

# Electrical safety and water

Water and electricity don't mix!



Leisure time and water go well together, but water and electricity don't! Bare feet and wet skin lower the body's electrical resistance, meaning that the effects of an electrical shock on a person in or near water are likely to be more severe than in other places.

Even a small voltage can cause drowning due to loss of muscular control.

**Remember: Water and electricity don't mix. Extreme care should be taken with electrical equipment and appliances near water.**

Water environments include:

- swimming pools
- ponds
- water features
- dams
- creeks

## Swimming pools

There are special electrical requirements for swimming pools, and it is important that pool wiring and electrical equipment be installed and maintained by a licensed electrical contractor.

### How to make the swimming pool electrically safe

- When planning for a pool, talk to your licensed electrical contractor about whether the electrical equipment in and around your home, such as switchboards, meter boxes or electrical accessories, may be too close to the planned pool area.
- Your licensed electrical contractor can also provide advice on locating and relocating electrical equipment, power points and lights to fulfil electrical safety requirements around the pool.

- Consider having your licensed electrical contractor install permanent outdoor lighting instead of portable lighting.
- If underwater lighting is used it must comply with the current AS/NZS 3000 Wiring Rules.
- Special requirements for swimming pool electrical installations should include bonding metal work within the pool area, safety switch protection and measures to prevent moisture penetrating electrical equipment.
- Electric radios, televisions and other appliances must be kept well away from water environments.
- Ensure that the protective and waterproof covers for electrical equipment are kept in place. These should only be removed for maintenance.

## Pool fencing safety

Contact your local council for pool fencing requirements and compliance. In some cases metal pool fences require bonding. Contact your licensed electrical contractor for further details

### How to keep the pool safe

- Extension leads, electrical appliances and cords must never be used near the pool.
- Don't position lights or electrical appliances where they could fall or slide into the pool.
- Check underwater lights regularly for cracks or defective seals.
- Have regular electrical maintenance undertaken only by a licensed electrical contractor.

## Additional electrical safety precautions

The following safety hints aim to help reduce the risk of electric shock or the tragedy of an electrical fatality in other water environments such as ponds, water features, dams and creeks.

- Electrical equipment should only be used when connected to a safety switch.
- Where equipment is not designed to operate in or around water, it must be located where it cannot come into contact with, fall, or slide into water.
- Extension leads, electrical appliances and cords must not be used where there is a danger of them coming into contact with or falling into the water.
- Mains operated equipment (e.g. pumps, appliances, lights) must be:
  - suitable for the purpose; and
  - installed and used according to the manufacturer's instructions.
- Submersible pumps must be designed and installed specifically for swimming or spa pools and supplied at extra low voltage (e.g. 12 volts).



## Safety switches save lives!

A safety switch can help guard against an electrical tragedy in your home. Safety switches are designed to cut the supply of electricity in a fraction of a second when a harmful level of electricity is detected leaking to earth.

Safety switches are available as permanently installed or portable units, which provide protection where permanent safety switch protection is not available.

A portable safety switch is ideal for use with portable electrical equipment such as power tools, and should be plugged into a power point ahead of the electrical equipment to be protected (including any extension leads).

Safety switches can be easily identified—they are the ones with a 'test' or 'T' button.

Although safety switches are proven to prevent many serious electric shocks, they are not a substitute for proper electrical maintenance and safe practices.

## Making sure it works

To make sure you are obtaining maximum protection from your safety switch, you should regularly test the switch according to the manufacture's directions. A good rule of thumb is to test safety switches every three months. To do this you only need to press the 'test' or 'T' button. If the switch turns off the power, then it is working correctly.

## Responding to electrical shocks

There are simple procedures to follow when someone suffers an electrical shock; knowing the procedures may save a life.

## Do not touch anyone who is receiving an electric shock

First, turn off the power by removing the plug from the power point or turning off the main switch. Call Queensland Ambulance Service (QAS) immediately on 000, and then provide first aid. If the victim is not breathing, start cardiopulmonary resuscitation (CPR).

Learn first aid and CPR – it could save a life. Organisations such as the QAS conduct first aid and CPR courses.

Display emergency numbers near the phone.

**Never attempt to do your own electrical work—it's dangerous, illegal and can be fatal.**

**Always employ a licensed electrical contractor to do any electrical work.**

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