Australian/New Zealand Standard™

Electrical installations—Testing and inspection guidelines

Standards Australia

STANDARDS NEW ZEALAND

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-001, Wiring Rules. It was approved on behalf of the Council of Standards Australia on 30 July 2001 and on behalf of the Council of Standards New Zealand on 24 August 2001. It was published on 15 October 2001.

The following interests are represented on Committee EL-001:

Australian Building Codes Board
Australian Electrical and Electronic Manufacturers Association
Communications, Electrical Plumbing Union
Electrical Contractors Association of New Zealand
Electrical Safety Organisation (New Zealand)
Electricity Supply Association of Australia
Institute of Electrical Inspectors
Institution of Engineers Australia
Insurance Council of Australia Limited
Ministry of Economic Development (New Zealand)
National Electrical and Communications Association
National Utilities & Electrotechnology Industry Training Advisory Body
New Zealand Council of Elders
New Zealand Electrical Institute
Regulatory authorities (electrical)
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-001 on Wiring Rules. The objective of this Standard is to provide persons who carry out inspections and tests of an electrical installation with some methods of checking that the electrical installation complies with the safety requirements for the prevention of fire or a person or livestock from sustaining an electric shock.

Electricity Regulations and AS/NZS 3000, *Electrical installations* (known as the Australian/New Zealand Wiring Rules), require electrical installations to be inspected and tested before being placed in service. The inspection and test methods described in this Standard are provided for guidance. Alternative methods are acceptable.

This Standard was revised to align with AS/NZS 3000:2000 and to include a new Section on the visual inspection of electrical installations and additional tests such as fault-loop impedance and operation of residual current devices (RCDs).

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S E C T I O N 1 S C O P E A N D G E N E R A L

1.1 SCOPE

This Standard sets out some of the common inspection and test methods required to check that a low voltage electrical installation complies with the safety requirements for the prevention of fire or a person or livestock from sustaining an electric shock.

The tests detailed in this Standard are as follows:

(a) Continuity of the earthing system.

(b) Insulation resistance.

(c) Polarity.

(d) Correct circuit connections.

(e) Fault-loop impedance.

(f) Verification of operation of residual current devices.

NOTE: AS/NZS 3000 indicates that tests (a), (b), (c) and (d) are mandatory and tests (e) and (f) are optional.

The Standard illustrates testing procedures for an electrical installation which provides a multiple earthed neutral (MEN) system of earthing. The equipment and methods—

(i) are not exclusive and other equipment and methods may be used; and

(ii) may be applied to other types of low voltage installations, e.g. non-domestic, commercial; and

(iii) may be applied to work affecting only part of an installation, e.g. alterations, additions or repairs; and

(iv) may be adapted to other supply earthing systems.

1.2 SAFETY

To comply with the requirements of AS/NZS 3000, all electrical installations and any alterations, additions and repairs to electrical installations shall, prior to being placed in service or use, be—

(a) inspected as far as is practicable; and

(b) tested.

Electrical testing inherently involves some degree of hazard. It is the responsibility of the person performing the tests to ensure that safe practices are used in the performance of test procedures.

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