

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Luminaires –
Part 2-21: Particular requirements – Rope lights**

**Luminaires –
Partie 2-21: Exigences particulières – Cordons lumineux**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LUMINAIRES –

**Part 2-21: Particular requirements –
Rope lights**

FOREWORD

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International Standard IEC 60598-2-21 has been prepared by subcommittee 34D: Luminaires, of IEC technical committee 34: Lamps and related equipment.

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

FDIS	Report on voting
34D/1146/FDIS	34D/1154/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.

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

In this standard, the following print types are used:

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- withdrawn,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

LUMINAIRES –

Part 2-21: Particular requirements – Rope lights

21.1 Scope

This part of IEC 60598 specifies requirements for rope lights (sealed lighting chains) fitted with non-replaceable series- or parallel- or a combination of series/parallel-connected light sources for use either indoors or outdoors on supply voltages not exceeding 250 V.

NOTE 1 In some countries the term “sealed lighting chain” is used instead of “rope light”.

NOTE 2 For products where the rope light is fixed to a frame or the like as ornaments like Santa Claus, snowman and similar, relevant clauses of IEC 60598-2-4 and/or IEC 60598-2-7 can also apply.

Rope lights provided with, fixed or detachable, extra attachments of different kinds, e.g. ornamental element in temporary decorative configurations due to festivals, celebrations, etc. or in two or three dimensional reproductions of persons or animals (real or imaginary) are considered to be covered by this standard.

21.2 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 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 60811-504:2012, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 504: Mechanical tests – Bending tests at low temperature for insulation and sheaths*

IEC 60811-506:2012, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 506: Mechanical tests – Impact test at low temperature for insulations and sheaths*

IEC 60811-508:2012, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 508: Mechanical tests – Pressure test at high temperature for insulation and sheaths*

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

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 4064-4:2002, *Paper, board, pulps and related terms – Vocabulary – Part 4: paper and board grades and converted products*

21.3 Terms and definitions

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

21.3.1

lighting chain

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

[SOURCE: IEC 60598-2-20:2010, 20.4.1]

21.3.2

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: A rope light may incorporate control devices (e.g. flasher units, see 21.7.4).

21.4 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.

21.5 Classification of luminaires

21.5.1 General

Rope lights shall be classified in accordance with the provisions of Section 2 of IEC 60598-1 together with the requirements of 21.5.2 and 21.5.3.

21.5.2 Protection against electric shock

Rope lights shall be classified as Class II or Class III.

21.5.3 Protection against dust, solid objects and moisture

Rope lights for outdoor use shall be classified at least IP 44.