

Australian/New Zealand Standard™

Safety of household and similar electrical appliances

Part 2.27: Particular requirements— Appliances for skin exposure to ultraviolet and infrared radiation (IEC 60335-2-27:1995, MOD)



AS/NZS 3350.2.27:1996

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002, Safety of Household and Similar Electrical Appliances and Small Power Transformers. It was approved on behalf of the Council of Standards Australia on 29 July 1996 and on behalf of the Council of Standards New Zealand on 19 August 1996.

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The following are represented on Committee EL-002:

Association of Certification Bodies
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Canterbury Manufacturers Association New Zealand
Consumer Electronic Suppliers Association, Australia
Electrical regulatory authorities, Australia
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/2, Electrical Approvals Standards to supersede AS 3315—1992/NZS 6327:1992, *Approval and test specification—Particular requirements for ultra-violet and infra-red radiation skin treatment appliances for household and similar use*, 2 years from publication. During this period it is anticipated that regulatory authorities will approve appliances to either Standard.

This Standard incorporates Amendment No. 1 (December 1998), Amendment No. 2 (March 2001) and Amendment No. 3 (May 2007). The changes required by the amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected. Where an application date other than immediate is applicable to an amendment the date of application (DOA) is indicated by the marginal bar against the part affected or by a footnote relating to the part affected.

The objective of this Standard is to provide manufacturers and regulatory bodies with minimum safety requirements, designed to give user protection against hazards that might occur during normal operation and abnormal operation of the appliance and, which may be used as the basis for approval for sale or connection to supply in Australia and New Zealand.

This Standard forms the first edition of AS/NZS 3350.2.27, *Safety of household and similar electrical appliances, Part 2.27: Particular requirements—Appliances for skin exposure to ultraviolet and infrared radiation*.

This Standard is technically equivalent to and reproduced from the third edition of IEC 60335-2-27:1995, *Safety of household and similar electrical appliances, Part 2.27: Particular requirements for appliances for skin exposure to ultraviolet and infrared radiation* including its Amendment 1. It is to be used in conjunction with the latest edition of AS/NZS 3350.1, *Safety of household and similar electrical appliances, Part 1: General requirements* and its Amendments. It was established on the basis of AS/NZS 3350.1:2002.

This Standard (Part 2) supplements or modifies the corresponding clauses in AS/NZS 3350.1 (referred to as Part 1 in this Part 2) so as to convert it into the Joint Australian/New Zealand Standard for the safety of appliances for skin exposure to ultraviolet and infrared radiation.

Where a particular clause of Part 1 is not mentioned in this Part 2, that clause applies as far as is reasonable. Where this Standard states 'addition' or 'modification' or 'replacement', the relevant text of Part 1 is to be adapted accordingly.

In this Standard the following print types are used:

- Requirements: in arial type
- *Test specifications: in italic type*
- Notes: in small roman type

Words in **bold** are defined in Clause 2. Where a definition of Part 1 contains an adjective, the adjective and associated noun are **bold** in this Part 2.

Clauses, subclauses, notes, 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 and so on.

A number of variations have been made in this Standard to the requirements of IEC 335-2-27:1995. These variations are necessary to take into account specific national circumstances such as climate and supply characteristics that affect the safety of electrical appliances used in both Australia and New Zealand. These variations are indicated throughout this Standard by a marginal bar located adjacent to the varied text or figure. Descriptions of these variations are to be found in Annex ZZ of this Standard.

These variations also form the Australian and New Zealand national variations for purposes of the IECEE scheme for recognition of testing to Standards for safety of electrical equipment (the CB Scheme).

The term 'normative' has been used in this Standard to define the application of the annex to which it applies. A 'normative' annex is an integral part of a Standard.

The numbering of clauses, subclauses, notes, tables, figures and annexes follows that of IEC 335-2-27:1995. To allow for the introduction of additional material by the IEC, the numbers 101 to 200 have been reserved. To allow for additional material to be introduced by Australia and New Zealand, the numbers 201 to 300 are used to number further clauses, subclauses, notes, tables and figures in Part 1 and the numbers 301 to 400 are used to number further clauses, subclauses, notes, tables and figures in this Part 2. Additional annexes are lettered ZA, ZB and so on. This scheme has been introduced to reduce the likelihood of the IEC and Australia and New Zealand using the same identifier for different purposes.

As this Standard is reproduced from an international Standard the following applies:

Its number does not appear on each page of text and its identity is shown only on the cover and title page.

In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

A full point substitutes for a comma when referring to a decimal marker.

References to international Standards should be replaced by equivalent Australian or Joint Australian/New Zealand Standards as follows:

NOTE: Where no relevant New Zealand Standard is listed, the referenced Australian Standard is deemed to be appropriate for the purpose of this Standard.

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>
IEC		AS/NZS
400	Lampholders for tubular fluorescent lamps and starter holders	—
598	Luminaires	—
598.1	Part 1: General requirements and tests	

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Australian/New Zealand Standard

Safety of household and similar electrical appliances **Part 2.27: Particular requirements – 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 fanning 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.

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.

2.102 **UV type 1 appliance:** Appliance provided with a UV emitter such that the bio-logical 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 bio-logical 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.

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.

A2 2.107 **effective irradiance:** Irradiance of electromagnetic radiation weighted according to a specific 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.