

Australian/New Zealand Standard™

**Essential safety requirements for
electrical equipment**



AS/NZS 3820:2009

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee QR-012, Conformance Marking to Regulatory Requirements. It was approved on behalf of the Council of Standards Australia on 14 October 2009 and on behalf of the Council of Standards New Zealand on 27 November 2009. This Standard was published on 11 December 2009.

The following are represented on Committee QR-012:

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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Australian/New Zealand Standard™

Essential safety requirements for electrical equipment

Originated in Australia and New Zealand as AS/NZS 3820:1998.
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee QR-012, Conformance Marking to Regulatory Requirements to supersede AS/NZS 3820:1998 on publication.

The objective of this Standard is to provide a set of outcomes-oriented criteria for the safety of electrical equipment, primarily for use by electrical regulators in relation to products for which regulatory approval before sale is not required (non-declared articles). For electrical equipment that is required to be approved by regulators before being placed on the market (declared articles, declared high risk articles and declared medium risk articles), there are specific regulatory requirements additional to the general requirements given in this Standard.

This Standard is intended to be consistent with the criteria of the European Union low voltage directive.

In the preparation of this Standard, consideration was given to the following publications and acknowledgment is made of the assistance received:

- European Union low voltage directive 2006/95/EC on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
- IEC Guide 104: The preparation of safety publications and the use of basic safety publications and group safety publications.
- NZECP3: New Zealand Electrical Code of Practice for Electrical Safety of Fittings and Electrical Appliances

This Standard is not a substitute for Standards that set out objective safety requirements based on testing. Rather it provides a high-level generic description of the safety outcomes to be achieved and is intended to assist in providing a basis for regulatory uniformity. Specific product Standards provide measurable criteria that are regarded as ensuring that the outcomes described in this Standard will be met.

Whilst compliance to this standard may be claimed by declaration, supporting documentation (such as certification or test reports or appropriate engineering assessments) would be expected to be available if requested by the person receiving the equipment or by a government electrical safety regulator. Certification or test reports must reference a relevant product standard (or standards) that have the equipment in question within their scope and any other reports for additional risks identified applicable to the equipment that may not be covered by the general relevant product standards. Where no one standard or standards cover the equipment within its scope, or cover the risks identified or likely, reports to test standards and additional reports beyond test standards may be required.

Claimed compliance to requirements of this standard would be null and void in the event of incidents occurring due to design or manufacturing failure or due to being used in a manner not excluded by the instructions for use (even after installation in accordance with the instructions) or during use of the equipment, regardless of any supporting documentation supplied at time of declaration of compliance. Refer also to clause 5.1.

This revision updates the 1998 edition of AS/NZS 3820 including its amendment 1 (2004) to make it more compatible with the current safety regulatory requirements in Australia and New Zealand. It also includes consequential editorial changes.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

Words in **bold** in the text are defined in clause 3.

AUSTRALIA/NEW ZEALAND STANDARD

Essential safety requirements for electrical equipment

1 SCOPE

This Standard sets out requirements for electrical equipment, to ensure that electrical equipment is constructed in accordance with good engineering practice in regard to safety such that it does not endanger the safety of persons (particularly children, the elderly and people with disabilities), domestic animals or property, when properly installed and maintained and used in applications for which it was made.

Electrical equipment within the scope of this standard is any equipment designed for use with a supply or output voltage not exceeding 1000 Volts for alternating current and 1500 Volts for direct current and intended for the purposes of generation, conversion, transmission, distribution or utilisation of electricity.

Medical electrical equipment and electrical equipment used in hazardous areas are subject to essential safety requirements in addition to those included in this standard.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS 3112	Approval and test specification—Plugs and socket-outlets
AS/NZS 60335.1	Household and similar electrical appliances – Safety – Part 1 General requirements

3 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

3.1

direct contact

contact of persons or animals with a conductor that in normal circumstances is live

3.2

electric toy

product designed or clearly intended for use in play by children under 14 years old and having at least one function dependent on electricity

3.3

indirect contact

contact of persons or animals with a conductive part that is not normally live, but has become live due to fault conditions, insulation failure or other accidental circumstances

3.4

supplier

person or entity who takes responsibility for putting the product on the market