SLOVENSKI STANDARD

SIST EN 60598-1:2005

junij 2005

Svetilke - 1. del: Splošne zahteve in preskusi (IEC 60598-2:2003 + popravek 2004, spremenjen)

Luminaires - Part 1: General requirements and tests (IEC 60598-2:2003 + Corrigendum 2004, modified)

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ICS 29.140.40

Referenčna številka SIST EN 60598-1:2005(en)

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EUROPEAN STANDARD

EN 60598-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2004

ICS 29.140.40

Supersedes EN 60598-1:2000 + A11:2000 + A12:2002 Incorporates Corrigendum August 2007

English version

Luminaires Part 1: General requirements and tests

(IEC 60598-1:2003, modified)

Luminaires

Partie 1: Prescriptions générales et essais (CEI 60598-1:2003, modifiée)

Leuchten
Teil 1: Allgemeine Anforderungen
und Prüfungen
(IEC 60598-1:2003, modifiziert)

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This European Standard was approved by CENELEC on 2004-07-06. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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 the International Standard IEC 60598-1:2003, prepared by SC 34D, Luminaires, of IEC TC 34, Lamps and related equipment, together with common modifications prepared by the Technical Committee CENELEC TC 34Z, Luminaires and associated equipment, was approved by CENELEC as EN 60598-1 on 2004-07-06.

This European Standard supersedes EN 60598-1:2000 + A11:2000 + corrigendum April 2001 + A12:2002.

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) 2005-05-01

 latest date by which the national standards conflicting with the EN have to be withdrawn

(dow) 2007-07-01

Annexes ZA, ZB and ZC have been added by CENELEC.

The contents of the corrigendum of August 2007 have been included in this copy.

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Endorsement notice

The text of the International Standard IEC 60598-1:2003 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

3 Marking

3.2.12 **Delete** Note 3.

3.3 **Add** new subclause:

3.3.101 Where the terminal block is not supplied with the luminaire, the packaging needs to contain the following wording:

"Terminal block not included. Installation may require advice from a qualified person."

4 Construction

4.11.6 At the end of the paragraph commencing "Following completion of these tests...", **add**: "[the test voltage however being reduced to 1 500 V]".

5 External and internal wiring NDARD PREVIEW

5.2.1 Replace the indent relating to "fixed luminaires" by:

Fixed luminaires terminals; plugs for engagement with socket-outlets;

non-detachable flexible cables or cords;

https://standard.adaptiers-foreengagement-with supply-tracks;8478-

appliance inlets ist-en-60598-1-2005

connecting leads (tails):

account shall be taken of national installation rules/practice when deciding whether to supply a connection device or not. Where the luminaire is delivered with connecting leads (tails) and without a means of connection to the supply, the manufacturer of the luminaire shall specify which terminal block may be used which shall conform to EN 60998-2-1 or EN 60998-2-2; either the terminal block to be used shall be specified or the following shall be defined:

- the type of terminal (screw/screwless):
- number of terminals;
- rated voltage;
- rated connecting capacity;
- any necessary preparation of the ends of conductors;
- any fixing method.

The requirements of subclauses 4.6, 4.7.1, 4.7.2, 4.10.1, 11.2, 12 and 13.2 shall be applied.

5.2.2 In paragraph 1, replace "IEC 60227 and IEC 60245" by "HD 21 and HD 22".

Delete paragraph 2.

Replace table 5.1 by:

Table 5.1 - Non detachable flexible cables or cords

	Rubber	PVC
Ordinary class I luminaires	HO3RT-F	HO3VVH2-F
		HO3VV-F
Ordinary class II luminaires	HO5RR-F	HO3VVH2-F
		HO3VV-F
Luminaires other than ordinary	HO5RN-F	_
Portable rough service luminaires	HO7RN-F	_

12 **Endurance test and thermal test**

Line 2, after " 90° C" add: "(see note *** to table 12.2 relating to unsleeved fixed wiring)". 12.4.2 c)

- Table 12.2 In note *** **add** the following:
 after "European Installation Standards": "(HD 384)";
 - after "European Cable Standards": "(HD 21)".

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Annex ZA

(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE Where 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>	EN/HD	<u>Year</u>
IEC 60061-2 (mod)	_1)	Lamp caps and holders together with gauges for the control of interchangeability and safety Part 2: Lampholders	EN 60061-2	1993 ²⁾
IEC 60061-3 (mod)	_1)	Part 3: Gauges	EN 60061-3	1993 ²⁾
IEC 60065 (mod)	2001	Audio, video and similar electronic apparatus - Safety requirements	EN 60065	2002
IEC 60068-2-75	- ¹⁾ i]	Environmental testing RDPRFVIE Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997 ²⁾
IEC 60079 (mod)	Series	(standards.iteh.ai) Electrical apparatus for explosive gas atmospheres SIST EN 60598-1:2005	EN 60079	Series
IEC 60083	_1https://s	Plugs and socket-outlets for domestic and 4-4cb8- similar general use standardized in member countries of IEC	-8 <u>4</u> 78-	-
IEC 60085	_1)	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990 ²⁾
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60155	_1)	Glow-starters for fluorescent lamps	EN 60155	1995 ²⁾
IEC 60227 (mod)	Series	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	HD 21 ³⁾	Series
IEC 60238	1998	Edison screw lampholders	EN 60238	1998
IEC 60245 (mod)	Series	Rubber insulated cables - rated voltages up to and including 450/750 V	HD 22 ⁴⁾	Series
IEC 60320	Series	Appliance couplers for household and similar general purposes	EN 60320	Series

¹⁾ Undated reference.

Valid edition at date of issue.

3) The HD 21 series is related to, but not directly equivalent with the IEC 60227 series.

⁴⁾ The HD 22 series is related to, but not directly equivalent with the IEC 60245 series.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60357 (mod)	_1)	Tungsten halogen lamps (non-vehicle) - Performance specifications	EN 60357	2003 2)
IEC 60360	_1)	Standard method of measurement of lamp cap temperature rise	EN 60360	1998 ²⁾
IEC 60384-14	_1)	Fixed capacitors for use in electronic equipment - Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains	-	-
IEC 60400 (mod)	_1)	Lampholders for tubular fluorescent lamps and starterholders	EN 60400	2000 2)
IEC 60417	data- base	Graphical symbols for use on equipment	-	-
IEC 60432-1 (mod)	1999	Incandescent lamps - Safety specifications Part 1: Tungsten filament lamps for domestic and similar general lighting purposes	EN 60432-1	2000
IEC 60432-2 (mod)	_1)	Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes	EN 60432-2	2000 2)
IEC 60432-3	_1)	Part 3: Tungsten-halogen lamps (non-vehicle)	EN 60432-3	2003 2)
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code) SIST EN 60598-1:2005	EN 60529 + corr. May	1991 1993
IEC 60570	https://s 2003	standards.iteh.ai/catalog/standards/sist/c7e95f86-34c4-4cb8- Electrical_supply_track_systems_for_luminaires	8478- EN 60570	2003
IEC 60598-2 (mod)	Series	Luminaires Part 2: Particular requirements	EN 60598-2	Series
IEC 60598-2-4	1997	Part 2: Particular requirements Section 4: Portable general purpose luminaires	EN 60598-2-4	1997
IEC 60634	_1)	Heat test source (H.T.S.) lamps for carrying out heating tests on luminaires	EN 60634	1995 ²⁾
IEC 60662	_1)	High-pressure sodium vapour lamps	EN 60662	1993 ²⁾
IEC 60664-1	_1)	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	EN 60664-1	2003 2)
IEC 60684	Series	Flexible insulating sleeving	EN 60684	Series
IEC 60695-2	Series	Fire hazard testing Part 2: Test methods	EN 60695-2	Series
IEC 60695-2-2	_1)	Part 2: Test methods Section 2: Needle-flame test	EN 60695-2-2	1994
IEC 60838	Series	Miscellaneous lampholders	EN 60838	Series
IEC 60901	_1)	Single-capped fluorescent lamps - Performance requirements	EN 60901	1996

<u>Publication</u>	<u>Year</u>	<u>Title</u>	EN/HD	<u>Year</u>
IEC 60989	_1)	Separating transformers, autotransformers, variable transformers and reactors	-	-
IEC 60990	1999	Methods of measurement of touch-current and protective conductor current	EN 60990	1999
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61058-1 + A1 (mod)	2000 2001	Switches for appliances Part 1: General requirements	EN 61058-1	2002
IEC 61184	_1)	Bayonet lampholders	EN 61184	1997 ²⁾
IEC 61195	_1)	Double-capped fluorescent lamps - Safety specifications	EN 61195	1999
IEC 61199	1999	Single-capped fluorescent lamps - Safety specifications	EN 61199	1999
IEC 61347	Series	Lamp controlgear	EN 61347	Series
IEC 61347-2-9	_1)	Part 2-9: Particular requirements for ballasts for discharge lamps (excluding fluorescent lamps)	EN 61347-2-9	2001 2)
IEC 61558-2 (mod)	Series	Safety of power transformers, power supply units and similar usual.	EN 61558-2-5	Series
IEC 61558-2-5	_1) https://	ϵ	EN 61558-2-5 8478-	1998
IEC 62035 (mod)	_1)	9a8fba877177/sist-en-60598-1-2005 Discharge lamps (excluding fluorescent lamps) - Safety specifications	EN 62035	2000 2)
IEC 80416-1	_1)	Basic principles for graphical symbols for use on equipment Part 1: Creation of symbol originals	EN 80416-1	2001
ISO 75-2	1993	Plastics - Determination of temperature of deflection under load Part 2: Plastics and ebonite	EN ISO 75-2	1996
ISO 4046-4	2002	Paper, board, pulp and related terms - Vocabulary Part 4: Paper and board grades and converted products	-	-

Annex ZB (normative)

Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions. If it affects harmonization, it forms part of the European Standard or Harmonization Document.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

Clause Special national condition

3.3 **Denmark**

Supply cords of class I luminaires, which are delivered without a plug, shall be provided with a visible tag with the following text:

Vigtigt!
Lederen med grøn/gul isolation
må kun tilsluttes en klemme mærket



If essential for the safety of the luminaire, the tag shall in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text:

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9a8fba8 Fir tilslutning af the øvrige ledere, se medfølgende vejledning.

Class I luminaires which, according to the exemption for Denmark in subclause 5.2.1, are delivered with a supply cord with a plug in accordance with Standard Sheets DKA 2-1a, DKA 2-1b, C 1b, C 2b, C 3b or C 4, shall either be provided with the above tag or the same information shall be given in an enclosed instruction. The text concerning conductors having green/yellow insulation shall be quoted word-for-word.

NOTE "ø" may be replaced by "oe"; "æ" may be replaced by "ae".

Italy

For luminaires of class 0, the manufacturer's instructions shall include the following warning:

"ATTENZIONE - QUESTO APPARECHIO E' IDONEO SOLO PER AMBIENTI ISOLATI"

Clause Special national condition

4.5.1 **Denmark**

Socket-outlets intended for providing power to other appliances shall be in compliance with Section 107-2-D1, the Standard Sheets being applied as follows:

Class I Standard Sheet DK 1-3a

For class I luminaires, the earthing contact of the socket-outlet shall be electrically connected to the earthing terminal of the appliance.

Class II luminaires shall not be fitted with socket-outlets for providing power to other appliances.

EXEMPTION:

Socket-outlets supplied from isolation transformers (shaver supply units) and socket-outlets on outdoor luminaires may be in accordance with the requirement of Section 107-2-D1 for fixed socket-outlets.

5.2.1 **Cyprus**

Domestic luminaires intended for connection to a standard United Kingdom 13 A socket must be pre-fitted with an approved plug complying with BS 1363.

Cord sets for domestic luminaires for connection with an appliance inlet must be pre-fitted with an approved plug complying with BS 1363.

Plugs must be fitted with the correct fuse.

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Denmark 9a8fba877177/sist-en-60598-1-2005

Supply cords on single-phase portable luminaires having a rated current not exceeding 10 A shall be provided with a plug according to the following table:

		Plug		
Class of luminaire		Section 107-2-D1	EN 50075	
		Standard Sheet	Standard Sheet	
I	Protection against indirect contact required	DK 2-1a*		
	Earthing connection not required	DK 2-1a, DKA 2-1a, DKA 2-1b, C 1b, C 2b, C 3b, C 4		
II		DKA 2-1a, DKA 2-1b, C 1b, C 5, C 6	I	
* Luminaires fitted with a socket-outlet for providing power to other appliances.				

For luminaires which are mainly used in locations where protection against indirect contact is required, see Section 10, § 17.

Clause Special national condition

5.2.1 (cont'd)

For luminaires having an appliance inlet, the plug on the supply cord shall comply with the above requirements. If other single-phase luminaires having a rated current not exceeding 10 A are provided with a supply cord with a plug, the plug shall comply with the above requirements.

EXEMPTION:

If single-phased fixed class I luminaires, intended for use in homes, and for which protection against indirect contact is required according to Section 10 of the Heavy Current Regulations, are provided with a plug, this plug may, until further notice, be in accordance with Standard Sheet DKA 2-1a, DKA 2-1b, C 1b, C 2b, C 3b or C 4, provided that the cord close to the plug is marked as required in § 3.3.

If multi-phase luminaires and single-phase luminaires having a rated current exceeding 10 A are provided with a supply cord with a plug, the plug shall comply with the following table:

	Plug		
Class of luminaire	Section 107-2-D1	Section 117	
	Standard Sheet	Standard Sheet	
I	DK 6-1a	II	
II	DK7-1a*	II*	
* Earthing contact not connected. A DARD PREVIEW			

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Finland and Sweden

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For luminaires provided with non-detachable flexible cables and cords and a plug, the plug shall comply with the requirements of CEE Publication 7 and EN 50075, the Standard Sheets to be applied being as follows:

- Class I luminaires CEE 7, sheet IV or VII

- Class II luminaires CEE 7, sheet XVI (alt I only) or CEE 7, sheet XVII or

EN 50075, sheet I

United Kingdom

Domestic luminaires intended for connection to a standard United Kingdom 13 A socket must be pre-fitted with an approved plug complying with BS 1363.

Cord sets for domestic luminaires for connection with an appliance inlet must be pre-fitted with an approved plug complying with BS 1363.

Plugs must be fitted with the correct fuse.

Annex ZC (informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

This European Standard falls under Directive 73/23/EEC.

NOTE (from CEN/CENELEC IR Part 2, 3.1.9) Where standards fall under EC Directives, it is the view of the Commission of the European Communities (OJ No C 59; 1982-03-09) that the effect of the decision of the Court of Justice in case 815/79 Cremonini/Vrankovich (European Court Reports 1980, p. 3583) is that compliance with A-deviations is no longer mandatory and that the free movement of products complying with such a standard should not be restricted except under the safeguard procedure provided for in the relevant Directive.

A-deviations in an EFTA-country are **valid instead** of the relevant provisions of the European Standard in that country until they have been removed.

Clause Deviation

4 & 5 France (Arrêté of the 22th September 1969)

Socket-outlets 10/16 A intended for providing power to other appliances except those supplied by an isolating transformer shall be shuttered.

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13.3 France (Regulation on the safety against fire and panic hazards in premises open to public. Arrêté of the 19th November 2001)

External parts of fixed or suspended luminaires shall be subjected to a glow-wire test, the glow-wire temperature is : $\frac{\text{SIST EN } 60598-1:2005}{\text{SIST EN } 60598-1:2005}$

- 850°C for general purpose luminaires installed in closed horizontal routes and stairs;
- 850°C for general purpose luminaires installed in premises open to public if the total visible surface of the luminaires is more than 25% or the premise surface;
- 750°C for the other general purpose luminaires installed in premises open to public

(Regulation on the safety against fire in high buildings. Arrêté of the 18th October 1977.)

External parts of fixed or suspended luminaires shall be subjected to a glow-wire test, the glow-wire temperature is :

- 960°C for general purpose luminaires installed in all emergency exits;
- 750°C for the other general purpose luminaires installed in premises open to the public.

United Kingdom (Approved Document B of the United Kingdom Building Regulations)

Particular fire protection requirements relating to thermoplastic diffusers are listed in clause 7.15 of the above Regulations.

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INTERNATIONAL STANDARD

IEC 60598-1

Sixth edition 2003-10

Luminaires -

Part 1: General requirements and tests

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