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# INTERNATIONAL STANDARD

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

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## OPTICAL FIBRES –

### **Part 1-44: Measurement methods and test procedures – Cut-off wavelength**

#### FOREWORD

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International Standard IEC 60793-1-44 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2001. This edition constitutes a technical revision.

The main change with respect to the previous edition is the withdrawal of annex D.

Annexes A, B and C form an integral part of this standard.

This standard should be read in conjunction with IEC 60793-1-1.

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

FDIS	Report on voting
86A/1369/FDIS	86A/1385/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.

A list of all parts of the IEC 60793-1-4x series, published under the general title *Optical fibres – measurement methods and test procedures*, can be found on the IEC website

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- withdrawn,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.

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

## OPTICAL FIBRES –

### Part 1-44: Measurement methods and test procedures – Cut-off wavelength

#### 1 Scope

This part of IEC 60793 establishes uniform requirements for measuring the cut-off wavelength of single-mode optical fibre, thereby assisting in the inspection of fibres and cables for commercial purposes.

This standard gives the methods for measuring the cut-off wavelength of fibre and cable

There are two methods for measuring cable cut-off wavelength,  $\lambda_{CC}$ :

- Method A: using uncabled fibre;
- Method B: using cabled fibre.

There is only one method (Method C) for measuring fibre cut-off wavelength,  $\lambda_c$ .

The test method in this standard describes procedures for determining the cut-off wavelength of a sample fibre in either an uncabled condition ( $\lambda_c$ ) or in a cable ( $\lambda_{CC}$ ). Three default configurations are given here: any different configuration will be given in a detail specification. These procedures apply to all category B and C fibre types (see Normative references).

All methods require a reference measurement. There are two reference-scan techniques, either or both of which may be used with all methods:

- bend-reference technique;
- multimode-reference technique using category A1 multimode fibre.

#### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

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