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Responsible committee: CPL/61/1 Motorised appliance group

Interested committees:

Title: Draft BS EN 60335-2-27 Ed.7.0 Household and similar electrical appliances - Safety. Part 2-27: Particular requirements for appliances for skin exposure to optical radiation.

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

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Information on the co-operating organizations represented on the committees referenced above may be obtained from <https://standardsdevelopment.bsigroup.com/>.

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



61/6447/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:

IEC 60335-2-27 ED7

DATE OF CIRCULATION:

2022-01-21

CLOSING DATE FOR VOTING:

2022-04-15

SUPERSEDES DOCUMENTS:

61/6359/RR

IEC TC 61 : SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

SECRETARIAT:

United States of America

SECRETARY:

Ms Randi Myers

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:



Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☒ SAFETY

☐ SUBMITTED FOR CENELEC PARALLEL VOTING

☒ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

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

PROPOSED STABILITY DATE: 2025

NOTE FROM TC/SC OFFICERS:

This document is circulated according to the decisions taken at the TC 61 meetings for the 2020 Web meetings – see 61/6183/RM, 2021 Web Series-I – see 61/6306/RM, and 2021 Web Series II – see 61/6435/RM

History refer to:

61/5960/DC and 61/6041A/INF in 61/6183/RM, item 44a

61/5966/DC and 61/6042A/INF in 61/6183/RM, item 44b

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61/6202/DC and 61/6263A/INF in 61/6306/RM, item 18

61/6324/DC and 61/6398A/INF in 61/6435/RM, item 12

CONTENTS

1		
2	FOREWORD	4
3	INTRODUCTION	7
4	1 Scope	8
5	2 Normative references	8
6	3 Terms and definitions	9
7	4 General requirement	10
8	5 General conditions for the tests	10
9	6 Classification	10
10	7 Marking and instructions	10
11	8 Protection against access to live parts	15
12	9 Starting of motor-operated appliances	15
13	10 Power input and current	15
14	11 Heating	15
15	12 Charging of metal-ion batteries	17
16	13 Leakage current and electric strength at operating temperature	17
17	14 Transient overvoltages	17
18	15 Moisture resistance	17
19	16 Leakage current and electric strength	17
20	17 Overload protection of transformers and associated circuits	17
21	18 Endurance	18
22	19 Abnormal operation	18
23	20 Stability and mechanical hazards	18
24	21 Mechanical strength	19
25	22 Construction	19
26	23 Internal wiring	23
27	24 Components	23
28	25 Supply connection and external flexible cords	23
29	26 Terminals for external conductors	24
30	27 Provision for earthing	24
31	28 Screws and connections	24
32	29 Clearances, creepage distances and solid insulation	24
33	30 Resistance to heat and fire	24
34	31 Resistance to rusting	24
35	32 Radiation, toxicity and similar hazards	24
36	Annexes	31
37	Annex R (normative) Software evaluation	32
38	Annex AA (normative) Measurement of luminance	33
39	Annex BB (informative) Detailed classification of UV appliances	34
40	Annex CC (informative) Fluorescent UV lamp equivalency code	36
41	Annex DD (normative) Content of an exposure time schedule for UV exposure	37
42	Annex EE (informative) Irradiance limits set by regional or national authorities	38

43	Bibliography	40
44		
45	Figure 101 – Probe for measuring surface temperatures	Error! Bookmark not defined.
46	Figure 102 – Erythema action spectrum	Error! Bookmark not defined.
47	Figure 103 – Measuring points for appliances that are arranged over a person	29
48	Figure 104 – Measuring points for appliances exposing a sitting person	30
49		
50	Table 101 – Maximum temperature rises for specified external accessible surfaces	
51	under normal operating conditions	17
52	Table 102 – Maximum transmission of goggles	27
53	Table BB.1 – Limits of effective irradiance	35
54	Table EE.1 – Europe: EN 60335-2-27 limits	38
55	Table EE.2 – Australia and New Zealand: AS/NZS 60335.2.27 limits	38
56	Table EE.3 – USA: 21 CFR 1040.20 limits	39
57		
58		

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.
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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

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:

- alignment with IEC 60335-1:2020;
- modification or conversion of some notes to normative text (Clause 1, 7.1);
- clarification of product risk and liability (7.1);
- modification of annex DD as a normative annex, and modification of relevant text (7.12, Annex DD);

- clarification of requirement for product use links provided (7.12.9);
- 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);
- introduction of accessible surface temperature limits (Clause 11);
- removal of redundancy between 22.113 and 22.114;
- clarification that 32.2 is not applicable for UV emitted for the tanning function of the appliance;
- addition of requirements for the spectral irradiance and the ratio of the total irradiance (32.101);

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

FDIS	Report on voting
61/XXXX/FDIS	61/XXXX/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 the 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: Safety 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,
- replaced by a revised edition, or
- amended.

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

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

The following differences exist in the countries indicated below.

- 7.1: The markings are different (USA).
- 10.1: The deviations are different (USA).
- 10.2: The deviations are different (USA).
- 19.101: The test is different (USA).
- 20.1: The test is carried out at an angle of 8° (USA).
- 22.107: The requirement is not applicable (USA).
- 22.108: The maximum timer setting is shorter (USA).
- 32.101: The irradiance limits and the tests are different (USA).
- 32.102: The requirements for protective goggles are different (USA).

Note of the Secretary: National Committees are asked to reconfirm their in some countries notes. They will be deleted unless reconfirmed.

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 may differ.

If an appliance within the scope of this standard also incorporates functions that are covered by another part 2 of IEC 60335, the relevant part 2 is applied to each function separately, as far as is reasonable. If applicable, the influence of one function on the other is taken into account.

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

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

This standard is a product family standard dealing with the safety of appliances and takes precedence over horizontal and generic standards covering the same subject.

NOTE 2 Horizontal 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.

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;
- IEC 60598-1 is applicable as far as is reasonable.

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);
- **battery-operated appliances**.

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

IEC 62471:2006, *Photobiological safety of lamps and lamp systems*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

3.1 Definitions relating to physical characteristics**3.1.101****effective irradiance**

irradiance of electromagnetic radiation weighted according to a specified action spectrum

3.1.102**luminous transmission**

percentage of incident light passing through a material weighted by the spectral sensitivity of the human eye and integrated over the wavelength range of 380 and 780 nm

3.5 Definitions relating to types of appliances**3.5.101****UV appliance**

appliance incorporating **UV emitters** for tanning purposes

3.5.102**IR appliance**

appliance incorporating one or more **IR emitters**

3.5.103**VIS appliance**

appliance incorporating one or more **VIS emitters**

3.6 Definitions relating to parts of an appliance**3.6.101****ultraviolet emitter**

radiating source constructed to emit electromagnetic energy at wavelengths between 200 nm and 400 nm

Note 1 to entry: A fluorescent UV lamp for tanning is an example of a **UV emitter**.

Note 2 to entry: UV radiation with wavelengths below 200 nm is not easily transmitted through air and usually exists only in a vacuum.

Note 3 to entry: **Ultraviolet emitters** are also referred to as **UV emitters**.

3.6.102**infrared emitter**

radiating source constructed to emit electromagnetic energy at wavelengths between 780 nm and 1 mm

Note 1 to entry: **Infrared emitters** are also referred to as **IR emitters**.

3.6.103**visual emitter**

radiating source constructed to emit electromagnetic energy at wavelengths of 400 nm to 780 nm

Note 1 to entry: **Visual emitters** are also referred to as **VIS emitters**.

3.6.104**UV filter**

device used to modify the ultra-violet radiation passing through it, generally by altering the spectral distribution

4 General requirement

This clause of Part 1 is applicable.

5 General conditions for the tests

This clause of Part 1 is applicable except as follows.

5.101 *Appliances with **IR emitters** only are tested as **heating appliances**. All other appliances are tested as **motor-operated appliances**.*

6 Classification

This clause of Part 1 is applicable except as follows.

6.101 UV appliances shall be one of the following types with respect to the emission of ultraviolet radiation:

- appliances suitable for household use;
- appliances for commercial use only.

NOTE 1 Appliances for household use can also be for commercial use, such as in tanning salons, beauty parlours and similar premises.

NOTE 2 Detailed classification of the appliances is described in **informative** Annex BB.

Compliance is checked by inspection and by the relevant tests.

7 Marking and instructions

This clause of Part 1 is applicable except as follows.

7.1 Addition:

UV appliances intended for commercial use, such as in tanning salons, beauty parlours and similar premises shall be marked with the Prohibition sign “not for household use” or with the substance of the following:

Not for household use

Appliances having fluorescent UV lamps for tanning shall be marked with the fluorescent UV lamp equivalency code range. This equivalency code range identifies the fluorescent UV lamps for tanning that shall be used in the appliance.