SLOVENSKI STANDARD

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Bayonet lampholders (IEC 61184:1997)

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English version

Bayonet lampholders (IEC 61184:1997)

Douilles à baïonnette (CEI 61184:1997)

Bajonett-Lampenfassungen (IEC 61184:1997)

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

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Foreword

The text of document 34B/661/FDIS, future edition 2 of IEC 61184, 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 61184 on 1997-10-01.

This European Standard supersedes EN 61184:1994 + A1:1996.

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) 1998-07-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 1998-07-01

For products which have complied with EN 61184:1994 and its amendment A1:1996 before 1998-07-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2003-07-01.

Annexes designated "normative" are part of the body of the standard. In this standard, annexes A, ZA and ZB are normative.

Annexes ZA and ZB have been added by CENELEC. PRIVITAN

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Endorsement notice

Endorsement notice SIST EN 61184:1999

The text of the International Standard JEC 61184:1997 was approved by CENELEC as a European Standard without any modification steen-61184-1999

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BAYONET LAMPHOLDERS

INTRODUCTION

This standard covers safety requirements for bayonet lampholders and includes references to IEC 60061 for the control of interchangeability and safety of the cap and holder fit.

NOTE - Safety requirements ensure that electrical equipment constructed in accordance with these requirements does not endanger the safety of persons, domestic animals or property when properly installed and maintained and used in applications for which it was intended.

The thermal characteristics of lampholders are specified by the rated operating temperature (symbol T), which is the highest temperature for which the lampholder is designed. The temperature rating and the resistance to heat specified in this standard are based on two different principles, as presently found in IEC 60238 for Edison screw lampholders and in other national standards for bayonet lampholders. After experience, it may be possible to rationalize the systems in future editions of this standard.

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1 General

1.1 Scope

This International Standard applies to bayonet lampholders B15d and B22d for connection of lamps and semi-luminaires to a supply voltage of 250 V.

As far as it reasonably applies, the standard also covers lampholders which are wholly or partly integral with a luminaire or intended to be built into appliances.

Independent lampholders, e.g. backplate lampholders, not specifically intended for building-in, are submitted to the additional requirements detailed in clause 3.

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

B15 denotes the cap/holder fit as defined by IEC 60061-1, sheet 7004-11 and IEC 60061-2, sheet 7005-16 with the corresponding gauges.

B22 denotes the cap/holder fit as defined by IEC 60061-1, sheet 7004-10 and IEC 60061-2, sheet 7005-10 with the corresponding gauges.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subjected to revision, and parties to agreements based on this International Standard 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 and 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 60064: 1993, Tungsten filament lamps for domestic and similar general lighting purposes

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IEC 60068-2-62: 1991, Environmental testing - Part 2: Tests - Test Ef: Impact, pendulum hammer (standards.iteh.ai)

IEC 60068-2-63: 1991, Environmental testing 184 Part 2: Tests - Test Eg: Impact, spring hammer

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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

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

IEC 60399: 1972, Standard sheets for barrel thread for E14 and E27 lampholders with shade holder ring

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

IEC 60432: Safety specifications for incandescent lamps

IEC 60529: 1989, Degrees of protection provided by enclosures

IEC 60598-1: 1992, Luminaires - Part 1: General requirements and tests

IEC 60664: Insulation co-ordination within low-voltage systems

IEC 60695-2: Fire hazard testing - Part 2: Test methods

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

ISO 4046: 1978, Paper, board, pulp and related terms - Vocabulary

2 Definitions .

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

NOTE - For clarification of some definitions, see also figure 4.

- 2.1 Materials
- 2.1.1 plastic lampholder: a lampholder, the exterior of which is made wholly of plastic material.

NOTE - The exterior is any part of the lampholder which, when wired and fully assembled and fitted with the testing device shown in figure 7, can be touched directly by the standard test finger of IEC 80529.

- 2.1.2 ceramic lampholder: A lampholder, the exterior of which is made wholly of ceramic material (see note to 2.1.1). (standards.iteh.ai)
- 2.1.3 metal lampholder: A lampholder, the exterior of which is made wholly or partly of metal (see note to 2.1.1). SISTEN 61184:1999

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- 2.2 Means of fixing
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- 2.2.1 cord grip lampholder: A lampholder incorporating a method of retaining a flexible cord by which it may be suspended (see figure 4(a)).
- 2.2.2 threaded entry lampholder: A lampholder incorporating a threaded component at the point of entry of the supply wires permitting the lampholder to be mounted on a mating threaded support (formerly called nipple lampholder) (see figure 4(b)).
- 2.2.3 backplate lampholder: A lampholder so designed as to be suitable for mounting, by means of an associated or integral backplate, directly on to a supporting surface or appropriate box (see figure 4(c)).
- 2.3 terminal/contact assembly: A part or an assembly of parts which provides a means of connection between the termination of a supply conductor and the contact-making surfaces of the corresponding lamp cap as well as resilient means to maintain contact pressure.
 - a) Rising type, where the terminal is allowed to rise parallel with the lamp axis on insertion of a lamp cap.
 - b) Non-rising type, where the terminal is not allowed to rise on insertion of a lamp cap.

NOTE - The terminal and the barrel may be a unique element.

- 2.4 union ring: A cylindrical component which joins together separate external parts of the lampholder.
- 2.5 shade ring: A cylindrical component having an internal thread or other means to engage a corresponding support on the outer shell and intended to carry or retain a shade.
- 2.6 skirt: (plastic lampholders only) A component similar to a shade ring but having a longer cylindrical form to extend to the full length of the lampholder body.
- 2.6.1 protective shield: (plastic lampholders only) A component similar to a skirt but having a flared open end to protect the user from accidental contact with the lamp cap. (See figure 9.)
- 2.7 dome: Part of a cord grip lampholder or threaded entry lampholder which shields the connecting terminals.
- 2.8 barrel: Part of a lampholder which serves for mechanical connection of the lamp cap with the lampholder.
- 2.9 lampholder for building-in: A lampholder designed to be built into a luminaire, an additional enclosure or the like.
- 2.9.1 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.
- 2.9.2 enclosed lampholder: A lampholder for building-in so designed that, on its own, it fulfils the requirements of this standard with regard to protection against electric shock and, if appropriate, IP classification.

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- 2.10 independent lampholder: A lampholder so designed that it can be mounted separately from a luminaire and at the same time provide all the necessary protection according to its classification and marking.
- 2.11 switched lampholder: A lampholder provided with an integral switch to control the supply to the lamp.
- 2.12 basic insulation: Insulation applied to live parts to provide basic protection against electric shock.

NOTE - Basic insulation does not necessarily include insulation used exclusively for functional purposes.

- 2.13 supplementary insulation: Independent insulation applied in addition to basic insulation in order to provide protection against electric shock in the event of a failure of basic insulation.
- 2.14 double insulation: Insulation comprising both basic insulation and supplementary insulation.
- 2.15 reinforced insulation: A single insulation system applied to live parts which provides a degree of protection against electric shock equivalent to double insulation under the conditions specified.

NOTE - The term "insulation system" does not imply that the insulation must be one homogeneous piece. It may comprise several layers which cannot be tested singly as supplementary or basic insulation.

2.16 live part: A conductive part which may cause an electric shock in normal use. The neutral conductor shall, however, be regarded as a live part.

The test to determine whether or not a conductive part is a live part which may cause an electric shock is given in annex A of IEC 60598-1.

- 2.17 type test: A test or series of tests made on a type test specimen for the purpose of checking compliance of the design of a given product with the requirements of the relevant standard.
- 2.18 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.
- 2.19 semi-luminaire: A unit similar to a self-ballasted lamp but designed to utilize a replaceable light source and/or starting device.
- 2.20 rated operating temperature: The highest temperature for which the lampholder is designed.
- 2.21 rated pulse voltage: The highest peak of pulse voltages that the holder is able to withstand.

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3 General requirements

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Lampholders shall be so designed and constructed that in normal use they function reliably and cause no danger to persons or surroundings sist/5841f2cb-523d-4f45-9565-

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

Independent lampholders, not specifically intended for building-in, shall comply with the requirements of the following clauses of IEC 60598-1 where these requirements are not covered by the requirements of this standard.

Clause 2 - Classification
Clause 3 - Marking

Clause 4 - Construction (as appropriate)

Clause 8 - Protection against electric shock
Clause 9 - Resistance to dust, solid objects and moisture

Clause 10 - Insulation resistance and electric strength (for class II)

Subclauses 12.4 and 12.5 - Thermal tests

4 General conditions for tests

4.1 Tests according to this standard are type tests.

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

- 4.2 Unless otherwise specified, the samples are tested as delivered and installed as in normal use without lamps, at an ambient temperature of 20 °C \pm 5 °C.
- 4.3 All inspections and tests are carried out on a total of:
- 8 specimens for unswitched lampholders, or
- 11 specimens for switched lampholders;

in the order of the clauses as follows:

- 3 specimens: clauses 3 to 12;
- 3 specimens: clauses 14 to 18;
- 3 specimens: clause 13 (switched lampholder tests only);
- 2 specimens: clauses 19 and 20.

NOTE - For testing of screwless terminals according to 10.2 separate additional specimens are required. This is also necessary for independent lampholders not specifically intended for building-in (see clause 3).

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4.4 If no lampholder fails in the complete series of tests specified in 4.3, then lampholders of that type shall be deemed to comply with this standard.

If one lampholder fails in any group in the complete series of tests specified in 4.3, the lampholders of that type shall be deemed to have failed to comply with this standard, unless that lampholder can be shown to be not representative of normal production or design, in which case a further set of lampholders shall be submitted to the test or tests in that group. Generally it will be necessary to only repeat the test in which failure occurs. However, if the lampholder fails in the test specified in clauses 14 to 18 inclusive, the tests shall be repeated from the tests of clause 14 onwards.

An additional type test sample may be submitted, together with the first type test sample, in case one lampholder fails, in which case the additional type test sample shall then be tested and shall only be rejected if a further failure occurs. If there is no failure in this retest then lampholders of that type shall be deemed to comply with this standard. If the additional type test sample is not submitted at the same time, a failure of one lampholder shall entail a rejection.

If more than one specimen fails in the complete series of tests specified in 4.3 then lampholders of that type shall be deemed to have failed to comply with this standard.

NOTE - In view of the duration of the test procedure, lampholders differing only in detail and having the same constructional principles and materials may be covered by a single series of type tests, subject to agreement between applicant and test house.

5 Standard ratings

5.1 Standard rated voltage

For all lampholders only a rated voltage of 250 V is allowed.

Lampholders B15d are not intended for use in circuits with ignitors.

Lampholders B22d shall not be used in circuits with ignitors without approval from the lampholder manufacturer.

NOTE - From the theoretical point of view the minimum creepage distance required for a holder B22d will result in a clearance sufficient to withstand a pulse voltage of 2,5 kV.

The measures required to allow easy contact travel and lamp removal might in some situations, however, be accompanied by unforeseen reduction of the clearance without influence on normal operation (without ignitor) where only the creepage distances are critical.

BY22d lampholders are specially designed for use in ignitor circuits.

5.2 Standard rated currents are:

- 2 A for lampholders B15;
- 2 A for lampholders B22.

The rated current shall be not less than the standard value. Rated currents higher than 2 A are allowed.

Compliance with the requirements of 5.1 and 5.2 is checked by inspection of the marking.

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6 Classification

Lampholders are classified:

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- 6.1 According to the material of the exterior st-en-61184-1999
- lampholders whose exterior is made wholly of plastic material:
- lampholders whose exterior is made wholly of ceramic material;
- lampholders whose exterior is made wholly or partly of metal.

NOTE - For definition of "exterior" see note to 2.1.1.

Lampholders with external parts consisting partly of metal and lampholders comprising external parts of insulating material with a conductive outer surface, e.g. a metallized outer shell, are considered as metal lampholders.

This does not apply to threaded entries and external parts, as for example a metal shade ring mounted on to the outside of a lampholder of insulating material, which cannot become live even in the case of an insulation fault. Metal lampholders with insulating coverings are considered as metal lampholders.

If in doubt as to whether or not a surface is conductive, two stripe-electrodes 1,5 mm wide, 25 mm long and with a distance of 2 mm from each other are applied to the surface (e.g. with silver conductive paint). In accordance with 14.3, the insulating resistance is measured between the stripes. The surface is considered to be conductive if the resistance is less than 5 $M\Omega$.

- 6.2 According to degree of protection against solid objects and ingress of water:
- ordinary lampholders;
- drip-proof lampholders.

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NOTE - A classification for higher degrees of protection against ingress of water is under consideration.

6.3 According to method of fixing:

- threaded entry lampholders;
- cord grip lampholders;
- backplate lampholders;
- other lamphoiders.

NOTE - Examples of other lampholders are lampholders provided with a mechanical suspension device e.g. a hook.

6.4 According to type:

- switched lampholders provided with an integral switch to control the supply to the lamp;
- non-switched lampholders.
- 6.5 According to protection against electric shock:
- enclosed lampholders;
- unenclosed lampholders;
- independent lampholders. STANDARD PREVIEW

6.6 According to resistance to heat: (Standards.iteh.ai)

- without T marking, suitable for rated operating temperatures up to and including 135 °C for B15d lampholders and 165 °C for B22d lampholders;
- with Txxx marking; suitable for rated operating temperatures up to and including the temperature marked or declared by the manufacturer. These temperatures shall be not lower than 140 °C for B15d lampholders and not lower than 170 °C for B22d lampholders;

NOTE - The value of the temperature marking shall be increased by steps of 10 °C.

with T1 marking, suitable for temperatures on the lamp cap up to and including 165 °C;

NOTE - The continued use of T1 lampholders is subject to review.

- with T2 marking, suitable for temperatures on the lamp cap up to and including 210 °C.

7 Marking

- 7.1 Lampholders shall be marked with:
- rated voltage, in volts;
- rated operating temperature Txxx, T1 or T2, if applicable (see 6.6).

In the first version the letter T shall be followed by the value of the rated operating temperature in degrees Celsius;

- symbol for nature of supply, if required (for switched lampholders only);

- for lampholders whose exterior is made wholly of ceramic material, information on the rated operating temperature, if applicable, shall either be marked on the lampholder or given in the manufacturer's catalogue;
- mark of origin (this may take the form of a trade mark, or the manufacturer's or responsible vendor's name or identification mark);

NOTE - The mark of origin is not intended to mean the country of origin.

- either a unique catalogue number or an identifying reference;

NOTE - An identifying reference may include numbers, letters, colour, etc. to identify the lampholder by reference to the manufacturer's or responsible vendor's catalogue or similar literature.

- rated current, in amperes, if greater than 2 A;
- IP number, if other than ordinary, for degree of protection against ingress of water (see 6.2):
- for single-pole switched lampholder the switched pole shall be identified.
- 7.2 If symbols are used for current and voltage, A shall denote amperes and V volts.

Alternatively, figures alone may be used, the figure for the rated current being marked before or above that for the rated voltage and separated from the latter by a line.

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Therefore the marking for current and voltage may be as follows:

4 A 250 V or 4/250 or 4 SIST EN 61184:1999 https://star250 ds.iteh.ai/catalog/standards/sist/5841f2cb-523d-4f45-9565-

The symbol for d.c. shall be $\frac{510}{---}$ (see IEC 60417, sheet 60417-IEC-5031-a).

The symbol for protection against ingress of water shall, for drip-proof lampholders, be IPX1.

NOTE - Where X is used in an IP number, it is intended to indicate a missing numeral in the symbol but both the appropriate numerals in accordance with IEC 529 shall be marked on the lampholder.

- 7.3 The marking of degree of protection against ingress of water shall be on the outside of the lampholder.
- 7.4 An earthing terminal shall be indicated by the symbol (see IEC 60417, sheet 60417-IEC-5019-a).

This symbol shall not be placed on screws, removable washers or other easily removable narts

Compliance is checked by inspection.

NOTE - In the United Kingdom metal lampholders intended for retail sale shall have the following warning notice attached or incorporated in the associated packaging:

"THIS LAMPHOLDER MUST BE EARTHED".

7.5 Where the terminal size specified in 10.2 is not complied with, the relevant value, or values in case of a range, shall be shown in mm^2 followed by a small square (for example 0.5 \square)

For unenclosed lampholders such marking is not required but relevant information shall be given in the manufacturer's mounting instructions.

7.6 Marking shall be durable and easily legible.

Compliance with the requirements of 7.1 to 7.5 shall be checked by inspection, and by trying to remove the marking by rubbing lightly for 15 seconds with a piece of cloth soaked with water and for a further 15 seconds with a piece of cloth soaked with petroleum spirit. After the tests the marking shall be still legible.

NOTE - The petroleum spirit used should consist of a solvent hexane with a content of aromatics of maximum 0,1 volume percentage, a kauri-butanol value of 29, an initial boiling-point of approximately 65 °C, a dry-point of approximately 69 °C and a specific density of approximately 0,68 g/cm².

7.7 In the United Kingdom a threaded entry lampholder without means for restraining the flexible cord, intended for retail sale, shall have the following warning notice attached or incorporated in the associated packaging:

"Do not connect this lampholder to a flexible cord which may be subject to tension in normal use, unless means are provided to relieve the conductors from strain and to protect the insulation".

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8 Dimensions

8.1 Lampholder dimensions shall comply with the current edition of the standard sheets of IEC 60061. https://standards.iteh.ai/catalog/standards/sist/5841f2cb-523d-4f45-9565-

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Compliance is checked by measuring in conformity with standard sheets 7005-10 and 7005-16 respectively of IEC 60061-2 and by application of the specified gauges according to the current edition of IEC 60061-3.

Lampholders designed for use with shade support devices shall comply with the dimensional requirements of figure 8 and those of the current edition of the standard sheets of IEC 60399, where applicable.

Compliance is checked by measurement.

- 8.2 The threaded entries of lampholders shall be provided with one of the following screw threads in accordance with figure 13.
- lampholders B15: M10x1;
- lampholders B22: M10x1 or M13x1.

NOTES

- The threaded entry M10x1 is mainly intended for the internal wiring of luminaires.
- In the United Kingdom, threaded entry lampholders with 3/8 inch x 26 TPI and 1/2 inch x 26 TPI screw threads are permitted for retail sale.
- In France, threaded entry lampholders with 11 mm \times 19 TPI and 17 mm \times 19 TPI screw threads are permitted for replacement.

Compliance is checked by means of the gauges in accordance with figure 14. In case of doubt, the gauge is introduced into the entry by applying a torque of 0,5 Nm.