

Australian/New Zealand Standard™

**Household and similar electrical
appliances—Safety**

**Part 2.7: Particular requirements for
washing machines**



AS/NZS 60335.2.7:2009

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 17 March 2009 and on behalf of the Council of Standards New Zealand on 13 March 2009.

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The following are represented on Committee EL-002:

Australian Industry Group
Australian Retailers Association
Business New Zealand
Consumer Electronic Suppliers Association, Australia
Consumers' Federation of Australia
Electrical regulatory authorities, Australia
Electrical Compliance Testing Association
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Australian/New Zealand Standard™

Household and similar electrical appliances—Safety

Part 2.7: Particular requirements for washing machines

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AUSTRALIA/NEW ZEALAND STANDARD

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2.7: Particular requirements for washing machines

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 to supersede AS/NZS 60335.2.7:2002, two years from the date of publication. During this period it is anticipated that regulatory authorities will approve washing machines to either standard

The principal changes in this edition as compared with the 2002 edition of AS/NZS 60335.2.7 are as follows (minor changes are not listed):

- aligns the text with AS/NZS 60335.1, 2002, and its Amendments 1, 2 and 3;
- the text of some notes in the identified subclauses has been converted to normative text (3.1.9, 5.7, 10.1, 10.2, 11.7, 18.101, 19.101, 20.101, 20.103, 22.6, 22.101, 22.103, 22.104, 23.101, AA.1, AA.2 and Clause 4 of Annex BB);
- the spillage test has been made applicable to all washing machines (15.2);
- additional requirements concerning the accessibility of mechanical release mechanisms have been added (22.105);
- requirements for washing machines employing an electrolyte, instead of detergent, have been introduced in Annex CC;
- the requirements for power driven wringers have been moved to informative Annex DD.

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 which 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 seventh edition of IEC 60335-2-7, *Household and similar electrical appliances – Safety - Part 2-7: Particular requirements for washing machines* and has been varied as indicated to take account of Australian and New Zealand conditions. It is to be used in conjunction with the latest edition of AS/NZS 60335.1, *Household and similar electrical appliances – Safety - Part 1: General requirements* and its Amendments. It was established on the basis of AS/NZS 60335.1:2002.

This part 2 supplements or modifies the corresponding clauses of AS/NZS 60335.1 so as to convert it into the Australian/New Zealand Standard: Safety of washing machines.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to AS/NZS 60335.1.

When a particular subclause of Part 1 is not mentioned in this Part 2, that subclause applies as far as is reasonable. When this standard states "addition", "modification", or "replacement", the relevant text in Part 1 is to be adapted accordingly.

NOTE 2 The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

NOTE 3 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 the associated noun are also in bold.

The numbering of clauses, subclauses, notes, tables, figures and annexes follows that of IEC 60335-2-7 Ed 7.0. 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. The numbers 301 to 400 are used to number further clauses, subclauses, notes, tables and figures in this part 2. 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 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".

A full point substitutes for a comma when referring to a decimal marker.

Variations to IEC 60335-2-7 Ed 7.0 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 60335-2-7 Ed 7.0 form the Australian and New Zealand 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 an appliance within the scope of this standard also incorporates functions that are covered by another part 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.

When a part 2 standard does not include additional requirements to cover hazards dealt with in Part 1, Part 1 applies.

NOTE 1 This means that the technical committees responsible for the part 2 standards have determined that it is not necessary to specify particular requirements for the appliance in question over and above the general requirements.

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.

NOTE 2 Horizontal and generic standards covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the AS/NZS 60335 series of standards. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 standards.

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 that 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 washing machines are covered by this standard.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2.7: Particular requirements for washing machines

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric washing machines for household and similar use, that are intended for washing clothes and textiles, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

This standard also deals with the safety of electric washing machines for household and similar use employing an electrolyte instead of detergent. Additional requirements for these appliances are given in Annex CC.

NOTE 101 Guidance is given in Annex DD for requirements that may be used to ensure an acceptable level of protection against electrical and thermal hazards for washing machines fitted with a power driven wringer.

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 102 Examples of such appliances are washing machines for communal use in blocks of flats or in laundrettes.

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

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

NOTE 103 Attention is drawn to the fact that

- for washing machines 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 104 This standard does not apply to

- washing machines intended exclusively for industrial purposes (ISO 10472-2);
- 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).

2 Normative references

This clause of Part 1 is applicable except as follows.