

**MAJAPIDAMIS- JA MUUD TAOLISED ELEKTRISEADMED.
OHUTUS. OSA 2-53: ERINÕUDED ELEKTRILISTELE
SAUNAKÜTTESEADMETELE JA INFRAPUNAKABIINIDELE**

**Household and similar electrical appliances - Safety -
Part 2-53: Particular requirements for sauna heating
appliances and infrared cabins (IEC 60335-2-53:2011 +
IEC 60335-2-53:2011/A1:2017 + COR1:2017 +
IEC 60335-2-53:2011/A2:2021)**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60335-2-53:2011+A1+A2+A11:2023 sisaldab Euroopa standardi EN 60335-2-53:2011 ja selle muudatuste A1:2023, A2:2023 ja A11:2023 ingliskeelset teksti.	This Estonian standard EVS-EN 60335-2-53:2011+A1+A2+A11:2023 consists of the English text of the European standard EN 60335-2-53:2011 and its amendments A1:2023, A2:2023 and A11:2023.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.12.2011, muudatused A1 02.06.2023, A2 02.06.2023 ja A11 02.06.2023.	Date of Availability of the European standard is 16.12.2011, for A1 02.06.2023, A2 02.06.2023 and A11 02.06.2023.
Muudatusega A1 lisatud või muudetud teksti algus ja lõpp on tekstis tähistatud sümbolitega A1 A1 .	The start and finish of text introduced or altered by amendment A1 is indicated in the text by tags A1 A1 .
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English Version

**Household and similar electrical appliances - Safety - Part 2-53:
Particular requirements for sauna heating appliances and
infrared cabins
(IEC 60335-2-53:2011 + IEC 60335-2-53:2011/A1:2017 +
COR1:2017 + IEC 60335-2-53:2011/A2:2021)**

Appareils électrodomestiques et analogues - Sécurité -
Partie 2-53: Règles particulières pour les appareils de
chauffage de saunas et les cabines infrarouges
(CEI 60335-2-53:2011 + IEC 60335-2-53:2011/A1:2017 +
COR1:2017 + IEC 60335-2-53:2011/A2:2021)

Sicherheit elektrischer Geräte für den Hausgebrauch und
ähnliche Zwecke - Teil 2-53: Besondere Anforderungen für
Saunaheizgeräte und Infrarot-Kabinen
(IEC 60335-2-53:2011 + IEC 60335-2-53:2011/A1:2017 +
COR1:2017 + IEC 60335-2-53:2011/A2:2021)

This European Standard was approved by CENELEC on 2011-05-25. Amendment A1 was approved by CENELEC on 2023-03-01. Amendment A2 was approved by CENELEC on 2023-03-01. Amendment A11 was approved by CENELEC on 2023-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard and its amendments the status of a national standard without any alteration.

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Foreword

The text of document 61/4135/FDIS, future edition 4 of IEC 60335-2-53, prepared by IEC/TC 61 "Safety of household and similar electrical appliances" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60335-2-53:2011.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2012-06-16
- date on which national standards
conflicting with the EN have to be withdrawn (dow) 2014-05-25

This European Standard supersedes EN 60335-2-53:2003 + A1:2007.

The principal changes in EN 60335-2-53:2011 as compared with EN 60335-2-53:2003 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 Part 2 has to be used in conjunction with EN 60335-1:2012, Household and similar electrical appliances – Safety – Part 1: General requirements.

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

This Part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European 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 of Part 1 is to be adapted accordingly.

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 letter Z.

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.

There are no special national conditions causing a deviation from this European Standard, other than those listed in Annex ZA to EN 60335-1.

There are no national deviations from this European Standard, other than those listed in Annex ZB to EN 60335-1.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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The text of the International Standard IEC 60335-2-53:2011 was approved by CENELEC as a European Standard without any modification.

A1 Amendment A1 European foreword

This document (EN 60335-2-53:2011/A1:2023) consists of the text of IEC 60335-2-53:2011/A1:2017 prepared by IEC/TC 61 "Safety of household and similar electrical appliances".

The following dates are fixed:

- latest date by which this document has to be (dop) 2023-12-02 implemented at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards (dow) 2026-06-02 conflicting with this document have to be withdrawn

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This document is read in conjunction with EN 60335-2-53:2011/A1:2023 and EN 60335-2-53:2011/A11:2023.

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Endorsement notice

The text of the International Standard IEC 60335-2-53:2011/A1:2017 was approved by CENELEC as a European Standard without any modification. **A1**

A₂ Amendment A2 European foreword

This document (EN 60335-2-53:2011/A2:2023) consists of the text of IEC 60335-2-53:2011/A2:2021 prepared by IEC/TC 61 "Safety of household and similar electrical appliances".

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Endorsement notice

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A11 Amendment A11 European foreword

This document (EN 60335-2-53:2011/A11:2023) has been prepared by CLC/TC 61 "Safety of household and similar electrical appliances".

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INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Household and similar electrical appliances – Safety –
Part 2-53: Particular requirements for sauna heating appliances and infrared
cabins**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-53: Règles particulières pour les appareils de chauffage de saunas et
les cabines infrarouges**



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IEC 60335-2-53

Edition 4.2 2021-03
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Household and similar electrical appliances – Safety –
Part 2-53: Particular requirements for sauna heating appliances and infrared
cabins**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-53: Règles particulières pour les appareils de chauffage de saunas et
les cabines infrarouges**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 97.100.10

ISBN 978-2-8322-9563-2

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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

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International Standard IEC 60335-2-53 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 (2007). It 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).

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

FDIS	Report on voting
61/4135/FDIS	61/4157/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 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.

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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).
- ^{A2} 19.101: Sauna heating appliances provided with a programmable timer are considered to be appliances that are used remotely (Finland); ^{A2}
- 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).

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A1 Amendment A1 FOREWORD

This amendment has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

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

FDIS	Report on voting
61/5310/FDIS	61/5321/RVD

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

The committee has decided that the contents of this amendment and the base publication 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

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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 contents of the corrigendum of March 2017 have been included in this copy. **A1**

A₂ Amendment A2 FOREWORD

This amendment has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

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

FDIS	Report on voting
61/6129/FDIS	61/6180/RVD

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

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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. **A₂**

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.

NOTE 1 For example, if **sauna heating appliances** within the scope of this part 2 include a humidifier unit, then IEC 60335-2-98 is applicable as far as is reasonable.

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

NOTE 2 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 3 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.

A11 deleted text **A11**

A1 Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent.


IEC takes no position concerning the evidence, validity and scope of this patent right.


The holder of this patent right has assured the IEC that he/she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with IEC. Information may be obtained from:


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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights other than those identified above. IEC shall not be held responsible for identifying any or all such patent rights.

IEC (<http://patents.iec.ch>) maintains on-line data bases of patents relevant to its standards. Users are encouraged to consult the database for the most up to date information concerning patents. 

 This European Amendment A11, supplements or modifies the corresponding clauses of the standards below:

- EN 60335-1:2012+A11:2014+AC:2014+A13:2017+A1:2019+A14:2019+A2:2019+A15:2021+A16:2023 (Part 1)
- EN 60335-2-53:2011+A1:2022+A2:2023 (Part 2) 

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

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

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electric **sauna heating appliances** and **infrared emitting units** having a **rated power input** not exceeding 20 kW, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

The appliances covered by this standard are intended for use in the home and in public saunas located in blocks of flats, hotels and similar locations.

NOTE 101 **Sauna heating appliances** may be of the thermal storage type.

This standard also deals with the safety of electric **sauna heating appliances** provided with a humidifier unit, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances. The room air is humidified by evaporating or atomising water.

NOTE 102 A humidifier may be part of a **sauna heating appliance** or may be incorporated in the **sauna heater**. The **sauna heating appliance** or **sauna heater** may be operated with or without the humidifier.

A11 This document deals with the reasonably foreseeable hazards presented by appliances and machines that are encountered by all persons. However, in general, it does not take into account:

- **children** playing with the appliance;
- the use of the appliance by **young children** and **very young children**;
- the use of the appliance by **older children** without supervision.

It is recognized that **very vulnerable people** may have needs beyond the level addressed in this document. **A11**

NOTE 103 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 104 This standard does not apply to

- 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);
- appliances intended to cause perspiration to only a part of the human body;
- sweating baths where the head of the user remains outside the heated space;
- tents and other collapsible sauna baths;
- room heaters (IEC 60335-2-30);
- humidifiers intended for use with heating, ventilation, or air-conditioning systems (IEC 60335-2-88);
- humidifiers (IEC 60335-2-98);
- appliances intended for medical purposes (IEC 60601).

2 Normative references

This clause of Part 1 is applicable except as follows.

Addition:

ISO 3864-1, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs in workplaces and public areas*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

3.1.9 Replacement:

normal operation

operation of the appliance under the following conditions:

Sauna heating appliances, sauna heaters, infrared emitters and infrared emitting units are installed in the sauna room specified in Annex AA and in accordance with the instructions. The volume of the sauna room is the minimum value specified in the instructions.

The rock container is filled in accordance with the instructions. If the capacity of the rock container is adjustable, the container is filled with the most unfavourable quantity of rocks. If the rock container has a lid, the lid is positioned in accordance with the instructions.

Prefabricated saunas and prefabricated infrared cabins are installed in accordance with the instructions.

3.101

sauna heater

appliance incorporating heating elements having a container filled with appropriate rocks

3.102

sauna heating appliance

appliance comprising a **sauna heater**, controls, **protective devices** and control board

3.103

prefabricated sauna

assembly comprising a sauna room and a **sauna heating appliance**

3.104

infrared emitter

assembly that emits infrared radiation

3.105

infrared emitting unit

appliance comprising at least one **infrared emitter**, controls, **protective devices** and control board

3.106

prefabricated infrared cabin

assembly comprising a cabin and at least one **infrared emitting unit**