

Danger in the water pipe

This fact sheet is a guide for plumbers undertaking works on residential properties to highlight the risks of receiving an electric shock through metallic water pipes due to faults occurring at the customer's private property, the neighbouring property or from the main power supply in the street.

Metallic water pipe systems are used extensively as a means of earthing the electricity supply system, even in properties built after 1976 which are required to have the main earth wire connected to an earthing electrode (rod) driven into the ground.

If an electrical fault occurs the water pipe can become live and dangerous.

Your safety is our priority

There may be jobs that you do every day, but basic plumbing jobs like cutting water pipes, removing a water meter or using electrical tools could end in disaster if certain electrical safety precautions aren't considered before you tackle the job.

Electrical incidents involving plumbers, hot water repairers and other contractors still occur each year. So, as part of our commitment to electrical safety in the community, Power and Water has put together this fact sheet to remind you of the potential hazards that can occur, and importantly, what you can do to stay safe and avoid injuries.



Be aware

When an electrical fault occurs, water pipes can become 'live' resulting in an electric shock which could be fatal.

The risk increases if you:

- cut a water pipe
- remove a water meter
- disconnect the main earth wire from the water pipe

The danger

If a fault occurs at the customer's private property, the neighbouring property or in the main power supply in the street, the electricity may not be able to follow its normal course and may flow along metallic water pipes instead. Such faults may remain undetected for prolonged periods of time, especially if nobody has received a shock or noticed a tingling sensation from taps or pipes. Under these conditions the pipe can be energised and cause dangerous shocks if appropriate safe work processes are not applied prior to and during any work on the pipe.

In emergencies call 1800 245 090 (24 hours a day, 7 days a week).

On site – bridge the gap

If there is a fault you may feel a tingle from pipes or taps. If so, **stop working immediately and seek the advice and expertise of a qualified electrician or Power and Water.**

When cutting water pipes, removing the meter or disconnecting the main earth wire from a pipe, remember to always use a bridging conductor across the cut/break before cutting and keep it in place until the pipe or earthing wire is permanently rejoined. **Only those qualified to work with the appropriate bridging conductor (in accordance with AS/NZ 3500 Part1) and those with the appropriate personal protective equipment should undertake this work.**



How can you help?

Think first – Be aware of the dangers

- 1 If you are replacing all or part of the metallic water system with a plastic pipe, ask a qualified electrician to check the installation to ensure the plumbing system is still effectively earthed.
- 2 Under normal circumstances do not disconnect the earth connection from the water pipes. If it is necessary to do so, ensure that a bridging conductor is connected to the earth wire before it is disconnected from the pipe. If in doubt call a licensed electrical contractor.
- 3 Stop immediately if you feel a tingle or see electrical arcs. Contact Power and Water immediately on 1800 245 092.

More information

If you have any questions about Power and Water's safety plan for plumbers, please call 1800 245 092 or visit us at powerwater.com.au