SLOVENSKI STANDARD
SIST EN 60064:1995

01-december-1995

Tungsten filament lamps for domestic and similar general lighting purposes - Performanse requirements (IEC 64:1993, modified)

Tungsten filament lamps for domestic and similar general lighting purposes - Performance requirements

Glühlampen für den Hausgebrauch und ähnliche allgemeine Beleuchtungszwecke - Anforderungen an die Arbeitsweise

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Lampes à filament de tungstène pour usage domestique et éclairage général similaire - Prescriptions de performances

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Ta slovenski standard je istoveten z: EN 60064:1995

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29.140.20 Žarnice z žarilno nitko Incandescent lamps

SIST EN 60064:1995 en

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60064

August 1995

ICS 29.140.20

Supersedes EN 60064:1989 and its amendment

Descriptors: Tungsten filament lamp, characteristic, sampling, test of compliance, test conditions

English version

Tungsten filament lamps for domestic and similar general lighting purposes Performance requirements (IEC 64:1993, modified)

Lampes à filament de tungstène pour usage domestique et éclairage général similaire
Prescriptions de performances
(CEI 64:1993, modifiée)

Glühlampen für den Hausgebrauch und ähnliche allgemeine Beleuchtungszwecke
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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

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Foreword

The text of the International Standard IEC 34:1993, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, together with common modifications prepared by Reporting Secretariat SR 34A, was submitted to the formal vote and was approved by CENELEC as EN 60064 on 1995-07-04.

This European Standard supersedes EN 60064:1989 + A1:1989.

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) 1996-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-07-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A, B, C, D, E, F and ZA are normative.
Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 64:1993 was approved by CENELEC as a European Standard with agreed common modifications as given below.

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COMMON MODIFICATIONS

Delete all references to E26/24 and E26/25 caps.

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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.

Publication	Year	Title	EN/HD	Year
IEC 38 (mod)	1983	IEC standard voltages [1]	HD 472 S1	1989
IEC 61-1 + 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 61-2 + supplements (mod)	1969	Part 2: Lampholders	EN 60061-2 + amendments	1993
IEC 61-3 + supplements (mod)	1969	Part 3: Gauges	EN 60061-3 + amendments	1993
IEC 432-1 (mod)	1993	Safety specifications for incandescent lamps Part 1: Tungsten filament lamps for domestic and similar general lighting purposes	EN 60432-1 + corr. April	1994 1995
IEC 630	1979	Maximum lamp outlines for general lighting lamps	-	-
IEC 887	1988	Glass bulb designation system for lamps	-	-

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1) The title of HD 472 S1 is: Nominal voltages for low voltage public electricity supply systems.

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INTERNATIONAL STANDARD

CEI
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Sixième édition
Sixth edition
1993-11

Lampes à filament de tungstène pour usage domestique et éclairage général similaire

Prescriptions de performances

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Tungsten filament lamps for domestic and similar general lighting purposes

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Performance requirements

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TUNGSTEN FILAMENT LAMPS FOR DOMESTIC AND SIMILAR GENERAL LIGHTING PURPOSES

Performance requirements

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 cooperation 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, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

3) They have the form of recommendations for international use 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.

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International Standard IEC 64 has been prepared by sub-committee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

This sixth edition cancels and replaces the fifth edition published in 1987 and its amendment 1 (1988).

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

DIS	Reports on voting
34A(CO)470 34A(CO)616	34A(CO)534 34A(CO)667

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

Annexes A, B, C, D, E and F form an integral part of this standard.

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INTRODUCTION

This edition of International Standard IEC 64 introduces major technical and formatting changes. However, it maintains the basic requirements and compliance conditions.

The new technical coverage involves specifications for lamps with E26 caps and some lamp life ratings other than 1 000 h. General lighting service lamps with white finish are introduced, because they are becoming large factors in the Japanese and North American markets.

An editorial objective of this work has been to improve the groupings of certain types of information. An example is that all the requirements have been put into one section of the text, and moved toward the front due to their high importance. Similarly, all test procedures have been drawn together and put in an annex. Particular lamp specifications are now shown on specific lamp data sheets.

There are no changes in the guiding principles of whole production appraisal, nor in the separation of performance and safety requirements. Utilization of past experience, manufacturers' test data and reduced market samples for whole production appraisal were introduced in the fourth edition. The fifth edition introduced coverage of performance requirements only.

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TUNGSTEN FILAMENT LAMPS FOR DOMESTIC AND SIMILAR GENERAL LIGHTING PURPOSES

Performance requirements

Section 1: General

1.1 Scope

This International Standard applies to tungsten filament incandescent lamps for general lighting service (GLS) which comply with the safety requirements in IEC 432-1 and having:

- rated wattage of 25 W to 200 W, inclusive;
- rated voltage 100 V to 250 V, including marked voltage range not exceeding ±2,5 % of the mean voltage[1];
- bulbs of the A or PS shapes;
- bulbs with clear, frosted or equivalently coated finishes, or white finishes;
- caps B22d, E26 or E27.

Specific lamp types are covered in section 8.

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This standard states the performance requirements for lamps, including test methods and means of confirming compliance with the requirements. Whole production appraisal methods regarding a lamp manufacturer's test record on finished products are defined. This method can be applied for certification purposes. Details of a batch test procedure, which can be used to make an assessment of specific batches, are included, but it is not suitable for certification purposes.

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NOTES

1 A lamp used in China having a rated wattage 15 W and rated voltage 220 V is included.

2 Separate references are made to E26/24 caps used in North America and E26/25 caps used in Japan. The two are not compatible.

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 subject 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 listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

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1) In countries in the process of changing from 220 V to 230 V nominal supply voltage, a range of ±3,5 % will apply temporarily.

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IEC 38: 1983, *IEC standard voltages*

IEC 61-1, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 1: Lamp caps*

IEC 61-2, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 2: Lampholders*

IEC 61-3, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 3: Gauges*

IEC 432-1: 1993, *Safety requirements for incandescent lamps – Part 1: Tungsten filament lamps for domestic and similar general lighting purposes*

IEC 630: 1979, *Maximum lamp outlines for general lighting lamps*

IEC 887: 1988, *Glass bulb designation system for lamps*

1.3 General format

This standard is divided into several sections with self-descriptive titles. These sections are:

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Section 1: General

Section 2: Lamp characteristics and specifications

Section 3: General, dimensional, electrical, photometric, and life requirements

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Section 4: Conditions of compliance

Section 5: Sampling

Section 6: Principles of dimensioning

Section 7: Annexes

Section 8: Lamp data sheets

1.4 Bulb shape

Nomenclature for bulbs used as envelopes for lamps specified in this standard can be found in IEC Report 887: *Glass bulb designation system for lamps*.

1.5 Definitions

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

1.5.1 **type:** Lamps which, independent of type of cap, are identical in photometric and electrical characteristics.

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1.5.2 **group:** Lamps of the same rated wattage, from the same lamp data sheet (normal or high luminous flux), whose rated voltage falls within the same voltage range (e.g. 100 V – 150 V; 200 V – 250 V).

1.5.3 **white finish:** A low-loss white bulb finish, usually applied internally, that provides diffused light.

1.5.4 **manufacturer:** An organization making lamps within the scope of this standard at one or more nominated factories, not necessarily in the same country, but having a common quality management.

1.5.5 **production:** The number of lamps, within the scope of this standard, manufactured in a factory within a 12-month period.

1.5.6 **total production:** The number of lamps, within the scope of this standard, manufactured in all the nominated factories of a single manufacturer within a 12-month period.

1.5.7 **whole production:** The production of all types of lamps within the scope of this standard manufactured during a period of 12 months and nominated in a list by the manufacturer for inclusion in any certificate provided by a certification authority.

1.5.8 **batch:** All the lamps of one type put forward at one time for test and for checking compliance.

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1.5.9 **light centre length:** In the sense of this standard and where specified on a lamp data sheet, light centre length is the distance from the geometrical centre of the filament to the contact plate of the cap, including solder.

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NOTE – This definition applies regardless of the type of cap used. A light centre length specification applies only to lamps with a clear finish.

1.5.10 **inspection test quantity (ITQ):** The number of lamps to be tested with the intention of determining acceptability, either of the whole production or of the batch, as to dimensional requirements.

1.5.11 **rating test quantity (RTQ):** The number of lamps to be tested with the intention of determining acceptability, either of the whole production or of the batch, as related to initial readings.

1.5.12 **life test quantity (LTQ):** The number of lamps to be tested with the intention of determining acceptability, either of the whole production or of the batch, as related to life.

1.5.13 **initial readings:** The photometric and electrical measurements made at the end of the ageing period.

1.5.14 **rated voltage:** Voltage or voltage range specified in the relevant lamp standard or assigned by the manufacturer or responsible vendor.

NOTE – If lamps are marked with a voltage range, it shall be interpreted that they are appropriate for use on any line voltage within that range.

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1.5.15 **test voltage:** The rated voltage unless otherwise specified. If lamps are marked with a voltage range, the test voltage shall be taken as the mean of the voltage range unless otherwise specified.

1.5.16 **rated wattage:** Wattage specified in the relevant lamp standard or assigned by the manufacturer or responsible vendor.

1.5.17 **rated luminous flux (unit: lumen [lm]):** The lumen value declared by the manufacturer.

1.5.18 **lumen maintenance:** The ratio of luminous flux at 75 % of rated life to the initial luminous flux, expressed as a percentage.

1.5.19 **life:** The total time for which a lamp has been operated before it becomes useless, or to any other criterion of life performance laid down in this standard.

1.5.20 **rated life:** The life value specified on a lamp data sheet. Within the context of the life testing method of this standard, it represents the mean value of the truncated life distribution.

NOTE – Since the specified life test method of this standard is a truncated life test, all the lamps that may have been commercially rated relative to the arithmetic mean of full duration life tests must be rerated. The correction from arithmetic mean life to truncated mean life is based on statistical factors of the normal distribution. Considering the lower limit on individual lamp life of sub-clause 3.6.2 the statistical concepts of annex E and sensoring at 125 % of the truncated life rating, the truncated life rating is approximately 90 % of the arithmetic life rating. As an example, the E26 capped, 60 W HE lamp of data sheet 64-IEC-1050 is a USA design with a commercial life rating of 1 000 h; its truncated life rating becomes 900 h.

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1.5.21 **normal life test:** A life test wherein the lamps are operated at their rated voltage.

1.5.22 **accelerated life test:** A life test wherein the lamps are intentionally operated at a voltage above the rated voltage with results converted to equivalent life at rated voltage.

1.5.23 **truncated life test:** A censored life test wherein the test is terminated at a fixed point, 125 % of rated life.

Section 2: Lamp characteristics and specifications

2.1 Lamp characteristics and specifications

2.1.1 Lamp characteristics and specific performance limits are listed on the individual lamp data sheets. These data sheets are filed in section 8.

2.1.2 Each lamp data sheet defines a particular lamp "group" by listing the characteristics and limiting values that apply. The technical specifications on each sheet are: dimensions, minimum rated luminous flux, lumen maintenance, rated life, and information for luminaire design.