**Working with metallic pipes**

Metallic Pipes can carry current from faulty electrical installations, the following lists provides guidance on what is considered but not limited to be a metallic pipe:

* Copper
* Galvanised

**Risks from working with metallic pipes include:**

* Electric shocks
* Various cardiac complications
* Cuts and abrasions

**Critical Risk:**

Working with electricity is a critical risk that is why we need to ensure that the controls are used whenever you are working on metallic pipes and remember that, critical risks are the risks that can kill us.

**Potential causes of metallic pipework carrying electrical current includes:**

* Houses with metallic pipework which has been used as an earth
* Faults from the power network using metallic pipework as an earth

**Minimum requirements for working with metallic pipes:**

Metallic pipes must always be bridged, if bridging cannot be achieved for any reason including a metallic to plastic or concrete connection then electric safety gloves must be worn to complete repairs.

Requirements for the tools:

* Bridging cables with an electrical current rating of not less than 70 Amps
* Electrical rated 00 gloves must be worn to attach and remove bridging cables or;
* When worn throughout repair when bridging cannot be achieved

**Glove checks:**

Below are some checks you can complete to ensure water tightness of your gloves prior to use.

* Visually check your gloves for damage that penetrates through the glove
* Blow your gloves up and place them in water, if air bubbles rise to the surface then the gloves have damage and will not be watertight

If your gloves are not watertight do not proceed with work, use another watertight pair of gloves or stop work and contact your team leader.

**Connections:**

When applying bridging and plates to metallic pipes you must ensure you are connecting to a clean surface to allow the electrical current to pass through the bridging plates and/or cables, this may require cleaning of the pipes surface through scraping back dirt, paint, rust or any other build up that may prevent a good connection.

If the pipe cannot be visually checked for a clean connection then the excavation must be over pumped to allow for a visual confirmation of a clean connection

**What to do if you receive an electric shock:**

* Stop work and make the area safe
* Contact your team leader and/or manager to report the incident ASAP
* Attend a medical centre for a check-up, this will be organised by your team leader or manager

**What to do if you find a fault:**

Use of CAT on power on the power can give indication as to the state of the pipe but should not be used to eliminate the use of controls such and bridging and glove use. The reason behind this is that electrical appliances such as refrigerators, washing machines cycle on and off meaning that a fault may not be detected until the appliance starts again.

If a fault is known or suspected then contact needs to be made with the team leader ASAP, the team leader must then report the fault through to Wellington Electricity.

**What to do if you are unsure or something changes:**

Ask the Stay Safe questions:

* What am I doing?
* What could go wrong?
* How can I do it safely?

If you are still unsure the contact your team leader before continuing works.

**Bridging guidance:**

As there is a number of ways pipework can become live and also wide range of sizes with metallic pipes, each situation may be different and require a risk assessment to determine the tools and methods to be used.

For guidance use the following flow chart, Figures and if you are unsure or something is different stop and ask for help.

