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Nadomešča:
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SIST EN 60400:1998/A1:1998

Lampholders for tubular fluorescent lamps and starterholders

Lampholders for tubular fluorescent lamps and starterholders

Lampenfassungen für röhrenförmige Leuchtstofflampen und Starterfassungen

Douilles pour lampes tubulaires à fluorescence et douilles pour starters

Ta slovenski standard je istoveten z: EN 60400:2000

ICS:

29.140.10 Grla in držala žarnic Lamp caps and holders

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60400

February 2000

ICS 29.140.10

Supersedes EN 60400:1996 and its amendments

English version

**Lampholders for tubular fluorescent lamps and starterholders
(IEC 60400:1999, modified)**

Douilles pour lampes tubulaires à
fluorescence et douilles pour starters
(CEI 60400:1999, modifiée)

Lampenfassungen für röhrenförmige
Leuchtstofflampen und Starterfassungen
(IEC 60400:1999, modifiziert)

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This European Standard was approved by CENELEC on 2000-01-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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/846/FDIS, future edition 6 of IEC 60400, 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, together with the common modifications of the previous edition, as EN 60400 on 2000-01-01.

This European Standard supersedes EN 60400:1996 and its amendments A1:1997 and A2:1998.

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) 2000-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-01-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A, B and ZA are normative and annex C is informative.

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 60400:1999 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

1 General

1.2 Replace the text of this subclause by:

NOTE: Normative references to international publications are listed in annex ZA (normative).

5 Electrical rating

Delete the note.

7 Marking

7.1 d) Delete the reference to the note.

Annex ZA (normative)**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60061-1 + supplements (mod)	1969	Lamp caps and holders together with gauges for the control of interchangeability and safety Part 1: Lamp caps	EN 60061-1 + amendments	1993
IEC 60061-2 + supplements (mod)	1969	Part 2: Lampholders	EN 60061-2 + amendments	1993
IEC 60061-3 + supplements (mod)	1969	Part 3: Gauges SIST EN 60400:2000 https://standards.iteh.ai/catalog/standards/sist/2037b26f-41f4-4088-90e4-0cb8726d28d7/sist-en-60400-2000	EN 60061-3 + amendments	1993
IEC 60068-2-20	1979	Environmental testing Part 2: Tests - Test T: Soldering	HD 323.2.20 S3 ¹⁾	1988
IEC 60068-2-75	1997	Part 2: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997
IEC 60081	1997	Double-capped fluorescent lamps Performance specifications	EN 60081	1998
IEC 60112	1979	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980
IEC 60155	1993	Glow-starters for fluorescent lamps	EN 60155	1995
IEC 60238	1998	Edison screw lampholders	EN 60238 + corr. February	1998 1999
IEC 60352-1	1997	Solderless connections Part 1: Wrapped connections - General requirements, test methods and practical guidance	EN 60352-1	1997

1) HD 323.2.20 S3 includes A2:1987 to IEC 60068-2-20.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60399	1972	Standard sheets for barrel thread for E14 and E27 lampholders with shade holder ring	EN 60399	1993
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60598-1 (mod)	1996	Luminaires Part 1: General requirements and tests	EN 60598-1 + corr. June + A12 + A13	1997 1999 1998 1999
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November	1996 1996
IEC 60695-2-1/0	1994	Fire hazard testing Part 2: Test methods Section 1/sheet 0: Glow-wire test methods General	EN 60695-2-1/0	1996
IEC 60695-2-1/1 + corr. May	1994 1995	Part 2: Test methods Section 1/sheet 1: Glow-wire end-product test and guidance	EN 60695-2-1/1	1996
IEC 60695-2-2	1991	Part 2: Test methods Section 2: Needle-flame test	EN 60695-2-2	1994
IEC 61199	1999	Single-capped fluorescent lamps Safety specifications	EN 61199	1999

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LAMP HOLDERS FOR TUBULAR FLUORESCENT LAMPS AND STARTER HOLDERS

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60400 has been prepared by subcommittee 34B: Lamp caps and holders, of IEC technical committee 34: Lamps and related equipment.

This sixth edition cancels and replaces the fifth edition published in 1996, amendment 1 (1997) and amendment 2 (1997); it constitutes a technical revision.

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

FDIS	Report on voting
34B/846/FDIS	34B/857/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 3.

Annexes A and B form an integral part of this standard.

Annex C is for information only.

In this standard, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- notes: in smaller roman type.

The committee has decided that this publication remains valid until 2002-07. At this date, in accordance with the committee's decision, the publication will be

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

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LAMPHOLDERS FOR TUBULAR FLUORESCENT LAMPS AND STARTERHOLDERS

1 General

1.1 Scope

This International Standard states the technical and dimensional requirements for lampholders for tubular fluorescent lamps and for starterholders, and the methods of test to be used in determining the safety and the fit of the lamps in the lampholders and the starters in the starterholders.

This standard covers independent lampholders and lampholders for building-in, used with tubular fluorescent lamps provided with caps as listed in annex A, and independent starterholders and starterholders for building-in, used with starters in accordance with IEC 60155, intended for use in a.c. circuits where the working voltage does not exceed 1 000 V r.m.s.

This standard also covers lampholders for single-capped tubular fluorescent lamps integrated in an outer shell and dome similar to Edison screw lampholders (e.g. for G23 and G24 capped lamps). Such lampholders are tested in accordance with the following clauses and 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.

This standard also covers lampholders which are 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, the requirements of the relevant appliance standard are to be observed and tested after building into the appropriate equipment, when that equipment is tested according to its own standard. Lampholders intended for use by luminaire manufacturers are not intended for retail sale.

This standard also applies, as far as is reasonable, to lampholders and starterholders other than the types explicitly mentioned above and to lamp connectors.

Where the term "holder" is used in the standard, both lampholders and starterholders are intended.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, 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. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

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 60068-2-20:1979, *Environmental testing – Part 2: Tests – Test T: Soldering*

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60081, *Double-capped fluorescent lamps – Performance specifications*

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

IEC 60155, *Glow-starters for fluorescent lamps*

IEC 60238, *Edison screw lampholders*

IEC 60352-1:1997, *Solderless connections – Part 1: Wrapped connections – General requirements, test methods and practical guidance*

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

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

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

IEC 60664-1:1992, *Insulation coordination 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 60695-2-2:1991, *Fire hazard testing – Part 2: Test methods – Section 2: Needle-flame test*

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

2 Definitions

For the purposes of this International Standard the following definitions apply.

2.1

rated voltage

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

2.2

working voltage

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

2.3

flexible lampholders for linear double-capped fluorescent lamps

pair of lampholders in which the base of each holder is rigidly mounted in the luminaire but which has one or both of the lampholders so designed as to allow axial movement of the contacts to provide compensation for variations in lamp lengths and, where necessary, to permit insertion and removal of the lamp

NOTE In case of doubt whether a lampholder G5 or G13 provides the required axial movement of the contacts, a test with the device shown in figure 3 may be carried out.

2.4

inflexible lampholders for linear double-capped fluorescent lamps

pair of lampholders intended for rigid mounting and in which no axial movement of the contacts is provided or is needed, either for the insertion and removal of the lamp or as compensation for variation in lamp lengths

2.5

flexibly mounted lampholders for linear double-capped fluorescent lamps

pair of lampholders which do not in themselves provide for any axial movement of the contact system but which are intended to be mounted in a luminaire in a specified manner so that the combination provides the necessary axial movement of the contact system

NOTE Lampholders of this type may or may not be suitable for rigid mounting also.

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2.6

lamp connectors

set of contacts mounted on flexible conductors which provide for electrical contact but do not support the lamp

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2.7

holder for building-in

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

2.7.1

unenclosed holder

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

2.7.2

enclosed holder

holder for building-in so designed that on its own it fulfils the requirements of this standard with regard to protection against electric shock and IP classification, if appropriate

2.8

independent holder

holder so designed that it can be mounted separately from a luminaire and at the same time providing all the necessary protection according to its classification and marking

2.9**rated operating temperature**

highest temperature for which the holder is designed

2.10**rated lampholder rearside temperature**

rearside temperature for lampholders with *T* marking ascertained by test b) in 17.1, or a higher temperature as declared by the manufacturer

2.11**type test**

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

2.12**type test sample**

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

2.13**live part**

conductive part which may cause an electric shock

2.14**rated pulse voltage**

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

3 General requirement

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Holders 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.

In addition, the enclosure of independent holders shall comply with the appropriate requirements of IEC 60598-1, including the classification and marking requirements of that standard.

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 assurance.

4.2 *Unless otherwise specified, the tests are made at an ambient temperature of 20 °C ± 5 °C and with the holder in the most unfavourable position for normal use.*

4.3 *The tests shall be carried out in the order of the clauses, unless another succession of tests is specified.*

Holders intended to provide an IP classification greater than IP20 shall be subjected to the tests in 11.1 and 11.2 after the test in 17.1.