



**SLOVENSKI STANDARD**  
**SIST EN IEC 60793-1-44:2023**

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**Optična vlakna - 1-44. del: Merilne metode in postopki preskušanja - Mejna valovna dolžina (IEC 60793-1-44:2023)**

Optical fibres - Part 1-44: Measurement methods and test procedures - Cut-off wavelength (IEC 60793-1-44:2023)

Lichtwellenleiter - Messmethoden und Prüfverfahren - Teil 1-44: Grenzwellenlänge (IEC 60793-1-44:2023)

Fibres optiques - Partie 1-44: Méthodes de mesure et procédures d'essai - Longueur d'onde de coupure (IEC 60793-1-44:2023)

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33.180.10 (Optična) vlakna in kabli Fibres and cables

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**Optical fibres - Part 1-44: Measurement methods and test  
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(IEC 60793-1-44:2023)**

Fibres optiques - Partie 1-44: Méthodes de mesure et  
procédures d'essai - Longueur d'onde de coupure  
(IEC 60793-1-44:2023)

Lichtwellenleiter - Teil 1-44: Mess- und Prüfverfahren -  
Grenzwellenlänge  
(IEC 60793-1-44:2023)

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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN IEC 60793-1-44:2023 (E)****European foreword**

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The text of the International Standard IEC 60793-1-44:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60793-1-40 NOTE Approved as EN IEC 60793-1-40

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IEC 60793-2-50 NOTE Approved as EN IEC 60793-2-50

IEC 60793-2-60 NOTE Approved as EN 60793-2-60

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cencenelec.eu](http://www.cencenelec.eu).

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# INTERNATIONAL STANDARD



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

[SIST EN IEC 60793-1-44:2023  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## OPTICAL FIBRES –

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

## FOREWORD

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

This third edition cancels and replaces the second 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) used the diameter of the fibre loops to describe deployment;
- b) added Annex D related to cut-off curve artifacts;
- c) reorganized information and added more figures to clarify concepts.

The text of this International Standard is based on the following documents:

Draft	Report on voting
86A/2314/FDIS	86A/2327/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

This document is to be read in conjunction with IEC 60793-1-1.

A list of all parts of the IEC 60793-1 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 document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## 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 document gives methods for measuring the cut-off wavelength for uncabled or cabled single mode telecom fibre. These procedures apply to all category B and C fibre types.

There are three methods of deployment for measuring the cut-off wavelength:

- method A: cable cut-off using uncabled fibre 22 m long sample,  $\lambda_{CC}$ ;
- method B: cable cut-off using cabled fibre 22 m long sample,  $\lambda_{CC}$ ;
- method C: fibre cut-off using uncabled fibre 2 m long sample,  $\lambda_c$ .

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

- bend-reference technique;
- multimode-reference technique using category A1(OM1-OM5) multimode fibre.

#### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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*

#### 3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>