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Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres (IEC 60793-2-50:2004)

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EUROPEAN STANDARD

**EN 60793-2-50**

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2004

ICS 33.180.10

Supersedes EN 60793-2-50:2002  
Incorporates Corrigendum July 2004

English version

**Optical fibres**  
**Part 2-50 : Product specifications -**  
**Sectional specification for**  
**class B single-mode fibres**  
(IEC 60793-2-50:2004)

Fibres optiques  
Partie 2-50: Spécifications de produits -  
Spécification intermédiaire  
pour les fibres unimodales de classe B  
(CEI 60793-2-50:2004)

Lichtwellenleiter  
Teil 2-50: Produktspezifikationen -  
Rahmenspezifikation für Einmodenfasern  
der Kategorie B  
(IEC 60793-2-50:2004)

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This European Standard was approved by CENELEC on 2004-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

# CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 86A/880/FDIS, future edition 2 of IEC 60793-2-50, prepared by SC 86A, Fibres and cables, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60793-2-50 on 2004-04-01.

This European Standard supersedes EN 60793-2-50:2002.

The principle change relative to EN 60793-2-50:2002 is the addition of environmental testing requirements. Additionally, the requirements in Annex C have been clarified.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-01-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-04-01

Annex ZA has been added by CENELEC.

The contents of the corrigendum of July 2004 have been included in this copy.

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## iTeh STANDARD PREVIEW

### Endorsement notice

The text of the International Standard (IEC 60793-2-50:2004) was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

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

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.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60793-1-20	2001	Optical fibres Part 1-20: Measurement methods and test procedures - Fibre geometry	EN 60793-1-20	2002
IEC 60793-1-21	2001	Part 1-21: Measurement methods and test procedures - Coating geometry	EN 60793-1-21	2002
IEC 60793-1-22	2001	Part 1-22: Measurement methods and test procedures - Length measurement	EN 60793-1-22	2002
IEC 60793-1-30	2001	Part 1-30: Measurement methods and test procedures - Fibre proof test	EN 60793-1-30	2002
IEC 60793-1-31	2001	Part 1-31: Measurement methods and test procedures - Tensile strength	EN 60793-1-31	2002
IEC 60793-1-32 (mod)	2001	Part 1-32: Measurement methods and test procedures - Coating strippability	EN 60793-1-32	2003
IEC 60793-1-33	2001	Part 1-33: Measurement methods and test procedures - Stress corrosion susceptibility	EN 60793-1-33	2002
IEC 60793-1-34	2001	Part 1-34: Measurement methods and test procedures - Fibre curl	EN 60793-1-34	2002
IEC 60793-1-40 (mod)	2001	Part 1-40: Measurement methods and test procedures - Attenuation	EN 60793-1-40	2003
IEC 60793-1-42	2001	Part 1-42: Measurement methods and test procedures - Chromatic dispersion	EN 60793-1-42	2002
IEC 60793-1-44	2001	Part 1-44: Measurement methods and test procedures - Cut-off wavelength	EN 60793-1-44	2002
IEC 60793-1-45 (mod) + corr. July	2001 2002	Part 1-45: Measurement methods and test procedures - Mode field diameter	EN 60793-1-45 + corr. April	2003 2004
IEC 60793-1-46	2001	Part 1-46: Measurement methods and test procedures - Monitoring of changes in optical transmittance	EN 60973-1-46	2002

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60793-1-47	2001	Part 1-47: Measurement methods and test procedures - Macrobending loss	EN 60793-1-47	2002
IEC 60793-1-50	2001	Part 1-50: Measurement methods and test procedures - Damp heat (steady state)	EN 60793-1-50	2002
IEC 60793-1-51	2001	Part 1-51: Measurement methods and test procedures - Dry heat	EN 60793-1-51	2002
IEC 60793-1-52	2001	Part 1-52: Measurement methods and test procedures - Change of temperature	EN 60793-1-52	2002
IEC 60793-1-53	2001	Part 1-53: Measurement methods and test procedures - Water immersion	EN 60793-1-53	2002
IEC 60793-2	2003	Part 2: Product specifications - General	EN 60793-2	2004
IEC 60794-2	2002	Optical fibre cables Part 2: Indoor cables - Sectional specification	EN 60794-2	2003
IEC 60794-3	- <sup>1)</sup>	Part 3: Sectional specification - Outdoor cables	EN 60794-3	2002 <sup>2)</sup>
IEC/TS 61941	- <sup>1)</sup>	Optical fibres - Polarization mode dispersion measurement techniques for single-mode optical fibres	-	-
IEC/TR 62048	2002	Optical fibres - Reliability - Power law theory	-	-

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<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC**

**60793-2-50**

Deuxième édition  
Second edition  
2004-01

**Fibres optiques –**

**Partie 2-50:  
Spécifications de produits –  
Spécification intermédiaire pour les fibres  
unimodales de classe B**

ITeC STANDARD PREVIEW

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**Optical fibres –**

SIST EN 60793-2-50:2004

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**Part 2-50:  
Product specifications –  
Sectional specification for class B  
single-mode fibres**

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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Pour prix, voir catalogue en vigueur  
For price, see current catalogue

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## OPTICAL FIBRES –

Part 2-50: Product specifications –  
Sectional specification for class B single-mode fibres

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60793-2-50 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This second edition constitutes a maintenance cycle report of Edition 1. The principle change in this document relative to Edition 1 is the addition of environmental testing requirements. Additionally, the requirements in Annex C have been clarified.

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

FDIS	Report on voting
86A/880/FDIS	86A/890/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.

IEC 60793-2 consists of the following parts, under the general title *Optical fibres – Product specifications*:

- Part 2-10: Sectional specification for category A1 multimode fibres
- Part 2-20: Sectional specification for category A2 multimode fibres
- Part 2-30: Sectional specification for category A3 multimode fibres
- Part 2-40: Sectional specification for category A4 multimode fibres
- Part 2-50: Sectional specification for class B single-mode fibres

The committee has decided that the contents of this publication will remain unchanged until 2008. At this date, the publication will be

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

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## OPTICAL FIBRES –

### Part 2-50: Product specifications – Sectional specification for class B single-mode fibres

#### 1 Scope

This part of IEC 60793-2 is applicable to optical fibre types B1.1, B1.2, B1.3, and categories B2 and B4. These fibres are used or can be incorporated in information transmission equipment and optical fibre cables.

Three types of requirements apply to these fibres:

- general requirements, as defined in IEC 60793-2;
- specific requirements common to the class B single-mode 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 family specifications of Annexes A to E.

#### 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 60793-1-20:2001, *Optical fibres – Part 1-20: Measurement methods and test procedures – Fibre geometry*

IEC 60793-1-21:2001, *Optical fibres – Part 1-21: Measurement methods and test procedures – Coating geometry*

IEC 60793-1-22:2001, *Optical fibres – Part 1-22: Measurement methods and test procedures – Length measurement*

IEC 60793-1-30:2001, *Optical fibres – Part 1-30: Measurement methods and test procedures – Fibre proof test*

IEC 60793-1-31:2001, *Optical fibres – Part 1-31: Measurement methods and test procedures – Tensile strength*

IEC 60793-1-32:2001, *Optical fibres – Part 1-32: Measurement methods and test procedures – Coating strippability*

IEC 60793-1-33:2001, *Optical fibres – Part 1-33: Measurement methods and test procedures – Stress corrosion susceptibility*

IEC 60793-1-34:2001, *Optical fibres – Part 1-34: Measurement methods and test procedures – Fibre curl*