



Z-TECH SAFETY GUIDE

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INTRODUCTION

The image features a solid green background on the right side, which transitions into a white background on the left. A decorative, curved line in a lighter shade of green starts from the bottom left and curves upwards and to the right, ending near the top right corner. The word "INTRODUCTION" is written in a bold, light green, sans-serif font in the upper right quadrant of the green area.

Welcome to your site guide to health and safety. This guide is to act as an aid/memoir on some of the most relevant topics you may come across whilst working for Z-Tech.

More information is available and some good places to start are listed below.

- Z-Tech's full health and safety policy, available at our main site offices and from our website www.z-tech.co.uk
- The Health and Safety Executive (HSE) www.hse.gov.uk

Remember - always ask your line manager if you have any concerns.

EMPLOYERS' DUTIES

- To provide safe places of work for employees, including access to and from those places
- To provide safe plant and equipment
- To provide safe systems of work and ensure that employees are told what to do.
- To consult workers and action any points that are raised if practical
- Provide suitable personal protective equipment to workers
- Ensure that employees are given training and the supervision required

YOUR INDIVIDUAL RESPONSIBILITIES

REMEMBER:

- You have a duty to work and act safely
- You have a duty to take care of yourself and others
- You must not interfere with safety equipment
- You must report problems and unsafe situations to your supervisor
- You must report all accidents to your supervisor

Z-Tech Control Systems are wholly committed to provide a safe and healthy place of work for all employees.

The promotion of Health and Safety measures is regarded as a mutually beneficial objective for Management and employees at all levels. The avoidance of hazards arising from the companies' operational activities, service or products is of paramount importance.

The company is also committed to achieving appropriate standards of Health and Safety at Work. The implementation of this Health and Safety Policy is the primary responsibility of the Managing Director. Employees have an important part to play in creating and maintaining a safe and healthy environment. They also have a legal responsibility of care for their own health and safety and that of other persons who may be affected by their acts or omissions.

The Company will fulfil its responsibilities by taking steps to work in accordance with relevant Health and Safety legislation, Approved Codes of Practice and Good Working practices. This will be achieved by: -

- Seeking at all times to provide safe working procedures, good working conditions and a healthy working environment.
- Ensuring that employees know of the potential hazards connected with the various activities undertaken by the Company and are aware of how to avoid the associated risks.
- Providing training and instruction to enable employees to perform their work safely and efficiently and ensure that Health and Safety is a prime consideration in all aspects of their work and the work of contractors, customers and visitors on Company premises.
- Promoting the maximum individual attention and effort on the part of employees at all times to avoid and prevent accidents.

The Company has produced this Health and Safety Policy Document setting out personal responsibilities and the organisation's arrangements to ensure satisfactory standards of Health and Safety at Work. Careful evaluation of all work activities, by way of Risk Assessments, has been undertaken in accordance with legal requirements. Copies of the Risk Assessments and Action Logs are held by the relevant personnel and are available for inspection by employees.

The Company places particular emphasis on the responsibilities of employees, temporary workers and sub contractors to co-operate fully on Health and Safety matters. It is vital that employees pay due regard to undertaking all work activities in a way which is safe and does not present risks to their own safety or that of other persons, including fellow employees.

Annual review of the Health and Safety policy will be undertaken by the senior management team and any appropriate action identified will be recorded, actioned and communicated as appropriate.

SAFE SYSTEMS

The image features a solid green background on the right side, which transitions into a white background on the left. A thick, curved line in a lighter shade of green starts from the bottom left and curves upwards and to the right, ending at the top right corner. The text "SAFE SYSTEMS" is positioned in the upper right area of the green background.

A method statement is a detailed written description of the work you have been asked to carry out. It details how the work will be done and importantly what safety measures have to be in place including the PPE you will need to wear.

ALWAYS

- Read the method statement carefully before starting work and ensure that everyone working with you knows what they need to do
- Always follow the method statement - if there a better way of working tell your supervisor. Other people could be affected by your change of plans

PERMITS

For some operations, specific permits are required before work can commence. They will vary from site to site, but may include:

- Permits to work
- Permits to enter a confined space
- Permits to dig
- Hot work permits
- Permits to load/unload/strike
- Entry to live plant rooms

These confirm checks that have been or must be made and additional precautions to be taken.

IF IN DOUBT, ASK!



A risk assessment is simply a careful examination of what, in your work, could cause harm to people or the environment, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm.

ALWAYS

- Complete a risk assessment before you start work
- Reassess if conditions change, eg the weather or if other work starts around yours
- Ask if you are unsure

NEVER

- Start work unless you are happy that it is safe to do so

Point of work Risk Assessment

Personnel: _____ Date: / / Job No _____

Task carried out: _____

STEP 1 BEFORE YOU START WORK

	YES	NO	N/A
Is the method statement & permit details given correct?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are you aware of the site safety rules & fire procedures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you have the correct tools, equipment and PPE for the job?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have you identified emergency egress points?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are power tools and leads PAT tested?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is lifting & test gear inspected/within calibration?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

STEP 2 RISK ASSESSMENT

If the hazard is present tick the box

Slips, trips or falls on the same level	<input type="checkbox"/>
Falls (working at height)	<input type="checkbox"/>
Falls (holes/edges/others)	<input type="checkbox"/>
Stored energy / flying or falling objects	<input type="checkbox"/>
Chemicals / Fluids / Oils / Harmful substances	<input type="checkbox"/>
Heat / Fire / Explosion / Dust	<input type="checkbox"/>
Excavations / Deep Water	<input type="checkbox"/>
Radiation	<input type="checkbox"/>
Contact with machinery / process	<input type="checkbox"/>
Lifting operations	<input type="checkbox"/>
Manual handling	<input type="checkbox"/>
Confined Spaces	<input type="checkbox"/>
Noise / Vibration	<input type="checkbox"/>
Electric Shock / Buried cables	<input type="checkbox"/>
Poor lighting	<input type="checkbox"/>
Adverse weather	<input type="checkbox"/>
Mobile equipment and/or vehicles	<input type="checkbox"/>
Environmental (spills/etc)	<input type="checkbox"/>
Public	<input type="checkbox"/>
Risk to you from the work of others	<input type="checkbox"/>
Others (specify)	<input type="checkbox"/>

Tick any hazards that are significant and for which there are no (or inadequate) controls. If you have ticked any hazards fill in step 3 with your additional control measures to be put in place before work commences.

5 STEPS OF RISK ASSESSMENT

1. Identify the hazards
2. Decide who might be harmed and how
3. Evaluate the risks and decide on precautions
4. Record your findings and implement them
5. Review your risk assessment and update if necessary

YOUR WELFARE

The image features a dark green background on the right side, which transitions into a lighter green gradient. A prominent, thick, curved line in a medium green shade sweeps across the lower right portion of the frame. The text 'YOUR WELFARE' is positioned in the upper right area of the dark green section.

When you first enter a new site you should receive an induction. It should describe important information that could save a life - where the first aid facilities are on site, what the emergency telephones are and where to go in case of a fire. If you don't know, find out now.

Every site is different and this book is issued to give you a handy reminder of the general points.



YOU SHOULD HAVE YOUR CSCS/CPCS CARD OR OTHER RELEVANT TRAINING CERTIFICATION READY FOR INSPECTION.

CANTEEN

- Always wash your hands before eating
- Put your wrappers and waste in the bin to discourage vermin
- Only smoke in permitted areas for the comfort of others and to reduce fire risk

DRYING ROOM

- Hang your clothes on the hooks provided and keep heater grills clear
- Keep newspapers away from heaters
- We cannot accept responsibility for personal effects brought onto site

TOILETS

- Never flush paper towels down the toilets
- Please respect the facilities provided for your comfort

FIRST AID

- Find out who your appointed First Aiders are
- Seek First Aid for any injury
- Make sure any accident on site is recorded in the accident book



PPE is provided for your benefit.

ALWAYS

- Wear the correct PPE as identified in the Method Statement
- Check your PPE before use
- Look after your PPE and store it properly
- Wear gloves when cleaning up or carrying materials



NEVER

- Use incorrect PPE. Make sure your PPE is as specified in the Method Statement



NOISE

If you have to shout to be heard by someone standing next to you, then you could both be at risk of damaging your hearing. There are set limits for exposure to noise. Make sure you know them and wear the correct ear protection to guard against hearing loss or tinnitus (ringing in the ear).

SITE KNOWLEDGE

The image features a solid green background on the right side, which transitions into a white background on the left. A thick, curved line in a lighter shade of green starts from the bottom right and arcs towards the top right, creating a sense of movement and depth.

A TIDY SITE AND WORKPLACE MEANS:

- You can get to your place of work more easily and quickly
- You can work efficiently
- You can find your tools and materials
- We give a good impression to our customers
- Delicate test gear doesn't get damaged

ALWAYS

- Tidy up and create space as you go
- Keep stairs and fire routes clear
- Route hoses and power leads away from sidewalks
- Remove scrap and waste to designated bins



NEVER

- Clutter up access ways and emergency exits
- Land materials across walkways
- Store materials in unauthorised areas
- Leave nails in timber

You must ensure that the risk of fire is kept to an absolute minimum. Fire spreads very quickly and the smoke can be very hazardous as well.

The following points must be strictly adhered to:

ALWAYS

- Obtain a Hot Works Permit from your supervisor before using welding, heating or burning gear
- Keep fire extinguishers close to any location where hot works are being carried out
- Store flammable materials separately
- Familiarise yourself with fire extinguisher locations, alarm systems, emergency escape routes and muster points
- Report a discharged or missing fire extinguisher
- Familiarise yourself with the different types of extinguishers

NEVER

- Light fires
- Smoke while handling flammable materials



wood, paper, textile, etc



flammable liquids, oils, fats, paints, spirits, etc



electrical fires



liquids, gases, electrical fires

You may have to use various resins, oils etc, that contain certain chemicals that could affect your long term health. The containers or packs will carry a black symbol on an orange background.

ALWAYS

- Read, and understand, the assessment sheet which is provided
- Wear the PPE that is required - it's on the sheet
- Follow any other instructions - e.g. no smoking, wash hands before eating and do not use in a confined space
- Stop and report symptoms immediately if you feel ill when using the chemicals

NEVER

- Leave waste materials lying around. Return unused materials to the stores and put empty tins to the designated skip

CONCRETE IS ALSO A COSHH SUBSTANCE. KEEP IT OFF YOUR SKIN AND OUT OF YOUR EYES. WEAR WATERPROOF OVERTROUSERS AND CHANGE YOUR CLOTHES IF THEY BECOME CONTAMINATED WITH WET CONCRETE.



OXIDISING



ACUTE TOXICITY



FLAMMABLE



HAZARDOUS TO THE AQUATIC ENVIRONMENT



CORROSIVE



LONGER TERM HEALTH HAZARDS



CAUTION



GASES UNDER PRESSURE



STOP
Prohibition Signs
MEANING
• You must not
• Do not
• Stop



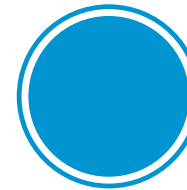
No smoking



No access to unauthorised personnel



mobile telephones



OBEY
Mandatory Signs
MEANING
• You must
• Carry out the action shown



Ear protection must be worn



Safety harnesses must be worn



High visibility clothing must be worn



DANGER
Warning Signs
MEANING
• Caution
• Risk of danger
• Hazard ahead



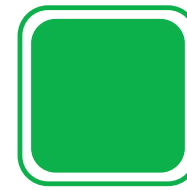
Non - ionising radiation



Trip hazards & obstacles



Low temperatures



SAFETY
Safe Condition & First Aid Signs
MEANING
• The safe way
• First Aid equipment
• Where to go in an emergency



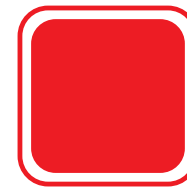
Drinking water



First Aid station



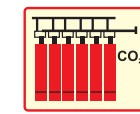
Emergency exit



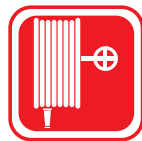
FIRE
Fire Signs
MEANING
• Location of fire fighting equipment
• Type of fire fighting equipment



Foam fire extinguisher



CO₂ fixed



Fire hose

ACCESS HAZARDS

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The abuse or misuse of ladders causes many problems, especially falls so;



ALWAYS

- Tie it (around the stiles)
- Angle it at 1:4
- Check for damage
- Make sure it's long enough (1m or 5 rungs above landing)
- Make sure it's on a solid base/footing
- Avoid working off a ladder
- Use the stairs where possible
- Ensure the wires are under the rungs
- Avoid working from step ladders if possible
- Use appropriate industrial grade ladders/steps

IF IN DOUBT, ASK!

NEVER

- Use a ladder that is damaged
- Make a platform out of ladders
- Rest the ladder on the rungs
- Use metal ladders where they can conduct electricity
- Use step ladders where an aluminium tower or other alternative is available
- Use domestic grade ladders/steps

Scaffolding is provided to give you a safe working platform. It must be erected, modified or dismantled by authorised scaffolders. All scaffolds will be inspected by a competent person.

ALWAYS

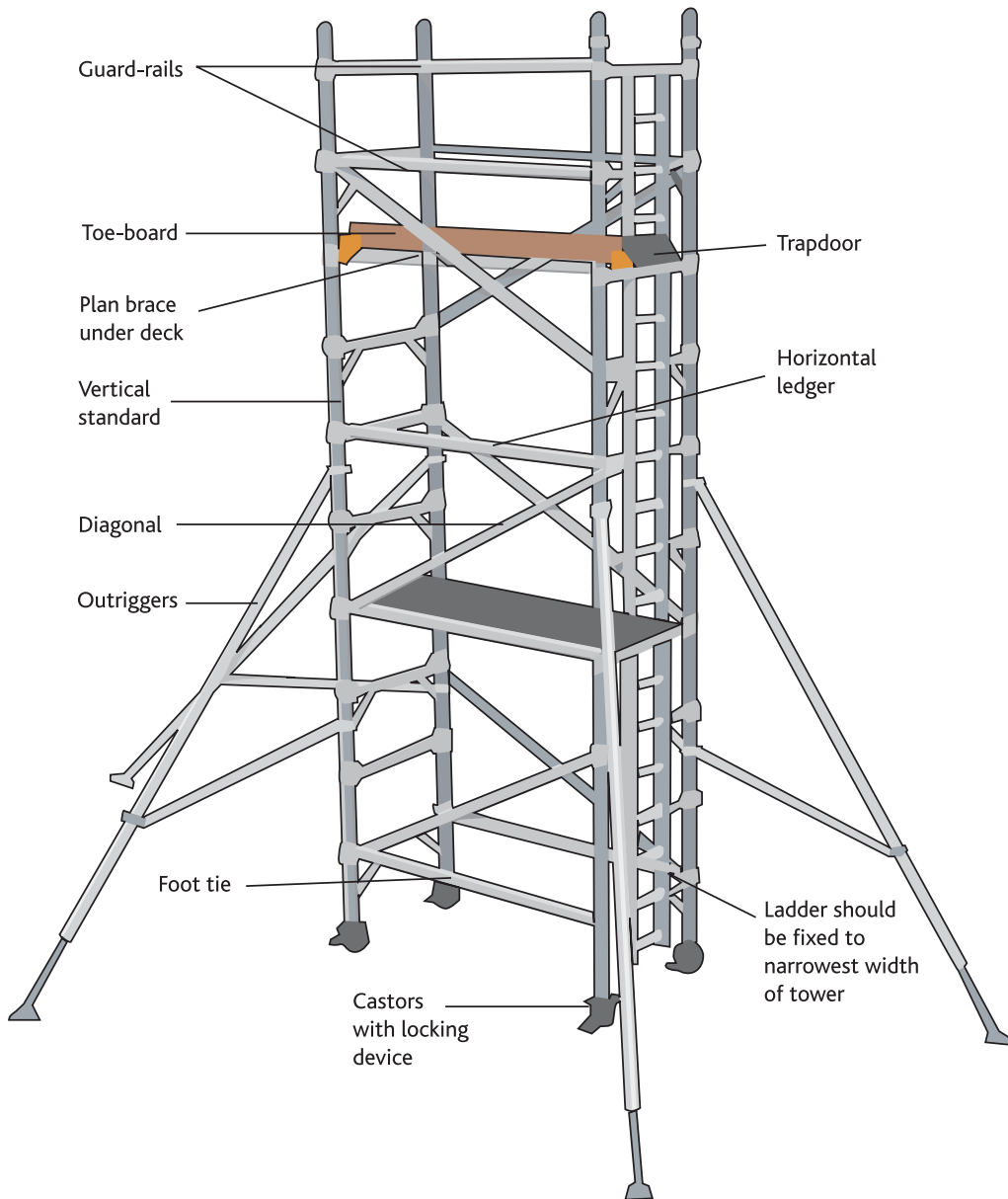
- Report any scaffolding faults (missing guardrails, loose ladders, broken boards) to your supervisor
- Only use the ladder to go to another level
- Leave the scaffold in a tidy condition
- Use a safe method of waste disposal e.g. skip, chute
- Note signage or scaftags restricting the use of scaffolding. If in doubt check with your supervisor

NEVER

- Tamper or modify any scaffold for any reason
- Climb up the standards
- Work from an incomplete scaffold
- Leave debris lying around. They are a major trip hazard and can be kicked off
- Throw anything from the scaffold



Scaffold towers can only be erected by trained and authorised persons.



ALWAYS

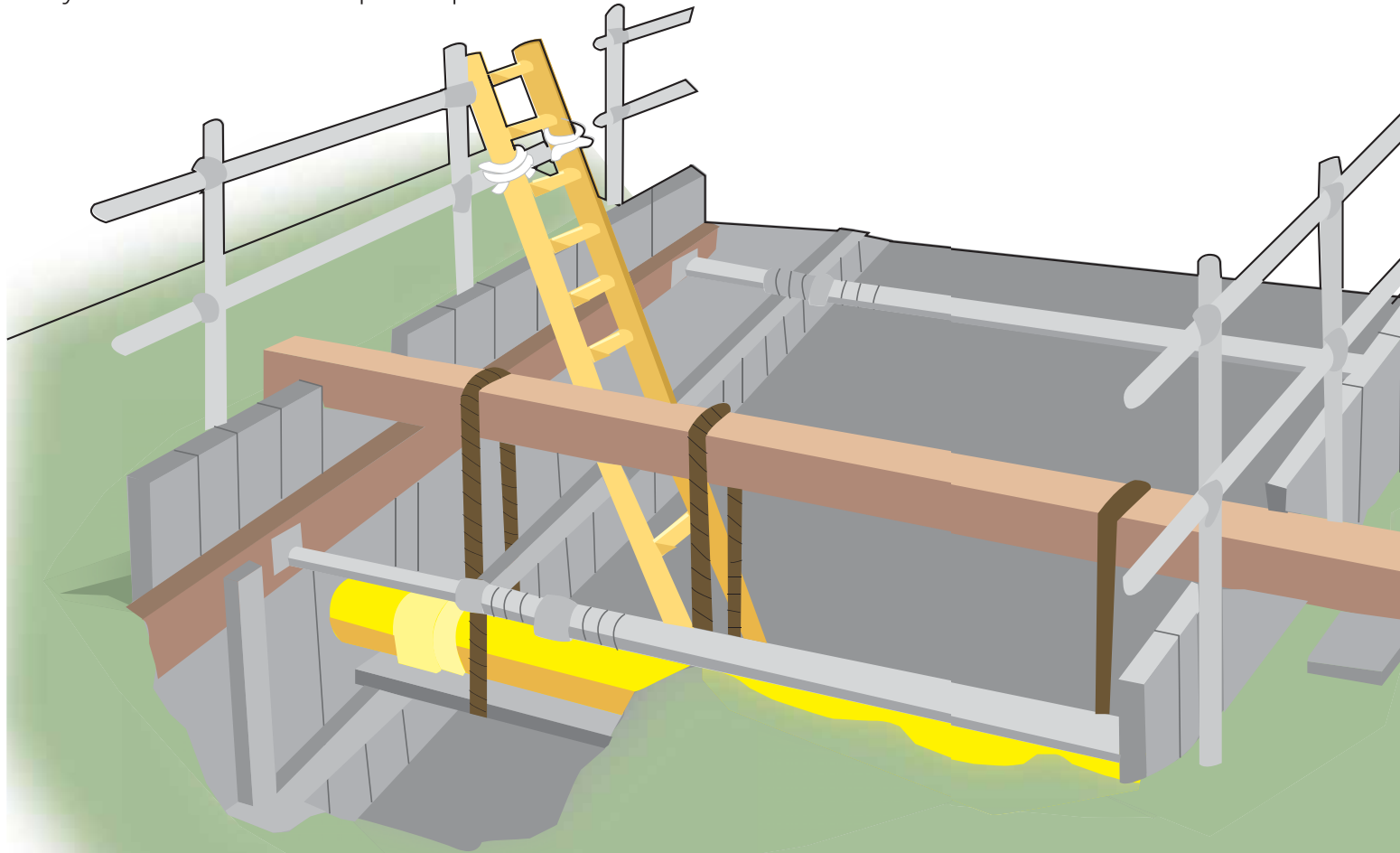
- Obtain and follow the manufacturers instructions for erection
- Use outriggers in accordance with manufacturers instructions
- Only climb up the inside of the tower
- Close the trapdoor behind you
- Check the 'scaftag', or other signage
- Keep your feet on the platform

NEVER

- Erect or alter a tower unless you've received proper training: PASMA
- Use an incomplete tower
- Use extra measures to gain more height on the tower e.g. boxes, ladders etc
- Move the tower with any persons or materials on it
- Use the frame to gain access
- Over load the tower
- Climb on the tower
- Climb on the guardrails
- Lift scaffold towers unless they have been specifically designed for this purpose
- Mix parts from different proprietary scaffold systems

Excavations vary in size and depth and unless carried out correctly, can be dangerous.

Once a safe system of work is established, it is vitally important everybody knows exactly what has to be done and keeps to the plan.



ALWAYS

- Ask your supervisor for a valid Permit to Dig
- Find out about any services and use a CAT scan every time before starting to dig
- Hand dig to locate the services - make sure you find them
- Carry out the excavation and shoring only as directed in the Method Statement
- Call your supervisor if ground conditions deteriorate
- Ensure that the edges are guarded **AT ALL TIMES**

NEVER

- Load the sides of the trench with muck, materials or machinery
- Ever enter an unsupported excavation

These are potentially fatal and require special precautions. Fatalities have included ill-equipped rescuers. Never enter a confined space unless trained and equipped to do so.

SOME CONFINED SPACES ARE NATURALLY DANGEROUS BECAUSE OF:

- Gas build-up in sewers and manholes
- Gases leaking into trenches and pits in contaminated land
- Rust inside tanks and vessels eats up oxygen
- Exhaust fumes

ALWAYS

- Get a permit before entering any classified confined space
- Test the atmosphere before entering and during the work
- Ensure the confined space has sufficient ventilation to make the air fit to breathe. Mechanical ventilation may be required. Paints and glues etc may give off hazardous vapours.
- Work as part of a team
- Check and understand your escape and rescue plans

NEVER

- Use petrol or diesel engines inside a confined space as exhaust gases are dangerous
- Work alone
- Attempt a rescue without the correct training or equipment



OTHER HAZARDS

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Computer workstations or equipment can be associated with neck, shoulder, back or arm pains, fatigue and eyestrain.

These aches and pains are sometimes called upper limb disorders (ULDs) or repetitive strain injuries (RSI). These problems can be avoided by following good practice.

REMEMBER

- Ask for an assessment
- Make sure you work comfortably
- Avoid repetitive work
- Take regular breaks
- Report symptoms early

LAPTOP COMPUTERS - ARE THERE ANY PRECAUTIONS I SHOULD TAKE?

Laptops and other portables have to be compact and easy to carry. The resulting design features, like small keyboards, can make prolonged use uncomfortable, unless steps are taken to avoid problems, for example, use of a docking station with full size keyboard.

It is best to avoid using a portable on its own if full-sized equipment is available. Minimise the risks by sitting comfortably, angling the screen so it can be seen clearly with minimal reflections, and taking frequent breaks if work is prolonged. Wherever possible, laptops should be placed on a firm surface at the right height for keying.



RoSPA have calculated that the risk of death of a typical driver while on business is similar to that of a miner.

MOBILE TELEPHONES

Use while driving must be:

- 'Hands-free'
- **ONLY** for receiving **SHORT** messages when safe to do so
- **NOT** for lengthy conversations



AVOID ALL OTHER ROAD USERS

Including the

- incompetent or inexperienced
- very young or old
- stationary objects

Show your skill by driving courteously and by anticipating and avoiding potential danger or damage.

VAN DRIVERS

Many van drivers get caught out because they do not know the law. Make sure you know the national speed limits that your vehicle is restricted to

- If your van has a maximum laden weight (Gross Vehicle Weight) of over 2 tonnes (2020kg) then you are restricted to lower speed limits on single carriageways and dual carriageways.
- If your van or goods vehicle has a maximum laden weight (Gross Vehicle Weight) of over 7.5 tonnes (7500kg) you are also restricted to lower speed limits on motorways

Below are some examples of speed limits for vans, however, you should check the Gross Vehicle Weight and "plated" weight of your van/goods vehicle.

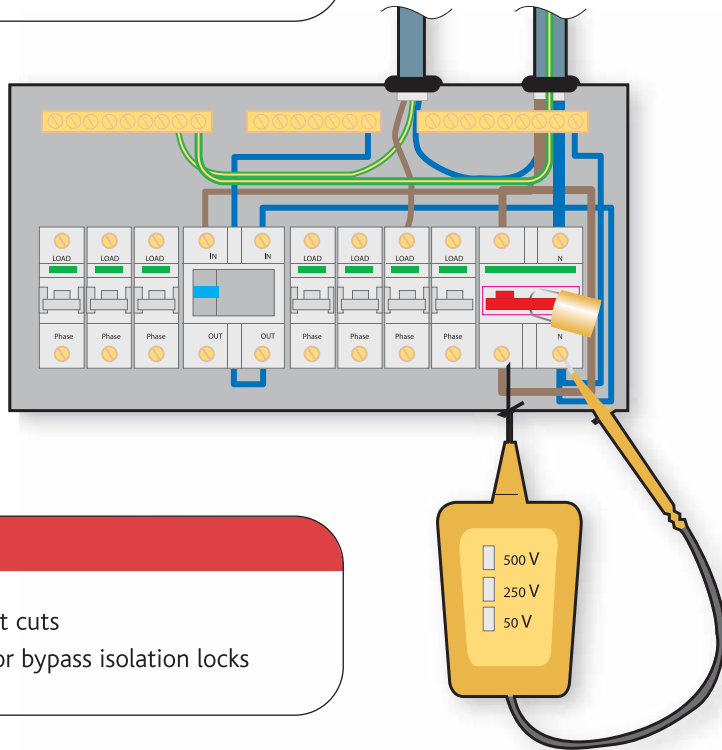
TYPE OF VEHICLE	BUILT-UP AREA	SINGLE CARRIAGEWAY	DUAL CARRIAGEWAY	MOTORWAY
Transit Type Van	30	50	60	70*
Luton Type Van	30	50	60	70*
Astra Type Van	30	60	70	70

Motorway note: *60 if articulated or towing a trailer.

The Electricity at Work regulations 1999 requires precautions to be taken against the risk of death or personal injury from electricity in work activities.

ALWAYS

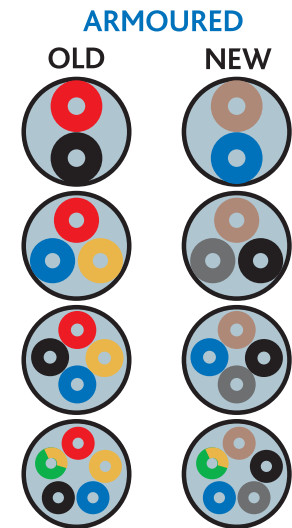
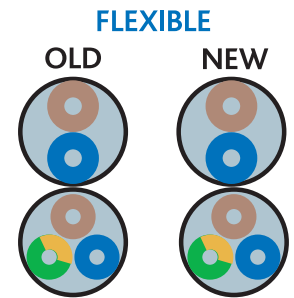
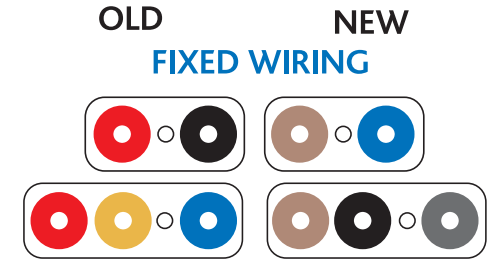
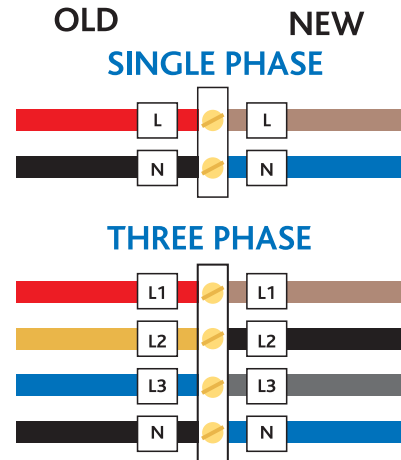
- Always follow the correct isolation procedures



NEVER

- Take short cuts
- Remove or bypass isolation locks

Z-Tech are members of the NICEIC (national inspection council for electrical installation contractors) who audit us on the electrical work we do.



If both new and old colour versions are used together - a warning label **MUST** be affixed at or near the distribution board.

CAUTION
This installation has wiring colours to two versions of BS 7671
Great care should be taken before undertaking extension, alteration or repair that all conductors are correctly identified.

Correct handling techniques reduce the effort required in lifting and prevent injuries, especially to your back.



ALWAYS

- Ask for assistance when lifting awkwardly shaped loads
- Tell your supervisor if you suffer from back pain

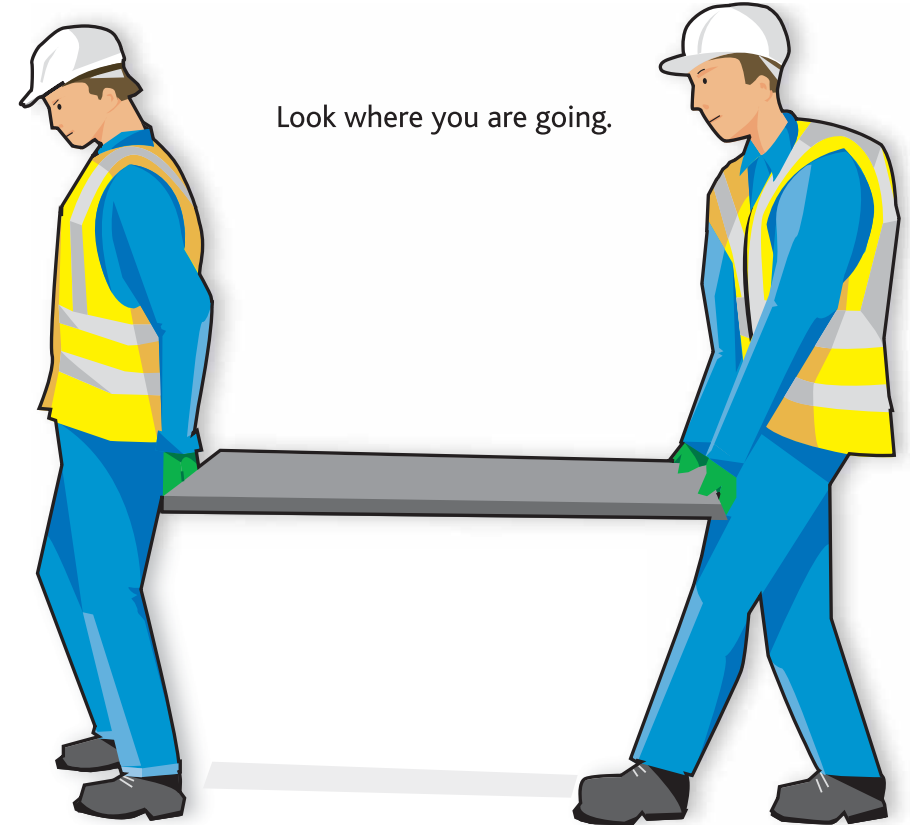
1. Bend with your knees not your back.



2. Keep your back straight.



3. Lift with your legs



Look where you are going.

NEVER

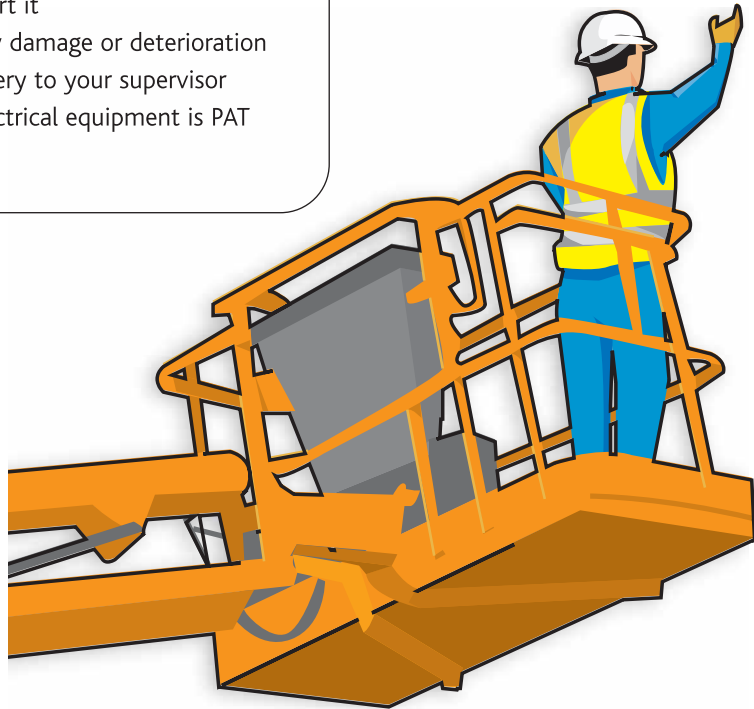
- Lift more than 25kg without help or mechanical aids

When plant arrives on site it must be in good working order. Any defects must be reported to your supervisor immediately. He/she may well instruct that the item is removed from use until it has been repaired.

IF IN DOUBT, ASK!

ALWAYS

- Only use equipment that you are qualified to use - if in doubt check with your supervisor
- Wear the correct PPE for operating the plant, especially ear plugs and safety glasses
- Use only the proper towing or lifting points
- Ensure all moving parts are guarded - if not report it
- Report any damage or deterioration of machinery to your supervisor
- Ensure electrical equipment is PAT tested



NEVER

- Leave engines running when you're off the machine
- Leave keys in unattended plant
- Attempt to repair plant yourself - report it
- Smoke when fuelling plant



Hand-arm Vibration (HAVS) and Vibration White Finger (VWF) can be caused by long term working with vibrating hand held tools and equipment.

SYMPTOMS - there are several stages and warning signs

- Tingling sensation in the fingers - this is an early warning sign that you have been overdoing it and you need to stop. You may get tingling just because you are doing a different job from normal, so check that the feeling is back to normal after a couple of hours. If it isn't, tell your supervisor.
- Numbness or whiteness of parts of the fingers - continued exposure, more severe loss of feeling, painful return of blood after vibration stops, especially noticeable in cold weather. This is your body saying - enough!
- Fingers lose normal sense of touch - for example you cannot do up buttons. Tell your supervisor quickly.

PRECAUTIONS

- Where possible, make sure your work is planned to avoid the use of vibrating tools
- Where possible, make sure reduced vibration tools are selected and allocated
- You will be informed of the maximum exposure time for the tools you use
- Your work should be planned to keep vibration within allowable limits
- If you have exceeded the exposure time, tell your supervisor
- Tell your supervisor if there is excessive noise or vibration as this means the tool may be badly adjusted or broken
- Keep your hands and body warm to improve circulation
- If your fingers tingle, tell your supervisor
- Smoking affects circulation and increases the risk of VWF



This is a serious, sometimes fatal, disease and is caused by rat urine getting into your blood stream. This is usually from cuts to the hands or even eating it via your food if you don't clean up first. You are most likely to come across it when working in sewers or ditches, so cover up and wash yourself and all equipment thoroughly after use

PREVENTION

- Never touch rats. If you see one, tell your supervisor
- Cover all cuts and broken skin with waterproof plasters before and during work
- Wear protective clothing
- Wash hands before eating, drinking, smoking

SYMPTOMS

- Flu like symptoms - persistent and severe headaches

WHO IS AT RISK?

Anyone who works near rats. Workers in contact with sewage, canal and river water are also at risk.

WHAT TO DO

Report any illness to your G.P. - tell the G.P. about location of work e.g. dock, canal, river. Inform management immediately.

FACT

Incidence of the Weils disease is very low at about 1 in 10,000.





Near Hits

A near hit is something that had the potential to cause harm to yourself or others, including the environment. All near hits must be reported to your line manager to help prevent the incident happening again to you, or to others.

Incidents

All incidents, however minor, must be reported to your line manager. We want everyone to return home from work safe and need your help to achieve this.

If you have any questions on health and safety contact your line manager or myself directly using the details below.

Jeremy Bull

Tel 01954 232 097
Fax 01954 230 524

Z-Tech Control Systems Ltd
Unit 4 Meridan
Buckingway Business Park
Anderson Road
Swavesey
Cambridge CB24 4AE