



BSI Standards Publication

Household and similar electrical appliances — Safety

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

National foreword

This British Standard is the UK implementation of EN 60335-2-27:2013. It was derived by CENELEC from IEC 60335-2-27:2009. It supersedes BS EN 60335-2-27:2010, which will be withdrawn on 21 November 2014.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **C** **C1**.

The UK participation in its preparation was entrusted by Technical Committee CPL/61, Safety of household and similar electrical appliances, to Subcommittee CPL/61/1, Motorised appliance group.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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**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)

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CENELEC

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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with the EN have to be withdrawn (dow) 2014-11-21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 common modifications.

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.

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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.

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.

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

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 and generic standards 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. For example, in the case of temperature requirements for surfaces on many appliances, generic standards, such as ISO 13732-1 for hot surfaces, are not applicable in addition to Part 1 or part 2 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.

[C] 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. **[C]**

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.

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – SAFETY –

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

1 Scope

This clause of Part 1 is replaced by the following.

This International Standard deals with the safety of electrical appliances incorporating emitters for exposing the skin to ultraviolet or 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.

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.

As far as practicable, this standard deals with the common hazards presented by appliances that are encountered by persons using the UV 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.

NOTE 101 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;
- 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.

NOTE 102 This standard does not apply to

- appliances for medical purposes;
- 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).

2 Normative references

This clause of Part 1 is applicable.

3 Definitions

This clause of Part 1 is applicable except as follows.

3.101

ultraviolet emitter

UV emitter

radiating source constructed to emit non-ionizing electromagnetic energy at wavelengths of 400 nm or less

NOTE A fluorescent UV lamp for tanning is an example of a **UV emitter**.

3.102

infrared emitter

IR emitter

radiating source constructed to emit electromagnetic energy at wavelengths of 800 nm or longer

3.103

effective irradiance

irradiance of electromagnetic radiation weighted according to a specified action spectrum

3.104

UV filter

device used to reduce or modify the ultra-violet radiation passing through it by altering the spectral distribution of the radiation

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.

5.1 Addition:

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

*Appliances with **IR emitters** only are tested as **heating appliances**.*

6 Classification

This clause of Part 1 is applicable except as follows.

[C] 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 [C]**

7 Marking and instructions

This clause of Part 1 is applicable except as follows.

7.1 Addition:

- Ⓒ 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. Ⓒ

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.

NOTE 101 Details of the fluorescent UV lamp code that is marked on the lamp are given in IEC 61228 and are reproduced in Annex CC for information. An example of the fluorescent UV lamp equivalency code range to be marked on the appliance is given in 22.111.

For **UV emitters** other than fluorescent UV lamps for tanning, the appliance shall be marked with the type reference of the emitters that are recommended for use.

Appliances having **UV emitters** shall be marked with the substance of the following:

WARNING: Ultraviolet radiation can cause injury to eyes and skin, such as skin aging and eventually skin cancer. Read instructions carefully. Wear the protective goggles provided. Certain medicines and cosmetics may increase sensitivity.

NOTE 102 For appliances having **UV emitters** 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".

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

WARNING: Only to be used following medical advice. Ⓒ

Appliances having **UV emitters** with a luminance exceeding 100 000 cd/m² shall be marked with the substance of the following:

WARNING: Intense light. Do not stare at the emitter.

NOTE 103 The method of measuring luminance is given in Annex AA.

NOTE 104 If these warnings are combined, the word "warning" need not be repeated.

Ⓒ *Text deleted* Ⓒ

7.12 Addition:

The instructions shall give clear information with regard to the proper use of the appliance.

UV appliances shall include a statement that non-users, especially children, must not be present when the appliance is being operated.