

Australian/New Zealand Standard™

**Household and similar electrical
appliances—Safety**

**Part 2.54: Particular requirements for
surface cleaning appliances for
household use employing liquids or
steam**



AS/NZS 60335.2.54:2010

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 2010 and on behalf of the Council of Standards New Zealand on 19 March 2010.

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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
Electrical consultants
Engineers Australia
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Ministry of Consumer Affairs, New Zealand
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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

AS/NZS 60335.2.54:2010

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –**

**Part 2.54: Particular requirements for surface cleaning appliances for
household use employing liquids or steam**

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 3350.2.54:1997 on 12 June 2012 and AS/NZS 60335.2.54:2005 two years from the date of publication. During the relevant intervening periods AS/NZS 3350.2.54:1997, AS/NZS 60335.2.54:2005 or AS/NZS 60335.2.54:2010 may be used for regulatory purposes in both Australia and New Zealand.

The principal change in this edition as compared with the 2005 edition of AS/NZS 60335.2.54 (minor changes are not listed) is that the scope has been further restricted to cover appliances where the product of pressure (in MPa) and container volume (in l) does not exceed 5.

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

The text IEC 60335-2-54 Ed 4, prepared by IEC Technical Committee 61, was submitted to the Standards Australia/Standards New Zealand Combine Procedure (dual public comment and committee vote) for adoption of the IEC standard as a Standards Australia/Standards New Zealand joint standard.

This Standard is an adoption with national modifications of the fourth edition of IEC 60335-2-54, *Household and similar electrical appliances – safety – Part 2-54: Particular requirements for surface-cleaning appliances for household use employing liquids or steam*. It has been varied as indicated to take account of Australian and New Zealand conditions.

In this version, the text of IEC 60335-2-54 Ed 4 is included in full. Variations to take account of Australian and New Zealand conditions follow the IEC text.

This part 2 has 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 requirements for surface-cleaning appliances for household use employing liquids or steam.

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 of Part 1 is to be adapted accordingly.

NOTE 1 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.;
- subclauses, notes and annexes that are additional to those in the IEC standard are prefixed with the letters AZ.

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.

p NOTE 3 In this document, p is used in the margin to indicate instructions for preparing a consolidated version.

The essential safety requirements in AS/NZS 3820¹ that could be applicable to requirements for surface-cleaning appliances for household use employing liquids or steam are covered by this standard.

The national variations to the IEC 60335-2-54 Ed 4 form the Australian and New Zealand national variations for purposes of the IECEE scheme for recognition of results of testing to standards for safety of electrical equipment (the CB scheme).

There are no national variations from the IEC Standard from which this standard is adopted, other than those listed in Annex ZZ to AS/NZS 60335.1.

The text of the International Standard IEC 60335-2-54 Ed 4, was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

¹ AS/NZS 3820 *Essential safety requirements for low voltage electrical equipment*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-54: Particular requirements for surface-cleaning appliances for household use employing liquids or steam

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60335-2-54 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This fourth edition cancels and replaces the third edition published in 2002 and its Amendment 1 (2004) and Amendment 2 (2007). It constitutes a technical revision.

The principal change in this edition as compared with the third edition of IEC 60335-2-54 is as follows (minor changes are not listed):

The scope has been further restricted to cover appliances where the product of pressure (in MPa) and container volume (in l) does not exceed 5.

The text of this standard is based on the following documents:

FDIS	Report on voting
61/3676/FDIS	61/3699/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the fourth edition (2001) of that standard.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to IEC 60335-1.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert that publication into the IEC standard: Safety requirements for electric surface-cleaning appliances employing liquids or steam.

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;
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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.

A list of all parts of the IEC 60335 series, under the general title: *Household and similar electrical appliances – Safety*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

The following differences exist in the countries indicated below.

- 6.1: Hand-held cleaning appliances and parts held in the hand in normal use shall be class II or class III (Netherlands).
- 22.103: The dimensions of the inlet aperture are different (USA).

INTRODUCTION

It has been assumed in the drafting of this International 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 IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 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 IEC 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.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-54: Particular requirements for surface-cleaning appliances for household use employing liquids or steam

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric cleaning appliances for household use that are intended for cleaning surfaces such as windows, walls and empty swimming pools by using liquid cleansing agents or steam, their **rated voltage** being not more than 250 V. It also covers wallpaper strippers.

NOTE 101 Appliances may incorporate heating elements or means for pressurising the liquid container.

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

- 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 102 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, and similar authorities.

NOTE 103 This standard does not apply to

- floor treatment and wet scrubbing machines (IEC 60335-2-10);
- cleaning appliances that are permanently fixed to a building;
- cleaning appliances covered by IEC 60335-2-79, namely those having a
 - pressure exceeding 2,5 MPa;
 - pressurised volume over 5 l;
 - product of pressure (in MPa) and container volume (in l) exceeding 5;
 - liquid temperature exceeding 160 °C;
 - **rated power input** exceeding 3 500 W;
- cleaning appliances intended for commercial or industrial use;
- 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);
- fabric steamers (IEC 60335-2-85).