

INTERNATIONAL STANDARD

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



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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IEC 60335-2-113 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances. It is an International Standard.

This second edition cancels and replaces the first edition published in 2016 and Amendment 1:2021. 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) deletion or conversion of some notes to normative text (Clause 1, 3.8.101, 3.8.104, 25.14);
- c) addition of instruction to warn against use by or on children (7.12);
- d) addition of instructions for use of appliances intended for use only in beauty salons and similar premises (7.12);
- e) addition of accessible surface temperature limits (Clause 11);

- f) clarification that test probe 18 is not applied for appliances intended only for use in beauty salons and similar premises (8.1.1, 20.2, B.22.3, B.22.4);
- g) updating reference for evaluation of stray optical radiation to IEC 62471-7 (22.109, 32.102);
- h) expansion of Table B.2 and Table B.3 to include more precise specifications for cells with a capacity between 0,2 Ah and 5 Ah;
- i) Adding power supply requirements (21.102, 21.103, 24.2).

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

Draft	Report on voting
61/7487/FDIS	61/7506/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/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 cosmetic and beauty care appliances incorporating lasers and intense light sources.

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:

- *test specifications: in italic 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 standard be adopted for implementation nationally not earlier than 12 months or later than 36 months from the date of publication.

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.

1 Scope

This clause of Part 1 is replaced by the following.

This part of IEC 60335-1 deals with the safety of beauty care appliances incorporating lasers or **intense light sources** for household and similar purposes, where their operation relies on contact with the skin, their **rated voltage** being not more than 250 V including direct current (DC) supplied appliances and **battery-operated appliances**.

This standard covers appliances with a light emitting surface less than 25 cm². Appliances with a light emitting surface equal to or greater than 25 cm² are within the scope of IEC 60335-2-27.

Appliances not intended for normal household use but which nevertheless can be a source of danger to the public such as appliances intended to be used in beauty salons and similar premises are also within the scope of this standard.

Appliances covered by the scope of this standard include but are not limited to:

- appliances for control of hair growth;
- appliances for skin and beauty care incorporating lasers or **intense light sources (ILS)**.

NOTE 101 Appliances incorporating lasers or **intense light sources (ILS)** either heat up hair follicles or skin tissue to produce thermal effects or to produce photo-biological effects from specific wavelengths.

As far as is practicable, this standard deals with the common hazards presented by appliances that are encountered by all persons in and around the home. However, in general, it does not take into account:

- persons (including children) whose physical, sensory or mental capabilities or lack of experience and knowledge prevents them from using the appliance safely without supervision or instruction;
- children playing with the appliance.

In many countries additional requirements are specified by the national health authorities.

This standard does not apply to

- appliances for medical purposes (IEC 60601);
- appliances for skin or hair care (IEC 60335-2-23, IEC 60335-2-115);
- appliances for nail hardening;
- appliances for skin exposure to optical radiation with a light emitting surface equal to or greater than 25 cm² (IEC 60335-2-27).

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 60825-1:2014, *Safety of laser products - Part 1: Equipment classification and requirements*

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

IEC 62471-7, *Photobiological safety of lamps and lamp systems - Part 7: Light sources and luminaires primarily emitting visible radiation*

ISO 7010:2019, *Graphical symbols - Safety colours and safety signs - Registered safety signs*

ISO 14155, *Clinical investigation of medical devices for human subjects - Good clinical practice*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

Addition:

Additional terms and definitions given in IEC 60825-1 and IEC 62471 are also applicable.

3.1 Definitions relating to physical characteristics

3.1.9 *Modification:* **normal operation**

Replace the first paragraph with the following:

use of the appliance applied in accordance with the manufacturer's instructions

3.5 Definitions relating to types of appliances

3.5.101

Class 1C laser product

laser product that during operation does not permit **stray optical radiation** in excess of the **AEL** of Class 1 for applicable wavelengths and emission durations

3.6 Definitions relating to parts of an appliance

3.6.101

swivel connection

means for connecting the **supply cord** so that the appliance can be rotated continuously without twisting the cord

3.6.102

intense light source

ILS

source of intense broadband non-laser light which emits optical radiation exceeding that of the exempt group, and that is intended to cause a thermal or photo-chemical effect to the target tissue

Note 1 to entry: **ILS** may incorporate continuously emitting or pulsed xenon light bulbs, incandescent bulbs, LEDs or similar.

3.8 Definitions relating to miscellaneous matters

3.8.101

accessible emission limit

AEL

maximum accessible emission permitted within a particular class of laser product

Note 1 to entry: Wherever the text refers to "emission level not exceeding the **AEL**" or similar wording, it is implicit that the accessible emission is determined following the measurement criteria specified in IEC 60825-1:2014, Clause 5.