

BUREAU OF INDIAN STANDARDS

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**मसौदा भारतीय मानक
प्रकाशिक तंतु भाग 1 मापन विधियाँ और परिक्षण प्रक्रियाएँ
अनुभाग 45 मॉड फील्ड व्यास
(दूसरा पुनरीक्षण)**

Draft Indian Standard

***Optical Fibres Part 1 Measurement Methods
and Test Procedures Section 45***

Mode field diameter

(Second Revision)

ICS 33.180.10

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NATIONAL FOREWORD

(Formal clauses will be added later)

This Draft Indian Standard (*Second Revision*) which is identical with IEC 60793-1-45: 2024 ‘Optical fibres — Part 1-45: Measurement methods and test procedures — Mode field diameter’ 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 60793-1-45:2001. The first revision published in 2020 and was identical with IEC 60793-1-45:2017. The Second revision of this standard has been undertaken to align it with the latest version of International Standard IEC 60793-1-45:2024.

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

- a) Modification of the minimum distance between the fibre end and the detector for the direct far field scan (Annex A).
- b) Generalization of the requirement for the minimum dynamic range for all fibre types (Annex A).

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 60793-1-40:2024, 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 60793-1-45:2024

This part of IEC 60793 establishes uniform requirements for measuring the mode field diameter (MFD) of single-mode optical fibre, thereby assisting in the inspection of fibres and cables for commercial purposes.

(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 60793-1-45:2024 or kindly contact.

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