

Safety Toolbox Talk

ELECTRICITY

Electric shock can result in:

- Burns
- Convulsions
- Stopping of the heart

Each one of these or in combination can result in **fatal** injury. You do not have to be in direct contact with a conductor to receive an electric shock; **electricity can cross an air gap by arcing**.

You can minimise the risk by:

- Using low voltage tools (110 volt centre tapped earth)
- Inspecting portable appliances before you use them (check for damage to the cable or casing, and take out of use if damaged)
- Using correct fuses in supplies
- Ensuring the Residual Current Devices (RCD's) are fitted to the supply



Golden Rule 4 –

Do not work on any plant or equipment that has a power supply unless:

- You have securely isolated the equipment using a personal lock
- You have checked that the right piece of equipment has been isolated
- Any stored energy has been safely released
- Equipment that could move has been secured

Ensure that all guards and safety systems are put back when the work is completed

- Live working is not permitted on electrical systems

Electrical work must only be undertaken by a suitably qualified and competent person – an electrician.

The type of work that only an electrician can undertake would include:

- Entering any electrical cabinet (whether for inspection, maintenance or resetting electrical trips, for example)
- Disconnecting or reconnecting any cables from or to an appliance, switchgear or other component
- Conducting electrical tests on equipment.

The list is not exhaustive, so if you are in any doubt, then do not proceed: obtain advice first.

Electrical substations and switch rooms must be kept secure; in particular they must not be used for storing other equipment, paper or materials.

All electrical equipment, including cables, fixed and portable equipment must be inspected regularly as part of an inspection scheme. Fixed equipment and cables at your site are inspected by Zurich Insurance, but portable appliances may be inspected by another electrical contractor.

You should check that the equipment you are using has been inspected. Normally a label will be attached to the equipment indicating when the last test was done, or possibly when the next one is due.

Portable appliances are especially prone to damage as they can be abused or mistreated, so a qualified competent person should inspect them every six months.

If you are unsure about equipment you are using, then you should speak to your manager, who will be able to check when the items were last inspected.

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Welding equipment can often be overlooked. However, defective welders have caused fatal injuries. In particular, when welding you must:

- Ensure the equipment has been inspected and tested, and
- Ensure that welder returns are direct to the welder, and not part of the structure or plant.

To make sure that electrical switchgear remains safe, you must:

- Remove any accumulation of dust or spillage from the top of electrical cabinets
- Keep all cabinets locked
- Immediately report any defective isolators you may become aware of.

Electrical incidents often result in severe or fatal injury.

Almost all tasks involving the isolation of an electrical supply to a piece of equipment will require:

- A formal written Risk Assessment, and
- A Permit To Work issued by an authorised person.

Before continuing you must make sure you have both in place. You must also refer to the local rules for the job you are proposing to do (Manager's Rules).

Before working on any equipment, ask yourself:

- Have I fully isolated this equipment and fitted a personal lock (*Golden Rule*)?
- Have I made sure that no one else can start this equipment while I am working on it (Golden Rule)?
- Is it safe to proceed?

If you can answer yes, then it may be safe to continue, however if you have any doubt, **DO NOT** continue, and speak to your manager about the hazards you have found.

QUESTIONS – (there may be more than one correct answer)

| | | A | B | C |
|---|--|----------------------------------|---|---|
| 1 | Electric shock can result in? | Choking | Burns | Convulsions |
| 2 | If a power tool is damaged, what should you do? | Try to repair it to avoid delays | Switch off, and remove from use and report it | Put it down and use another cable |
| 3 | If any electrical equipment is damaged should you? | Tell a mate | Report it to your supervisor immediately | Report it later because you're in the middle of a job |
| 4 | You should never try and repair electrical equipment. Why? | You could be electrocuted | It could cause electrocution | It could cause electrocution to someone else |
| 5 | Before working on equipment, what should you check? | Equipment has stopped | Correct guard has been removed | Equipment is fully isolated and your personal lock used |

