



electrical focus

Supplement

12 SPECIAL REQUIREMENTS FOR INSTALLATIONS IN WA

The following "Section 12 – Special Requirements for Installations in WA" is extracted from the **WA Electrical Requirements**, July 2000 edition. All electrical designers, contractors and workers need to be aware that these special requirements apply in all areas in Western Australia.

Note: The "WA Electrical Requirements" is published by the Director of Energy Safety (of the Office of Energy) under the provisions of Regulation 49 of the Electricity (Licensing) Regulations 1991.

12.1 PRINCIPLES

This section details those requirements which are in addition to, or at variance with, AS/NZS 3000 Wiring Rules and other Standards.

In accordance with Regulation 49 of the *Electricity (Licensing) Regulations 1991*, these requirements take precedence over those detailed in the prescribed standards and must be complied with at all times.

12.2 CONSUMERS MAINS

Single phase and multiphase consumers mains shall have a minimum current-carrying capacity of 32A per phase except for:

(a) Single domestic installations where the minimum current carrying capacity shall be:

- (i) Single-phase: 63A
- (ii) Multiphase: 32A per phase, and;

(b) Multiple installations which incorporate a domestic installation where the minimum current carrying capacity shall be:

- (i) Single-phase: 63A
- (ii) Multiphase: 63A per phase.

When calculating the voltage drop in an installation, that component of voltage drop on the consumers mains shall be assessed using the maximum demand of the installation.

12.3 PROTECTION AGAINST EARTH LEAKAGE CURRENT

Where RCD protection is required in domestic and residential type electrical installations, two or more RCD's shall be provided.

12.4 CURRENT CARRYING CAPACITY OF CABLES

Where cables are installed in the roof space of domestic installations, they shall be deemed to be either partially or completely surrounded in thermal insulation for the purpose of calculating current carrying capacity, if they are installed within 100mm above the ceiling.

If a length of cable not exceeding 150mm passes through bulk thermal insulation eg. for connection to a lighting point, it shall not be considered as being surrounded by thermal insulation.

Where cables are installed in such a manner that permits the free circulation of air around the cables, eg. in a wiring enclosure of adequate dimensions, and in any case not less than 50mm x 100mm, the cables are not considered as being surrounded by thermal insulation

12.5 SEGREGATION OF ELECTRICAL INSTALLATIONS

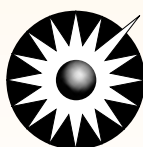
No part of the consumers mains or installation wiring of consumer premises on one lot shall be located in another lot except where consumers mains are in the immediate vicinity of a service pillar.

12.6 MINIMUM CROSS SECTIONAL AREA OF CONDUCTORS

In domestic installations, conductors for sub-circuits which supply socket-outlets shall have a cross-sectional area of not less than 2.5mm².

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- Guideline for the Application of RCDs in Domestic and Residential Installations



Office of **Energy**

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Guideline for the Application of RCDs in Domestic and Residential Installations

Section 12.3 of the new (July 2000) edition of the “WA Electrical Requirements” specifies that two or more RCDs shall be provided where RCD protection is required in domestic and residential type electrical installations.

The reason for requiring at least two RCDs is to provide the installation user with protection against total loss of the power and lighting circuits in the installation should an RCD operate. Ideally, the installation should be designed so that some lighting and some socket-outlet (power) circuits are protected by one RCD, and the remainder by the other RCD(s).

In response to enquiries about the requirements for *existing* domestic and residential type installations, the following advice is provided:

(a) Part or full rewiring jobs:

at least two RCDs are mandatory if the electrical work includes replacement of the main switchboard’s control and protective devices, since in that case Clause 1.7.5.1 of the Wiring Rules, in relation to Clause 1.5, applies.

(b) Addition of one new circuit (except where supplying only a fixed electric cooking appliance):

only the new circuit will require RCD protection (if not already provided).

(c) Addition of more than one new circuit:

a minimum of two RCDs is required (except in the case of two circuits being added, with one of these supplying only a fixed electric cooking appliance, in which case only one RCD is required).

(d) The owner of an existing installation has commissioned the fitting of RCD protection and no other alterations or additions are to be carried out:

one RCD may be installed, although two (or more) are *recommended*.