Irish Standard
I.S. EN 62560:2012&A1:2015&A11:2019

Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specifications

I.S. EN 62560:2012&A1:2015&A11:2019

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 62560:2012/A1:2015
EN 62560:2012/A11:2019

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S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:	*Published:*
EN 62560:2012	2012-12-07

This document was published under the authority of the NSAI and comes into effect on:	ICS number:
2019-03-21	NOTE: If blank see CEN/CENELEC cover page

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National Foreword

I.S. EN 62560:2012&A1:2015&A11:2019 is the adopted Irish version of the European Document EN 62560:2012, Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specifications

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62560:2012/A11

March 2019

ICS 29.140.30

English Version

Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specifications

Lampes à DEL autoballastées pour l'éclairage général fonctionnant à des tensions > 50 V - Spécifications de sécurité

LED-Lampen mit eingebautem Vorschaltgerät für Allgemeinbeleuchtung für Spannungen > 50 V - Sicherheitsanforderungen

This amendment A11 modifies the European Standard EN 62560:2012; it was approved by CENELEC on 2019-05-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 62560:2012/A11:2019

European foreword

This document (EN 62560:2012/A11:2019) has been prepared by CLC/TC 34 "*Lamps and related equipment*".

The following dates are fixed:

– latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2019-12-26
– latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2021-12-26

Clauses, subclauses, notes, tables, figures and annexes, which are additional to those in IEC 62560:2011 and EN 62560:2012/A1:2015 are prefixed "Z".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under mandates given to CENELEC by the European Commission and the European Free Trade Association, and covers the Principal Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2014/35/EU).

For the relationship with EU Directives see informative Annex ZZA, which are integral parts of this document.

CONTENTS ***Replace** the following annex:*

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

Add the following annex:

Annex ZZA (informative) Relationship between this European standard and the safety objectives of Directive 2014/35/EU

1 Scope

Add at the end the following note:

NOTE Z1 Radio equipment can be part of the Self-Ballasted lamp.

EN 62560:2012/A11:2019

7 Protection against accidental contact with live parts

After the title of Clause 7 **add** the following new sub clause title 7.Z1

7.Z1 General

At the end of Clause 7 **add** the following new sub Clauses 7.Z2, 7.Z2.1 and 7.Z2.2

7.Z2 Fixing of conductors

7.Z2.1 Requirements

The fixing of the conductors inside the lamp shall be such that, if a conductor becomes loose or detached, the conductor cannot reduce clearances or creepage distances below the values as specified in 14.

For the purpose of these requirements, it is assumed that:

– two independent fixings will not become loose or detached at the same time; and

– parts fixed by means of screws or nuts provided with self-locking washers or other means of locking are not liable to become loose or detached.

NOTE Spring washers and the like can provide satisfactory locking.

7.Z2.2 Compliance criteria

Compliance is checked by inspection, by measurement or in case of doubt by applying a force of 10 N in the most unfavourable direction.

EXAMPLE Constructions regarded as meeting the requirements include:

– close-fitting tubing (for example, a heat shrink or rubber sleeve), applied over the wire and its termination;

– conductors connected by soldering and held in place near to the termination, independently of the soldered connection;

– conductors connected by soldering and securely hooked in before soldering, provided that the hole through which the conductor is passed is not unduly large;

– conductors connected to screw terminals, with an additional fixing near to the terminal that clamps, in the case of stranded conductors, the insulation and not only the conductors;

– conductors connected to screw terminals and provided with terminators that are unlikely to become free (for example, ring lugs crimped onto the conductors), however, the pivoting of such terminators is considered; or

– short rigid conductors that remain in position when the terminal screw is loosened.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Publication	Year	Title	EN/HD	Year
IEC 60061-3	-	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 3: Gauges	EN 60061-3 + amendments up to A53	2011
IEC 60360	-	Standard method of measurement of lamp cap temperature rise	EN 60360	1998
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60598-1 (mod)	2008	Luminaires - Part 1: General requirements and tests	EN 60598-1 + A11	2008 2009
IEC 60695-2-10	2000	Fire hazard testing - Part 2–10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	2001
IEC 60695-2-11 + corr. January	2000 2001	Fire hazard testing - Part 2–11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end products	EN 60695-2-11	2001
IEC 60695-2-12	2000	Fire hazard testing - Part 2–12: Glowing/hot-wire based test methods - Glow-wire flammability test method for materials	EN 60695-2-12[1)]	2001

[1)] EN 60695-2-12 is superseded by EN 60695-2-12:2010, which is based on IEC 60695-2-12:2010.

EN 62560:2012/A11:2019

Publication	Year	Title	EN/HD	Year
IEC 60695-2-13	2000	Fire hazard testing - Part 2–13: Glowing/hot-wire based test methods - Glow-wire ignitability test method for materials	EN 60695-2-13[2)]	2001
IEC 61199	1999	Single-capped fluorescent lamps - Safety specifications	EN 61199[3)]	1999
IEC 61347-1	2007	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	2008
IEC 62031	2008	LED modules for general lighting - Safety specifications	EN 62031	2008
IEC/TS 62504	-	General lighting - LEDs and LED modules - Terms and definitions	EN 62504	2014
ISO 4046-4	2002	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-
IEC/TR 62778	2014	Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires	-	-

2) EN 60695-2-13 is superseded by EN 60695-2-13:2010, which is based on IEC 60695-2-13:2010 + corrigendum Feb. 2012.

3) EN 61199 is superseded by EN 61199:2011, which is based on IEC 61199:2011.

Annex ZZA
(informative)

Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZZA.1 – Correspondence between this European standard and Article 3 of Directive 2014/35/EU [2014 OJ L96]

Safety Objectives of Directive 2014/35/EU [2014 OJ L96]	Clause(s) / subclause(s) of this EN	Remarks / Notes
1 (a)	Clause 5	None
1 (b)	Clause 4, 19	None
1 (c)	See items 2 and 3 of this table	None
2 (a)	Clause 6, 7, 8, 9, 11, 12, 13, 14	None
2 (b)	Clause 6, 8, 9, 10, 11, 12, 13, 17, 19	EMF is not covered in this standard
2 (c)	Clause 6, 8, 9, 11, 12, 13	None
2 (d)	Clause 6, 7, 8, 9, 11, 12, 13, 14	None
3 (a)	Clause 6, 7, 8, 9, 11, 12, 13	None
3 (b)	Clause 6, 8, 9, 11, 12, 13, 14	None
3 (c)	Clause 6, 8, 9, 10, 11, 12, 13, 14	None

EN 62560:2012/A11:2019

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the products falling within the scope of this standard.

Bibliography

Add *the following note for the standards indicated:*

IEC 60400 NOTE, *Harmonized as EN 60400:2008 + A1:2011 + A2:2014 (not modified)*

IEC 60432-1 NOTE, *Harmonized as EN 60432-1:2000 + A1:2005 + A2:2012 (modified)*

IEC 60968 NOTE, *Harmonized as EN 60968:2015 (modified)*

IEC 62471 NOTE, *Harmonized as EN 62471:2008 (modified)*

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62560:2012/A1

July 2015

ICS 29.140.30

English Version

Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specifications (IEC 62560:2011/A1:2015 , modified)

Lampes à LED autoballastées pour l'éclairage général fonctionnant à des tensions > 50 V - Spécifications de sécurité
(IEC 62560:2011/A1:2015 , modifiée)

LED-Lampen mit eingebautem Vorschaltgerät für Allgemeinbeleuchtung für Spannungen > 50 V - Sicherheitsanforderungen
(IEC 62560:2011/A1:2015 , modifiziert)

This amendment A1 modifies the European Standard EN 62560:2012; it was approved by CENELEC on 2015-05-04. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 34A/1836/FDIS, future IEC 62560:2011/A1, prepared by SC 34A "Lamps" of IEC/TC 34 "Lamps and related equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62560:2012/A1:2015.

A draft amendment, which covers common modifications to IEC 62560:2011/A1 (34A/1836/FDIS), was prepared by CLC/TC 34A "Lamps" and approved by CENELEC.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2016-05-04
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-05-04

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This European Standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

Endorsement notice

The text of the International Standard IEC 62560:2011/A1:2015 was approved by CENELEC as a European Standard with agreed common modifications.

COMMON MODIFICATIONS

CONTENTS **Add** the following annexes:

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

Lamps with the following caps are excluded from EN 62560:2012/A1:2015 as they do not comply with European safety requirements:

– E11;

– E12;

– E17;

– E26;

– E26d;

– E39.

Bibliography **Add** to the bibliography of EN 62560:2012 the following notes for the standards indicated:

IEC 60432-1	NOTE	Harmonized as EN 60432-1.
IEC 62471	NOTE	Harmonized as EN 62471.

- - - - -

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

NOTE 1 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

Modification in Annex ZA of EN 62560:2012:

Publication	Year	Title	EN/HD	Year
Update the reference to IEC 61347-1:2007 as follows:				
IEC 61347-1	-	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	-
Add to the existing list the following new reference:				
IEC/TR 62778	2014	Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires	-	-
Delete from the existing list the following references:				
IEC/TR 62471-2	-	Photobiological safety of lamps and lamp systems - Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety		
IEC 60432-1	-	Incandescent lamps - Safety specifications - Part 1: Tungsten filament lamps for domestic and similar general lighting purposes	EN 60432-1	-

IEC 62560

Edition 1.0 2015-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications

Lampes à LED autoballastées pour l'éclairage général fonctionnant à des tensions > 50 V – Spécifications de sécurité

IEC 62560:2011-02/AMD1:2015-04(en-fr)

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IEC 62560

Edition 1.0 2015-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications

Lampes à LED autoballastées pour l'éclairage général fonctionnant à des tensions > 50 V – Spécifications de sécurité

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INTERNATIONALE

ICS 29.140.30

ISBN 978-2-8322-2603-2

FOREWORD

This amendment has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

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

FDIS	Report on voting
34A/1836/FDIS	34A/1845/RVD

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

The contents of the corrigendum of June 2015 have been included in this copy.

CONTENTS

Replace the title of subclause 6.2 as follows:

6.2 Bending moment and mass imparted by the lamp at the lamp holder

Replace the titles of subclauses 9.1, 9.2 and 9.3 as follows.

9.1 Requirements
9.2 Tests
9.3 Compliance criteria

Add the title of the new subclause 9.4 as follows.

9.4 Axial strength of Edison caps

Replace the titles of subclauses 13.1, 13.2 and 13.3 as follows:

13.1 General requirements
13.2 Test conditions
13.3 Compliance

Delete the titles of the existing subclauses 13.4 to 13.6.

Add the titles of new Clauses 15 to 18 along with their corresponding subclauses as follows:

15 Abnormal operation
16 Test conditions for dimmable lamps
17 Photobiological safety
  17.1 UV radiation
  17.2 Blue light hazard
  17.3 Infrared radiation
18 Ingress protection
  18.1 Requirements
  18.2 Tests
19 Information for luminaire design

Replace the title of Annex A as follows:

Annex A (informative) Information for luminaire design

Delete the title of Annex B.

Replace, in the list of figures, the titles for Figures 3 and 4 as follows.

Figure 3 – Holder for torque test on lamps with screw caps (from IEC 60432-1, Figure C.2)
Figure 4 – Holder for torque test on lamps with bayonet caps (from IEC 60432-1, Figure C.1*)*

Add, in the list of figures, the titles for new Figures 6, 7 and 8 as follows:

Figure 6 – Lamp not suitable for use under moisture
Figure 7 – Test equipment for applying an axial force
Figure 8 – Test circuit for testing a non-dimmable lamp at a dimmer or electronic switch

Add, in the list of tables, the title for new Table 4 as follows:

Table 4 – Values for axial force

1 Scope

Add, below the existing note, a new note 2 as follows and renumber the existing note to NOTE 1:

NOTE 2 This standard includes photobiological safety.

2 Normative references

Update the reference to IEC 61347-1:2007 as follows:

IEC 61347-1:—, *Lamp controlgear – Part 1: General and safety requirements*

Add, to the existing list, the following new reference:

IEC TR 62778: 2014, *Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires*

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62560

December 2012

ICS 29.140.30

English version

Self-ballasted LED-lamps for general lighting services by voltage > 50 V - Safety specifications

(IEC 62560:2011, modified + corrigendum Jan. 2012)

Lampes à DEL autoballastées pour l'éclairage général fonctionnant à des tensions > 50 V - Spécifications de sécurité (CEI 62560:2011, modifiée + corrigendum Jan. 2012)

LED-Lampen mit eingebautem Vorschaltgerät für Allgemeinbeleuchtung für Spannungen > 50 V - Sicherheitsanforderungen (IEC 62560:2011, modifiziert + corrigendum Jan. 2012)

This European Standard was approved by CENELEC on 2012-10-15. 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.

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 62560:2012 E

Foreword

This document (EN 62560:2012) consists of the text of IEC 62560:2011 + corrigendum Jan. 2012, prepared by SC 34A, "Lamps, of IEC/TC 34, Lamps and related equipment", together with the common modifications prepared by CLC/SR 34A "Lamps ".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2013-10-15
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2015-10-15

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This European Standard covers the Principle Elements of the Safety Objectives for Electrical Equipment Designed for Use within Certain Voltage Limits (LVD - 2006/95/EC).

_____

Endorsement notice

The text of the International Standard IEC 62560:2011 + corrigendum Jan. 2012 was approved by CENELEC as a European Standard with agreed common modifications.

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

IEC 60400	NOTE	Harmonized as EN 60400.
IEC 60968	NOTE	Harmonized as EN 60968.

COMMON MODIFICATIONS

Lamps with the following caps are excluded from EN 62560:2012 as they do not comply with European safety requirements:

– E11;

– E12;

– E17;

– E26.

Delete from the contents page the line on Annex B.

Delete from Clause 5.2 the item a).

Include in Clause 14 the Corrigendum January 2012.

Delete Annex B.

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 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 60061-1	-	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 1: Lamp caps	EN 60061-1	-
IEC 60061-3	-	Lamp caps and holders together with gauges for the control of interchangeability and safety - Part 3: Gauges	EN 60061-3	-
IEC 60360	-	Standard method of measurement of lamp cap temperature rise	EN 60360	-
IEC 60432-1	-	Incandescent lamps - Safety specifications - Part 1: Tungsten filament lamps for domestic and similar general lighting purposes	EN 60432-1	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
IEC 60598-1 (mod) + corr. October + corr. December -	2008 2011 2011 -	Luminaires - Part 1: General requirements and tests	EN 60598-1 + A11	2008 2009
IEC 60695-2-10	2000	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	2001
IEC 60695-2-11 + corr. January	2000 2001	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001
IEC 60695-2-12	2000	Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability test method for materials	EN 60695-2-12[1)]	2001
IEC 60695-2-13	2000	Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignitability test method for materials	EN 60695-2-13[2)]	2001
IEC 61199	1999	Single-capped fluorescent lamps - Safety specifications	EN 61199[3)]	1999

[1)] EN 60695-2-12 is superseded by EN 60695-2-12:2010, which is based on IEC 60695-2-12:2010.

[2)] EN 60695-2-13 is superseded by EN 60695-2-13:2010, which is based on IEC 60695-2-13:2010 + corrigendum Feb. 2012.

[3)] EN 61199 is superseded by EN 61199:2011, which is based on IEC 61199:2011.

Publication	Year	Title	EN/HD	Year
IEC 61347-1 (mod)	2007	Lamp controlgear - Part 1: General and safety requirements	EN 61347-1	2008
IEC 62031	2008	LED modules for general lighting - Safety specifications	EN 62031	2008
IEC/TR 62471-2	-	Photobiological safety of lamps and lamp systems - Part 2: Guidance on manufacturing requirements relating to non-laser optical radiation safety	-	-
IEC/TS 62504	-	General lighting - LEDs and LED modules - Terms and definitions	-	-
ISO 4046-4	2002	Paper, board, pulps and related terms - Vocabulary - Part 4: Paper and board grades and converted products	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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IEC 62560
Edition 1.0 2011-02

Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications

IEC 62560
Édition 1.0 2011-02

Lampes à DEL autoballastées pour l'éclairage général fonctionnant à des tensions > 50 V – Spécifications de sécurité

CORRIGENDUM 2

This correction applies to the French language only.

8.2 Résistance d'isolement

Remplacer, dans la première phrase du troisième alinéa le mot "inférieure" par "supérieure ou égale" comme suit:

La résistance d'isolement entre les parties actives du culot et les parties accessibles de la lampe (les parties accessibles du matériau isolant sont recouvertes d'une feuille métallique) doit être supérieure ou égale à 4 MΩ.

IEC 62560:2011-02/COR2:2015-07(en-fr)

IEC 62560

Edition 1.0 2011-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Self-ballasted LED-lamps for general lighting services by voltage > 50 V – Safety specifications

Lampes à DEL autoballastées pour l'éclairage général fonctionnant à des tensions > 50 V – Spécifications de sécurité

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INTERNATIONAL STANDARD

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SELF-BALLASTED LED-LAMPS FOR GENERAL LIGHTING SERVICES BY VOLTAGE > 50 V – SAFETY SPECIFICATIONS

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62560 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

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

FDIS	Report on voting
34A/1425/FDIS	34A/1447/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.

In this standard, the following print types are used:

– requirements proper: in roman type.

– *test specifications: in italic type.*

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

The contents of the corrigendum of January 2012 have been included in this copy.

INTRODUCTION

There will be and are already LED products in the market which substitute existing lamps, either as retrofit mains voltage incandescent or self-ballasted fluorescent lamps or as replacement for tungsten halogen lamps below 50 V.

The present document takes up the supply voltage range from > 50 V up to 250 V. A proposal for a safety standard for LED lamps with voltages ≤ 50 V may follow in due time.

Future work will also consequently comprise performance standards for all kind of LED lamps, including minimum photometric requirements for type testing.

Due to the urgent need of establishing this standard, it will be a stand-alone standard for the time being, not excluding a future relocation as a part of IEC 60968, self-ballasted lamps.

SELF-BALLASTED LED-LAMPS FOR GENERAL LIGHTING SERVICES BY VOLTAGE > 50 V – SAFETY SPECIFICATIONS

1 Scope

This International Standard specifies the safety and interchangeability requirements, together with the test methods and conditions required to show compliance of LED-lamps with integrated means for stable operation (self-ballasted LED-lamps), intended for domestic and similar general lighting purposes, having:

– a rated wattage up to 60 W;

– a rated voltage of > 50 V up to 250 V;

– caps according to Table 1.

The requirements of this standard relate only to type testing.

Recommendations for whole product testing or batch testing are identical to those given in Annex C of IEC 62031.

NOTE Where in this standard the term “lamp(s)” is used, it is understood to stand for “self-ballasted LED-lamp(s)”, except where it is obviously assigned to other types of lamps.

2 Normative references

The following reference 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 reference document (including any amendments) applies.

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

IEC 60061-3, *Lamp caps and holders together with gauges for the control of interchangeability and safety – Part 3 : Gauges*

IEC 60360, *Standard method of measurement of lamp cap temperature rise*

IEC 60432-1, *Incandescent lamps – Safety specifications – Part 1: Tungsten filament lamps for domestic and similar general lighting purposes*

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

IEC 60598-1:2008, *Luminaires – Part 1: General requirements and tests*

IEC 60695-2-10:2000, *Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods; Glow-wire apparatus and common test procedure*

IEC 60695-2-11:2000, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end products*

IEC 60695-2-12:2000, *Fire hazard testing – Part 2-12: Glowing/hot-wire based test methods; Glow-wire flammability test method for materials*