

# Australian/New Zealand Standard™

## Safety of household and similar electrical appliances

### Part 1: General requirements (IEC 60335-1:1991, MOD)



## **AS/NZS 3350.1:2002**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002, Safety of Household and Similar Electrical Appliances and Small Power Transformers. It was approved on behalf of the Council of Standards Australia on 7 May 2002 and on behalf of the Council of Standards New Zealand on 21 March 2002.

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The following are represented on Committee EL-002:

Association of Certification Bodies  
Australian Chamber of Commerce and Industry  
Australian Electrical and Electronic Manufacturers Association  
Canterbury Manufacturers Association New Zealand  
Consumer Electronic Suppliers Association, Australia  
Electrical regulatory authorities, Australia  
Electrical test laboratories  
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Metal Trades Industries Association of Australia  
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AS/NZS 3350.1:2002  
(Incorporating Amendment Nos 1, 2, 3 and 4)

Australian/New Zealand Standard™

## **Safety of household and similar electrical appliances**

### **Part 1: General requirements (IEC 60335-1:1991, MOD)**

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## PREFACE

This standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002- Safety of Household and Similar Electrical Appliances and Small Power Transformers. It will supersede AS/NZS 3350.1:2000 and its amendments on publication.

A4 This Standard incorporates Amendment No. 1 (November 2003), Amendment No. 2 (May 2004), Correcting Amendment No. 3 (January 2005) and Amendment No. 4 (November 2007). The changes introduced by the Amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected. Where an application date other than immediate is applicable to an amendment the date of application (DOA) is indicated by the marginal bar against the part affected.

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, testing laboratories and similar organizations with safety requirements designed to give the user protection against hazards that might occur during normal operation and abnormal operation of the appliance and that may be used as the basis for approval for sale or for connection to the electricity supply mains in Australia and New Zealand.

This Standard was revised to incorporate Amendment Nos. 1, 2, 3 and 4 and to effect changes to clauses 8.1, 24.1.5, 30.2.2, 30.2.3 and Annex R and Annex ZZ that were issued in draft form for comment as document DR 01966. It forms the third edition of AS/NZS 3350.1 *Safety of household and similar electrical appliances, Part 1: General requirements*.

This Standard is an adoption with national modifications and contains the full text of the second impression of IEC 60335-1:1991, *Safety of Household and similar electrical Part 1: General requirements*, including its amendments 1 and 2 and has been varied as indicated to take account of Australian and New Zealand conditions. It also includes the changes detailed in IEC document 61/2121/INF.

This part is to be used in conjunction with the appropriate Part 2 of AS/NZS 3350. The Parts 2 contain clauses to supplement or modify the corresponding clauses in this part to provide the relevant requirements for each type of appliance.

NOTE 1 Throughout this publication, when "Part 2" is mentioned, it refers to the relevant part of AS/NZS 3350.

NOTE 2 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

Words in **bold** in the text are defined in clause 3. When a definition concerns an adjective, the adjective and associated noun are also in bold.

The numbering of clauses, subclauses, notes, tables, figures and annexes follows that of IEC 60335-1:1991. To allow for the introduction of additional material by the IEC, the numbers 101 to 200 have been reserved. To allow for additional material to be introduced by Australia and New Zealand, the numbers 201 to 300 are used to number further clauses, subclauses, notes, tables and figures in part 1. Additional annexes are lettered ZA, ZB and so on.

This scheme has been introduced to reduce the likelihood of the IEC and Australia and New Zealand using the same identifier for different purposes.

The use of the word VOID indicates that the IEC text is not used in Australia or New Zealand. The use of this word also avoids the need to renumber, clauses, notes, tables and figure if an earlier clause, note, table or figure is not used.

Annex A has been reformatted to indicate the Australia/New Zealand standard that is equivalent to the IEC standard or ISO standard to which normative reference is made.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number does not appear on each page of text and its identity is shown on the cover and title page only.
- (b) In the source text "this International Standard" should read "this Australian/New Zealand Standard".
- (c) A full point substitutes for a comma when referring to a decimal marker.

Variations to IEC 60335-1:1991 are indicated at the appropriate places throughout this standard. Strikethrough (~~example~~) identifies IEC tables, figures and passages of text which, for the purposes of this Australian/New Zealand standard are deleted. Where Australian/New Zealand tables, figures or passages of text are added, each is set in its proper place and identified by shading (~~example~~). Added figures are not themselves shaded, but are identified by a shaded border.

Variations made to IEC 60335-1:1991 form the Australian variations for the purposes of the IECEE scheme for recognition of testing to standards for safety of electrical equipment (the CB scheme). These variations have been incorporated in the body of the standard. They are listed in Annex ZZ for easy reference.

## INTRODUCTION

It has been assumed in the drafting of this standard that the execution of its provisions is entrusted to appropriately qualified and experienced persons.

The requirements in this Standard take into account, as far as possible, the requirements given in AS/NZS 3000\* so that an appliance may be installed in accordance with these wiring rules.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of electrical household and similar appliances when operated as in normal use taking into account the manufacturer's instructions; it also covers abnormal situations which can be expected in practice.

A product which complies with the text of this Standard will not necessarily be judged to comply with the safety principles of the Standard if, when examined and tested, it is found to have other features which impair the level of safety covered by these requirements.

A product employing materials or having forms of construction differing from those detailed in the requirements of this Standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be judged to comply with the safety principles of the Standard.

Individual countries may wish to consider the application of this standard, so far as is reasonable, to appliances not mentioned in part 2 and to appliances designed on new principles.

If the functions of an appliance are covered by different parts 2 of AS/NZS 3350, the relevant part 2 is applied to each function separately, so far as is reasonable, with the influence of one function on the other being taken into account.

The essential safety requirements in AS/NZS 3820\*\* that could be applicable to household and similar electrical appliances are covered by this standard.

Standards dealing with non-safety aspects of household appliances are:

- Standards published by EL/15 concerning methods of measuring performance;
- CISPR 11<sup>1</sup> and CISPR 14-1<sup>2</sup> concerning radio interference suppression;
- CISPR 14-2<sup>3</sup> and IEC 61000 series concerning electromagnetic compatibility.

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\* AS/NZS 3000: *Electrical installations (known as the Australia/New Zealand Wiring Rules)*

\*\* AS/NZS 3820: *Essential safety requirements for low voltage electrical equipment*

<sup>1</sup> CISPR 11: *Limits and methods of measurement of electromagnetic disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment*

<sup>2</sup> CISPR 14-1: *Limits and methods of measurement of radio disturbance characteristics of electrical motor operated and thermal appliances for household and similar purposes, electric tools and electrical apparatus*

<sup>3</sup> CISPR 14-2: *Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity – Product family standard*

## Australia/New Zealand Standard

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### Safety of household and similar electrical appliances

#### Part 1: General requirements (IEC 60335-1:1991, MOD)

## 1 Scope

This standard deals with the safety of electrical appliances for household and similar purposes, the **rated voltage** of the appliances being not more than 250 V for single-phase appliances and 480 V for other appliances.

Appliances may incorporate motors, heating elements or their combination.

Appliances not intended for normal household use but which nevertheless may be a source of danger to the public, such as appliances intended to be used by laymen in shops, in light industry and on farms, are within the scope of this standard.

NOTE 1 - Examples of such appliances are catering equipment, cleaning appliances for industrial and commercial use, and appliances for hairdressers.

So far as is practicable, this standard deals with the common hazards presented by appliances which are encountered by all persons in and around the home. However this standard does not in general take into account

- the use of appliances by young children or infirm persons without supervision;
- playing with the appliance by young children.

#### NOTES

2 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;

~~— for appliances intended to be used in tropical countries, special requirements may be necessary;~~

- for the purpose of this Standard, Australia and New Zealand are not considered to be tropical countries;

- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities.

3 This standard does not apply to

- appliances intended exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- radio and television receivers, record players and similar equipment (IEC 60065);
- appliances for medical purposes (IEC 60601);
- hand-held motor-operated electric tools (IEC 60745);
- personal computers and similar equipment (IEC 60950);
- transportable motor-operated electric tools (IEC 61029).

## 2 Definitions

For the purpose of this standard, the following definitions apply.

**2.1** Where the terms voltage and current are used they imply r.m.s. values, unless otherwise specified.