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Organic light emitting diode (OLED) Light sources for general lighting – Safety – Part 1: General requirements and tests

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CONTENTS

FOREWORD 4
INTRODUCTION 6
1 Scope 7
2 Normative references 7
3 Terms and definitions 8
4 General 10
4.1 General requirements 10
4.2 General test requirements 10
5 Marking 10
5.1 Contents and location 10
5.2 Durability and legibility of marking 11
6 Construction 11
6.1 General 11
6.2 Mechanical strength 12
6.2.1 Requirements 12
6.2.2 Vibration test 12
6.3 Internal short circuit 12
6.4 Wireways 13
6.5 Resistance to dust, solid objects and moisture 13
7 Mechanical hazard 13
8 Fault conditions 13
8.1 General 13
8.2 Overload condition 14
8.3 Input stability test 14
9 Insulation resistance and electric strength 14
9.1 General requirements 14
9.~~1~~2 Insulation resistance 14
9.~~2~~3 Electric strength 14
10 Thermal stress 14
11 Creepage distances and clearances 15
12 Resistance to heat and fire 15
12.1 Resistance to heat 15
12.2 Resistance to ~~fire~~ flame and ignition 15
13 Photobiological safety 15
14 Terminals 15
15 Information for luminaire design 16
16 Protection against accidental contact with live parts 16
17 Screws, current-carrying parts and connections 16
18 Resistance to corrosion 16
19 Provisions for protective earthing 16
Annex A (informative) Construction of OLED panels 17
Annex B (informative) Information for luminaire design 19
Annex C (normative) Method of provoking an internal short circuit 21
C.1 Method for an OLED panel with glass substrates 21

C.2 Method for an OLED panel with flexible plastic substrates 21
Annex D (informative) ~~Overview of the OLED lighting system consisting of OLED panel or module~~ OLED lighting system overview 22
Annex E (informative) Classification of OLED modules 24
E.1 Power supply classification 24
E.2 Installation method classification 24
Bibliography 25

Figure A.1 – Schematic diagram of OLED tile for lighting 17
Figure A.2 – Schematic diagram of OLED panel (Example 1) for lighting 17
Figure A.3 – Schematic diagram of OLED panel (Example 2) for lighting 18
Figure A.4 – Schematic diagram of OLED panel (Example 3) for lighting 18
Figure D.1 – Schematic diagram of OLED lighting system consisting of OLED panel or module 23

Table 1 – Contents and location of marking 11

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ORGANIC LIGHT EMITTING DIODE (OLED) LIGHT SOURCES FOR GENERAL LIGHTING – SAFETY –

Part 1: General requirements and tests

FOREWORD

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9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 62868-1 edition 1.1 contains the first edition (2020-05) [documents 34A/2177/FDIS and 34A/2185/RVD] and its amendment 1 (2025-02) [documents 34A/2421/FDIS and 34A/2433/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62868-1 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

This first edition cancels and replaces IEC 62868 published in 2014.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62868 series, published under the general title *Organic light emitting diode (OLED) light sources for general lighting – Safety*, can be found on the IEC website.

In this document, the following print types are used:

– requirements: roman type,

– *test specifications: italic type,*

– notes: smaller roman type.

The committee has decided that the contents of this document and its amendment will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

This part of IEC 62868 provides a set of general safety requirements and tests of OLED light sources which are applicable to general indoor lightings. This document specifies the requirements and tests for simple OLED light sources which do not include active electronic components and consist of rigid substrates. It applies to the common requirements and tests to verify the safety of all types of OLED light sources such as OLED modules and flexible OLED panels. This document applies to OLED panels and tiles which consist of rigid substrates. It also applies to any OLED light sources which are not specified in IEC 62868-2 (all parts)[1].

The parts which make up the IEC 62868-2 series, in referring to any clauses of this document, specify the extent of application of this document; they also include additional requirements and tests as necessary.

Where the requirements of any clauses of this document are referred to in the various parts that make up the IEC 62868-2 series by the phrase "The requirements of Clause n of IEC 62868-1 apply", this phrase will be interpreted as meaning that all requirements of the clauses in question of this document apply, except any which are clearly inapplicable to a particular type of OLED light source covered by the Part n of the IEC 62868-2 series concerned.

The safety requirements of this document are intended to ensure that electrical lightings constructed in accordance with this document do not endanger the safety of users or properties when the light sources are properly installed, maintained and used in applications.

Particular requirements and tests for OLED light sources which include any active electronic components and consist of flexible substrate will be the subject of a separate standard, as the need arises.

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1 Under preparation. Stage at the time of publication IEC AFDIS 62868-2-1:2020, IEC AFDIS 62868-2-2:2020 and IEC ACDV 62868-2-3:2020.

ORGANIC LIGHT EMITTING DIODE (OLED) LIGHT SOURCES FOR GENERAL LIGHTING – SAFETY –

Part 1: General requirements and tests

1 Scope

~~This part of IEC 62868 specifies general safety requirements of OLED products for use on DC supplies up to 1000 V or AC supplies up to 1000 V at 50 Hz or 60 Hz for indoors and similar general lighting purposes.~~

~~This document applies to any OLED light sources which are not covered by IEC 62868-2 (all parts).~~

~~NOTE 1 Only test methods for DC operated OLED light sources are provided in this document. Provisions for AC operated OLED products are under consideration.~~

~~NOTE 2 The construction of OLED tiles and panels is illustrated in Figure A.1 to Figure A.4 in Annex A.~~

~~NOTE 3 The OLED lighting system consisting of OLED panels or modules is illustrated in Annex D.~~

~~NOTE 4 This document applies to OLED light sources (tiles, panels, modules) which are composed of OLED luminaires or OLED lamps, and it is intended so that the OLED light source in accordance with this document fits in IEC 60598 (all parts) as a component of lighting equipment, in combination with other components.~~

~~NOTE 5 Where an appropriate Part 2 of IEC 62868 for an OLED light source does not exist, the nearest applicable Part 2 of IEC 62868 can be used as a guide to the requirements and tests.~~

This part of IEC 62868 specifies general safety requirements of organic light emitting diode (OLED) light sources (tiles, panels and modules and OLED lamps) for use on DC supplies up to 1 000 V or AC supplies up to 1 000 V at 50 Hz or 60 Hz for indoors and similar general lighting purposes.

Where an appropriate part of the IEC 62868-2 series for an OLED light source does not exist, the applicable part with the nearest configuration of the IEC 62868-2 series can be used as a guide to the requirements and tests in conjunction with this document.

NOTE 1 The OLED lighting system consisting of OLED panels or modules is illustrated in Annex D.

NOTE 2 This document applies to OLED light sources (tiles, panels, modules and lamps), and it is intended so that the OLED light source in accordance with this document fits in the IEC 60598 series as a component of lighting equipment, in combination with other components.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60598-1:~~2014~~2020, *Luminaires – Part 1: General requirements and tests*
~~IEC 60598-1:2014/AMD1:2017~~

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60598 (all parts), *Luminaires*

IEC 60838-2-2, *Miscellaneous lampholders – Part 2-2: Particular requirements – Connectors for LED-modules*

IEC 62504, *General lighting – Light emitting diode (LED) products and related equipment – Terms and definitions*

IEC TR 62854:2014, *Sharp edge testing apparatus and test procedure for lighting equipment – Tests for sharpness of edge*

IEC TS 62972, *General lighting – Organic light emitting diode (OLED) products and related equipment – Terms and definitions*

ISO 4046-4:2016, *Paper, board, pulps and related terms – Vocabulary – Part 4: Paper and board grades and converted products*

CONTENTS

FOREWORD 4
INTRODUCTION 6
1 Scope 7
2 Normative references 7
3 Terms and definitions 8
4 General 9
4.1 General requirements 9
4.2 General test requirements 9
5 Marking 10
5.1 Contents and location 10
5.2 Durability and legibility of marking 10
6 Construction 11
6.1 General 11
6.2 Mechanical strength 11
6.2.1 Requirements 11
6.2.2 Vibration test 11
6.3 Internal short circuit 11
6.4 Wireways 12
6.5 Resistance to dust, solid objects and moisture 12
7 Mechanical hazard 12
8 Fault conditions 12
8.1 General 12
8.2 Overload condition 13
8.3 Input stability test 13
9 Insulation resistance and electric strength 13
9.1 General requirements 13
9.2 Insulation resistance 13
9.3 Electric strength 13
10 Thermal stress 13
11 Creepage distances and clearances 14
12 Resistance to heat and fire 14
12.1 Resistance to heat 14
12.2 Resistance to flame and ignition 14
13 Photobiological safety 14
14 Terminals 14
15 Information for luminaire design 15
16 Protection against accidental contact with live parts 15
17 Screws, current-carrying parts and connections 15
18 Resistance to corrosion 15
19 Provisions for protective earthing 15
Annex A (informative) Construction of OLED panels 16
Annex B (informative) Information for luminaire design 18
Annex C (normative) Method of provoking an internal short circuit 19
C.1 Method for an OLED panel with glass substrates 19

C.2 Method for an OLED panel with flexible plastic substrates 19
Annex D (informative) OLED lighting system overview 20
Annex E (informative) Classification of OLED modules 21
E.1 Power supply classification 21
E.2 Installation method classification 21
Bibliography 22

Figure A.1 – Schematic diagram of OLED tile for lighting 16
Figure A.2 – Schematic diagram of OLED panel (Example 1) for lighting 16
Figure A.3 – Schematic diagram of OLED panel (Example 2) for lighting 17
Figure A.4 – Schematic diagram of OLED panel (Example 3) for lighting 17
Figure D.1 – Schematic diagram of OLED lighting system consisting of OLED panel or module 20

Table 1 – Contents and location of marking 10

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_____

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