid-born particles.

**FFP3** -Protection Factor 50, protects against very small health hazardous dry and liquid born particles. Single Use Respirator



Single Use Respirator

**Fitting Instructions**

1. Hold the respirator in hand with the nose piece at your fingertips. Allow headbands to hang freely below hand.
2. Cup the respirator firmly against your face with the nosepiece on the bridge of your nose.
3. Stretch and pull the lower headband over the head and position below your ears. Stretch and pull the top headband on the back of your head above your ears.
4. (For respirators with adjustable headbands only). While maintaining the position of the respirator, adjust tension by pulling tab of each headband. (Tension may be decreased by pushing out the back of the buckle).
5. Press soft nosepiece to conform snugly around the nose.
6. a) To test fit for respirator without exhalation valve: Cup both hands over the respirator and exhale vigorously.  
 b) To test fit for respirator with exhalation valve: Cup both hands over the respirator and inhale sharply. A negative pressure should be felt inside respirator. If air flows around your nose, tighten the nose-piece. If air leaks around the edges, reposition the headband for better fit.
7. Change respirator immediately if breathing becomes difficult or respirator becomes damaged or distorted, or a proper face fit can't be maintained. Careful observance of these instructions is an important step in safe respirator use.

**Half Face-piece Respirators**

A re-usable half-face respirator which incorporates twin disposable filters for the following types of health hazardous substances;

A1	Organic Vapour	P3	High Dust/Fume
A2	Organic Vapour	A2P3	High Organic Vapour
B1	Inorganic Vapour	B1P3	High Inorganic Vapour
AB1	Organic/Inorganic	A1E1P3	High/Acid Organic
AE1	Acid/Organic Vapour	K2P3	High Ammonia
K2	Ammonia Vapour	ABEK1P3	High Combination
ABEK1	Combination		



Half Face Respirator

**Fitting Instructions**

1. Fit the face piece to the bridge of the nose and bring the bottom of the face piece into contact with the chin.
2. Attach the lower straps around the neck, without tightening.
3. Place the upper head strap assembly over the crown of the head and tighten the straps equally on both sides.

4. Tighten the lower head straps equally on both sides.
  5. Adjust straps sufficiently to prevent leakage around the face piece.
  6. Check face fit according to section 7.
7. Place the hands firmly over the inlet to the filter(s) and breathe in. A negative pressure should be felt inside the face piece. Hold breath for 5 seconds. Any leakage will be indicated by the respirator moving away from the face. If leakage is detected, re-adjust the respirator and repeat the test until a satisfactory face-fit is achieved.

**Full Face-piece Respirator**

A re-usable full-face respirator which incorporates twin disposable filters for the health hazardous substances shown below;

A1	Organic Vapour	P3	High Dust/Fume
A2	Organic Vapour	A2P3	High Organic Vapour
B1	Inorganic Vapour	B1P3	High Inorganic Vapour
AB1	Organic/Inorganic	A1E1P3	High/Acid Organic
AE1	Acid/Organic Vapour	K2P3	High Ammonia
K2	Ammonia Vapour	ABEK1P3	High Combination
ABEK1	Combination		



**Fitting Instructions**

1. Fully loosen all of the head straps.
2. Place head harness over the back of your head and pull face-piece down over face. Place the chin in the chin cup  
 while centring the mask on your face.
3. Pull the ends of the head straps to obtain a snug fit. Adjust neck straps first, then the temple straps. Pull the top strap last.
4. To perform a fit check, place hands over the filter inlets and inhale. A negative pressure should be felt inside the face-piece. Hold breath for 5 seconds. Any leakage will be indicated by the respirator moving away from the face. If leakage is detected, re-adjust the respirator and repeat check. To loosen straps, push up tabs on the buckles.

**Mandatory Requirements:**

Personal Protective Equipment at Work Regulations

**Significant Hazards**

Risk of inhalation of hazardous substances

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