Electrical – **Safety**

Residual current devices (RCD) or safety switches >

This bulletin provides a guide to the requirements of Regulation 65 of the *Workplace Health and Safety Regulations*.

Intent of the regulation

Regulation 65 requires that hand-held electrical equipment and portable electrical equipment operated from socket outlets in all workplaces, be protected by a residual current device or as sometimes known, safety switches.

The intent of the regulation is to provide protection from harmful or fatal electric shock while using identified high risk electrical equipment, or while working in an environment likely to increase the risk.

Equipment intended to be protected by RCD's

A residual current device is a device which is intended to trip out an electricity supply in the event of a current flow to earth. As such, it can provide protection from harmful electric shocks in situations where a person comes into contact with a live electrical circuit and provides a path to earth. Typical examples of this occurring are with the use of faulty electrical leads and faulty appliances.

Protection can be obtained through the use of:

- A permanent RCD installed to protect the circuit, either in the switchboard or in the socket outlet, or
- a portable RCD connected directly to the output side of the socket outlet.
- Portable electrical equipment is defined as electrical equipment that is intended to be carried or moved while the electricity supply is connected. The list below gives examples of the types of equipment that must be protected.
- This list is given only as an indication and must not be taken as exhaustive.
- Hand-held electric power tools, such as, drills, saws and the like.
- Hand-held appliances such as hair dryers, curling wands, etc.
- Portable cleaning appliances, such as vacuum cleaners and industrial polishers.
- Tools such as electric jack-hammers, electric lawn mowers.
- Cord extension leads.
- Appliances and equipment that are likely to be used in a wet or hazardous environment should also be considered for protection with an RCD. The requirements for RCD's need to be assessed based on the likely risk. Such equipment includes kitchen appliances, such as toasters, kettles, jugs, fry pans, urns and the like.

For equipment that is transferred from site to site, the owner should ensure protection by having a portable unit that is transferred with the equipment.

NT WorkSafe is the administrative arm of the Work Health Authority and administers the *Workplace Health and Safety Act*, the *Workers Rehabilitation and Compensation Act*, the *Dangerous Goods (Road and Rail Transport) Act*, the *Dangerous Goods Act* and the *Radioactive Ores and Concentrates (Packaging and Transport) Act* and related Regulations on behalf of the Northern Territory Government.

Equipment not intended to be protected by RCD's

One example would be:

> Electro medical equipment where it could be detrimental to the health of a patient if the power supply is interrupted these are not intended to be covered by RCD's.

New buildings and installations

Consideration should be given to installing permanent residual current devices into new workplaces, or when installing new electrical circuits. Design of the circuits before installation, based on likely end use will often make this the most cost effective means of installing residual current device protection.

Testing of residual current devices

The regulations require that a residual current device installed at a workplace shall be kept in a safe working condition and tested on a regular basis by a competent person to ensure its continued effective operation. A record must be kept of these tests. Guidelines for testing of residual current devices is provided in Australian Standard AS 3760 - Inservice Safety Inspection and Testing of Electrical Equipment, which is an approved code of practice under the *Workplace Health and Safety Act*.

It is also good practice for people to regularly test the units using the test buttons on the devices. Guidance on this is usually provided with the device. Frequency of testing will depend on the environment in which the device and the equipment is being used, with more frequent testing required for harsher environments. For portable RCDs the test button should be operated each time it is plugged into a socket outlet.

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