SLOVENSKI STANDARD
SIST EN 60335-2-27:2014

01-januar-2014

Nadomešča:
SIST EN 60335-2-27:2011

Gospodinjski in podobni električni aparati - Varnost - 2-27. del: Posebne zahteve za aparate za nego kože z ultravijoličnim in infrardečim sevanjem

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

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

Appareils électrodomestiques et analogues - Sécurité -- 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 60335-2-27:2013**

ICS:

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

SIST EN 60335-2-27:2014 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60335-2-27

December 2013

ICS 13.120; 97.170

Supersedes EN 60335-2-27:2010

English version

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

(IEC 60335-2-27:2009, modified)

Appareils électrodomestiques et analogues - Sécurité - Partie 2-27: Règles particulières pour les appareils d'exposition de la peau aux rayonnements ultraviolets et infrarouges (CEI 60335-2-27:2009, modifiée)

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Teil 2-27: Besondere Anforderungen für Hautbestrahlungsgeräte mit Ultraviolett- und Infrarotstrahlung (IEC 60335-2-27:2009, modifiziert)

This European Standard was approved by CENELEC on 2013-05-29. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60335-2-27:2013 E

Foreword

This document EN 60335-2-27:2013 consists of the text of IEC 60335-2-27:2009 prepared by IEC TC 61, "Safety of household and similar electrical appliances", together with the common modifications prepared by the Technical Committee CENELEC TC 61, "Safety of household and similar electrical appliances".

EN 60335-2-27:2013 is based on IEC 60335-2-27:2009, modifying it to fulfil the SCCP requirements for these appliances and to incorporate existing common modifications and interpretation statements.

The following dates are fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2014-06-13
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-11-21

This document supersedes EN 60335-2-27:2010.

The principal changes in EN 60335-2-27:2013 as compared with EN 60335-2-27:2010 are as follows (minor changes are not listed):

– clarification of the radiation measurement procedure (32.101);

– guidelines for an exposure time schedule (Annex DD).

This standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement Notice

The text of the International Standard IEC 60335-2-27:2009 was approved by CENELEC as a European Standard with the following agreed common modifications:

COMMON MODIFICATIONS

Introduction

Add *after the second paragraph:*

This standard covers appliances used for intentional tanning. Irradiance limit values are not to be used as safety guidelines for non-intentional UV-exposure.

Add *after the seventh paragraph:*

An investigation by CENELEC TC 61 has shown that all risks from products within the scope of this standard are fully covered by the Low Voltage Directive, 2006/95/EC. For products having mechanical moving parts, a risk assessment in accordance with the Machinery Directive, 2006/42/EC, has shown that the risks are mainly of electrical origin and consequently this directive is not applicable. However, the relevant essential safety requirements of the Machinery Directive are covered by this standard together with the principal objectives of the Low Voltage Directive.

6 Classification

Replace *6.101 by:*

6.Z101 Appliances shall be one of the following types with respect to the type of ultraviolet 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 are suitable for household and similar use and may be used by unskilled persons. They are also suitable for use in tanning salons, beauty parlours and similar premises UV type 4 appliances **are only to be used following medical advice and only intended to be used in tanning salons, beauty parlours and similar premises, under supervision of appropriately trained persons, and not for household use**

7 Marking and instructions

7.1 ***Replace*** *the first paragraph by:*

Appliances having **UV emitters** shall be marked with the appropriate UV type number in the following form:

UV type X

NOTE Z101 X is replaced by the appropriate number.

Add *after Note 102:*

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

WARNING: Only to be used following medical advice.

Delete *7.6*

7.12 *Addition:*

Replace *the fifth bullet point by:*

- persons having more than 16 moles (2 mm or more in diameter) on the body;

Replace *the eighth bullet point by:*

- persons not able to tan at all or not able to tan without burning when exposed to the sun;
- persons that burn easily when exposed to the sun;
- persons having a history of frequent severe sunburn during childhood;
- persons suffering from or previously suffering from skin cancer or predisposed to skin cancer;

Add *after the tenth bullet point:*

- persons having a first-degree relative with a history of melanoma;

Replace *the sixth dashed item by:*

– recommended schedule of exposure specifying duration and intervals (based on the **UV emitter** characteristics, distances and skin sensitivity), see Annex DD and Annex ZB;

Delete *7.14*

22.111

Replace *the Note by :*

NOTE An example of the equivalency code range calculation is as follows.

If the equivalency code of the lamp fitted in the appliance during type testing is

100–R–25/2,7

the equivalency code range that must be marked on the appliance is calculated as follows:

lower value of *X* range: 0,75 × 25 = 18,75

lower value of *Y* range: 0,85 × 2,7 = 2,29

upper value of *Y* range: 1,15 × 2,7 = 3,10

X is to be rounded to the nearest integer, *Y* is to be rounded to the nearest first decimal.

The fluorescent UV lamp equivalency code range is then:

100–R–(19-25)/(2,3-3,1)

30 Resistance to heat and fire

30.2 ***Add*** *the following note:*

NOTE Z1 The combination of a lampholder and a fluorescent lamp used for skin exposure to ultraviolet and infrared radiation is not considered to be a luminaire. EN 60598-1 is not the standard to be used in this case.

32 Radiation, toxicity and similar hazards

32.101

Replace *the first paragraph by :*

Appliances shall not present a toxic or similar hazard. Appliances having **UV emitters** shall not emit radiation having a total **effective irradiance** exceeding 0,3 W/m^2 weighted according to the erythema action spectrum of Figure 103.

Appliances shall comply with the values specified in Table BB.1.

Delete *the paragraph between Note 3 and Note 4.*

Annexes

Replace *Annex BB by the following:*

Annex BB
(normative)

Detailed classification of UV appliances

This annex provides details of a classification of UV appliances based on amounts of radiation in the ranges 250 nm to 320 nm and 320 nm to 400 nm.

BB.1 Definitions

For the purposes of this annex, the following definitions apply.

BB.1.1
UV type 1 appliance
appliance having 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

BB.1.2
UV type 2 appliance
appliance having 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

BB.1.3
UV type 3 appliance
appliance having 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

BB.1.4
UV type 4 appliance
appliance having a **UV emitter** such that the biological effect is mainly caused by radiation having wavelengths shorter than 320 nm

BB.2 Classification

UV appliances can be classified as one of the following types:

– **UV type 1 appliance**;
– **UV type 2 appliance**;
– **UV type 3 appliance**;
– **UV type 4 appliance**.

NOTE 101 **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. They are not intended for household use.

UV type 3 appliances are suitable for household and similar use and may be used by unskilled persons. They are also suitable for use in tanning salons, beauty parlours and similar premises.

UV type 4 appliances are only to be used following medical advice and only intended to be used in tanning salons, beauty parlours and similar premises, under supervision of appropriately trained persons, and not for household use

BB.3 Effective irradiance

The **effective irradiance** for each type of UV appliance, weighted according to the erythema action spectrum of Figure 103, is given in Table BB.1.

Table BB.1 – Limits of effective irradiance

UV type appliance	Effective irradiance W/m^2	
	250 nm < λ ≤ 320 nm	320 nm < λ ≤ 400 nm
1	< 0,000 5	≥ 0,15
2	0,000 5 to 0,15	≥ 0,15
3	< 0,15	< 0,15
4	≥ 0,15	< 0,15
λ is the wavelength of the radiation.		

NOTE 101: The total effective irradiance should not exceed 0,3W/m2 (cf. Subclause 32.101)

Annex DD

Add *after the fifth bullet point:*

NOTE Z101 The second and following exposures should be at least 10 min.

Add *after the ninth bullet point:*

NOTE Z102 As any exposure to UV radiation increases the risk of skin cancer, there is no safe value of maximum yearly dose.

***Add** a new annex:*

Annex ZB
(informative)

A-deviations

We confirm that the existing A-deviation mentioned in EN 60335-2-27:2010 (Annex ZB, 7.12) is still valid for Finland.

7.12 **Finland** (Decree of the Ministry of Social Affairs and Health on the Limitation of Public Exposure to Non-ionising Radiation (294/2002), 4.4.2002)

The recommended number of exposures for each part of the body is to be based upon a maximum yearly dose of 5 kJ/m^2, weighted according to the erythema action spectrum of Figure 103 and taking into account the recommended schedule of exposure.

Bibliography

The bibliography of Part 1 is applicable except as follows.

Addition:

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

NOTE Harmonized as EN 61228 (not modified).

ISO 13732-1, *Ergonomics of the thermal environment – Methods for the assessment of human responses to contact with surfaces – Part 1: Hot surfaces*

NOTE Harmonized as EN ISO 13732-1 (not modified).

IEC 60335-2-27

Edition 5.0 2009-12

INTERNATIONAL STANDARD

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PRICE CODE V

ICS 13.120; 97.170

ISBN 978-2-88910-146-7