

Specification for miscellaneous lampholders —

Part 1: General requirements and tests

The European Standard EN 60838-1:1998, with the incorporation of amendments A1:1999 and A2:2002, has the status of a British Standard

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National foreword

This British Standard is the English language version of EN 60838-1:1997, including amendments A1:1999 and A2:2002, including Corrigendum July 2003. It is identical with IEC 60838-1:1997, including amendments 1:1999 and A2:2002. It supersedes BS EN 60838-1:1995 which was withdrawn on 1998-10-01.

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A1] <A1>. 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, which has the responsibility to:

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Summary of pages

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English version

Miscellaneous lampholders Part 1: General requirements and tests

(includes amendments A1:1999 and A2:2002)
(IEC 60838-1:1997 + A1:1999 + A2:2002)

Douilles diverses pour lampes
Partie 1: Prescriptions générales
et essais
(inclut les amendements A1:1999 et A2:2002)
(CEI 60838-1:1997 + A1:1999 + A2:2002)

Sonderfassungen
Teil 1: Allgemeine Anforderungen
und Prüfungen
(enthält Änderung en A1:1999 und A2:2002)
(IEC 60838-1:1997 + A1:1999 + A2:2002)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Foreword

The text of document 34B/733 + 733A/FDIS, future edition 3 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 was approved by CENELEC as EN 60838-1 on 1998-01-01.

This European Standard supersedes EN 60831-1:1994 and its amendment A1:1997.

The following dates were 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) 1998-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-10-01

Annexes designated “normative” are part of the body of the standard.

In this standard, Annex A, Annex B, Annex C, Annex D and Annex ZA are normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60838-1:1997 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

The text of document 34B/838/FDIS, future amendment 1 to 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 was approved by CENELEC as amendment A1 to EN 60838-1:1998 on 1999-12-01.

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- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2006-12-01

Annexes designated “normative” are part of the body of the standard.

In this standard, Annex ZA is normative.

Annex ZA has been added by CENELEC.

Foreword to amendment A2

The text of document 34B/1027/FDIS, future amendment 2 to IEC 60838-1:1997, 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 was approved by CENELEC as amendment A2 to EN 60838-1:1998 on 2002-11-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2003-08-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2006-12-01

Annexes designated “normative” are part of the body of the standard.

In this standard, Annex A is normative.

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1 General

1.1 Scope

This part of IEC 60838 applies to lampholders of miscellaneous types intended for building-in (to be used with general-purpose ^{A2} light sources ^{A2}, 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.

^{A1} 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 following subclauses of IEC 60238: 8.4; 8.5; 8.6; 9.3; 10.7; 11; 12.2; 12.5; 12.6; 12.7; 13; 15.3; 15.4; 15.5 and 15.9.

Lampholders designed with a barrel thread for shade holder rings should comply with IEC 60399. ^{A1}

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

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60838. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 60838 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60061, Lamp caps and holders together with gauges for the control of interchangeability safety.

IEC 60061-1:1969, Lamp caps and holders together with gauges for the control of interchangeability and safety — Part 1: Lamp caps.

IEC 60061-2:1969, Lamp caps and holders together with gauges for the control of interchangeability and safety — Part 2: Lampholders.

IEC 60061-3:1969, Lamp caps and holders together with gauges for the control of interchangeability and safety — Part 3: Gauges.

IEC 60068-2-20:1979, Environmental testing — Part 2: Tests — Test T: Soldering.

IEC 60068-2-62:1991, Environmental testing — Part 2: Test methods — Test Ef: Impact, pendulum hammer.

IEC 60068-2-63:1991, Environmental testing — Part 2: Test methods — Test Eg: Impact, spring hammer.

IEC 60112:1979, Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions.

IEC 60227, Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V.

^{A1} IEC 60238:1998, Edison screw lampholders. ^{A1}

IEC 60245, Rubber insulated cables of rated voltages up to and including 450/750 V.

IEC 60352-1:1983, Solderless connections — Part 1: Solderless wrapped connections — General requirements, test methods and practical guidance.

^{A1} IEC 60399:1972, *Standard sheets for barrel thread for E14 and E27 lampholders with shade holder ring*. ^{A1}

IEC 60417:1973, Graphical symbols for use on equipment — Index, survey and compilation of the single sheets.

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

IEC 60598-1:1996, Luminaires — Part 1: General requirements and tests.

IEC 60664-1:1992, Insulation co-ordination for equipment within low-voltage systems — Part 1: Principles, requirements and tests.

IEC 60695-2-1/0:1994, Fire hazard testing — Part 2: Test methods — Section 1/sheet 0: Glow-wire test methods — General.

IEC 60695-2-1/1:1994, Fire hazard testing — Part 2: Test methods — Section 1/sheet 1: Glow-wire end-product test and guidance.

IEC 60695-2-1/2:1994, Fire hazard testing — Part 2: Test methods — Section 1/sheet 2: Glow-wire flammability test on materials.

IEC 60695-2-1/3:1994, Fire hazard testing — Part 2: Test methods — Section 1/sheet 3: Glow-wire ignitability test on materials.

IEC 60695-2-2:1991, Fire hazard testing — Part 2: Test methods — Section 2: Needle-flame test.

ISO 1456:1988, Metallic coatings — Electrodeposited coatings of nickel plus chromium and of copper plus nickel plus chromium.

ISO 2081:1986, Metallic coatings — Electroplated coatings of zinc on iron or steel.

ISO 2093:1986, Electroplated coatings of tin — Specification and test methods.

ISO 4046:1978, Paper, board, pulp and related terms — Vocabulary. (Bilingual edition)

2 Definitions

For the purpose of this International Standard, the following definitions apply.

2.1

rated voltage

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

2.2

working voltage

the 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

2.3

rated current

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

2.4 lampholder for building-in

a lampholder designed to be built into a luminaire, an additional enclosure or the like

2.4.1

unenclosed lampholder

a lampholder for building-in so designed that it requires additional means, for example enclosures, to meet the requirements of this standard with regard to protection against electric shock

2.4.2

enclosed lampholder

a lampholder for building-in so designed that it fulfils on its own the requirements of this standard with regard to protection against electric shock

2.5

rated operating temperature

the highest temperature for which the lampholder is designed

2.6

rated pulse voltage

the highest peak value of pulse voltages the holder is able to withstand

2.7**lamp connectors**

a set of contacts specially designed to provide for electrical contact but not supporting the lamp

2.8**type test**

a test or series of tests made on a type test sample, for the purpose of checking compliance of the design of a given product with the requirements of the relevant standard

2.9**type test sample**

a sample consisting of one or more similar specimens submitted by the manufacturer or responsible vendor for the purpose of a type test

2.10**live part**

a conductive part which may cause an electric shock

3 General requirement

Lampholders shall be so designed and constructed that in normal use they function reliably and cause no danger to persons or surroundings.

In general, compliance is checked by carrying out all the tests specified.

4 General conditions for tests**4.1 Tests according to this standard are type tests.**

NOTE The requirements and tolerances permitted by the standard are related to testing of type test sample submitted for that purpose. Compliance of type test sample does not ensure compliance of the whole production of a manufacturer with this safety standard. Conformity of production is the responsibility of the manufacturer and should include routine tests and quality assurance in addition to type testing.

4.2 Unless otherwise specified, the tests are made at an ambient temperature of $20\text{ °C} \pm 5\text{ °C}$ and with the holder in the most unfavourable position for normal use.

A1 If a lampholder is declared to accept different lamp fits, it shall comply with the requirements of each of the fits mentioned.

Compliance is checked with separate sets of specimens according to 4.3.

If the use of different lamp fits in turn is permitted by the manufacturer, only one set of specimens is used to check compliance with all requirements.

*For all tests the most critical of the relevant fits and gauges shall be used and in the most onerous sequence. **A1***

4.3 The tests and inspections are carried out in the order of the clauses, on a total of:

- 10 pairs of matching holders intended for linear double-capped lamps;

NOTE If a pair of holders consists of identical holders, it is sufficient that one holder instead of one pair is subjected to all the tests, except for the tests of **7**, **10.2**, **10.3**, **12**, **15** and **16.6** where pairs are needed.

- 10 specimens intended for single-capped lamps;

in the order of the clauses, as follows:

- three pairs or three specimens: Clauses **3**, **4**, **5**, **6**, **7**, **8**, **9**, **10**, **11**, **12**, **13** and **14** (except for **8.2**);

NOTE The tests of **8.2** are carried out on the number of separate specimens as required by the relevant standards.

- three pairs or three specimens: Clause **15** and subclause **16.6**;
- one pair or one specimen: subclause **16.1**;
- one pair or one specimen: subclause **16.3**;
- one pair or one specimen: subclause **16.4**;
- one pair or one specimen: subclause **16.5** and Clause **17**.