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INTERNATIONAL STANDARD



**Optical fibre cables –
Part 1-1: Generic specification – General**

INTERNATIONAL
ELECTROTECHNICAL
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CONTENTS

| | |
|---|----|
| FOREWORD | 4 |
| 1 Scope | 6 |
| 2 Normative references | 6 |
| 3 Terms and definitions | 7 |
| 4 Graphical symbols and abbreviations..... | 12 |
| 5 Optical fibre cables | 13 |
| 6 Materials | 13 |
| 6.1 Optical fibre | 13 |
| 6.1.1 General | 13 |
| 6.1.2 Attenuation coefficient | 13 |
| 6.1.3 Attenuation uniformity – Attenuation discontinuities | 13 |
| 6.1.4 Cable cut-off wavelength | 14 |
| 6.1.5 Fibre colouring..... | 14 |
| 6.1.6 Polarization mode dispersion (PMD) | 14 |
| 6.2 Electrical conductors..... | 14 |
| 6.3 Other materials | 14 |
| 6.4 Environmental requirements | 14 |
| 7 Cable construction..... | 14 |
| 7.1 General..... | 14 |
| 7.2 Colour coding | 15 |
| 7.2.1 Overview | 15 |
| 7.2.2 Unit colour coding..... | 15 |
| 7.2.3 Sheath colour coding | 15 |
| 8 Measuring methods | 15 |
| 8.1 General..... | 15 |
| 8.2 Measuring methods for dimensions | 15 |
| 8.3 Measuring methods for mechanical characteristics | 16 |
| 8.4 Measuring methods for electrical characteristics | 16 |
| 8.5 Measuring methods for transmission and optical characteristics..... | 16 |
| 8.6 Measuring methods for environmental characteristics | 17 |
| 8.7 Measuring methods for cable element characterisation | 17 |
| 9 Related Technical Reports..... | 17 |
| Annex A (informative) Guidelines for specific defined applications and cabled fibre performance | 18 |
| A.1 General..... | 18 |
| A.2 Cabled fibre attenuation requirements..... | 18 |
| A.3 Cabled fibre bandwidth requirements | 19 |
| A.4 Type testing at 1 625 nm..... | 20 |
| Annex B (informative) Guidelines for qualification sampling | 21 |
| B.1 General..... | 21 |
| B.2 Fibre selection for cable testing | 21 |
| B.3 Pass/fail criteria | 21 |
| Bibliography..... | 23 |
| Table 1 – Measuring methods for dimensions | 16 |

| | |
|---|----|
| Table 2 – Measuring methods for electrical characteristics | 16 |
| Table 3 – Measuring methods for transmission and optical characteristics of cabled optical fibres | 17 |
| Table A.1 – Maximum cabled fibre attenuation coefficient (dB/km), as given by ITU-T | 18 |
| Table A.2 – Category A1 multimode fibre maximum cable attenuation coefficient (dB/km)..... | 19 |
| Table A.3 – Single-mode maximum cable attenuation coefficient (dB/km) | 19 |
| Table A.4 – Category A1 multimode cabled fibre bandwidth (MHz·km)..... | 20 |
| Table A.5 – Guidance values for 1 625 nm type test acceptance criteria | 20 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –

Part 1-1: Generic specification – General

FOREWORD

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International Standard IEC 60794-1-1 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This fourth edition cancels and replaces the third edition, published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) the expansion of the definitions, graphical symbols, terminology and abbreviations content, with the aim of making this standard the default and reference for all others in the IEC 60794-x series;
- b) the inclusion of updated and expanded optical fibre, attenuation and bandwidth sections, with the aim of making this standard the default and reference for all others in the IEC 60794-x series.

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

| CDV | Report on voting |
|--------------|------------------|
| 86A/1651/CDV | 86A/1667/RVC |

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

A list of all parts in the IEC 60794 series, published under the general title *Optical fibre cables*, can be found on the IEC website.

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

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

A bilingual version of this publication may be issued at a later date.

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OPTICAL FIBRE CABLES –

Part 1-1: Generic specification – General

1 Scope

This part of IEC 60794 applies to optical fibre cables for use with communication equipment and devices employing similar techniques and to cables having a combination of both optical fibres and electrical conductors.

The object of this standard is to establish uniform generic requirements for the geometrical, transmission, material, mechanical, ageing (environmental exposure), climatic and electrical properties of optical fibre cables and cable elements, where appropriate.

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 60189-1, *Low-frequency cables and wires with PVC insulation and PVC sheath – Part 1: General test and measuring methods*

IEC 60304, *Standard colours for insulation for low-frequency cables and wires*

IEC 60793-1-21, *Optical Fibres Part 1-21: Measurement methods and test procedures – Coating geometry*

IEC 60793-1-40, *Optical fibres – Part 1-40: Measurement methods and test procedures – Attenuation*

IEC 60793-1-44, *Optical fibres – Part 1-44: Measurement methods and test procedures – Cut-off wavelength*

IEC 60793-1-46, *Optical fibres – Part 1-46: Measurement methods and test procedures – Monitoring of changes in optical transmittance*

IEC 60793-1-48, *Optical fibres – Part 1-48: Measurement methods and test procedures – Polarization mode dispersion*

IEC 60793-2, *Optical fibres – Part 2: Product specifications – General*

IEC 60793-2-50, *Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres*

IEC 60794-1-21, *Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical tests methods*

IEC 60794-1-22, *Optical fibre cables – Part 1-22: Generic specification – Basic optical cable test procedures – Environmental tests methods*

IEC 60811-201, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 201: General tests – Measurement of insulation thickness*

IEC 60811-202, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 202: General tests – Measurement of thickness of non-metallic sheath*

IEC 60811-203, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 203: General tests – Measurement of overall dimensions*

IEC TR 61931, *Fibre optic – Terminology*

ISO 14001, *Environmental management systems – Requirements with guidance for use*

ISO 14064-1, *Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*