

AS/NZS 60335.2.53:2011

IEC 60335-2-53 Ed 4.2

(Incorporating Amendments up to and including No. 2)



Australian/New Zealand Standard™

Household and similar electrical appliances — Safety

Part 2.53: Particular requirements for sauna heating appliances and infrared cabins



AS/NZS 60335.2.53:2011

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 and Power Supplies. It was approved on behalf of the Council of Standards Australia on 15 September 2011 and by the Council of Standards New Zealand on 19 September 2011.

This Standard was published on 28 October 2011.

The following are represented on Committee EL-002:

- Australian Industry Group
- Better Regulation Division (Fair Trading, Safework NSW, TestSafe)
- Business New Zealand
- Consumer Electronic Suppliers Association, Australia
- Consumers' Federation of Australia
- Electrical Regulatory Authorities Council, Australia
- Electrical consultants
- Engineers Australia
- JAS-ANZ
- Australian Retailers Association
- New Zealand Electric Fence Energizer Manufacturers' Standards Group
- Testing Interests New Zealand
- WorkSafe, New Zealand

This Standard was issued in draft form for comment as DR 11902.

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Australian/New Zealand Standard™

Household and similar electrical appliances — Safety

Part 2.53: Particular requirements for sauna heating appliances and infrared cabins

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

AS/NZS 60335.2.53:2011

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –

Part 2.53: Particular requirements for sauna heating appliances and infrared cabins

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 60335.2.53:2006 three years from the date of publication.

A1

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 of IEC 60335-2-53 Ed 4, prepared by IEC Technical Committee 61, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption of the IEC standard as a Standards Australia/Standards New Zealand joint standard.

A1

The text of IEC 60335-2-53 edition 4 amendment 1 and its Corrigendum 1, prepared by IEC Technical Committee TC 61, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption as an amendment to the Standards Australia/Standards New Zealand joint standard AS/NZS 60335.2.53:2011.

The text of IEC 60335-2-53 edition 4 amendment 2 prepared by IEC Technical Committee TC 61, was submitted to the Standards Australia/Standards New Zealand Combined Procedure (dual public comment and committee vote) for adoption as an amendment to the Standards Australia/Standards New Zealand joint standard AS/NZS 60335.2.53:2011.

A2
DOA
26/11/23

This Standard incorporates Amendment No. 1 (November 2015) and Amendment No. 2 (November 2021). The changes required by the amendment 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) and the date of withdrawal (DOW) if relevant, is indicated by the marginal bar against the part affected. Unless otherwise indicated, the application dates of the changes introduced by Amendment No. 2 is 26 November 2023.

NOTE: Regulatory authorities that reference this Standard in regulation may apply these amendment requirements at a different time. Users of this Standard should consult with these authorities to confirm their requirements

This standard is an adoption with national modifications of the fourth edition of IEC 60335-2-53, *Household and similar electrical appliances – Safety – Part 2-53: Particular requirements for sauna heating appliances and infrared cabins* including its amendment 1 (2017), its corrigendum 1 (2017) and amendment 2 (2021). It has been varied as indicated to take account of Australian and New Zealand conditions.

A2
DOW
26/11/23

This Standard incorporates Amendment No. 1 (November 2017). The changes required by the amendment 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) and the Date of withdrawal (DOW) if relevant, is indicated by the marginal bar against the part affected. Unless otherwise indicated, the application dates of the changes introduced by Amendment No.1 is (30 November 2019).

This standard is an adoption with national modifications of the fourth edition of IEC 60335-2-53, *Household and similar electrical appliances – Safety – Part 2-53: Particular requirements for sauna heating appliances and infrared cabins* including its amendment 1 (2017) and its corrigendum 1 (2017). It has been varied as indicated to take account of Australian and New Zealand conditions.

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 60335.1:2011.

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 sauna heating appliances and infrared cabins.

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 sauna heating appliances and infrared cabins are covered by this standard.

A1

A2
DOW
26/11/23

The national variations to the IEC 60335-2-53 Ed 4.1 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).

A2
DOA
26/11/23

The national variations to the IEC 60335-2-53 Ed 4.2 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 the national variations to AS/NZS 60335.1.

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

A1

A2
DOW
26/11/23

The text of the International Standard IEC 60335-2-53 Ed 4.1 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

A2
DOA
26/11/23

The text of the International Standard IEC 60335-2-53 Ed 4.2 was approved as a joint Australia/New Zealand Standard with the agreed national variations as given below.

AUSTRALIAN NATIONAL VARIATIONS

A2

There are no national variations to this Part 2 other than those listed in the national variations to AS/NZS 60335.1:2020.

NEW ZEALAND NATIONAL VARIATIONS

A2

There are no national variations to this Part 2 other than those listed in the national variations to AS/NZS 60335.1:2020.

Annex ANZ (normative)

Normative references to international publications with their corresponding joint Australia/New Zealand publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by national variations the relevant joint Australia/New Zealand publications applies if the national variations are needed to ensure the safety of the appliance for Australia/New Zealand conditions. These international publications are indicated by (mod). If an international publication is not so indicated, then either it or the listed Australia/New Zealand publication may be used.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>AS/NZS</u>	<u>Year</u>
ISO 3864-1		<i>Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs in workplaces and public areas</i>		

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-53: Particular requirements for sauna heating appliances and infrared cabins

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
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- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 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.

This consolidated version of the official IEC Standard and its amendments has been prepared for user convenience.

IEC 60335-2-53 edition 4.2 contains the fourth edition (2011-04) [documents 61/4135/FDIS and 61/4157/RVD], its amendment 1 (2017-01) [documents 61/5310/FDIS and 61/5321/RVD] and its corrigendum (2017-03), and its amendment 2 (2021-03) [documents 61/6129/FDIS and 61/6180/RVD].

This Final version does not show where the technical content is modified by amendments 1 and 2. A separate Redline version with all changes highlighted is available in this publication.

International Standard IEC 60335-2-53 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

This fourth edition constitutes a technical revision.

The principal changes in this edition as compared with the third edition of IEC 60335-2-53 are as follows (minor changes are not listed):

- the scope is changed to cover infrared cabins;
- additional requirements for recessed sauna heaters are added;
- requirements of electronic interlocks are added (22.108).

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 fifth edition (2010) 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 sauna heating appliances and infrared cabins.

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.

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 stability 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: Class 0I appliances are allowed (Japan).
- 11.2: The temperature rises in front of the sauna heater are not measured (USA).
- 11.8: The temperature rise limits are different (USA).
- 13.2: Leakage current tests are carried out on sauna heaters having a supply cord (USA).
- 16.2: Leakage current tests are carried out on sauna heaters having a supply cord (USA).
- 19.1: The volume of the sauna room is different (USA).
- 19.5: The test is also carried out on appliances intended to be permanently connected to fixed wiring (Norway).
- 19.101: Sauna heating appliances provided with a programmable timer are considered to be appliances that are used remotely (Finland);
- 19.102: The test is not applicable (USA).
- 22.101: The mass of rocks is different (USA).
- 22.103: The requirement is not applicable (USA).
- 24.102: The 125 °C limit is not applicable (USA).
- 25.7: The supply cords are different (USA).
- Annex AA: The sauna room is different (USA).

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.