SLOVENSKI STANDARD

SIST EN 60793-2-30:2004

oktober 2004

Optical fibres – Part 2-30: Product specifications – Sectional specification for category A3 multimode fibres (IEC 60793-2-30:2002)

ICS 33.180.10

Referenčna številka
SIST EN 60793-2-30:2004(en)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60793-2-30

April 2002

ICS 33.180.10

English version

Optical fibres
Part 2-30: Product specifications – Sectional specification for category A3 multimode fibres
(IEC 60793-2-30:2002)

Fibres optiques
Partie 2-30: Spécifications de produit - Spécification intermédiaire pour les fibres multimodales de catégorie A3
(CEI 60793-2-30:2002)

Lichtwellenleiter
Teil 2-30: Produktspezifikationen - Rahmenspezifikation für Mehrmodenfasern der Kategorie A3
(IEC 60793-2-30:2002)

This European Standard was approved by CENELEC on 2002-03-05. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, 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

Ref. No. EN 60793-2-30:2002 E

Foreword

The text of document 86A/736/FDIS, future edition 1 of IEC 60793-2-30, 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 60793-2-30 on 2002-03-05.

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) 2002-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2005-03-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annexes A, B, C, D and ZA are normative.
Annex ZA has been added by CENELEC.

Compared to IEC 60793-1:1989 and IEC 60793-2:1992, IEC/SC 86A has adopted a revised structure of the new IEC 60793 series: The individual measurement methods and test procedures for optical fibres are published as "Part 1-XX"; the product standards are published as "Part 2-XX".

The general relationship between the new series of EN 60793 and the superseded European Standards of the EN 188000 series is as follows:

EN	Title	supersedes
EN 60793-1-XX	Optical fibres -- Part 1-XX: Measurement methods and test procedures	Individual subclauses of EN 188000:1992
EN 60793-2-XX	Optical fibres -- Part 2-XX: Product specifications	EN 188100:1995 EN 188101:1995 EN 188102:1995 EN 188200:1995 EN 188201:1995 EN 188202:1995

Endorsement notice

The text of the International Standard IEC 60793-2-30:2002 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

Publication	Year	Title	EN/HD	Year
IEC 60793-1	Series	Optical fibres Part 1: Generic specification	EN 60793-1	Series
IEC 60793-1-20	2001	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 60793-1-40	2001	Part 1-40: Measurement methods and test procedures - Attenuation	EN 60793-1-40	- [1]
IEC 60793-1-41	2001	Part 1-41: Measurement methods and test procedures - Bandwidth	EN 60793-1-41	2002
IEC 60793-1-46	2001	Part 1-46: Measurement methods and test procedures - Monitoring of changes in optical transmittance	EN 60973-1-46	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

[1] To be published.

Publication	Year	Title	EN/HD	Year
IEC 60793-2	- [2)]	Part 2: Product specifications - General	-	-
IEC/TR 62048	- [1)]	The law theory of optical fibre reliability	-	-

2) Under consideration.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60793-2-30

Première édition
First edition
2002-01

Fibres optiques –

Partie 2-30:
Spécifications de produits –
Spécification intermédiaire pour les fibres multimodales de catégorie A3

Optical fibres –

Part 2-30:
Product specifications –
Sectional specification for category A3 multimode fibres

International Electrotechnical Commission 3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300 e-mail: inmail@iec.ch IEC web site http://www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE P

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

CONTENTS

FOREWORD 5

1 Scope and object 9
2 Normative references 9
3 Specifications 11
3.1 Dimensional requirements 11
3.2 Mechanical requirements 13
3.3 Transmission requirements 15
3.4 Environmental requirements 15

Annex A (normative) Family specifications for A3a multimode fibres 17
Annex B (normative) Family specifications for A3b multimode fibres 21
Annex C (normative) Family specifications for A3c multimode fibres 25
Annex D (normative) Family specifications for A3d multimode fibres 29

Table 1 – Relevant dimensional attributes and measurement methods 11
Table 2 – Requirements common to category A3 fibres 13
Table 3 – Additional attributes required in family specifications 13
Table 4 – Relevant mechanical attributes and test methods 13
Table 5 – Requirements common to category A3 fibres 13
Table 6 – Relevant transmission attributes and measurement methods 15
Table 7 – Additional attributes required in the family specifications 15
Table 8 – Relevant environmental attributes and test methods 15
Table A.1 – Dimensional requirements specific to A3a fibres 17
Table A.2 – Mechanical requirements specific to A3a fibres 17
Table A.3 – Transmission requirements specific to A3a fibres 19
Table B.1 – Dimensional requirements specific to A3b fibres 21
Table B.2 – Mechanical requirements specific to A3b fibres 21
Table B.3 – Transmission requirements specific to A3b fibres 23
Table C.1 – Dimensional requirements specific to A3c fibres 25
Table C.2 – Mechanical requirements specific to A3c fibres 25
Table C.3 – Transmission requirements specific to A3c fibres 27
Table D.1 – Dimensional requirements specific to A3d fibres 29
Table D.2 – Mechanical requirements specific to A3d fibres 29
Table D.3 – Transmission requirements specific to A3d fibres 31

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRES –

Part 2-30: Product specifications – Sectional specification for category A3 multimode fibres

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60793-2-30 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This part 2-30 constitutes part of the IEC 60793-2 series, fifth edition. This series has been restructured and is composed of IEC 60793-2: *Product specifications – General* [1] as well as various parts IEC 60793-2-x, devoted to different types of fibres. The IEC 60793-2 series as a whole replaces the fourth edition of IEC 60793-2, published in 1998, of which it constitutes a technical revision

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

FDIS	Report on voting
86A/736/FDIS	86A/754/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 3.

---

1 Under consideration

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

The committee has decided that the contents of this publication will remain unchanged until 2003. At this date, the publication will be:

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

OPTICAL FIBRES –

Part 2-30: Product specifications – Sectional specification for category A3 multimode fibres

1 Scope and object

This part of IEC 60793-2 is applicable to optical fibre types A3a, A3b, A3c and A3d. These fibres are used or can be incorporated in information transmission equipment and optical fibre cables (typically up to 1 km).

Three types of requirements apply to these fibres:

- general requirements, as defined in IEC 60793-2;
- specific requirements common to the category A3 multimodal 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 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 (all parts), *Optical fibres – Part 1: Generic specification*

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 60793-1-40:2001, *Optical fibres – Part 1-40: Measurement methods and test procedures – Attenuation*

IEC 60793-1-41:2001, *Optical fibres – Part 1-41: Measurement methods and test procedures – Bandwidth*

IEC 60793-1-46:2001, *Optical fibres – Part 1-46: Measurement methods and test procedures – Monitoring of changes in optical transmittance*