SLOVENSKI STANDARD
SIST EN 60810:2004

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Lamps for road vehicles - Performance requirements

Lamps for road vehicles - Performance requirements

Lampen für Straßenfahrzeuge - Anforderungen an die Arbeitsweise

Lampes pour véhicules routiers - Prescriptions de performances

Ta slovenski standard je istoveten z: **EN 60810:2003**

ICS:

29.140.20	Žarnice z žarilno nitko	Incandescent lamps
43.040.20	Naprave za osvetlitev, signalizacijo in opozarjanje	Lighting, signalling and warning devices

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EUROPEAN STANDARD **EN 60810**

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English version

Lamps for road vehicles - Performance requirements
(IEC 60810:2003)

Lampes pour véhicules routiers - Prescriptions de performances (CEI 60810:2003)

Lampen für Straßenfahrzeuge - Anforderungen an die Arbeitsweise (IEC 60810:2003)

This European Standard was approved by CENELEC on 2003-09-01. 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, Hungary, Iceland, Ireland, Italy, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

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Foreword

The text of document 34A/1031/FDIS, future edition 3 of IEC 60810, prepared by SC 34A, Lamps, of IEC TC 34, Lamps and related equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60810 on 2003-09-01.

This European Standard supersedes EN 60810:1994 + A1:2001 + A2:2001

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) 2004-06-01

- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2006-09-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annexes A to E and ZA are normative and annexes F and G are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60810:2003 was approved by CENELEC as a European Standard without any modification.

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

IEC 60068-2-64	NOTE	Harmonized as EN 60068-2-64:1994 (not modified).
IEC 60682	NOTE	Harmonized as EN 60682:1993 (not modified).

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 60050-845	1987	International Electrotechnical Vocabulary (IEV) Chapter 845: Lighting	-	-
IEC 60068-2-6 + corr. March	1995 1995	Environmental testing Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995
IEC 60068-2-47	1999	Part 2-47: Test methods - Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests	EN 60068-2-47 + corr. June	1999 2000
IEC 60410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 60809	- [1)]	Lamps for road vehicles - Dimensional, electrical and luminous requirements	EN 60809	1996 [2)]
ISO 5344	1980	Electrodynamic test equipment for generating vibration - Methods of describing equipment characteristics	-	-

[1)] Undated reference.

[2)] Valid edition at date of issue.

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Lampes pour véhicules routiers – Prescriptions de performances

Lamps for road vehicles – Performance requirements

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LAMPS FOR ROAD VEHICLES – 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 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 specifications, 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 60810 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

This third edition cancels and replaces the second edition published in 1993 and its amendment 1 (1994) and amendment 2 (2001).It constitutes a technical revision.

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

FDIS	Report on voting
34A/1031/FDIS	34A/1034/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.

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

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

LAMPS FOR ROAD VEHICLES – PERFORMANCE REQUIREMENTS

1 Scope

This International Standard is applicable to replaceable lamps (filament lamps and discharge lamps) to be used in headlamps, fog-lamps and signalling lamps for road vehicles. It is especially applicable to those lamps which are listed in IEC 60809. However, the standard may also be used for other lamps falling under the scope of this standard, as well as for future developments, e.g. such where the light is produced by light emitting diodes (LED).

It specifies requirements and test methods for the measurement of performance characteristics such as lamp life, lumen maintenance, torsion strength, glass bulb strength and resistance to vibration and shock. Moreover, information on temperature limits, maximum lamp outlines and maximum tolerable voltage surges is given for the guidance of lighting and electrical equipment design.

For some of the requirements given in this standard, reference is made to data given in tables. For lamps not listed in such tables, the relevant data are supplied by the lamp manufacturer or responsible vendor.

The performance requirements are additional to the basic requirements specified in IEC 60809. They are, however, not intended to be used by authorities for legal type-approval purposes.

NOTE In the various vocabularies and standards, different terms are used for "incandescent lamp" (IEV 845-07-04) and "discharge lamp" (IEV 845-07-17). In this standard, "filament lamp" and "discharge lamp" are used. However, where only "lamp" is written both types are meant, unless the context clearly shows that it applies to one type only.

2 Normative references

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

IEC 60050(845):1987, *International Electrotechnical Vocabulary (IEV) – Chapter 845: Lighting*

IEC 60068-2-6:1995, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal) – Basic safety publication*

IEC 60068-2-47:1999, *Environmental testing – Part 2-47: Test methods – Mounting of components, equipment and other articles for vibration, impact and similar dynamic tests*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

IEC 60809, *Lamps for road vehicles – Dimensional, electrical and luminous requirements*

ISO 5344:1980, *Electrodynamic test equipment for generating vibration – Methods of describing equipment characteristics*

3 Terms and definitions

For the purpose of this document, the following definitions apply, in addition to the definitions in IEC 60050(845) and IEC 60809.

3.1
life
total time (expressed in hours) during which a lamp has been operated before it becomes useless. For filament lamps, it is considered to be so according to one of the following criteria:

a) the end of life is the time when the filament fails;

b) the life of a dual-filament lamp is the time until either filament fails, if the lamp is tested in a switching cycle involving alternative operation of both filaments

3.2
characteristic life
T
constant of the Weibull distribution indicating the time up to which 63,2 % of a number of tested lamps of the same type have ended their individual lives

3.3
life B3
constant of the Weibull distribution indicating the time during which 3 % of a number of the tested lamps of the same type have reached the end of their individual lives

3.4
lumen maintenance
ratio of the luminous flux of a lamp at a given time in its life to its initial luminous flux, the lamp being operated under specific conditions

3.5
initial luminous flux
luminous flux of a lamp measured after the ageing specified in Annex C of IEC 60809 for filament lamps or in Annex D of this standard for discharge lamps

3.6
rated value
value of a characteristic specified for operation of a lamp at test voltage and/or other specified conditions

3.7
pinch temperature limit
maximum admissible pinch temperature to ensure satisfactory lamp performance in service

3.8
solder temperature limit
maximum admissible solder temperature to ensure satisfactory lamp performance in service

3.9
maximum lamp outline
contour limiting the space to be reserved for the lamp in the relevant equipment

3.10
heavy-duty lamp
lamp declared as such, by the manufacturer or responsible vendor, which shall comply with the heavy-duty test conditions specified in Table B.2 of this standard in addition to the requirements specified in IEC 60809

4 Requirements and test conditions for filament lamps

4.1 Basic function and interchangeability

Filament lamps shall comply with IEC 60809.

4.2 Torsion strength

The cap shall be strong and firmly secured to the bulb.

Compliance is checked before and after the life test by submitting the filament lamp to the following torque values:

filament lamps with bayonet caps

- with 9 mm shell-diameter: 0,3 Nm*;
- with 15 mm shell-diameter: 1,5 Nm*;
- with 20 mm shell-diameter: 3,0 Nm*;

filament lamps with screw caps

- with 10 mm shell-diameter: 0,8 Nm*.

The torque shall not be applied suddenly but shall be increased progressively from 0 to the specified amount.

Values are based on a non-compliance level of 1 %.

4.3 Characteristic life *T*

The life *T* measured on a test quantity of at least 20 filament lamps shall be at least 96 % of the rated value, given in Table 3.

Compliance is checked by life tests as prescribed in Annex A.

4.4 Life B3

The life B3 shall not be less than the rated value given in Table 3.

Compliance is checked by life tests as prescribed in Annex A.

The number of filament lamps failing before the required time shall not exceed the values in Table 1.

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* Under consideration.