AS 60238:2022

Australian STANDARD®

STANDARDS Australia

Edison screw lampholders (IEC 60238:2016 (ED. 9.2) MOD)

AS 60238:2022

This Australian Standard ® was prepared by EL-041, Lamps and Related Equipment. It was approved on behalf of the Council of Standards Australia on 20 April 2022.

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Australian Industry Group
Better Regulation Division (Fair Trading, Safework NSW, TestSafe)
CHOICE
Consumer Electronics Suppliers Association
Consumers Federation of Australia
Department of Industry, Science, Energy and Resources (Australian Government)
Electrical Compliance Testing Association of Australia
Electrical Regulatory Authorities Council, Australia
Energy Efficiency Council
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Lighting Council Australia
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Edison screw lampholders (IEC 60238:2016 (ED. 9.2) MOD)

Originated as AS/NZS 60238:2007.
Revised and redesignated as AS 60238:2015.
Third edition 2022.

Preface

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee, EL-041, Lamps and Related Equipment, to supersede AS 60238:2015, *Edison screw lampholders (IEC 60238, Ed. 8.2 (2011) MOD)*.

AS 60238:2015 will also remain current for three years after the date of publication of this document and after this time it will be superseded by AS 60238:2022. Regulatory authorities that reference this document in regulation may apply these requirements at a different time. Users of this document should consult with these authorities to confirm their requirements.

This document will also operate in parallel with AS/NZS 3140, *Approval and test specification—Edison screw lampholders*.

While this document (AS 60238:2022) and AS/NZS 3140 operate in parallel, they are separate stand-alone documents and the chosen Standard (i.e. AS 60238 or AS/NZS 3140) is applied in its entirety. The interchanging of requirements from each Standard is not permitted to determine overall compliance of an Edison screw lampholder, except when either Standard specifically references the other Standard's requirements.

The objective of this document is to specify particular requirements for Edison screw lampholders used in general purpose lighting.

The essential safety requirements of AS/NZS 3820, *Essential safety requirements for electrical equipment*, that could be applicable to Edison screw lampholders are covered by this document, taken in conjunction with any other relevant requirements affecting safety.

The major changes in this edition are as follows:

(a) New definitions have been added.

(b) Creepage and clearance — Tables 13a, 13b and 14 have been modified.

(c) The calculation method in Clause 21 for ball pressure has been deleted.

This document is an adoption with national modifications and has been reproduced from the red line version of IEC 60238:2016+AMD1:2017+AMD2:2020 CSV, *Edison screw lampholders*, and has been varied as indicated to take account of Australian conditions.

The variations listed in Appendix ZZ address issues including resistance to flame and ignition. Appendix ZZ has been added at the end of the source text.

The variations described in Appendix ZZ form the Australian variations for the purpose of the CB Scheme for recognition of testing to standards for safety of electrical equipment (the CB Scheme).

This document is structured as follows:

(i) Preface.

(ii) IEC 60238:2016+AMD1:2017+AMD2:2020 CSV (unedited red line version from the contents page to the final clause of the source document).

(iii) Appendix ZZ — Australian variations to the source document.

As this document has been reproduced from an International Standard, the following applies:

(A) In the source text "this International Standard" should read "this document".

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

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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EDISON SCREW LAMPHOLDERS

FOREWORD

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This consolidated version of the official IEC Standard and its amendments has been prepared for user convenience.

IEC 60238 edition 9.2 contains the ninth edition (2016-07) [documents 34B/1852/FDIS and 34B/1860/RVD], and its amendment 1 (2017-01) [documents 34B/1887/FDIS and 34B/1892/RVD] and its corrigendum (2018-01), and its amendment 2 (2020-01) [documents 34B/2029/CDV and 34B/2040A/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 60238 has been prepared by subcommittee 34B: Lamp caps and holders, of IEC technical committee 34: Lamps and related equipment.

This ninth edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Addition of a pull test for certain E5 and E10 lampholders.

b) Annex D listing amended requirements/clauses which require products to be retested.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

In this standard, the following print types are used:

– *compliance statements: in italic type.*

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION to Amendment 2

Some changes and corrections needed for IEC 60238 became obvious during the work relating to the consolidated Edition 9.1 of IEC 60238.

Change 1:

Actual lamp holder safety standards require a ball pressure test in line with IEC 60695-10-2 in sections “Resistance to heat, fire and tracking”. Within this test there is an alternative depth indentation method described for the calculation of the indentation diameter.

This alternative calculation option was removed from the latest edition of IEC 60695-10-2 dated 2014 and during its meeting held in Sydney in 2018, SC 34B/WG1 agreed to delete the alternative method as well from IEC 60238.

Change 2:

Based on IEC 60664-1:2007, 4.8.1.5 "Non tracking materials":

"For glass, ceramics or other inorganic insulating materials which do not track, creepage distances need not be greater than their associated clearance for the purpose of insulation coordination. The dimensions of Table F.2 for inhomogeneous field conditions are appropriate."

This is not completely reflected in TC 34 standards as revised recently. For applications with ELV it is of high importance whether the creepage distance shall be 0,6 mm or may be 0,2 mm in the case where inorganic insulating material is used.

Correction

In Amendment 1 to IEC 60238 Edition 9 a complete paragraph was deleted by accident. This was corrected with the publication of a corrigendum to Amendment 1, however an editorial correction needs to be made to the references to previous items, changed to table footnotes "a" and "d", as the referenced text was included in Tables 13a and 13b.

EDISON SCREW LAMPHOLDERS

1 Scope

This International Standard applies to lampholders with Edison thread E14, E27 and E40, designed for connection to the supply of lamps and semi-luminaires[1] only.

It also applies to switched-lampholders for use in AC circuits only, where the working voltage does not exceed 250 V r.m.s.

This standard also applies to lampholders with Edison thread E5 designed for connection to the supply mains of series connected lamps, with a working voltage not exceeding 25 V, to be used indoors, and to lampholders with Edison thread E10 designed for connection to the supply mains of series connected lamps, with a working voltage not exceeding 60 V, to be used indoors or outdoors. It also applies to lampholders E10 for building-in, for the connection of single lamps to the supply. These lampholders are not intended for retail sale.

As far as it reasonably applies, this standard also covers lampholders other than lampholders with Edison thread designed for connection of series-connected lamps to the supply.

NOTE This type of lampholder is for example used in Christmas tree lighting chains.

As far as it reasonably applies, this standard also covers adapters.

This standard also covers lampholders which are, wholly or partly, integral with a luminaire or intended to be built into appliances. It covers the requirements for the lampholder only. For all other requirements, such as protection against electric shock in the area of the terminals or of the lamp cap, the requirements of the relevant appliance standard are observed and tested after building into the appropriate equipment, when that equipment is tested according to its own standard. Such lampholders as well as lampholders provided with a snap-on outer shell, for use by luminaire manufacturers only, are not for retail sale.

This standard applies to lampholders to be used indoors or outdoors in residential as well as in industrial lighting installations. It also applies to candle lampholders. In locations where special conditions prevail, as for street lighting, on board ships, in vehicles and in hazardous locations, for example where explosions are liable to occur, special constructions may be required.

This standard does not apply to three-light lampholders E26d.

This standard is based on the following data relative to lamps for general lighting service:

– caps E14 are used for lamps with a current not exceeding 2 A;
– caps E27 are used for lamps with a current not exceeding 4 A;
– caps E40 are used for lamps with a current not exceeding 16 A, or 32 A if the nominal voltage of the supply does not exceed 130 V (see 5.5 and 6.3).

Where lampholders are used in luminaires, their maximum operating temperatures are specified in IEC 60598.

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1 Requirements for lampholders suitable for semi-luminaires are under consideration.