AS/NZS IEC 62560:2014

Australian/New Zealand Standard™

Self-ballasted LED-lamps for general lighting services by voltage > 50 V— Safety specifications (IEC 62560, Ed 1.0 (2011) MOD)

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-041, Lamps and Related Equipment. It was approved on behalf of the Council of Standards Australia on 5 June 2014 and on behalf of the Council of Standards New Zealand on 5 June 2014.
This Standard was published on 27 June 2014.

The following are represented on Committee EL-041:

Australian Fire and Emergency Service Authorities Council
Australian Industry Group
Consumers Federation of Australia
Department of Industry
Electrical Compliance Testing Association
Electrical Regulatory Authorities Council
Energy Efficiency & Conservation Authority of New Zealand
Fair Trading NSW
IES: The Lighting Society
Independent Pricing and Regulatory Tribunal
Institution of Professional Engineers New Zealand
International Accreditation New Zealand
Lighting Council Australia
Lighting Council New Zealand
Ministry of Business, Innovation and Employment, New Zealand
New Zealand Lighting Manufacturers and Suppliers

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Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

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ISBN 978 1 74342 768 2

Full document details: AS NZS IEC 62560-2014

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-041, Lamps and Related Equipment, and will be applicable on publication.

The objective of this Standard is to provide the lighting industry with electrical safety requirements for self-ballasted LED-lamps, intended for general lighting services, with a rated voltage of > 50 V.

This Standard is an adoption with national modifications. It has been reproduced from IEC 62560 Ed. 1.0 (2011), *Self-ballasted LED-lamps for general lighting services by voltage > 50 V—Safety specifications*, and its corrigendum of January 2012, the contents of which have been included in this copy. The Standard has been varied as indicated to take account of Australian/New Zealand conditions.

This Standard is structured as follows:

(a) Preface.

(b) IEC 62560 Ed. 1.0 (2011) (unedited from the contents page to the final clause of the source document).

(c) Appendix ZZ—(Australian/New Zealand) variations to the source document.

The variations listed in Appendix ZZ address issues including the following:

(i) Australian variation related to the test voltage.

(ii) Resistance to flame and ignition.

The essential safety requirements of AS/NZS 3820, *Essential safety requirements for electrical equipment*, that could be applicable to self-ballasted LED-lamps for general lighting services with a voltage > 50 V, are covered by this Standard, taken in conjunction with any other relevant requirements affecting safety.

The variations listed in Appendix ZZ form the Australian/New Zealand variations for the purposes of the IECEE CB Scheme for recognition of testing to standards for safety of electrical equipment.

In this Standard, the following print types are used:

(A) Requirements proper: in arial type.

(B) *Test specifications: in italic type*.

As this Standard is reproduced from an International Standard, the following applies:

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

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

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References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS	
60529	Degrees of protection provided by enclosures (IP Code)	60529	Degrees of protection provided by enclosures (IP Code)
IEC		AS/NZS	
60432	Incandescent lamps—Safety specifications	60432	Incandescent lamps—Safety specifications
60432-1	Part-1: Tungsten filament lamps for domestic and similar general lighting purposes	60432.1	Part 1: Tungsten filament lamps for domestic and similar general lighting purposes
60598	Luminaires	60598	Luminaires
60598-1	Part 1: General requirements and tests	60598.1	Part 1: General requirements and tests
60695	Fire hazard testing	60695	Fire-hazard testing
60695-2-10	Part 2-10: Glowing/hot-wire based test methods—Glow-wire apparatus and common test procedure	60695.2.10	Part 2.10: Glowing/hot wire based test methods—Glow-wire apparatus and common test procedure
60695-2-11	Part 2-11:Glowing/hot-wire based test methods—Glow-wire flammability test method for end-products	60695.2.11	Part 2.11:Glowing/hot wire based test methods—Glow-wire flammability test method for end-products
60695-2-12	Part 2-12: Glowing/hot-wire based test methods—Glow-wire flammability test method for materials	60695.2.12	Part 2.12: Glowing/hot wire based test methods—Glow-wire flammability test method for materials
60695-2-13	Part 2-13: Glowing/hot-wire based test methods—Glow-wire ignitability test method for materials	60695.2.13	Part 2.1: Glowing/hot wire based test methods—Glow-wire ignitability test method for materials

Only normative references that have been adopted as Australian or Australian/New Zealand Standard have been listed.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex or appendix to which they apply. A ‘normative’ annex or appendix is an integral part of a Standard, whereas an ‘informative’ annex or appendix is only for information and guidance.

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INTRODUCTION

There will be and are already LED products in the market which substitute existing lamps, either as retrofit mains voltage incandescent or self-ballasted fluorescent lamps or as replacement for tungsten halogen lamps below 50 V.

The present document takes up the supply voltage range from > 50 V up to 250 V. A proposal for a safety standard for LED lamps with voltages ≤ 50 V may follow in due time.

Future work will also consequently comprise performance standards for all kind of LED lamps, including minimum photometric requirements for type testing.

Due to the urgent need of establishing this standard, it will be a stand-alone standard for the time being, not excluding a future relocation as a part of IEC 60968, self-ballasted lamps.

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AUSTRALIAN/NEW ZEALAND STANDARD

Self-ballasted LED-lamps for general lighting services by voltage > 50 V—Safety specifications (IEC 62560, Ed 1.0 (2011) MOD)

1 Scope

This International Standard specifies the safety and interchangeability requirements, together with the test methods and conditions required to show compliance of LED-lamps with integrated means for stable operation (self-ballasted LED-lamps), intended for domestic and similar general lighting purposes, having:

– a rated wattage up to 60 W;

– a rated voltage of > 50 V up to 250 V;

– caps according to Table 1.

The requirements of this standard relate only to type testing.

Recommendations for whole product testing or batch testing are identical to those given in Annex C of IEC 62031.

NOTE Where in this standard the term “lamp(s)” is used, it is understood to stand for “self-ballasted LED-lamp(s)”, except where it is obviously assigned to other types of lamps.

2 Normative references

The following reference documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the reference document (including any amendments) applies.

IEC 60061-1, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1 : Lamp caps*

IEC 60061-3, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 3 : Gauges*

IEC 60360, *Standard method of measurement of lamp cap temperature rise*

IEC 60432-1, *Incandescent lamps – Safety specifications – Part 1: Tungsten filament lamps for domestic and similar general lighting purposes*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*

IEC 60598-1:2008, *Luminaires – Part 1: General requirements and tests*

IEC 60695-2-10:2000, *Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods; Glow-wire apparatus and common test procedure*

IEC 60695-2-11:2000, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end products*

IEC 60695-2-12:2000, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods; Glow-wire flammability test method for materials*

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IEC 60695-2-13:2000, *Fire hazard testing – Part 2-13: Glowing/hot-wire based test methods; Glow-wire ignitability test method for materials*

IEC 61199:1999, *Single-capped fluorescent lamps – Safety specifications*

IEC 61347-1:2007, *Lamp controlgear – Part 1: General and safety requirements*

IEC 62031:2008, *LED modules for general lighting – Safety requirements*

IEC/TR 62471-2, *Photobiological safety of lamps and lamp systems – Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety*

IEC/TS 62504, *Terms and definitions of LEDs and LED modules in general lighting*[1]

ISO 4046-4:2002, *Paper, board, pulp and related terms – Vocabulary – Part 4: Paper and board grades and converted products*

3 Terms and definitions

For the purposes of this document, the terms and definitions of IEC/TS 62504 (in preparation), IEC 62031 and the following apply.

3.1
self-ballasted LED-lamp
unit which cannot be dismantled without being permanently damaged, provided with a lamp cap and incorporating a LED light source and any additional elements necessary for stable operation of the light source

NOTE Lamp caps are given in IEC 60061-1.

3.2
rated voltage
voltage or voltage range marked on the lamp

3.3
rated wattage
wattage marked on the lamp

3.4
rated frequency
frequency marked on the lamp

3.5
cap temperature rise
Δt_s
surface temperature rise (above ambient) of a standard test lampholder fitted to the lamp, when measured in accordance with the standard method, in case of an Edison screw cap or a bayonet cap

NOTE The standard method for Edison screw cap or bayonet cap is that given in IEC 60360.

3.6
live part
conductive part which may cause an electric shock in normal use

[1] To be published.

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