

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Optical fibres –  
Part 2-10: Product specifications – Sectional specification for category A1  
multimode fibres**

**Fibres optiques –  
Partie 2-10: Spécifications de produits – Spécification intermédiaire pour les  
fibres multimodales de catégorie A1**



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ICS 33.180.10

ISBN 978-2-8322-3006-0

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## OPTICAL FIBRES –

**Part 2-10: Product specifications –  
Sectional specification for category A1 multimode fibres**

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International Standard IEC 60793-2-10 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This fifth edition cancels and replaces the fourth 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) addition of enhanced macrobending multimode fibres A1a.1b, A1a.2b and A1a.3b;
- b) inclusion of the specified test wavelength and specimen length for core diameter (CD), numerical aperture (NA), differential mode delay (DMD) and threshold values for CD and NA;
- c) addition of a specimen length for 850 nm bandwidth of A1a and A1b fibres.

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

CDV	Report on voting
86A/1631/CDV	86A/1664/RVC

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 in the IEC 60793 series, published under the general title *Optical fibres*, 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 website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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## OPTICAL FIBRES –

### Part 2-10: Product specifications – Sectional specification for category A1 multimode fibres

#### 1 Scope

This part of IEC 60793 is applicable to optical fibre types A1a, A1b, and A1d. These fibres are used or can be incorporated in information transmission equipment and optical fibre cables.

Type A1a applies to 50/125  $\mu\text{m}$  graded index fibre. Three bandwidth grades are defined as A1a.1, A1a.2 and A1a.3. Each of these bandwidth grades is defined for two levels of macrobend loss performance that are distinguished by “a” or “b” suffix. Those with suffix “a” are specified to meet traditional macrobend loss performance levels. Those with suffix “b” are specified to meet enhanced macrobend loss (i.e. lower loss) performance levels.

Type A1b applies to 62,5/125  $\mu\text{m}$  graded index fibre and A1d applies to 100/140  $\mu\text{m}$  graded index fibre.

Other applications include, but are not restricted to, the following: short reach, high bit-rate systems in telephony, distribution and local networks carrying data, voice and/or video services; on-premises intra-building and inter-building fibre installations including data centres, local area networks (LANs), storage area networks (SANs), private branch exchanges (PBXs), video, various multiplexing uses, outside telephone cable plant use, and miscellaneous related uses.

Three types of requirements apply to these fibres:

- general requirements, as defined in IEC 60793-2;
- specific requirements common to the category A1 multimode fibres covered in this standard and which are given in Clause 3;
- particular requirements applicable to individual fibre types or specific applications, which are defined in the normative family specification annexes.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 (all parts), *Optical fibres – Part 1: Measurement methods and test procedures*

IEC 60793-1-20, *Optical fibres – Part 1-20: Measurement methods and test procedures – Fibre geometry*

IEC 60793-1-21, *Optical fibres – Part 1-21: Measurement methods and test procedures – Coating geometry*

IEC 60793-1-22, *Optical fibres – Part 1-22: Measurement methods and test procedures – Length measurement*