

**SLOVENSKI STANDARD
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SIST EN 60335-2-27:1995**

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Safety of household and similar electrical appliances -- Part 2-27: Particular requirements for appliances for skin exposure to ultraviolet and infrared radiation

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Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2-27: Besondere Anforderungen für Hautbehandlungsgeräte mit Ultraviolett- und Infrarotstrahlung

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Sécurité des appareils électrodomestiques et analogues -- Partie 2-27: Règles particulières pour les appareils d'exposition de la peau aux rayonnements ultraviolets et infrarouges

Ta slovenski standard je istoveten z: EN 60335-2-27:1997

ICS:

13.120	Varnost na domu	Domestic safety
97.170	Oprema za nego telesa	Body care equipment

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EUROPEAN STANDARD

EN 60335-2-27

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 1997

ICS 97.170

Supersedes EN 60335-2-27:1992 and its amendments

Descriptors: Household electrical appliances, skin treatment appliances, infrared radiation, ultraviolet radiation, safety requirements, protection against electric shock, fire protection, protection against mechanical hazard

English version

Safety of household and similar electrical appliances
Part 2: Particular requirements for appliances for skin exposure
to ultraviolet and infrared radiation
 (IEC 335-2-27:1995)

Sécurité des appareils
 électrodomestiques et analogues
 Partie 2: Règles particulières pour les
 appareils d'exposition de la peau aux
 rayonnements ultraviolets et infrarouges
 (CEI 335-2-27:1995)

Sicherheit elektrischer Geräte für den
 Hausgebrauch und ähnliche Zwecke
 Teil 2: Besondere Anforderungen für
 Hautbehandlungsgeräte mit Ultraviolett-
 und Infrarotstrahlung
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This European Standard was approved by CENELEC on 1997-03-11. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
 Comité Européen de Normalisation Electrotechnique
 Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The proposal to endorse IEC 335-2-27:1995, document CLC/TC 61 (SEC) 1024, was circulated under the enquiry procedure in June 1995. This proposal was discussed during the Copenhagen meeting in May 1996, when it was decided to submit a draft for EN 60335-2-27 to the formal vote.

This draft was circulated in September 1996 and was ratified by CENELEC as EN 60335-2-27 on 1997-03-11.

This European Standard has been prepared by the secretariat of CENELEC Technical Committee TC 61.

The following dates are applicable:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1997-12-01
- date on which national standards conflicting with the EN have to be withdrawn (dow) 1999-12-01

For products which have complied with EN 60335-2-27:1992 including its amendments A2:1992 and A51:1994 before 1999-12-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2004-12-01.

This standard has to be used in conjunction with EN 60335-1, Safety of household and similar electrical appliances, Part 1: General requirements. It was established on the basis of the 1994 edition of that standard. Amendments and revisions of part 1 have also to be taken into account and the dates when such changes become applicable will be stated in the relevant amendment or revision of part 1.

This part 2 supplements or modifies the corresponding clauses of EN 60335-1, so as to convert it into the European Standard: Safety requirements for electric appliances for skin exposure to ultraviolet and infrared radiation.

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Where a particular subclause of part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant text of part 1 is to be adapted accordingly.

Subclauses, tables and figures which are additional to those in part 1 are numbered starting with 101. Annexes which are additional to those in part 1 are lettered AA, BB, etc.

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

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

- NOTE - 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 2. When a definition of part 1 concerns an adjective, the adjective and the associated noun are also in bold.

Endorsement notice

The text of the International Standard IEC 335-2-27:1995 was approved by CENELEC as an European Standard without any modification.

**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC
335-2-27**

Troisième édition
Third edition
1995-04

**Sécurité des appareils électrodomestiques
et analogues**

Partie 2:

**Règles particulières pour les appareils d'exposition
de la peau aux rayonnements ultraviolets et
infrarouges**

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**Safety of household and similar electrical
appliances**

Part 2:

**Particular requirements for appliances for skin
exposure to ultraviolet and infrared radiation**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for appliances for skin exposure
to ultraviolet and infrared radiation

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. 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. The 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 the IEC on technical matters, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

This part of International Standard IEC 335 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

It forms the third edition of IEC 335-2-27 and replaces the second edition and its amendments. It takes into account the work of the CIE (International Commission on Illumination) concerning ultraviolet radiation.

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

DIS	Report on voting
61/864/DIS	61/901/RVD

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

This part 2 is to be used in conjunction with the latest edition of IEC 335-1 and its amendments. It was established on the basis of the third edition (1991) of that standard.

This part 2 supplements or modifies the corresponding clauses of IEC 335-1, so as to convert that publication into the IEC standard: Safety requirements for electric appliances for skin exposure to ultraviolet and infrared radiation.

Where a particular subclause of part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant text in part 1 is to be adapted accordingly.

NOTES

1 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 2. When a definition of part 1 concerns an adjective, in this part 2, the adjective and the associated noun are in **bold**.

2 Subclauses, tables and figures which are additional to those in part 1 are numbered starting from 101. Annexes which are additional to those in part 1 are lettered AA, BB, etc.

The following differences exist in some countries:

- **Clause 3:** The d.c. component in the appliance neutral is limited (Australia).
- **7.1:** Different markings are required (USA).
- **10.1:** Different deviations apply (USA).
- **10.2:** Different deviations apply (USA).
- **19.101:** The test is different (USA).
- **20.1:** The test is conducted at an angle of 8° (USA).
- **Clause 22:** Series resistors shall be incorporated in some UV emitters (Australia).
- **22.107:** The requirement is not applicable (USA).
- **22.108:** A shorter maximum timer setting is required (USA).
- **32.101:** Different irradiance limits are applicable and the tests are different (USA).
- **32.102:** Different requirements for protective goggles are applicable (USA).

SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Part 2: Particular requirements for appliances for skin exposure to ultraviolet and infrared radiation

1 Scope

This clause of part 1 is replaced by:

This standard deals with the safety of electric appliances incorporating emitters for exposing the skin to ultraviolet and infrared radiation, for household and similar use, their **rated voltage** being not more than 250 V for single-phase appliances and 480 V for other appliances.

NOTE 1 – Appliances may also incorporate motors and heating elements.

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

So far as practicable, this standard deals with the common hazards presented by appliances which are encountered by all persons in and around the home.

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This standard does not in general take into account:

- the use of appliances by young children or infirm persons without supervision;
- playing with the appliance by young children.

NOTES

2 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- for appliances intended to be used in tropical countries special requirements may be necessary;
- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour and similar authorities;
- IEC 598-1 is applicable as far as is reasonable.

3 This standard does not apply to

- appliances for medical purposes;
- 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 Definitions

This clause of part 1 is applicable except as follows:

2.101 ultraviolet emitter (UV emitter): Radiating source designed to emit non-ionizing electromagnetic energy at wavelengths of 400 nm or less, disregarding the screening effect of any screen or guard that may enclose it.

2.102 UV type 1 appliance: Appliance provided with a UV emitter such that the biological effect is caused by radiation having wavelengths longer than 320 nm and characterized by a relatively high irradiance in the range 320 nm to 400 nm.

2.103 UV type 2 appliance: Appliance provided with a UV emitter such that the biological effect is caused by radiation having wavelengths both shorter and longer than 320 nm and characterized by a relatively high irradiance in the range of 320 nm to 400 nm.

2.104 UV type 3 appliance: Appliance provided with a UV emitter such that the biological effect is caused by radiation having wavelengths both shorter and longer than 320 nm and characterized by a limited irradiance over the whole UV radiation band.

2.105 UV type 4 appliance: Appliance provided with a UV emitter such that the biological effect is mainly caused by radiation having wavelengths shorter than 320 nm.

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2.106 Infrared emitter (IR emitter): Radiating source designed to emit energy at wavelengths of 800 nm or longer, disregarding the screening effect of any screen or guard that may enclose it.

2.107 effective irradiance: Quantity of electromagnetic radiation which is weighted according to a specified action curve.

3 General requirement

This clause of part 1 is applicable.

4 General conditions for the tests

This clause of part 1 is applicable except as follows:

4.1 Addition:

Appliances with UV emitters are tested as motor-operated appliances.

Appliances with IR emitters only are tested as heating appliances.

5 Void**6 Classification**

This clause of part 1 is applicable except as follows:

6.101 Appliances shall be one of the following types with respect to the type of ultra-violet radiation:

- UV type 1 appliance;
- UV type 2 appliance;
- UV type 3 appliance;
- UV type 4 appliance.

Compliance is checked by inspection and by the relevant tests.

NOTE – UV type 1 appliances and UV type 2 appliances are intended to be used in tanning salons, beauty parlours and similar premises, under supervision of appropriately trained persons.

UV type 3 appliances may be used by unskilled persons.

UV type 4 appliances are intended to be used following medical advice.

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7 Marking and instructions

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This clause of part 1 is applicable except as follows:

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7.1 Addition:

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UV appliances shall be marked with the appropriate UV type number in the following form:

UV type x

NOTE 1 – x is replaced by the appropriate number.

UV appliances provided with replaceable UV emitters shall be marked with the type reference of the emitter.

UV type 4 appliances shall be marked with the substance of the following warning:

WARNING – To be used following medical advice only.

UV appliances shall be marked with the substance of the following warning:

WARNING – Ultraviolet radiation may cause injury to eyes and skin. Read instructions carefully. Wear the protective goggles provided. Certain medicines and cosmetics may increase sensitivity.

NOTE 2 – For UV appliances intended only for use in tanning salons, beauty parlours and similar premises, this warning may be given on a permanent label intended to be fixed on the wall adjacent to the UV appliance. The wording "Read instructions carefully" may be replaced by "Consult the attendant for further information".