

Australian/New Zealand Standard™

**In-service safety inspection and testing
of electrical equipment**



AS/NZS 3760:2010

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-036, In-service Testing of Electrical Equipment. It was approved on behalf of the Council of Standards Australia on 2 September 2010 and on behalf of the Council of Standards New Zealand on 24 September 2010. This Standard was published on 30 September 2010.

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Australian/New Zealand Standard™

In-service safety inspection and testing of electrical equipment

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NOTES

Contents

Referenced documents	3
Foreword	4
Outcome statement	4

Section 1 – Scope and general

1.1 Scope	5
1.2 General	6
1.3 Interpretation	8
1.4 Definitions	8

Section 2 – Inspection and tests

2 General	13
2.1 Frequency of inspection and tests	13
2.2 Personnel	13
2.3 Inspection and testing	14
2.4 Action resulting from inspection and testing	18
2.5 Documentation	19

Appendices

A Background (Informative)	22
B Guidelines on the electrical knowledge of a competent person (Informative)	24
C Polarity for cord sets and cord extension sets (Normative)	25
D Test of earthing continuity (Normative)	28
E Insulation testing (Normative)	30
F Insulation resistance testing of portable isolating transformers (Normative)	35
G Insulation resistance testing of a power supply (Normative)	38
H Test for the operating time of residual current devices (RCDs) (Normative)	40
J Arc welders (Informative)	42
K Regulatory application of this Standard (Informative)	43

Tables

1 Leakage current limits	16
2 Insulation resistance limits	16
3 Maximum tripping times	17
4 Indicative testing and inspection intervals for electrical equipment	20
C1 Conductor colours for flexible cords	26
C2 Colour schemes of conductor in modern sheathed flexible cords	27
H1 Tripping time accuracy	40

Figures

C1 Cord set	25
C2 Cord extension set	26
D1 Measurement of the earth continuity resistance between accessible earthed metal parts and the earth pin of the mains plug	29
D2 Measurement of the earth continuity resistance between the mains plug earth pin and the earthing aperture contacts of an EPOD	29

E1	Leakage current test setup using differential test method for Class II three-phase equipment	32
E2	Leakage current test setup using differential test method for Class II single-phase equipment	32
E3	Measurement of the insulation resistance between live supply conductors and accessible earthed metal parts of typical Class I equipment	33
E4	Measurement of the insulation resistance between live supply conductors and accessible metal parts of a typical Class II equipment	33
E5	Measurement of the insulation resistance of an EPOD	34
F1	Measurement of the insulation resistance between live supply conductors to a portable isolating transformer and accessible earthed parts for Class I isolating transformers or accessible metal parts for Class II isolating transformers	36
F2	Measurement of the insulation resistance between a portable isolating transformer (secondary) winding and accessible earthed parts for Class I isolating transformers	36
F3	Measurement of the insulation resistance between live supply conductors and the portable isolating transformer output (secondary) winding	37
G1	Measurement of the insulation resistance of a power supply	39

REFERENCED DOCUMENTS

Reference is made in this document to the following:

JOINT AUSTRALIAN/NEW ZEALAND STANDARDS

AS/NZS 3000:2007	Electrical installations (known as the Australian/New Zealand wiring rules)
AS/NZS 3001:2008	Electrical installations – Re-locatable premises (including caravans and tents) and their site installations
AS/NZS 3002:2008	Electrical installations – Shows and carnivals
AS/NZS 3003:2003	Electrical installations – Patient treatment areas of hospitals and medical and dental practices and dialysing locations
AS/NZS 3010:2005	Electrical installations – Generating sets
AS/NZS 3012:2003	Electrical installations – Construction and demolition sites
AS/NZS 3019:2007	Electrical installations – Periodic verification
AS/NZS 3190:2009	Approval and test specification – Residual current devices (current-operated earth-leakage devices)
AS/NZS 3551:2004	Technical management programs for medical devices
AS/NZS 4249:1994	Electrical safety practices – Film, video and television sites
AS/NZS 4763 (INT):2006	Safety of portable inverters
AS/NZS 5761:2005	In-service safety inspection and testing – Second-hand electrical equipment prior to sale
AS/NZS 5762:2005	In-service safety inspection and testing – Repaired electrical equipment
AS/NZS ISO 9000:2005	Quality management systems – Series of Standards
AS/NZS ISO 31000:2009	Risk management
AS/NZS 60335.1:2002	Household and similar electrical appliances – General requirements
AS/NZS 61008.1:2004	Residual current operated circuit-breakers without integral overcurrent protection for household and similar uses (RCCBs) – General rules
AS/NZS 61009.1:2004	Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs) – General rules

AUSTRALIAN STANDARDS

AS 1674.2:2007	Safety in welding and allied processes – Electrical
AS 2790:1989	Electricity generating sets – Transportable (Up to 25 kW)
AS 60529:2004	Degrees of protection provided by enclosures (IP Code)

NEW ZEALAND STANDARD

NZS 6115:2006	Electrical Installations – Mobile electro-medical connectable installations
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INTERNATIONAL STANDARDS

IEC 60320:– (All parts)	Appliance couplers for household and similar general purposes
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NEW ZEALAND LEGISLATION

Electricity Safety Regulations 2010

FOREWORD

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-036 – In-service testing of electrical equipment to supersede AS/NZS 3760:2003 and its Amendment No. 1 (2005) from the date of publication. This edition has undergone a complete revision.

In-service testing is a necessary part of any safety program to help ensure the safety of persons using electrical equipment in the workplace. This Standard specifies in-service safety inspection and testing protocols and criteria that satisfy these obligations, and provides a cost-effective approach to safety without jeopardizing personnel safety or involving excessive equipment downtime.

The philosophy of the document is to provide an inspection and testing regime capable of implementation with only simple instrumentation, and performed by a person not necessarily having formal qualifications or registration, but who has the necessary practical and theoretical skills, acquired through training, qualification, experience or a combination of these, to correctly undertake the tasks prescribed by this Standard.

The methodology of the inspection and testing process is defined.

The frequency of repetition of that process is determined by the equipment type and by examination of the environment in which the equipment is used or working. For indicative purposes a number of different environments are provided with associated or suggested inspection/testing frequencies. These are based on the perception of the level of hazard and the degree of abuse to which the equipment is typically exposed. However, there will usually be multiple sub-environments within any location and the inspecting/testing frequency will be arrived at by an assessment of the actual environment in which the equipment is placed or used.

Words in **bold** in the text are defined in 1.4. When a definition concerns an adjective, the adjective and associated noun are also in **bold**.

OUTCOME STATEMENT

AS/NZS 3760 will enable persons responsible for the safety of electrical equipment in the workplace to instigate an inspection and testing programme to achieve that aim. It also enables persons undertaking the inspection and testing to carry out the task in a safe and effective manner.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
In-service safety inspection and testing
of electrical equipment

SECTION 1 – SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies procedures for the safety inspection and testing of **low voltage** single phase and polyphase electrical equipment, connected to the electrical supply by a flexible cord or connecting device, and that

- (a) Is new equipment placed into service for the first time;
- (b) Is already in-service;
- (c) Has been serviced or repaired;
- (d) Is returning to service from a second-hand sale; or
- (e) Is available for **hire**.

This Standard also specifies procedures for the safety inspection and testing of

- (f) **Residual current devices (RCDs)** except those within the scope of AS/NZS 3003 and NZS 6115; and
- (g) Portable inverters that generate or produce **low voltage**.

Typical examples of equipment covered by this Standard are:

- (h) **Portable equipment**, hand-held equipment and **stationary equipment**, designed for connection to the **low voltage** supply by a **supply cord**, an appliance inlet or pins for insertion into a socket-outlet (see Figure G1);
- (i) **Cord sets, cord extension sets** and outlet devices (also known as **electrical portable outlet devices (EPODs)**, or power boards);
- (j) Flexible cords connected to **fixed equipment in hostile environments**;
- (k) Portable power supplies (includes power adaptor/plug-pack, both of the safety **isolating transformer** and switch-mode type);
- (l) Battery chargers including those for commercial or industrial use;
- (m) Portable and transportable heavy duty tools such as high pressure washers and concrete grinders.

1.1.1

This Standard applies only to equipment in-service at a place of work or public place, or offered for **hire**.

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