

INTERNATIONAL STANDARD

NORME INTERNATIONALE



AMENDMENT 1 AMENDEMENT 1

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

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



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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****AMENDMENT 1****FOREWORD**

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Amendment 1 to IEC 60335-2-113:2016 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

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

Draft	Report on voting
61/6367/FDIS	61/6417/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 Amendment 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/.

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- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

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Title of Part 2-113

Delete, in the existing title, "cosmetic and".

1 Scope

Delete in the 2nd paragraph, "cosmetic and".

2 Normative references

Replace the reference to ISO 7010 with the following new reference:

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

3 Terms and definitions

In the Addition, replace "IEC 60825-1" by "IEC 60825-1:2014" and replace "IEC 62471" by "IEC 62471:2006".

3.101 *Replace the term and definition by the following:*

accessible emission limit

maximum accessible emission permitted within a particular class of laser product

Note 1 to entry: **Accessible emission limit** is hereinafter referred to as **AEL**.

Note 2 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 Clause 5 of IEC 60825-1:2014.

3.103 *Replace the existing term and definition with "Void".*

3.104 *Replace the definition and Note 1 to entry by the following:*

state that is established when the applicator is positioned at the target skin so that the skin acts to effectively prevent **stray optical radiation** emission in excess of the **AEL** for Class 1 laser products or the emission limits for the exempt group for intense light sources

3.108 *Replace the existing term and definition with "Void".*

7 Marking and instructions

7.1 Addition

Replace the 3rd dashed item by the following:

- for **Class 1C laser product** appliances,
 - sign shown in Figure 101; or
 - warning sign ISO 7010-W004 (2019-07) and the substance of the following:
Laser radiation. Follow instructions. Class 1C laser product.

Replace, in the 4th dashed item, "symbol" by "warning sign".

7.6 Addition

<https://standards.iteh.ai/catalog/standards/sist/0f70ca6f-be12-4b60-a442-b27515a187/iec-60335-2-113-2016-amd1-2021>

Replace the first entry by the following:



[warning sign ISO 7010-W004 (2019-07)] Warning: Laser beam

Replace, in the second entry, "[symbol ISO 7010-W027 (2011-05)]" by "[warning sign ISO 7010-W027 (2019-07)]".

7.12 Addition

Replace, in the 4th paragraph beginning with "For appliance incorporating lasers...", 2nd dashed item, "embedded laser" by "laser product".

Delete, in the 4th paragraph of the Addition, 4th dashed item, "for a Class 1C laser product appliance that contains an embedded laser".

Replace, in the last paragraph of the Addition, "symbol ISO 7000-1329" by "warning sign ISO 7010-W004, sign shown in Figure 101," and replace "symbol ISO 7010-W027" by "warning sign ISO 7010-W027 (2019-07)".

7.14 Addition

Replace "outer diameter of symbol ISO 7000-1329" by "height of the triangle in warning sign ISO 7010-W004, height of the sign shown in Figure 101,"

Replace "symbol ISO 7010-W027" by "warning sign ISO 7010-W027 (2019-07)".

7.15 Addition

Replace, in the last sentence "AEL of the exempt group" by "emission limits of the exempt group".

13 Leakage current and electric strength at operating temperature

Replace the text by the following:

This clause of Part 1 is applicable except as follows:

13.1 Addition:

Compliance is also checked by the test of 13.101.

13.2 Addition:

For an applicator intended to make contact with the human body, the allowable limit for leakage current is 0,1 mA.

13.101 The leakage current for the applicator intended to make contact with the human body shall also be measured between the part in contact with the human body and the poles of the supply with each supply conductor interrupted one at a time and shall not exceed 0,5 mA.

21 Mechanical strength

Add the following new Subclauses 21.102 and 21.103:

21.102 The enclosure of a **detachable power supply part** used in a flexible cord shall have adequate mechanical strength against crushing.

Compliance is checked by the following test.

The appliance is operated under the conditions of Clause 11 with the **detachable power supply part** placed on the floor of the test corner.

After steady conditions are established, a compression force of 1 350 N is applied to the **detachable power supply part** enclosure. The compression force is applied for one minute using a flat surface 100 mm × 250 mm and repeated with the **detachable power supply part** placed in all possible different orientations.

The **detachable power supply part** shall not be damaged to such an extent that compliance with 8.1 and Clause 29 is impaired and it shall not emit flames or molten metal.

21.103 The enclosure of a **detachable power supply part** used in a flexible cord shall have adequate mechanical strength against dropping.

Compliance is checked by the following test.

The **detachable power supply part** is placed in a sling that is constructed by tying together the four corners of a single layer of cheesecloth. The lowest point of the sling is suspended at a height of 900 mm above a concrete or similar hard surface.

The **detachable power supply part** in the sling is dropped from a stationary position. The test is carried out a total of five times with the **detachable power supply part** being positioned so that it falls onto the concrete surface in five different orientations.

The **detachable power supply part** shall not be damaged to such an extent that compliance with 8.1 and Clause 29 is impaired.

22 Construction

22.106 Replace, in the first dashed item of the requirement, "an embedded laser" with "a laser product".

22.107 Replace the text by the following:

If an appliance incorporates

- a laser product that emits above the **AEL** of a Class 3B laser product in IEC 60825-1:2014; or
- an **ILS** classified as **risk group 3** as defined in 6.1.4 of IEC 62471:2006 (continuous wave light source) or in 6.2 of IEC 62471:2006 (pulsed light source),

it shall have means to assess the skin pigmentation level and means to adjust the output according to the skin pigmentation level so that damage to the bulk tissue is avoided.

NOTE The means to assess the skin pigmentation level can be via a colour chart.

Means of assessing the pigmentation level is not required if the appliance is not capable of damaging the bulk tissue of any skin type when set at the maximum output.

Compliance is checked by inspection. For devices without means to adjust the output, the manufacturer shall supply a validation study on human skin showing that damage to the bulk tissue does not occur. The study shall be a registered clinical study in accordance with good clinical practice as described in ISO 14155.

If compliance relies on an **electronic circuit** that is programmable, the software shall contain measures to control the fault/error conditions specified in Table R.1 and it is evaluated in accordance with the relevant requirements of Annex R.

22.108 Replace, in the first paragraph of the requirement, "an embedded laser" with "a laser product".

Replace the second sentence of the sixth paragraph of the test specification, beginning with "The emission level shall not exceed...", by the following:

The **stray optical radiation** shall not exceed the **AEL** of Class 1 as specified in Table 3 and Table 4 of IEC 60825-1:2014 for an emission duration of 10 s, unless the appliance emission is limited to a shorter emission duration.

Replace, in item a) of the seventh paragraph of the test specification, the third paragraph beginning with "The emission level shall be below...", by the following:

The **stray optical radiation** shall not exceed the **AEL** of Class 1 as specified in Table 3 and Table 4 of IEC 60825-1:2014 for an emission duration of 10 s, unless the appliance emission is limited to a shorter emission duration, after the loss of **good contact** with the skin.

Replace, in item b) of the seventh paragraph of the test specification, the third paragraph, beginning with "After and during each individual test...", by the following:

The **stray optical radiation** shall not exceed the **AEL** of Class 1 as specified in Table 3 and Table 4 of IEC 60825-1:2014 for an emission duration of 10 s, unless the appliance emission is limited to a shorter emission duration, after the loss of **good contact** with the skin.

22.109 Replace the second sentence of the sixth paragraph of the test specification, beginning with "The emission level shall not exceed the **AEL**...." by the following:

The emission level shall not exceed the emission limits of the exempt group specified in Table 6.1 of IEC 62471:2006 for continuous wave lamps. For pulsed systems, the emission shall not exceed the emission limits of the exempt group when evaluated in accordance with 6.2 of IEC 62471:2006.

Replace, in the third paragraph of item a) of the seventh paragraph of the test specification, "limit" by "emission limits".

Replace, in the third paragraph of item b) of the seventh paragraph of the test specification, "**AEL**" by "emission limits".

22.110 Replace the third paragraph of the test specification by the following:

For laser products, the **stray optical radiation** shall not exceed the **AEL** of Class 2 between 400 nm and 700 nm and shall not exceed the **AEL** of Class 1 outside of this waveband when tested in accordance with 32.101.

For **ILS** products, the **stray optical radiation** shall not exceed the emission limits for risk group 1 when tested in accordance with 32.102.

30 Resistance to heat and fire

Replace, after the first paragraph, the text "**30.2.3** Not applicable" with the following:

30.2 Modification:

Replace the two dashed items in the compliance criteria with the following:

- for beauty care appliances incorporating lasers or **intense light sources**, 30.2.2 is applicable.

32 Radiation, toxicity and similar hazards

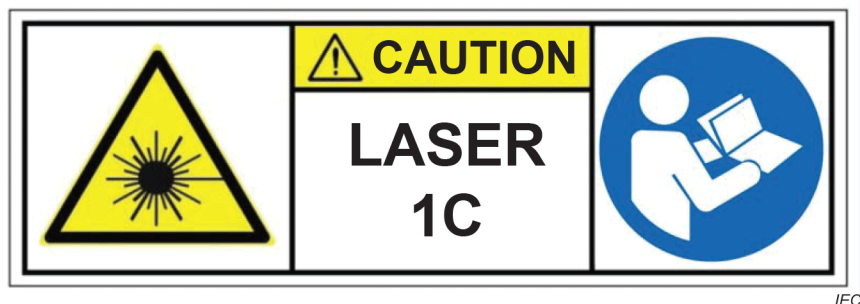
32.101 Replace the last paragraph of the test specification by the following:

The **stray optical radiation** shall not exceed the **AEL** of Class 1 as specified in Table 3 and Table 4 of IEC 60825-1:2014 for an emission duration of 10 s.

32.102 Replace the last paragraph of the test specification by the following:

The **stray optical radiation** shall not exceed the emission limits of the exempt group specified in Table 6.1 of IEC 62471:2006 for continuous wave lamps. For pulsed wave systems, the **stray**

optical radiation shall not exceed the emission limits of the exempt group when evaluated in accordance with 6.2 of IEC 62471:2006.



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SOURCE: IEC 60825-1:2014, Figure 7.

Figure 101 – Sign for Class 1C laser product appliances

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