

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Luminaires –
Part 2-20: Particular requirements – Lighting chains**

**Luminaires –
Partie 2-20: Exigences particulières – Guirlandes lumineuses**



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Part 2-20: Particular requirements – Lighting chains

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CONTENTS

FOREWORD	4
20.1 Scope	6
20.2 Normative references	6
20.3 Terms and definitions	7
20.4 General test requirements	7
20.5 Classification of luminaires	7
20.5.1 General	7
20.5.2 Protection against electric shock	7
20.5.3 Protection against dust, solid objects and moisture	8
20.6 Marking	8
20.6.1 General	8
20.6.2 Lighting chain marking	8
20.6.3 Lighting chain and packing marking	8
20.6.4 Packing or instruction marking	8
20.7 Construction	9
20.7.1 General	9
20.7.2 Lampholders	9
20.7.3 Terminal blocks	10
20.7.4 Terminals and supply connections	10
20.7.5 Gaskets	10
20.7.6 Mechanical strength	10
20.7.7 Lamp bridging devices	10
20.7.8 Control units	10
20.7.9 Lamp rotation	11
20.7.10 Lamp insertion/withdrawal force	11
20.7.11 Lamp mechanical requirements	11
20.8 Creepage distances and clearances	12
20.9 Provisions for earthing	12
20.10 Terminals	12
20.11 External and internal wiring	12
20.11.1 General	12
20.11.2 Cables for lighting chains	12
20.11.3 Cord anchorage test	13
20.11.4 Plugs and cable length	13
20.11.5 Maximum length of extendable class II lighting chains	13
20.12 Protection against electric shock	13
20.12.1 General	13
20.12.2 Divisible plug	13
20.12.3 Electrification of decorations	14
20.12.4 Contacts of push-in lampholders	14
20.12.5 Blanking plugs	15
20.13 Endurance tests and thermal tests	15
20.13.1 General	15
20.13.2 Test voltage	15
20.13.3 Lamp bridging devices	16

20.13.4	Short-circuit test of rectifier	16
20.14	Resistance to dust, solid objects and moisture	16
20.15	Insulation resistance and electric strength	16
20.16	Resistance to heat, fire and tracking	17
Annex A (normative)	Requirements for interconnecting connectors for use in lighting chains	18
Bibliography		20
Figure 1	– Example of a connector to a divisible plug for lighting chains.....	14
Figure 2	– Example of test device suitable for checking security of lampholder contacts	15
Table 1	– Cables for lighting chains	12

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LUMINAIRES –

**Part 2-20: Particular requirements –
Lighting chains**

FOREWORD

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International Standard IEC 60598-2-20 has been prepared by subcommittee 34D: Luminaires, of IEC technical committee 34: Lamps and related equipment.

This fourth edition cancels and replaces the third edition (2010).

This edition includes the following significant technical changes with respect to the previous edition, where the requirements for rope lights (sealed lighting chains) have been removed and are now dealt with in IEC 60598-2-21.

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

FDIS	Report on voting
34D/1145/FDIS	34D/1153/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.

This standard is intended to be read in conjunction with IEC 60598-1 Luminaires – Part 1: General requirements and tests.

In this standard, the following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type.

A list of all the parts in the IEC 60598 series, published under the general title *Luminaires* can be found on the IEC website.

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.

LUMINAIRES –

Part 2-20: Particular requirements – Lighting chains

20.1 Scope

This part of IEC 60598 specifies requirements for lighting chains fitted with series, parallel or a combination of series/parallel connected light sources for use either indoors or outdoors on supply voltages not exceeding 250 V.

For combinations where rope lights (also known as sealed lighting chains) are included, see IEC 60598-2-21.

Lighting chains provided with fixed or detachable attachments e.g. ornamental or decorative, are considered to be covered by this standard.

For lighting chains fitted with lampholders of the push-in type, the appropriate requirements of this standard applies.

NOTE 1 A Christmas tree lighting chain is an example of a lighting chain fitted with series or series/parallel connected lamps. A chain for illuminating ski-tracks or promenades is an example of a lighting chain fitted with parallel connected lamps.

For lighting chains with non-standardised lamps (e.g. lamps of the push-in type) the lamps are regarded as a part of the lighting chain and consequently included in the testing.

NOTE 2 For products where the lighting chain is permanently fixed to a frame or pre-lit Christmas tree the relevant clauses of IEC 60598-2-4 and/or IEC 60598-2-7 can also apply.

NOTE 3 In some countries the term "strings" is used instead of "chains".

NOTE 4 Candlestick luminaires are tested according to IEC 60598-2-4.

20.2 Normative references

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.

IEC 60227-5:2011, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5: Flexible cables (cords)*

IEC 60238, *Edison screw lampholders*

IEC 60245-4:2011, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 4: Cords and flexible cables*

IEC 60320 (all parts), *Appliance couplers for household and similar general purposes*

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

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

IEC 60906 (all parts), *IEC System of plugs and socket-outlets for household and similar purposes*

IEC 61184, *Bayonet lampholders*

IEC 61347-2-11, *Lamp controlgear – Part 2-11: Particular requirements for miscellaneous electronic circuits used with luminaires*

IEC 61347-2-13, *Lamp controlgear – Part 2-13: Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules*

IEC 61984:2008, *Connectors – Safety requirements and tests*

ISO 4046-4:2002, *Paper, board, pulps and related terms – Vocabulary – Part 4: Paper and board grades and converted products*

20.3 Terms and definitions

For the purpose of this document, the terms and definitions given in IEC 60598-1 as well as the following apply.

20.3.1

lighting chain

luminaire comprising an assembly of series-connected lamps, parallel-connected lamps or series/parallel-connected lamps and interconnecting insulated conductors

Note 1 to entry: For lighting chains with non-standardised lamps (e.g. lamps of the push-in type) the lamps are regarded as part of the chain.

Note 2 to entry: For lighting chains with non-removable lamps, the lamps are regarded as part of the chain.

Note 3 to entry: A lighting chain may incorporate control devices (e.g. flasher units, see 20.7.8).

Note 4 to entry: Unless otherwise stated, references to lamps within this standard also refer to LEDs.

20.3.2

rope light

sealed lighting chain

lighting chain with non-replaceable light sources enclosed in a rigid or flexible insulating translucent pipe or tube, sealed at the ends, with or without joints

Note 1 to entry: Covered by IEC 60598-2-21.

20.4 General test requirements

The provisions of Section 0 of IEC 60598-1 apply. The tests described in each appropriate section of IEC 60598-1 shall be carried out in the order listed in this part of IEC 60598.

20.5 Classification of luminaires

20.5.1 General

Lighting chains shall be classified in accordance with the provisions of Section 2 of IEC 60598-1 together with the requirements of 20.5.2 and 20.5.3.

20.5.2 Protection against electric shock

Lighting chains shall be classified as Class II or Class III.