

BUREAU OF INDIAN STANDARDS  
DRAFT FOR COMMENTS ONLY

मसौदा भारतीय मानक  
प्रकाशिक तंतु केबल  
भाग 1 वर्गीय विशिष्टि  
अनुभाग 1 सामान्य  
(दूसरा पुनरीक्षण)

Draft Indian Standard  
**Optical Fibre Cables**

Part 1 Generic Specification

Section 1 General

(*Second Revision*)

ICS 33.180.10

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Fibre Optics, Fibres, Cables And Devices  
Sectional Committee, LITD 11

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**Last Date for Comments:**  
**25<sup>th</sup> October 2023**

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**NATIONAL FOREWORD**

This draft Indian Standard (Part 1/Sec 1) (*Second Revision*) which is identical with IEC 60794-1-1: 2023 “Optical fibre cables –Part 1-1: Generic specification – General’ issued by the International Electrotechnical Commission (IEC) will be adopted by the Bureau of Indian Standards on the recommendation of Fibre Optics, Fibres, Cables And Devices Sectional Committee and approval of the Electronics and Information Technology Division Council.

This standard was originally published in 2012 and was identical to IEC 60794-1-1: 2001. It was subsequently revised in 2018 and was identical to IEC 60794-1-1: 2015. The second revision of this standard has been undertaken to align it with the latest version IEC 60794-1-1: 2023

The text of IEC Standard may be approved as suitable for publication an Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words ‘International Standard’ appear referring to this standard, they should be read as ‘Indian Standard’, and;
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted draft standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their respective places, are listed below along with their degree of equivalence for the editions indicated. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:-

<i>International Standards</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
IEC 60189-1 Low-frequency cables and wires with PVC insulation and PVC sheath – Part 1 General test and measuring methods	IS/IEC 60189-1 : 2018 Low-Frequency Cables and Wires with PVC Insulation and PVC Sheath Part 1 General Test and Measuring Methods	Identical
IEC 60304 Standard colours for insulation for low-frequency cables and wires	IS 9938 : 1981 Recommended colours for PVC insulation for LF wires and cables	Technically Equivalent with IEC 60304: 1978
IEC 60793-1-21 Optical fibres – Part 1-21: Measurement methods and test procedures – Coating geometry	IS/IEC 60793-1-21: 2001 Optical fibres Part 1 Measurements methods and test procedures, Section 21 Coating geometry	Identical
IEC 60793-1-22 Optical fibres – Part 1-22: Measurement methods and test procedures – Length measurement	IS/IEC 60793-1-22: 2001 Optical fibres – Part 1-22: Measurement methods and test procedures – Length measurement	-do-
IEC 60793-1-40 Optical fibres – Part 1-40: Attenuation measurement methods	IS/IEC 60793-1-40: 2001 Optical Fibres Part 1 Measurement Methods and Test Procedures Section 40 Attenuation measurement methods	-do-

IEC 60793-1-44 Optical fibres – Part 1-44: Measurement methods and test procedures – Cutoff wavelength	IS/IEC 60793-1-44: 2011 Optical Fibres Part 1 Measurement Methods and Test Procedures Section 44 Cut-Off Wavelength	Identical
IEC 60793-1-46 Optical fibres – Part 1-46: Measurement methods and test procedures –Monitoring of changes in optical transmittance	IS/IEC 60793-1-46: 2001 Optical Fibres Part 1 Measurement Methods and Test Procedures Section 46 Monitoring of Change in Optical Transmittance	-do-
IEC 60793-1-48 Optical fibres – Part 1-48: Measurement methods and test procedures –Polarization mode dispersion	IS/IEC 60793-1-48: 2007 Optical Fibres Part 1 Measurement Method and Test Procedures Section 48 Polarization Mode Dispersion	-do-

The technical committee has reviewed the provisions of the following International Standard referred in this adopted draft standard and has decided that it is acceptable for use in conjunction with this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

<i>International Standard</i>	<i>Title</i>
IEC 60793-2	Optical fibres – Part 2 Product specifications – General
IEC 60793-2-10	Optical fibres – Part 2-10: Product specifications – Sectional specification for category A1 multimode fibres
IEC 60793-2-40:2021	Optical fibres – Part 2-40: Product specifications – Sectional specification for category A4 multimode fibres
IEC 60794-1-21	Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical tests methods
IEC 60794-1-221	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

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2: 2022 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

#### **Scope of IEC 60794-1-1: 2023 is as follows:**

This part of IEC 60794 applies to optical fibre cables for use with communication equipment and devices employing similar techniques. Electrical properties are specified for optical ground wire (OPGW) and optical phase conductor (OPPC) cables. Hybrid communication cables are specified in the IEC 62807 series.

The object of this document 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

NOTE– The Technical content of this document has not been enclosed as these are identical with the corresponding IEC Standard. For details please refer IEC 60794-1-1: 2023 or kindly contact.

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