Doc No.: LITD 11 (28609)
Draft IEC 60793-1-46:2024
August 2025

BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

मसौदा भारतीय मानक

प्रकाशिक तंतु भाग 1 मापन विधियाँ और परिक्षण प्रक्रियाएँ अनुभाग 46 प्रकाशिक पारगमनता के बदलाव को मॉनीटर करना (पहला पुनरीक्षण)

Draft Indian Standard

Optical fibres: Part 1 measurement methods and test procedures: Sec 46 monitoring of changes in optical transmittance

(First Revision)

ICS 33.180.10

LITD 11 (Fibre Optics, Fibers, Cables and Devices Sectional Committee)

Last date of Comments 28 October 2025

NATIONAL FOREWORD

(Formal clauses will be added later)

This Draft Indian Standard *(first Revision*) which is identical with IEC 60793-1-46: 2024 'Optical fibres — Part 1 measurement methods and test procedures: Sec 46 monitoring of changes in optical transmittance' issued by the International Electrotechnical Commission (IEC) *will be* adopted by the Bureau of Indian Standards on the recommendation of Fibre Optics, Fibers, Cables and Devices Sectional Committee and approval of the Electronics and Information Technology Division Council.

This standard was originally published in 2013 and was identical with IEC 60793-1-46: 2001. The first revision of this standard has been undertaken to align it with the latest version of International Standard IEC 60793-1-46:2024.
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This edition includes the following significant technical changes with respect to the previous edition:
a) inclusion of class C single mode intraconnection fibre;
b) replacement of 'optical transmittance' by 'attenuation'.
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The text of IEC Standard *may be* approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'.

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.

The technical committee has reviewed the provisions of following International Standards referred in this adopted standard and has decided that they are 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:

International standards	Corresponding Indian standards	Degree of Equivalence
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: Sec 40 attenuation	Identical with IEC 60793-1-40:2001.

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 *(Second Revision)*'. 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 60793-1-46:2024

This part of IEC 60793 establishes uniform requirements for the monitoring of changes in attenuation, thereby assisting in the inspection of fibres and cables for commercial purposes. This document gives two methods for monitoring the changes in attenuation of optical fibres and cables that occur during mechanical or environmental testing, or both. It provides a monitor in the change of attenuation characteristics arising from optical discontinuity, physical defects and modifications of the attenuation slope:
– method A: change in attenuation by transmitted power;
– method B: change in attenuation by backscattering.
Methods A and B apply to the monitoring of all categories of the following fibres:
– class A: multimode fibres;

– class B: single-mode fibres;
– class C: single-mode intraconnection fibres.
Information common to both measurements is contained in Clause 1 to Clause 10, and information pertaining to each individual method appears in Annex A, and Annex B respectively.

(for example, national) standards.
Note: - The Technical content of this document has not been enclosed as these are identical with the corresponding IEC Standard. For details, please refer to IEC 60793-1-46:2024 or kindly contact.

Head,
Electronics & IT Department
Bureau of Indian Standards, 9,
B.S. Zafar Marg,
New Delhi-110002 Email:
litd11@bis.gov.in Tele: 011-23608442