

# When using electrical equipment at ANU

## DO

### DO CHECK THE EQUIPMENT'S ELECTRICAL SAFETY TAG.

Look for the University's electrical safety tag on all electrical equipment. Ensure that the Next Test Date/Retest Date recorded on the safety tag has not been passed.

### DO SUPPORT TESTING AND TAGGING OF YOUR EQUIPMENT.

This activity is not only required under ANU policy it is aimed at making your work environment safer.

### DO KNOW YOUR LOCAL COMPETENT PERSONS AND THEIR COMPETENCIES.

The ANU Health, Safety and Work Environment Branch maintains a register of qualified and trained 'Competent Persons' who are authorised to advise on Electrical Safety issues. Become familiar with those in your area who have skills in electrical safety.

### DO LEARN THE LOCATION AND OPERATION OF ELECTRICAL CONTROLS IN YOUR AREA.

Become familiar with the location and operation of circuit isolation equipment. If 'Emergency Stop' switches are installed learn which equipment they protect and how to operate them.

### DO ATTACH A DANGER TAG TO FAULTY EQUIPMENT.

Turn off faulty electrical equipment and unplug it. Attach and sign a 'Danger—DO NOT OPERATE' tag to the equipment and notify management.

### DO VISIT THE WEB SITE

Visit the Electrical Safety Management webpage and learn more about electrical safety. It has up-to-date information on electrical safety and is routinely added to. Visit regularly: [policies.anu.edu.au/pp/document/ANUP\\_000572](http://policies.anu.edu.au/pp/document/ANUP_000572)

## DO NOT

### DO NOT USE ELECTRICAL EQUIPMENT OVERDUE FOR TESTING

If the equipment is not tagged or the tag's Next Test Date/Retest Date recorded on the tag has been passed, don't use the equipment. Find an alternative. Bring it to the attention of management.

### DO NOT BRING PERSONAL ELECTRICAL EQUIPMENT INTO THE UNIVERSITY WITHOUT HAVING IT INSPECTED, TESTED AND TAGGED.

All electrical equipment at the ANU must comply with ANU policy.

### DO NOT IGNORE ADVICE FROM PERSONS COMPETENT IN ELECTRICAL SAFETY.

Competent persons are required to report electrical hazards to management.

### DO NOT OBSTRUCT ACCESS TO ELECTRICAL CONTROLS, DISTRIBUTION BOARD, ETC.

Electrical controls and distribution boards are required to have unobstructed access for electricians. Don't clutter the area immediately in front or below a distribution board.

### DO NOT BE COMPLACENT ABOUT ELECTRICAL SAFETY.

Mains-supplied electricity represents an intrinsic safety and life hazard. Please exercise due care and caution in your use of it.

### DO NOT REMOVE A DANGER/LOCK-OUT TAG.

Only the initiator, or their supervisor (and only in special circumstances) is permitted to remove a 'Danger—DO NOT OPERATE' tag from equipment. Under NO circumstances is anybody permitted to power-up or operate equipment with a "Danger—DO NOT OPERATE" tag attached.

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## CONTACT US

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CRICOS Provider #00120C

The Work Environment Group is a corporate facility providing professional support (both policy and practice) for the technical risk management responsibilities of the University under occupational health and safety, environment, gene technology, quarantine, radiation, and nuclear non-proliferation legislation.

**For incident notification, resources and more information on electrical safety go to:**  
[services.anu.edu.au/human-resources/health-safety](http://services.anu.edu.au/human-resources/health-safety)



Australian National University



ELECTRICAL SAFETY  
Be safe with electricity

Work Environment Group

# When using electrical equipment

## DO

### DO LEARN CARDIO PULMONARY RESUSCITATION.

The effect of electricity (electric currents) on a body ranges from a mild tingling sensation, to shock, burns, violent muscle spasm, heart fibrillation, and death. Depending on the conditions, these effects can all occur from voltages as low as 50 Vac.

### DO CHECK THE FLEXIBLE MAINS CORD BEFORE EACH USE.

Look for: discoloured or corroded or bent connections; insulation with evidence of burns, cuts, abrasion, cracks, disintegration, hardening, squashed outer insulation; exposed inner insulation or wire; cord loose in either the plug or the equipment; cord showing signs of unintentional twisting, distortion; cord impregnated with foreign matter (dirt, moisture, metal filings, etc.); cord taped to cover up damage. Protect the cord from damage from sharp objects or metal edges.

### DO INSPECT THE EQUIPMENT BEFORE CONNECTING TO A POWER OUTLET.

All equipment fails eventually. Visual checks can detect many hazards with electrical equipment. Look for changes: missing, clogged, worn, noisy or broken — parts, fasteners, guards, covers, controls, connectors, indicators, fans, bearings, etc. When in doubt get the equipment checked by a competent person.

### DO USE EXTENSION CORDS CAREFULLY AND AS A TEMPORARY SOLUTION ONLY.

When in use, extension cords can easily overheat. Ensure they are unrolled and protected from damage or from becoming trip hazards. Suspect homemade or rewired extension cords.

### DO USE EQUIPMENT FOR ITS INTENDED PURPOSE.

Manufacturers design equipment for appropriate situations. For example, a domestic appliance may be suitable for an office situation but is unlikely to suit a workshop environment.

### DO CHECK THE POWER CONSUMPTION BEFORE CONNECTING EQUIPMENT.

Users should be aware of the power consumption of the equipment that is being connected to an individual outlet socket. Check on the equipment for the power rating in watts or a current and voltage rating. Power = current \* voltage (where power is in watts, current in amperes, voltage in volts).

### DO USE POWER BOARDS WITH OVERLOAD PROTECTION.

Power boards allow multiple connections with reduced risk of overloading. Using power boards with the appropriate number of outlets is better than daisy-chaining power boards. You get what you pay for, so buy quality units.

### DO POSITION EQUIPMENT WHERE IT WILL NOT CREATE A HAZARD.

Many appliances (heaters, cookers, lights, etc.) get hot. Clear the area. Protect users from touching hot equipment. Protect equipment, especially cords, from damage when moving furniture.

### DO USE RCD PROTECTION FOR ELECTRICAL EQUIPMENT.

Residual Current Device (RCD) [sometimes called Earth Leakage Circuit Breaker (ELCB) or safety switch] monitors leakage current assumed to be flowing in the earth through the body. When the leakage exceeds a safe level, the device removes power from the circuit. RCDs do not protect against current flow between live conductors (active to neutral).

### DO BUY EQUIPMENT WITH AN AUTHORISED APPROVAL MARK.

Look for a number such as N/00345, Q/12356, V/24512 identifying the State which approved the equipment. The equipment may have a Regulatory Compliance Mark as well or instead.



### DO USE CARBON DIOXIDE OR DRY POWDER FIRE EXTINGUISHERS ON ELECTRICAL EQUIPMENT.

Electrical fires can be extremely dangerous both from the obvious electrical hazard and the toxic nature of burning insulation. Turn the power off, if safe to do so.

### DO UNPLUG EQUIPMENT BEFORE CLEANING IT.

Switching equipment off is not a guarantee the power is disconnected. Unplug at the power outlet is the only safe way to ensure the power is off.

## DO NOT

### DO NOT TEST EQUIPMENT OR EXPERIMENT WITH ELECTRICITY ON YOUR BODY, FOR ANY REASON.

The electric current that flows in your body disrupts the normal functioning of the nervous system. The electric current that flows increases dramatically as the skin sweats or becomes moist.

### DO NOT USE DISCOLOURED OR VISIBLY DAMAGED MAINS CORDS.

Cords don't age, they fail. If the cord has changed in any way it may be faulty; have it checked by a competent person. Note, a competent person is one who has the necessary practical and theoretical skills to correctly inspect and test the safety of electrical equipment.

### DO NOT ASSUME EQUIPMENT IS SAFE BECAUSE IT WAS LAST TIME IT WAS USED.

All equipment fails eventually. Find the faulty item before it becomes a safety hazard. Note, a knowledgeable user is likely to be the first to find faulty equipment.

### DO NOT USE EXTENSION CORDS AS A PERMANENT CONNECTION.

Have an electrician install appropriate and convenient outlets to remove the need for permanent extension cords. Do not use extension cords with only two wires or more than 25 metres in length.

### DO NOT USE INAPPROPRIATE EQUIPMENT.

Electrical equipment not used for its intended purpose is at risk of failure. Generally, domestic equipment is designed for light duty. Industrial equipment is designed to operate in harsher environments.

### DO NOT OVERLOAD OUTLET SOCKETS.

In Australia, standard outlet sockets should not exceed 2400 watts — equivalent to a current of 10 amperes (10 amps, 10 A) at 240 volts. Total power is the sum of the power of each connected appliance. For example, two appliances, one rated at 5 A the other at 7 A, would have a total consumption of 12 A (5 A + 7 A) or 2880 watts (12\*240) and therefore should not be connected to the same outlet socket.

### DO NOT USE DOUBLE ADAPTORS.

Double adaptors do not have overload protection. Piggybacked plugs are not a good idea for the same reason.

### DO NOT USE ELECTRICAL EQUIPMENT IN DAMP SITUATIONS.

Unless equipment is specifically designed for use in damp situations the risk of electrocution is high from operating damp equipment.

### DO NOT THINK FUSES AND CIRCUIT BREAKERS PROTECT PEOPLE.

These components are designed and installed to protect equipment (mainly from overheating) when a failure occurs. Never replace a fuse or reset a circuit breaker without getting a competent person to investigate the cause. Never replace a fuse with a higher current rating than the original.

### DO NOT ATTEMPT TO REPAIR OR MODIFY ELECTRICAL EQUIPMENT.

Specialist knowledge is required to understand design criteria essential to the safe operation of equipment. Never remove protective covers when operating the equipment.

### DO NOT USE WATER OR FOAM EXTINGUISHERS ON ELECTRICAL EQUIPMENT.

Water or foam will increase the electrical hazard.

### DO NOT TRY TO FREE JAMMED FOOD IN A TOASTER WITHOUT UNPLUGGING IT FIRST.

Toasters have exposed conductors (the heating element). Never attempt to free anything from a toaster without first removing the plug from the power outlet.