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This extended version of IEC 60335-2-27:2024 includes the content of the references made to IEC 60335-1:2020

**Household and similar electrical appliances – Safety –
Part 2-27: Particular requirements for appliances for skin exposure to optical
radiation**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 1: General requirements

INTERPRETATION SHEET 1

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

The text of this Interpretation Sheet is based on the following documents:

Draft	Report on voting
61/5999/DISH	61/6009/RVDISH

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

INTRODUCTION

Edition 6 of IEC 60335-1:2020 defines and introduces requirements for a detachable power supply part of an appliance. In the document, 24.2 prohibits the use of a power supply in a flexible cord.

QUESTION:

Does Subclause 24.2 prohibit the use of a detachable power supply part?

ANSWER

No, a "detachable power supply part" is a defined term and is not captured by the term "power supply" as used in Subclause 24.2.

NOTE A detachable power supply part is captured by the defined term when the output of the power supply part is detachable from the class III construction part of the appliance at:

- the power supply part, or
- the class III construction part of the appliance.

However, the supply cord (if any) does not have to be detachable from the detachable power supply part.

CONTENTS

FOREWORD.....	6
INTRODUCTION.....	9
1 Scope.....	10
2 Normative references	10
3 Terms and definitions	15
4 General requirement.....	28
5 General conditions for the tests	28
6 Classification.....	32
7 Marking and instructions.....	33
8 Protection against access to live parts.....	44
9 Starting of motor-operated appliances	46
10 Power input and current.....	47
11 Heating.....	49
12 Charging of metal-ion batteries	55
13 Leakage current and electric strength at operating temperature.....	57
14 Transient overvoltages	59
15 Moisture resistance	60
16 Leakage current and electric strength.....	63
17 Overload protection of transformers and associated circuits	65
18 Endurance.....	65
19 Abnormal operation	65
20 Stability and mechanical hazards.....	75
21 Mechanical strength	76
22 Construction	79
23 Internal wiring.....	95
24 Components	97
25 Supply connection and external flexible cords	102
26 Terminals for external conductors.....	110
27 Provision for earthing	112
28 Screws and connections	114
29 Clearances, creepage distances and solid insulation	116
30 Resistance to heat and fire	125
31 Resistance to rusting	130
32 Radiation, toxicity and similar hazards.....	130
Annex A (informative) Routine tests	150
Annex B (normative) Battery-operated appliances, separable batteries and detachable batteries for battery-operated appliances	152
Annex C (normative) Ageing test on motors	174
Annex D (normative) Thermal motor protectors	175
Annex E (normative) Needle-flame test.....	176
Annex F (normative) Capacitors.....	177
Annex G (normative) Safety isolating transformers	179

Annex H (normative) Switches	180
Annex I (normative) Motors having basic insulation that is inadequate for the rated voltage of the appliance	182
Annex J (normative) Coated printed circuit boards	184
Annex K (informative) Overvoltage categories	185
Annex L (informative) Guidance for the measurement of clearances and creepage distances	186
Annex M (informative) Pollution degree	189
Annex N (normative) Proof tracking test.....	190
Annex O (informative) Selection and sequence of the tests of Clause 30	191
Annex P (informative) Guidance for the application of this standard to appliances used in tropical climates	196
Annex Q (informative) Sequence of tests for the evaluation of electronic circuits	198
Annex R (normative) Software evaluation	201
Annex S (informative) Guidance for the application of this standard on measurement of power input and current based on the requirements of 10.1 and 10.2 concerning the representative period	215
Annex T (normative) UV-C radiation effect on non-metallic materials	216
Annex U (normative) Appliances intended for remote communication through public networks	219
Annex AA (normative) Measurement of luminance	223
Annex BB (informative) Detailed classification of UV appliances	224
Annex CC (informative) Fluorescent UV lamp equivalency code	225
Annex DD (normative) UV exposure schedule.....	226
Annex EE (informative) Irradiance limits set by regional or national authorities	227
Bibliography.....	229
Index of defined terms	232
Figure 1 – Circuit diagram for leakage current measurement at operating temperature for single-phase connection of class II appliances and for parts of class II construction	134
Figure 2 – Circuit diagram for leakage current measurement at operating temperature for single-phase connection of other than class II appliances or parts of class II construction	135
Figure 3 – Circuit diagram for leakage current measurement at operating temperature for three-phase with neutral class II appliances and for parts of class II construction	136
Figure 4 – Circuit diagram for leakage current measurement at operating temperature for three-phase with neutral appliances other than those of class II or parts of class II construction	137
Figure 5 – Small part	138
Figure 6 – Example of an electronic circuit with low-power points	138
Figure 7 – Test finger nail	139
Figure 8 – Flexing test apparatus.....	140
Figure 9 – Constructions of cord anchorages	141
Figure 10 – An example of parts of an earthing terminal	142
Figure 11 – Examples of clearances	143
Figure 12 – Example of the placement of the cylinder	144
Figure 13 – Small parts cylinder.....	145

Figure 14 – Example of a specified operating region of a lithium-ion cell during charging	146
Figure 101 – Not for household use	146
Figure 102 – Probe for measuring surface temperatures	147
Figure 103 – Erythema action spectrum	148
Figure 104 – Measuring points for appliances that are arranged over a person	148
Figure 105 – Measuring points for appliances exposing a sitting person	149
Figure B.1 – Examples of battery-operated appliance constructions and application of normative Annex B (1 of 2)	171
Figure B.2 – Examples of correct polarity connection marking representing three batteries	173
Figure I.1 – Simulation of faults	183
Figure L.1 – Sequence for the determination of clearances	186
Figure L.2 – Sequence for the determination of creepage distances	187
Figure L.3 – Measurement of clearances	188
Figure O.1 – Tests for resistance to heat	191
Figure O.2 – Selection and sequence of tests for resistance to fire in hand-held appliances	192
Figure O.3 – Selection and sequence of tests for resistance to fire in attended appliances	192
Figure O.4 – Selection and sequence of tests for resistance to fire in unattended appliances	193
Figure O.5 – Some applications of the term "within a distance of 3 mm"	195
Figure Q.1 – Flowchart outlining the sequence of tests for the evaluation of electronic circuits (1 of 2)	199
Figure S.1 – Flowchart giving guidance on measurement of power input and current concerning the representative period	215
Table 1 – Power input deviation	47
Table 2 – Current deviation	48
Table 3 – Maximum normal temperature rises	51
Table 101 – Maximum temperature rises for specified external accessible surfaces under normal operating conditions	55
Table 4 – Voltage for electric strength test	59
Table 5 – Characteristics of high-voltage sources	59
Table 6 – Impulse test voltage	60
Table 7 – Test voltages	64
Table 8 – Maximum winding temperature	68
Table 9 – Maximum abnormal temperature rise	73
Table 10 – Dimensions of cables and conduits	103
Table 11 – Minimum cross-sectional area of conductors	105
Table 12 – Pull force and torque	107
Table 13 – Nominal cross-sectional area of conductors	111
Table 14 – Torque for testing screws and nuts	115
Table 15 – Rated impulse voltage	117
Table 16 – Minimum clearances	118

Table 17 – Minimum creepage distances for basic insulation	122
Table 18 – Minimum creepage distances for functional insulation	123
Table 19 – Minimum thickness for accessible parts of reinforced insulation consisting of a single layer	125
Table 102 – Maximum transmission of goggles	133
Table A.1 – Test voltages	151
Table B.1 – Artificial source characteristics.....	154
Table B.2 – Total area of openings for metal-ion cells.....	162
Table B.3 – Volume of air injected at 2 070 kPa.....	162
Table C.1 – Test conditions	174
Table R.1 – General fault/error conditions.....	203
Table R.2 – Specific fault/error conditions.....	205
Table R.3 – Semi-formal methods	211
Table R.4 – Software architecture specification	211
Table R.5 – Module design specification	212
Table R.6 – Design and coding standards	213
Table R.7 – Software safety validation	213
Table T.1 – Minimum property retention limits after UV-C exposure	217
Table T.2 – Minimum electric strength for internal wiring after UV-C exposure	218
Table U.1 – Examples of acceptable measures against unauthorised access and transmission fault/error modes.....	221
Table BB.1 – Limits of effective irradiance	224
Table EE.1 – Europe: EN 60335-2-27 limits	227
Table EE.2 – Australia and New Zealand: AS/NZS 60335.2.27 limits	227
Table EE.3 – USA: 21 CFR 1040.20 limits	228

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-27: Particular requirements for appliances
for skin exposure to optical radiation****FOREWORD**

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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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

This extended version (EXV) of the official IEC Standard provides the user with the comprehensive content of the Standard.

IEC 60335-2-27:2024 EXV includes the content of IEC 60335-2-27:2024, and the references made to IEC 60335-1:2020.

The specific content of IEC 60335-2-27:2024 is displayed on a blue background.

IEC 60335-2-27 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This seventh edition cancels and replaces the sixth edition published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) alignment with IEC 60335-1:2020;
- b) modification or conversion of some notes to normative text (Clause 1, 7.1);
- c) clarification of product risk and liability (7.1);
- d) modification of Annex DD as a normative annex, and modification of relevant text (7.12, Annex DD);
- e) clarification of requirement for product use links provided (7.12.9);
- f) clarification of the application of test probe 18 for appliances for use in tanning salons, beauty parlours and similar premises (8.1.1, 20.2);
- g) introduction of accessible surface temperature limits (Clause 11);
- h) removal of redundancy between 22.113 and 22.114;
- i) clarification that 32.2 is not applicable for UV emitted for the tanning function of the appliance.

The text of this International Standard is based on the following documents:

Draft	Report on voting
61/7071/FDIS	61/7094/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) 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: Particular requirements for appliances for skin exposure to optical radiation.

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 committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations can 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.

- 6.101: Commercial tanning sunbed services are illegal (Australia).
- Annex DD: Exposure doses are based on the Fitzpatrick Skin Phototype classification system (New Zealand).

IMPORTANT – The "colour inside" logo on the cover page of this document 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.

The content of the corrigendum 1 (2025-12) has been included in this copy.

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.

Guidance documents concerning the application of the safety requirements for appliances can be accessed via TC 61 supporting documents on the IEC website

<https://www.iec.ch/tc61/supportingdocuments>

This information is given for the convenience of users of this International Standard and does not constitute a replacement for the normative text in this standard.

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 can 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 publications, basic safety publications and group safety publications 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.

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.

NOTE 3 Standards dealing with non-safety aspects of household appliances are:

- IEC standards published by TC 59 concerning methods of measuring performance;
- CISPR 11, CISPR 14-1 and relevant IEC 61000-3 series standards concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity;
- IEC standards published by TC 111 concerning environmental matters.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-27: Particular requirements for appliances for skin exposure to optical radiation

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electrical appliances incorporating emitters for exposing the skin to optical radiation (wavelength 100 nm to 1 mm), for household and similar use, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances including direct current (DC) supplied appliances and **battery-operated appliances**.

As far as practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons using the appliances in tanning salons, beauty parlours and similar premises or at 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.

Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements can 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.

This standard does not apply to

- appliances for skin or hair care (IEC 60335-2-23);
- sauna heating appliances and infrared cabins (IEC 60335-2-53);
- cosmetic and beauty care appliances incorporating lasers and intense light sources (IEC 60335-2-113);
- appliances for medical purposes (IEC 60601);
- appliances that use UV radiation for purposes other than tanning the skin;
- 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

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 60034-1, *Rotating electrical machines – Part 1: Rating and performance*

IEC 60061-1, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1: Lamp caps*

IEC 60065:2014, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-31, *Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens*

IEC 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC TR 60083, *Plugs and socket-outlets for domestic and similar general use standardized in member countries of IEC*

IEC 60085:2007, *Electrical insulation – Thermal evaluation and designation*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60112:2003/AMD1:2009¹

IEC 60127 (all parts), *Miniature fuses*

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60227-5:2011, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5: Flexible cables (cords)*

IEC 60238, *Edison screw lampholders*

IEC 60245 (all parts), *Rubber insulated cables – Rated voltages up to and including 450/750 V*

IEC 60252-1:2010, *AC motor capacitors – Part 1: General – Performance, testing and rating – Safety requirements – Guidance for installation and operation*

IEC 60252-1:2010/AMD1:2013²

IEC 60309-2, *Plugs, socket-outlets and couplers for industrial purposes – Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories*

IEC 60320 (all parts), *Appliance couplers for household and similar general purposes*

IEC 60320-1, *Appliance couplers for household and similar general purposes – Part 1: General requirements*

IEC 60320-2-3, *Appliance couplers for household and similar general purposes – Part 2-3: Appliance couplers with a degree of protection higher than IPX0*

¹ There exists a consolidated edition 4.1:2009 that includes edition 4 and its Amendment 1.

² There exists a consolidated edition 2.1:2013 that includes edition 2 and its Amendment 1.

IEC 60320-3, *Appliance couplers for household and similar general purposes – Part 3: Standard sheets and gauges*

IEC 60384-14:2013, *Fixed capacitors for use in electronic equipment – Part 14: Sectional specification – Fixed capacitors for electromagnetic interference suppression and connection to the supply mains*

IEC 60384-14:2013/AMD1:2016³

IEC 60417, *Graphical symbols for use on equipment*

IEC 60445:2017, *Basic and safety principles for man-machine interface, marking and identification – Identification of equipment terminals, conductor terminations and conductors*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60529:1989/AMD1:1999

IEC 60529:1989/AMD2:2013⁴

IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*

IEC 60598-1:2020, *Luminaires – Part 1: General requirements and tests*

IEC 60603-11, *Connectors for frequencies below 3 MHz for use with printed boards – Part 11: Detail specification for concentric connectors (dimensions for free connectors and fixed connectors)*

IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60664-4:2005, *Insulation coordination for equipment within low-voltage systems – Part 4: Consideration of high-frequency voltage stress*

IEC 60691, *Thermal-links – Requirements and application guide*

IEC 60695-2-11:2014, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products (GWEPT)*

IEC 60695-2-12, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods – Glow-wire flammability index (GWFI) test method for materials*

IEC 60695-2-13, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods – Glow-wire ignition temperature (GWIT) test method for materials*

IEC 60695-10-2, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test*

IEC 60695-11-5:2016, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

³ There exists a consolidated edition 4.1:2016 that includes edition 4 and its Amendment 1.

⁴ There exists a consolidated edition 2.2:2013 that includes edition 2 and its Amendment 1 and Amendment 2.

IEC 60695-11-10, *Fire hazard testing – Part 11-10: Test flames – 50 W horizontal and vertical flame test methods*

IEC 60730-1:2013, *Automatic electrical controls – Part 1: General requirements*
IEC 60730-1:2013/AMD1:2015⁵

IEC 60730-2-8:2018, *Automatic electrical controls – Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements*

IEC 60730-2-9:2015, *Automatic electrical controls – Part 2-9: Particular requirements for temperature sensing controls*
IEC 60730-2-9:2015/AMD1:2018⁶

IEC 60730-2-10, *Automatic electrical controls for household and similar use – Part 2-10: Particular requirements for motor-starting relays*

IEC 60738-1, *Thermistors – Directly heated positive temperature coefficient – Part 1: Generic specification*

IEC 60799, *Electrical accessories – Cord sets and interconnection cord sets*

IEC 60906-1, *IEC system of plugs and socket-outlets for household and similar purposes – Part 1: Plugs and socket-outlets 16 A 250 V a.c.*

IEC 60934, *Circuit-breakers for equipment (CBE)*

IEC 60990:2016, *Methods of measurement of touch current and protective conductor current*

IEC 60999-1:1999, *Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-6, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-11:2020, *Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase*

⁵ There exists a consolidated edition 5.1:2015 that includes edition 5 and its Amendment 1.

⁶ There exists a consolidated edition 4.1:2018 that includes edition 4 and its Amendment 1.

IEC 61000-4-13:2002, *Electromagnetic compatibility (EMC) – Part 4-13: Testing and measurement techniques – Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests*
IEC 61000-4-13:2002/AMD1:2009
IEC 61000-4-13:2002/AMD2:2015⁷

IEC 61000-4-34:2005, *Electromagnetic compatibility (EMC) – Part 4-34: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current more than 16 A per phase*
IEC 61000-4-34:2005/AMD1:2009⁸

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

IEC 61058-1:2016, *Switches for appliances – Part 1: General requirements*

IEC 61058-1-1:2016, *Switches for appliances – Part 1-1: Requirements for mechanical switches*

IEC 61058-1-2:2016, *Switches for appliances – Part 1-2: Requirements for electronic switches*

IEC 61180, *High-voltage test techniques for low-voltage equipment – Definitions, test and procedure requirements, test equipment*

IEC 61210, *Connecting devices – Flat quick-connect terminations for electrical copper conductors – Safety requirements*

IEC 61228, *Fluorescent ultraviolet lamps used for tanning – Measurement and specification method*

IEC 61558-1:2017, *Safety of transformers, reactors, power supply units and combinations thereof – Part 1: General requirements and tests*

IEC 61558-2-6:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers*

IEC 61558-2-16:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V – Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units*
IEC 61558-2-16:2009/AMD1:2013⁹

IEC 61770, *Electric appliances connected to the water mains – Avoidance of backsiphonage and failure of hose-sets*

IEC 62133-1:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 1: Nickel systems*

IEC 62133-2:2017, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications – Part 2: Lithium systems*

⁷ There exists a consolidated edition 1.2:2015 that includes edition 1 and its Amendment 1 and Amendment 2.

⁸ There exists a consolidated edition 1.1:2009 that includes edition 1 and its Amendment 1.

⁹ There exists a consolidated edition 1.1:2013 that includes edition 1 and its Amendment 1.

IEC 62151, *Safety of equipment electrically connected to a telecommunication network*

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IEC 60335-2-23, *Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care*

IEC 60335-2-53, *Household and similar electrical appliances – Safety – Part 2-53: Particular requirements for sauna heating appliances and infrared cabins*

IEC 60335-2-113, *Household and similar electrical appliances – Safety – Part 2-113: Particular requirements for cosmetic and beauty care appliances incorporating lasers and intense light sources*

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IEC 61000-3-3, *Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection*

IEC 61029 (all parts), *Safety of transportable motor-operated electric tools*

IEC 61508-3:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems – Part 3: Software requirements*

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IEC 62280, *Railway applications – Communication, signalling and processing systems – Safety related communication in transmission systems*

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EN 60335-2-23, *Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care*

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ISO/IEC 10118 (all parts), *IT Security techniques – Hash-functions*

ISO/IEC 11770 (all parts), *IT Security techniques – Key management*

ISO/IEC 14888 (all parts), *IT Security techniques – Digital signatures with appendix*

ISO/IEC 15946 (all parts), *Information technology – Security techniques – Cryptographic techniques based on elliptic curves*

ISO/IEC 18033 (all parts), *Information technology – Security techniques – Encryption algorithms*

ISO/IEC 19772 (all parts), *Information technology – Security techniques – Authenticated encryption*

ISO/IEC 29192 (all parts), *Information technology – Security techniques – Lightweight cryptography*

IEC Guide 104, *The preparation of safety publications and the use of basic safety publications and group safety publications*

IEC Guide 108, *Guidelines for ensuring the coherence of IEC publications – Horizontal functions, horizontal publications and their application*

IEC Guide 110, *Home control systems – Guidelines relating to safety*

IEC Guide 117, *Electrotechnical equipment – Temperatures of touchable hot surfaces*

ISO/IEC Guide 14, *Products and related services – Information for consumers*

ISO/IEC Guide 37, *Instructions for use of products by consumers*

ISO/IEC Guide 50, *Safety aspects – Guidelines for child safety in standards and other specifications*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

ISO/IEC Guide 71, *Guide for addressing accessibility in standards*

21 CFR 1040.20, *Code of Federal Regulations, Title 21 – Food and Drugs, Chapter I – Food and Drug Administration Department of Health and Human Services, Subchapter J – Radiological Health, Part 1040 – Performance Standards for Light-Emitting Products*

INTERNATIONAL STANDARD

Corrected version
2025-12

NORME INTERNATIONALE



**Household and similar electrical appliances – Safety –
Part 2-27: Particular requirements for appliances for skin exposure to optical
radiation**

**Appareils électrodomestiques et analogues – Sécurité –
Partie 2-27: Exigences particulières pour les appareils d'exposition de la peau
aux rayonnements optiques**

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms and definitions	9
4 General requirement.....	10
5 General conditions for the tests	10
6 Classification.....	10
7 Marking and instructions.....	11
8 Protection against access to live parts.....	14
9 Starting of motor-operated appliances	15
10 Power input and current.....	15
11 Heating.....	15
12 Charging of metal-ion batteries	17
13 Leakage current and electric strength at operating temperature.....	17
14 Transient overvoltages	17
15 Moisture resistance	17
16 Leakage current and electric strength.....	17
17 Overload protection of transformers and associated circuits	17
18 Endurance	18
19 Abnormal operation	18
20 Stability and mechanical hazards.....	18
21 Mechanical strength	19
22 Construction	19
23 Internal wiring.....	23
24 Components	23
25 Supply connection and external flexible cords	23
26 Terminals for external conductors.....	23
27 Provision for earthing	24
28 Screws and connections	24
29 Clearances, creepage distances and solid insulation	24
30 Resistance to heat and fire	24
31 Resistance to rusting	24
32 Radiation, toxicity and similar hazards.....	24
Annexes	31
Annex B (normative) Battery-operated appliances, separable batteries and detachable batteries for battery-operated appliances	32
Annex R (normative) Software evaluation	33
Annex AA (normative) Measurement of luminance	34
Annex BB (informative) Detailed classification of UV appliances	35
Annex CC (informative) Fluorescent UV lamp equivalency code	36
Annex DD (normative) UV exposure schedule.....	37

Annex EE (informative) Irradiance limits set by regional or national authorities	38
Bibliography	40
Figure 101 – Not for household use	28
Figure 102 – Probe for measuring surface temperatures	28
Figure 103 – Erythema action spectrum	29
Figure 104 – Measuring points for appliances that are arranged over a person	29
Figure 105 – Measuring points for appliances exposing a sitting person	30
Table 101 – Maximum temperature rises for specified external accessible surfaces under normal operating conditions	17
Table 102 – Maximum transmission of goggles	28
Table BB.1 – Limits of effective irradiance	35
Table EE.1 – Europe: EN 60335-2-27 limits	38
Table EE.2 – Australia and New Zealand: AS/NZS 60335.2.27 limits	38
Table EE.3 – USA: 21 CFR 1040.20 limits	39

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
SAFETY –****Part 2-27: Particular requirements for appliances
for skin exposure to optical radiation**

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.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
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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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60335-2-27 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This seventh edition cancels and replaces the sixth edition published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) alignment with IEC 60335-1:2020;
- b) modification or conversion of some notes to normative text (Clause 1, 7.1);
- c) clarification of product risk and liability (7.1);

- d) modification of Annex DD as a normative annex, and modification of relevant text (7.12, Annex DD);
- e) clarification of requirement for product use links provided (7.12.9);
- f) clarification of the application of test probe 18 for appliances for use in tanning salons, beauty parlours and similar premises (8.1.1, 20.2);
- g) introduction of accessible surface temperature limits (Clause 11);
- h) removal of redundancy between 22.113 and 22.114;
- i) clarification that 32.2 is not applicable for UV emitted for the tanning function of the appliance.

The text of this International Standard is based on the following documents:

Draft	Report on voting
61/7071/FDIS	61/7094/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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.

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) 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: Particular requirements for appliances for skin exposure to optical radiation.

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 committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

NOTE 4 The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations can 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.

- 6.101: Commercial tanning sunbed services are illegal (Australia).
- Annex DD: Exposure doses are based on the Fitzpatrick Skin Phototype classification system (New Zealand).

IMPORTANT – The "colour inside" logo on the cover page of this document 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.

The content of the corrigendum 1 (2025-12) has been included in this copy.

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.

Guidance documents concerning the application of the safety requirements for appliances can be accessed via TC 61 supporting documents on the IEC website

<https://www.iec.ch/tc61/supportingdocuments>

This information is given for the convenience of users of this International Standard and does not constitute a replacement for the normative text in this standard.

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 can 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 publications, basic safety publications and group safety publications 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.

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.

NOTE 3 Standards dealing with non-safety aspects of household appliances are:

- IEC standards published by TC 59 concerning methods of measuring performance;
- CISPR 11, CISPR 14-1 and relevant IEC 61000-3 series standards concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity;
- IEC standards published by TC 111 concerning environmental matters.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

Part 2-27: Particular requirements for appliances for skin exposure to optical radiation

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335 deals with the safety of electrical appliances incorporating emitters for exposing the skin to optical radiation (wavelength 100 nm to 1 mm), for household and similar use, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances including direct current (DC) supplied appliances and **battery-operated appliances**.

As far as practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons using the appliances in tanning salons, beauty parlours and similar premises or at 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.

Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements can 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.

This standard does not apply to

- appliances for skin or hair care (IEC 60335-2-23);
- sauna heating appliances and infrared cabins (IEC 60335-2-53);
- cosmetic and beauty care appliances incorporating lasers and intense light sources (IEC 60335-2-113);
- appliances for medical purposes (IEC 60601);
- appliances that use UV radiation for purposes other than tanning the skin;
- 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.

Addition:

IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*

IEC 60598-1:2020, *Luminaires – Part 1: General requirements and tests*

IEC 61228, *Fluorescent ultraviolet lamps used for tanning – Measurement and specification method*

Bibliography

The bibliography of Part 1 is applicable except as follows.

Addition:

AS/NZS 60335.2.23, *Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care*

EN 60335-2-23, *Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care*

IEC 60335-2-23, *Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care*

IEC 60335-2-53, *Household and similar electrical appliances – Safety – Part 2-53: Particular requirements for sauna heating appliances and infrared cabins*

IEC 60335-2-113, *Household and similar electrical appliances – Safety – Part 2-113: Particular requirements for cosmetic and beauty care appliances incorporating lasers and intense light sources*

ISO 3864-1, *Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings*

21 CFR 1040.20, *Code of Federal Regulations, Title 21 – Food and Drugs, Chapter I – Food and Drug Administration Department of Health and Human Services, Subchapter J – Radiological Health, Part 1040 – Performance Standards for Light-Emitting Products*

SOMMAIRE

AVANT-PROPOS	44
INTRODUCTION.....	47
1 Domaine d'application	48
2 Références normatives	49
3 Termes et définitions	49
4 Exigences générales	50
5 Conditions générales d'essais	50
6 Classification	51
7 Marquage et instructions	51
8 Protection contre l'accès aux parties actives.....	55
9 Démarrage des appareils à moteur	56
10 Puissance et courant	56
11 Échauffements.....	56
12 Charge des batteries à ions métalliques	58
13 Courant de fuite et rigidité diélectrique à la température de régime	58
14 Surtensions transitoires	58
15 Résistance à l'humidité.....	58
16 Courant de fuite et rigidité diélectrique	58
17 Protection contre la surcharge des transformateurs et des circuits associés	58
18 Endurance	59
19 Fonctionnement anormal	59
20 Stabilité et dangers mécaniques	60
21 Résistance mécanique.....	60
22 Construction	61
23 Conducteurs internes.....	64
24 Composants	64
25 Raccordement au réseau et câbles souples extérieurs	65
26 Bornes pour conducteurs externes	65
27 Dispositions en vue de la mise à la terre	65
28 Vis et connexions	65
29 Distances dans l'air, lignes de fuite et isolation solide.....	65
30 Résistance à la chaleur et au feu.....	65
31 Protection contre la rouille	66
32 Rayonnement, toxicité et dangers analogues	66
Annexes	73
Annexe B (normative) Appareils alimentés par batteries, batteries séparables et batteries amovibles pour les appareils alimentés par batteries	74
Annexe R (normative) Évaluation des logiciels.....	75
Annexe AA (normative) Mesurage de la luminance	76
Annexe BB (informative) Classification détaillée des appareils UV	77
Annexe CC (informative) Code d'équivalence des lampes fluorescentes UV	78
Annexe DD (normative) Programme d'exposition aux UV	79

Annexe EE (informative) Limites d'éclairement énergétique définies par les autorités régionales ou nationales	80
Bibliographie.....	82
Figure 101 – Non destiné à un usage domestique.....	69
Figure 102 – Calibre pour le mesurage des températures de surface	70
Figure 103 – Spectre d'action de l'érythème.....	71
Figure 104 – Points de mesure pour les appareils placés au-dessus d'une personne.....	71
Figure 105 – Points de mesure pour les appareils qui produisent l'exposition d'une personne assise.....	72
Tableau 101 – Échauffements maximaux pour les surfaces accessibles extérieures spécifiées en conditions de fonctionnement normal.....	58
Tableau 102 – Transmission maximale des lunettes de protection	69
Tableau BB.1 – Limites de l'éclairement énergétique effectif.....	77
Tableau EE.1 – Europe: limites de l'EN 60335-2-27	80
Tableau EE.2 – Australie et Nouvelle-Zélande: limites de l'AS/NZS 60335.2.27	80
Tableau EE.3 – États-Unis: limites du règlement 21 CFR 1040.20	81

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-27: Exigences particulières pour les appareils d'exposition de la peau aux rayonnements optiques

AVANT-PROPOS

- 1) La Commission Électrotechnique Internationale (IEC) est une organisation mondiale de normalisation composée de l'ensemble des comités électrotechniques nationaux (Comités nationaux de l'IEC). L'IEC a pour objet de favoriser la coopération internationale pour toutes les questions de normalisation dans les domaines de l'électricité et de l'électronique. À cet effet, l'IEC – entre autres activités – publie des Normes internationales, des Spécifications techniques, des Rapports techniques, des Spécifications accessibles au public (PAS) et des Guides (ci-après dénommés "Publication(s) de l'IEC"). Leur élaboration est confiée à des comités d'études, aux travaux desquels tout Comité national intéressé par le sujet traité peut participer. Les organisations internationales, gouvernementales et non gouvernementales, en liaison avec l'IEC, participent également aux travaux. L'IEC collabore étroitement avec l'Organisation Internationale de Normalisation (ISO), selon des conditions fixées par accord entre les deux organisations.
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- 8) L'attention est attirée sur les références normatives citées dans cette publication. L'utilisation de publications référencées est obligatoire pour une application correcte de la présente publication.
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L'IEC 60335-2-27 a été établie par le comité d'études 61 de l'IEC: Sécurité des appareils électrodomestiques et analogues. Il s'agit d'une Norme internationale.

Cette septième édition annule et remplace la sixième édition parue en 2019. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) le texte a été aligné sur l'IEC 60335-1:2020;
- b) certaines notes ont été modifiées ou converties en texte normatif (Article 1, 7.1);
- c) les informations relatives au risque et à la responsabilité liés au produit ont été clarifiées (7.1);
- d) l'Annexe DD a été convertie en annexe normative, et le texte associé a été modifié (7.12, Annexe DD);
- e) l'exigence concernant les liens fournis pour l'utilisation du produit a été clarifiée (7.12.9);
- f) l'application du calibre d'essai 18 a été modifiée pour les appareils destinés à être utilisés dans les solariums, salons de beauté et locaux analogues (8.1.1, 20.2);
- g) des limites de température ont été introduites pour les surfaces accessibles (Article 11);
- h) la redondance entre le 22.113 et le 22.114 a été supprimée;
- i) l'exigence selon laquelle le 32.2 ne s'applique pas aux UV émis pour la fonction de bronzage de l'appareil a été clarifiée.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
61/7071/FDIS	61/7094/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/standardsdev/publications.

Une liste de toutes les parties de la série IEC 60335, publiées sous le titre général *Appareils électrodomestiques et analogues – Sécurité*, se trouve sur le site web de l'IEC.

La présente partie 2 doit être utilisée conjointement avec la dernière édition de l'IEC 60335-1 et ses amendements, sauf si cette édition l'exclut. Dans ce cas, la dernière édition qui n'exclut pas la présente partie 2 est utilisée. Elle a été établie sur la base de la sixième édition (2020) de cette norme.

NOTE 1 L'expression "la Partie 1" utilisée dans la présente norme fait référence à l'IEC 60335-1.

La présente partie 2 complète ou modifie les articles correspondants de l'IEC 60335-1, de façon à transformer cette publication en norme IEC: Exigences particulières pour les appareils d'exposition de la peau aux rayonnements optiques.

Lorsqu'un paragraphe particulier de la Partie 1 n'est pas mentionné dans cette partie 2, ce paragraphe s'applique pour autant que cela soit raisonnable. Lorsque la présente norme mentionne "addition", "modification" ou "remplacement", le texte correspondant de la Partie 1 doit être adapté en conséquence.

NOTE 2 Le système de numérotation suivant est utilisé:

- les paragraphes, tableaux et figures qui s'ajoutent à ceux de la Partie 1 sont numérotés à partir de 101;
- à l'exception de celles qui sont dans un nouveau paragraphe ou de celles qui concernent des notes de la Partie 1, les notes sont numérotées à partir de 101, y compris celles des articles ou paragraphes qui sont remplacés;
- les annexes qui sont ajoutées sont désignées AA, BB, etc.

NOTE 3 Les caractères d'imprimerie suivants sont utilisés:

- exigences: caractères romains;
- *modalités d'essais: caractères italiques;*
- notes: petits caractères romains.

Les termes en **gras** dans le texte sont définis à l'Article 3. Lorsqu'une définition concerne un adjectif, l'adjectif et le nom associé figurent également en gras.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous webstore.iec.ch dans les données relatives au document recherché. À cette date, le document sera

- reconduit,
- supprimé, ou
- révisé.

NOTE 4 L'attention des Comités nationaux est attirée sur le fait que les fabricants d'appareils et les organismes d'essai peuvent avoir besoin d'une période transitoire après la publication d'une nouvelle publication IEC, ou d'une publication amendée ou révisée, pour fabriquer des produits conformes aux nouvelles exigences et pour adapter leurs équipements aux nouveaux essais ou aux essais révisés.

Le comité recommande que le contenu de cette publication soit adopté pour application nationale (obligatoire) au plus tôt 12 mois et au plus tard 36 mois après la date de publication.

Les différences suivantes existent dans les pays indiqués ci-après.

- 6.101: Les services commerciaux de lits de bronzage sont illégaux (Australie);
- Annexe DD: Les doses d'expositions sont fondées sur le système de classification de phototype de Fitzpatrick (Nouvelle-Zélande).

IMPORTANT – Le logo "colour inside" qui se trouve sur la page de couverture de ce document indique qu'il contient des couleurs qui sont considérées comme utiles à une bonne compréhension de son contenu. Les utilisateurs devraient, par conséquent, imprimer ce document en utilisant une imprimante couleur.

Le contenu du corrigendum 1 (2025-12) a été pris en considération dans cet exemplaire.

INTRODUCTION

Il a été considéré en établissant cette Norme internationale que l'exécution de ses dispositions était confiée à des personnes expérimentées et ayant une qualification appropriée.

Les documents de recommandations concernant l'application des exigences de sécurité pour les appareils peuvent être consultés dans les documents de support du CE 61, accessibles sur le site web de l'IEC à l'adresse:

<https://www.iec.ch/tc61/supportingdocuments>

Cette information est donnée à l'intention des utilisateurs de la présente Norme internationale et n'a pas pour objet de remplacer le texte normatif de la présente norme.

La présente norme reconnaît le niveau de protection internationalement accepté contre les dangers électriques, mécaniques, thermiques, liés au feu et au rayonnement des appareils, lorsqu'ils fonctionnent comme en usage normal en tenant compte des instructions du fabricant. Elle couvre également les situations anormales auxquelles on peut s'attendre dans la pratique et elle tient compte de la façon dont les phénomènes électromagnétiques peuvent affecter le fonctionnement sûr des appareils.

Cette norme tient compte autant que possible des exigences de l'IEC 60364, de façon à rester compatible avec les règles d'installation quand l'appareil est raccordé au réseau d'alimentation. Cependant, des règles nationales d'installation peuvent être différentes.

Si un appareil relevant du domaine d'application de la présente norme comporte également des fonctions couvertes par une autre partie 2 de l'IEC 60335, la partie 2 correspondante est appliquée à chaque fonction séparément, dans la limite du raisonnable. Si cela est applicable, on tient compte de l'influence d'une fonction sur les autres fonctions.

Lorsqu'une partie 2 ne comporte pas d'exigences complémentaires pour couvrir les risques traités dans la Partie 1, la Partie 1 s'applique.

NOTE 1 Cela signifie que les comités d'études responsables pour les Parties 2 ont déterminé qu'il n'était pas nécessaire de spécifier des exigences particulières pour l'appareil en question en plus des exigences générales.

Cette norme est une norme de famille de produits traitant de la sécurité d'appareils et a préséance sur les normes horizontales et génériques couvrant le même sujet.

NOTE 2 Les publications horizontales, les publications fondamentales de sécurité et les publications groupées de sécurité couvrant un danger ne s'appliquent pas, parce qu'elles ont été prises en considération lorsque les exigences générales et particulières ont été étudiées pour la série de normes IEC 60335.

Un appareil conforme au texte de la présente norme ne sera pas nécessairement jugé conforme aux principes de sécurité de la norme si, lorsqu'il est examiné et soumis aux essais, il apparaît qu'il présente d'autres caractéristiques qui compromettent le niveau de sécurité visé par ces exigences.

Un appareil utilisant des matériaux ou présentant des modes de construction différents de ceux décrits dans les exigences de cette norme peut être examiné et essayé en fonction de l'objectif poursuivi par ces exigences et, s'il est jugé pratiquement équivalent, il peut être estimé conforme aux principes de sécurité de la norme.

NOTE 3 Les normes traitant des aspects non relatifs à la sécurité des appareils électrodomestiques sont:

- les normes IEC publiées par le comité d'études 59 concernant les méthodes de mesure d'aptitude à la fonction;
- les normes CISPR 11 et CISPR 14-1, ainsi que les normes applicables de la série IEC 61000-3 concernant les émissions électromagnétiques;
- la norme CISPR 14-2 concernant l'immunité électromagnétique;
- les normes IEC publiées par le comité d'études 111 concernant l'environnement.

APPAREILS ÉLECTRODOMESTIQUES ET ANALOGUES – SÉCURITÉ –

Partie 2-27: Exigences particulières pour les appareils d'exposition de la peau aux rayonnements optiques

1 Domaine d'application

L'article de la Partie 1 est remplacé par le texte suivant.

La présente partie de l'IEC 60335 traite de la sécurité des appareils électriques qui comportent des émetteurs pour l'exposition de la peau aux rayonnements optiques (longueur d'onde de 100 nm à 1 mm), destinés à un usage domestique et analogue, dont la **tension assignée** est inférieure ou égale à 250 V pour les appareils monophasés et à 480 V pour les autres appareils, y compris les appareils alimentés en courant continu et les **appareils alimentés par batteries**.

Dans la mesure du possible, la présente norme traite des dangers ordinaires présentés par les appareils, encourus par toutes les personnes qui utilisent les appareils dans les solariums, salons de beauté et locaux analogues ou à domicile. Cependant, elle ne tient en général pas compte:

- des personnes (y compris des enfants) dont
 - les capacités physiques, sensorielles ou mentales; ou
 - le manque d'expérience et de connaissanceles empêchent d'utiliser l'appareil en toute sécurité sans surveillance ou instruction;
- des enfants qui jouent avec l'appareil.

L'attention est attirée sur le fait que

- pour les appareils destinés à être utilisés dans des véhicules ou à bord de navires ou d'avions, des exigences supplémentaires peuvent être nécessaires;
- dans de nombreux pays, des exigences supplémentaires sont spécifiées par les organismes nationaux de la santé, par les organismes nationaux responsables de la protection des travailleurs et par des organismes similaires.

La présente norme ne s'applique pas

- aux appareils destinés aux soins de la peau ou des cheveux (IEC 60335-2-23);
- aux appareils de chauffage de saunas et aux cabines infrarouges (IEC 60335-2-53);
- aux appareils destinés aux soins cosmétiques et esthétiques qui comportent des lasers et des sources de lumière de forte intensité (IEC 60335-2-113);
- aux appareils destinés à des usages médicaux (IEC 60601);
- aux appareils qui utilisent un rayonnement UV pour d'autres besoins que le bronzage de la peau;
- aux appareils destinés à être utilisés dans des locaux qui présentent des conditions particulières, telles que la présence d'une atmosphère corrosive ou explosive (poussière, vapeur ou gaz).

2 Références normatives

L'article de la Partie 1 s'applique, avec l'exception suivante.

Addition:

IEC 60584-1, *Couples thermoélectriques – Partie 1: Spécifications et tolérances en matière de FEM*

IEC 60598-1:2020, *Luminaires – Partie 1: Exigences générales et essais*

IEC 61228, *Lampes fluorescentes à ultraviolet utilisées pour le bronzage – Méthode de mesure et de spécification*

Bibliographie

La bibliographie de la Partie 1 s'applique, avec l'exception suivante.

Addition:

AS/NZS 60335.2.23, *Household and similar electrical appliances – Safety – Part 2-23: Particular requirements for appliances for skin or hair care*

EN 60335-2-23, *Appareils électrodomestiques et analogues – Sécurité – Partie 2-23: Exigences particulières pour les appareils destinés aux soins de la peau ou des cheveux*

IEC 60335-2-23, *Appareils électrodomestiques et analogues – Sécurité – Partie 2-23: Exigences particulières pour les appareils destinés aux soins de la peau ou des cheveux*

IEC 60335-2-53, *Appareils électrodomestiques et analogues – Sécurité – Partie 2-53: Règles particulières pour les appareils de chauffage de saunas et les cabines infrarouges*

IEC 60335-2-113, *Appareils électrodomestiques et analogues – Sécurité – Partie 2-113: Exigences particulières pour les appareils destinés aux soins cosmétiques et esthétiques comportant des lasers et des sources de lumière de forte intensité*

ISO 3864-1, *Symboles graphiques – Couleurs de sécurité et signaux de sécurité – Partie 1: Principes de conception pour les signaux de sécurité et les marquages de sécurité*

21 CFR 1040.20, *Code of Federal Regulations, Title 21 – Food and Drugs, Chapter I – Food and Drug Administration Department of Health and Human Services, Subchapter J – Radiological Health, Part 1040 – Performance Standards for Light-Emitting Products*
