

Electrical Safety – Construction

05.02.01

Construction work >

This information bulletin provides a guide to the requirements of Regulation 64 of the [Workplace Health and Safety Regulations](#). The intent of this regulation is to prevent injuries and fatalities from electric shocks. While using all electrical equipment including portable and held hold power tools, it is mandatory that all electrical installations on construction sites comply with [AS 3012](#) electrical installations – construction and demolition sites.

General requirements

- Mains power must be connected to site before work commences unless a generator is to be used. The power supply is not to be accessed from adjacent properties.
- Each site must have one main switchboard that is easily accessible and protected from damage. It must be of robust construction and be situated as near as possible to street or road level.
- Mains cables which run horizontally must be supported at intervals not exceeding 3 metres and at a height not less than 2 metres.
- Mains cables which run vertically must be supported at intervals not exceeding 6 metres with a special support at its uppermost point.
- Aerial wiring supported by catenary wire must be double insulated. Where possible crossing vehicle access ways should be avoided but if unavoidable, minimum aerial conductor clearance of 4.5 meters and flagged catenary wires must be placed 0.6 metre lower than and 6 metres either side of the aerial conductors.
- Distribution boards must be easily accessible and for multi-level construction a board must be provided for each level where work is to be carried out. Flexible cords must not be run between levels unless being used for work in stairwells and lift shafts and similar multi-level work.
- Socket outlets on distribution boards must have a minimum rating of 10 Amps and must be separately switched. All switchboards must be fitted with at least one 15 Amp single-phase 240 volt socket outlet.
- Equipment may be connected to a permanent on site supply but if this is done portable RCD's must be used. For portable RCD's the non-protected portion of flexible cord before the RCD must not exceed 1.8 metres.

Residual current device also known as safety switches

- AS 3012 requires that each of the following must be protected by a residual current device (RCD) that complies with [AS 3190](#). Socket outlets.
- Lighting circuits;
- Each transportable hut;
- Welding equipment.

These units must be backed up for overload and short circuit protection by a circuit breaker of adequate capacity. Fuses are not permitted on final sub circuits.

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Flexible cords

Flexible cords must be maintained in good condition and be of a heavy duty type.

Flexible cord conductors must have a minimum cross sectional area of 1.0 mm.

All mains operated portable appliances connected to flexible cords, cord extensions sets and electrical portable outlet devices shall be inspected, tested and tagged prior to use in accordance with AS3012 and AS3760 (this includes new power tools and leads)

The electrical equipment must be re-inspected and tagged by a competent person at intervals not exceeding three months.

The maximum length of any flexible cord is:

current rating	conductor area	maximum cord length
10 A	1.0 mm ²	25m
10 A	1.5 mm ²	35m
15 A	1.5 mm ²	25m
15 A	2.5 mm ²	40m
20 A	2.5 mm ²	30m
20 A	4.0 mm ²	50m

Colour

The sheath of a flexible cord shall not contain the colour green.

Protection of flexible cords

Flexible cords should be located in a position where they are not subject to mechanical or any other damage.

Flexible cords are to be supported off the ground where:

- They are more than 10 metres from the appliance to which they are connected, or
- They cross passageways or access ways.

Electrical portable outlet devices

Every portable outlet device used on a construction site must have individual on-off switches at each socket outlet.

Double adapters, piggyback units and domestic type multi-outlet devices are not permitted.

Other requirements

Lighting must be positioned or protected so as to minimise accidental damage. Where possible it should be positioned at least 2.5 metres from floor level. Only factory moulded festoon lighting is to be used at 240 volts and a non-conductive guard must adequately protect the lamp.

Transportable construction huts must be separately connected to the supply. Outlets within or on these units must not be used to supply power elsewhere on the construction site

Inspection and testing

Part 13 of AS 3012 requires testing to be conducted on all electrical equipment on construction sites at varying frequencies. This part should be studied to ensure compliance. NT WorkSafe information bulletin 05.02.02 Safety inspection and testing of electrical equipment shows the minimum requirements for testing equipment on construction sites. However all electrical equipment on a construction site should be visually checked prior to use.

Electrical shock

Under Section 64(c) of the *Workplace Health and Safety Act* workplace incidents involving electric shock must be reported to NT WorkSafe immediately. See NT WorkSafe information bulletin [09.01.04](#) Notification of incidents and accidents.

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GPO Box 1722, Darwin NT 0801 Telephone 1800 019 115 Email ntworksafe@nt.gov.au
Facsimile (08) 8999 5141 Website worksafe.nt.gov.au