



BSI Standards Publication

Miscellaneous lampholders

Part 1: General requirements and tests

National foreword

This British Standard is the UK implementation of EN 60838-1:2017+A11:2021. It is identical to IEC 60838-1:2016, incorporating amendments 1:2017 and 2:2020. It supersedes BS EN 60838-1:2017+A2:2021, which will be withdrawn on 24 January 2024.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by **A1** **A1**.

The UK participation in its preparation was entrusted to Technical Committee CPL/34/2, Lamp caps and holders.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

Date	Text affected
31 March 2018	Implementation of IEC amendment 1:2017 with CENELEC endorsement A1:2017
30 April 2021	Implementation of IEC amendment 2:2020 with CENELEC endorsement A2:2021
30 June 2021	Implementation of CENELEC amendment A11:2021: replacement of Annexes ZA and ZZ

English Version

Miscellaneous lampholders -
Part 1: General requirements and tests
(IEC 60838-1:2016)

Douilles diverses pour lampes - Partie 1: Exigences
générales et essais
(IEC 60838-1:2016)

Sonderfassungen - Teil 1: Allgemeine Anforderungen und
Prüfungen
(IEC 60838-1:2016)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 34B/1850A/FDIS, future edition 5 of IEC 60838-1, prepared by SC 34B “Lamp caps and holders” of IEC/TC 34 “Lamps and related equipment” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60838-1:2017.

The following dates are fixed:

- latest date by which the document has to be (dop) 2017-10-28
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2020-04-28
standards conflicting with the
document have to be withdrawn

This document supersedes EN 60838-1:2004.

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60061-1	NOTE	Harmonized as EN 60061-1.
IEC 60061-4	NOTE	Harmonized as EN 60061-4.
IEC 60068-2-20	NOTE	Harmonized as EN 60068-2-20.

Foreword to amendment A1

The text of document 34B/1888/FDIS, future IEC 60838-1:2016/A1, prepared by SC 34B "Lamp caps and holders" of IEC/TC 34 "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60838-1:2017/A1:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-02-04
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-08-04

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IEC 60664-4:2005	NOTE	Harmonized as EN 60664-4:2006.
IEC 61347-1:2015	NOTE	Harmonized as EN 61347-1:2015.

Foreword to amendment A2

The text of document 34B/2071/FDIS, future IEC 60838-1/A2, prepared by SC 34B "Lamp caps and holders" of IEC/TC 34 "Lighting" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60838-1:2017/A2:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-10-02
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-04-02

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The text of the International Standard IEC 60838-1:2016/A2:2020 was approved by CENELEC as a European Standard without any modification.

Forward to Amendment A11

This document (EN 60838-1:2017/A11:2021) has been prepared by CLC/TC 34 "Lighting".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-04-13
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2024-04-13

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60061	Series	Lamp caps and holders together with gauges for the control of interchangeability and safety	EN 60061	Series
IEC 60061-2	-	Lamp caps and holders together with gauges for the control of interchangeability and safety Part 2: Lampholders	EN 60061-2 up to A/54 -	1993 2018
IEC 60061-3	-	Lamp caps and holders together with gauges for the control of interchangeability and safety Part 3: Gauges	EN 60061-3 up to A/56 -	1993 2019
IEC 60068-2-75	2014	Environmental testing Part 2-75: Tests - Test Eh: Hammer tests	- EN 60068-2-75	2014
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
+A1	2009		+A1	2009
IEC 60227	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	-	-
IEC 60238	-	Edison screw lampholders	EN 60238 +A1	2018 2018
IEC 60245	Series	Rubber insulated cables - Rated voltages up to and including 450/750 V	-	-
IEC 60352-1	-	Solderless connections Part 1: Wrapped connections - General requirements, test methods and practical guidance	- EN 60352-1	1997
IEC 60399	-	Barrel thread for lampholders with shade holder ring	EN 60399 +A1	2004 2008
IEC 60417-DB	-	Graphical symbols for use on equipment	-	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
+A1	1999		+A1	2000
+A2	2013		+A2	2013
IEC 60598-1 (mod)	2014	Luminaires Part 1: General requirements and tests	- EN 60598-1	2015
IEC 60664-1		Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60695-2-11	-	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)	- EN 60695-2-11	2014
IEC 60695-11-5	-	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	- EN 60695-11-5	2017
ISO 1456	-	Metallic and other inorganic coatings - Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and of copper plus nickel plus chromium	EN ISO 1456	-
ISO 2081	-	Metallic and other inorganic coatings - Electroplated coatings of zinc with supplementary treatments on iron or steel	EN ISO 2081	-
ISO 2093	-	Electroplated coatings of tin; Specification and test methods	-	-
ISO 4046-4	2002	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-

Annex ZZ (informative)

Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European standard has been prepared under a Commission's standardisation request relating to harmonised standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

Table ZZ.1 — Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96]

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1. General conditions		
a) the essential characteristics, the recognition and observance of which will ensure that electrical equipment will be used safely and in applications for which it was made, shall be marked on the electrical equipment, or, if this is not possible, on an accompanying document;	Clause 7	
b) the electrical equipment, together with its component parts, shall be made in such a way as to ensure that it can be safely and properly assembled and connected;	Clause 9 and 11	
c) the electrical equipment shall be so designed and manufactured as to ensure that protection against the hazards set out in points 2 and 3 is assured, providing that the equipment is used in applications for which it was made and is adequately maintained.	See item 2 and 3 of this table	
2. Protection against hazards arising from the electrical equipment Measures of a technical nature shall be laid down in accordance with point 1, in order to ensure that:		

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
a) persons and domestic animals are adequately protected against the danger of physical injury or other harm which might be caused by direct or indirect contact;	Clauses 4, 8, 9, 10, 11, 12 and 14	
b) temperatures, arcs or radiation which would cause a danger, are not produced;	Clauses 11, 12, 15, 16 and 17	
c) persons, domestic animals and property are adequately protected against non-electrical dangers caused by the electrical equipment which are revealed by experience;	Clauses 4, 11, 13, 16 and 18	
d) the insulation is suitable for foreseeable conditions.	Clauses 8, 10, 11, 13, 15 and 17	
3. Protection against hazards which may be caused by external influences on the electrical equipment Technical measures shall be laid down in accordance with point 1, in order to ensure that the electrical equipment:		
a) meets the expected mechanical requirements in such a way that persons, domestic animals and property are not endangered;	Clauses 7, 11, 13 and 18	
b) is resistant to non-mechanical influences in expected environmental conditions, in such a way that persons, domestic animals and property are not endangered;	Clauses 11, 12, 15 and 17	
c) does not endanger persons, domestic animals and property in foreseeable conditions of overload.	Clauses 11, 12 and 17	

WARNING 1: Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2: Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

CONTENTS

FOREWORD	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
4 General requirement	10
5 General conditions for tests	10
6 Classification	11
7 Marking	12
8 Protection against electric shock	14
9 Terminals	15
10 Provision for earthing	16
11 Construction	17
12 Moisture resistance, insulation resistance and electric strength	19
13 Mechanical strength	20
14 Screws, current-carrying parts and connections	21
15 Creepage distances and clearances	21
16 Endurance	26
17 Resistance to heat and fire	27
18 Resistance to excessive residual stresses (season cracking) and to rusting	30
Annex A (informative) Lampholders covered by this standard	32
Annex B (informative) Suitable metals	34
Annex C (normative) Season cracking/corrosion test	35
Annex D (normative) Pendulum impact test apparatus	37
Annex E (informative) Clauses containing new or more stringent requirements with respect to the previous edition	39
Annex F (informative) Guidance on working voltages U_{out}	40
Bibliography	42
Figure 1 – Ball-pressure test apparatus	28
Figure D.1 – Impact test apparatus	37
Figure D.2 – Mounting fixture	38
Table 1 – Minimum values of insulation resistance	19
Table 2 – Height of fall	20
Table 2a – Minimum distances for AC sinusoidal voltages up to 30 kHz – Impulse withstand category II	23
Table 2b – Minimum distances for AC sinusoidal voltages up to 30 kHz – Impulse withstand category III	24
Table 3 – Minimum distances for ignition pulse voltages or equivalent transformed peak voltages U_p	25
Table A.1 – Lampholders covered by this standard	32
Table C.1 – Test solution	35

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MISCELLANEOUS LAMPHOLDERS –

Part 1: General requirements and tests

FOREWORD

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International Standard IEC 60838-1 has been prepared by subcommittee 34B: Lamp caps and holders, of IEC technical committee 34: Lamps and related equipment.

This fifth edition cancels and replaces the fourth edition published in 2004, Amendment 1:2008 and Amendment 2:2011. This edition constitutes a technical revision.

The significant technical changes in this edition with respect to the previous edition include the introduction of new or revised requirements for single and dual contact ignition voltages, steel test caps and brass test caps and an Annex E listing amended requirements/clauses which require products to be retested.

The text of this standard is based on the following documents:

FDIS	Report on voting
34B/1850A/FDIS	34B/1856/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

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

A list of all parts in the IEC 60838 series, published under the general title *Miscellaneous lampholders*, can be found on the IEC website.

In this standard, the following type is used:

– *compliance statements: in italic type.*

The committee has decided that the contents of this publication 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.

MISCELLANEOUS LAMPHOLDERS –

Part 1: General requirements and tests

1 Scope

This part of IEC 60838 applies to lampholders of miscellaneous types intended for building-in (to be used with general purpose light sources, projection lamps, floodlighting lamps and street-lighting lamps with caps as listed in Annex A) and the methods of test to be used in determining the safe use of lamps in lampholders.

This part of IEC 60838 also covers lampholders which are integral with a luminaire. It covers the requirements for the lampholder only.

This part of IEC 60838 also covers lampholders integrated in an outer shell and dome similar to Edison screw lampholders. Such lampholders are further tested in accordance with the relevant clauses of IEC 60238.

Requirements for lampholders for tubular fluorescent lamps, Edison screw lampholders and bayonet lampholders are covered by separate standards.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60061 (all parts), *Lamp caps and holders together with gauges for the control of interchangeability and safety* (available at <http://std.iec.ch/iec60061>)

IEC 60061-2, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 2: Lampholders*

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

IEC 60068-2-75:2014, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*
IEC 60112:2003/AMD1:2009

IEC 60227 (all parts), *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V*

IEC 60238, *Edison screw lampholders*

IEC 60245 (all parts), *Rubber insulated cables – Rated voltages up to and including 450/750 V*

IEC 60352-1, *Solderless connections – Part 1: Wrapped connections – General requirements, test methods and practical guidance*

IEC 60399, *Barrel thread for lampholders with shade holder ring*

IEC 60417, *Graphical symbols for use on equipment* (available at <http://www.graphical-symbols.info/equipment>)

IEC 60529:1989, *Degrees of protection provided by enclosures (IP code)*¹

IEC 60529:1989/AMD1:1999

IEC 60529:1989/AMD2:2013

 IEC 60598-1:2014, *Luminaires – Part 1: General requirements and tests*
IEC 60598-1:2014/AMD1:2017

IEC 60664-1:2007, *Insulation co-ordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests* 

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

IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

ISO 1456, *Metallic and other inorganic coatings – Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and of copper plus nickel plus chromium*

ISO 2081, *Metallic and other inorganic coatings – Electroplated coatings of zinc with supplementary treatments on iron or steel*

ISO 2093, *Electroplated coatings of tin – Specification and test methods*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

rated voltage

voltage declared by the manufacturer to indicate the highest working voltage for which the lampholder is intended

3.2

working voltage

highest r.m.s. voltage that may occur across any insulation, transients being disregarded, both when the lamp is operating under normal conditions and when the lamp is removed

¹ A consolidated version of this publication exists, comprising IEC 60529:1989, IEC 60529:1989/AMD1:1999 and IEC 60529:1989/AMD2:2013.