

Australian/New Zealand Standard™

**Household and similar electrical
appliances—Safety**

**Part 1: General requirements
(IEC 60335-1 Ed 4.2, MOD)**



AS/NZS 60335.1:2002

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:

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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
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Australian/New Zealand Standard™

Household and similar electrical appliances—Safety

Part 1: General requirements (IEC 60335-1 Ed 4.2, MOD)

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AUSTRALIA/NEW ZEALAND STANDARD

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 1: General requirements (IEC 60335-1:2001, MOD)

FOREWORD

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 It will supersede AS/NZS 3350.1:2002 and its amendments after all of the Parts 2 of that standard have been superseded by the relevant Parts 2 of this standard. However, when Part 1 is used for appliances not covered by a Part 2, AS/NZS 3350.1 is not to be used after 2008-05-13.

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This standard incorporates Amendment No. 1 (May 2004), Amendment No. 2 (May 2007), Amendment No. 3 (November 2007) and Amendment No. 4 (April 2011). 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 is an adoption with national modifications and contains the full text of the fourth edition of IEC 60335-1, *Household and similar electrical appliances – Safety - Part 1: General requirements*, including its corrigendum 1 (2002-01) and amendment 1 (2004-03) and amendment 2 (2006-05) including its corrigendum 1 (2006-08) along with corrigendum 1 to edition 4.1 (2005-12) and interpretation sheet IS1 to edition 4.1 (2007-02) and has been varied as indicated to take account of Australian and New Zealand conditions.

This part is to be used in conjunction with the appropriate Part 2 of AS/NZS 60335. 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.

A4

Unless software class C is specifically required by the relevant Part 2, when assessing appliances incorporating interlocks for compliance with clause 19, the appropriate compliance criteria in 19.13 of AS/NZS 60335.1:2011 may be applied in conjunction with a class B software assessment in lieu of a software class C assessment in accordance with 22.46 if the interlock function is controlled by an electronic circuit incorporating a programmable component.

NOTE 1 Throughout this publication, when "Part 2" is mentioned, it refers to the relevant part of AS/NZS 60335.

Annexes B, C, D, E, F, G, H, I, J, K, M, N and R form an integral part of this standard.

Annexes A, L, O, P, Q and ZZ are for information only.

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: Ed 4.2. 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.

Clause 2 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.

The bibliography has been reformatted to indicate the Australia/New Zealand standard that is equivalent to the IEC standard or ISO standard to which an informative 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: Ed 4.2 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: Ed 4.2 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.

This standard recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This standard takes into account the requirements of AS/NZS 3000 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains.

If the functions of an appliance are covered by different parts 2 of AS/NZS 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

This standard may be applied, as far as is reasonable, to appliances not mentioned in a part 2, and to appliances designed on new principles.

An appliance that complies with the text of this standard will not necessarily be considered 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.

An appliance 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 considered to comply with the standard.

The essential safety requirements in AS/NZS 3820 that could be applicable to household and similar electrical appliances are covered by this standard taken in conjunction with any other relevant requirements affecting safety.

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

- Standards published by EL/15 concerning methods of measuring performance;
- CISPR 11, CISPR 14-1, IEC 61000-3-2 and IEC 61000-3-3 concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity.

AUSTRALIA/NEW ZEALAND STANDARD

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 1: General requirements (IEC 60335-1:2001, MOD)

1 Scope

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

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.

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

- A2
- persons (including children) whose
 - physical, sensory or mental capabilities; or
 - lack of experience and knowledge
 prevents them from using the appliance safely without supervision or instruction;
 - children playing with the appliance.

NOTE 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;
- 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.

NOTE 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);
- audio, video and similar electronic apparatus (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).