



BSI Standards Publication

Optical fibres

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

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

National foreword

This British Standard is the UK implementation of EN 60793-2-30:2013. It is identical to IEC 60793-2-30:2012. It supersedes BS EN 60793-2-30:2009, which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/1, Optical fibres and cables.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2013.

Published by BSI Standards Limited 2013.

ISBN 978 0 580 74720 5

ICS 33.180.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2013.

Amendments issued since publication

Date	Text affected
-------------	----------------------

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60793-2-30

January 2013

ICS 33.180.10

Supersedes EN 60793-2-30:2009

English version

**Optical fibres -
Part 2-30: Product specifications -
Sectional specification for category A3 multimode fibres
(IEC 60793-2-30:2012)**

Fibres optiques -
Partie 2-30: Spécifications de produits -
Spécification intermédiaire pour les fibres
multimodales de catégorie A3
(CEI 60793-2-30:2012)

Lichtwellenleiter -
Teil 2-30: Produktspezifikationen -
Rahmenspezifikation für
Mehrmodenfasern der Kategorie A3
(IEC 60793-2-30:2012)

This European Standard was approved by CENELEC on 2012-11-29. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 86A/1414/CDV, future edition 3 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 approved by CENELEC as EN 60793-2-30:2013.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-08-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-11-29

This document supersedes EN 60793-2-30:2009.

EN 60793-2-30:2013 includes the following significant technical changes with respect to EN 60793-2-30:2009:

- addition of a new sub-category A3e;
- changed unit for core-cladding concentricity error and proof stress level.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60793-2-30:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 60793-1-1 NOTE Harmonised as EN 60793-1-1.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When 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	-	Optical fibres - Part 1-20: Measurement methods and test procedures - Fibre geometry	EN 60793-1-20	-
IEC 60793-1-21	-	Optical fibres - Part 1-21: Measurement methods and test procedures - Coating geometry	EN 60793-1-21	-
IEC 60793-1-22	-	Optical fibres - Part 1-22: Measurement methods and test procedures - Length measurement	EN 60793-1-22	-
IEC 60793-1-30	-	Optical fibres - Part 1-30: Measurement methods and test procedures - Fibre proof test	EN 60793-1-30	-
IEC 60793-1-31	-	Optical fibres - Part 1-31: Measurement methods and test procedures - Tensile strength	EN 60793-1-31	-
IEC 60793-1-40	-	Optical fibres - Part 1-40: Measurement methods and test procedures - Attenuation	EN 60793-1-40	-
IEC 60793-1-41	-	Optical fibres - Part 1-41: Measurement methods and test procedures - Bandwidth	EN 60793-1-41	-
IEC 60793-1-46	-	Optical fibres - Part 1-46: Measurement methods and test procedures - Monitoring of changes in optical transmittance	EN 60793-1-46	-
IEC 60793-1-50	-	Optical fibres - Part 1-50: Measurement methods and test procedures - Damp heat (steady state)	EN 60793-1-50	-
IEC 60793-1-51	-	Optical fibres - Part 1-51: Measurement methods and test procedures - Dry heat	EN 60793-1-51	-
IEC 60793-1-52	-	Optical fibres - Part 1-52: Measurement methods and test procedures - Change of temperature	EN 60793-1-52	-
IEC 60793-2	-	Optical fibres - Part 2: Product specifications - General	EN 60793-2	-

CONTENTS

1	Scope	6
2	Normative references	6
3	Specifications	7
3.1	General	7
3.2	Dimensional requirements	7
3.3	Mechanical requirements	8
3.4	Transmission requirements	8
3.5	Environmental requirements	9
Annex A (normative)	Specifications for sub-category A3a multimode fibres	10
Annex B (normative)	Specifications for sub-category A3b multimode fibres	12
Annex C (normative)	Specifications for sub-category A3c multimode fibres	14
Annex D (normative)	Specifications for sub-category A3d multimode fibres	16
Annex E (normative)	Specifications for sub-category A3e multimode fibres	18
Bibliography	20
Table 1	– Relevant dimensional attributes and measurement methods	7
Table 2	– Dimensional requirements common to all category A3 fibres	7
Table 3	– Additional dimensional attributes required for each sub-category	8
Table 4	– Relevant mechanical attributes and test methods	8
Table 5	– Mechanical requirements to be specified for each sub-category	8
Table 6	– Relevant transmission attributes and measurement methods	8
Table 7	– Additional transmission attributes required for each sub-category	9
Table 8	– Relevant environmental attributes and test methods	9
Table A.1	– Dimensional requirements specific to A3a fibres	10
Table A.2	– Mechanical requirements specific to A3a fibres	10
Table A.3	– Transmission requirements specific to A3a fibres	11
Table B.1	– Dimensional requirements specific to A3b fibres	12
Table B.2	– Mechanical requirements specific to A3b fibres	12
Table B.3	– Transmission requirements specific to A3b fibres	12
Table C.1	– Dimensional requirements specific to A3c fibres	14
Table C.2	– Mechanical requirements specific to A3c fibres	14
Table C.3	– Transmission requirements specific to A3c fibres	14
Table C.4	– Environmental exposure tests	15
Table C.5	– Attributes measured	15
Table D.1	– Dimensional requirements specific to A3d fibres	16
Table D.2	– Mechanical requirements specific to A3d fibres	16
Table D.3	– Transmission requirements specific to A3d fibres	16
Table D.4	– Environmental exposure tests	17
Table D.5	– Attributes measured	17

Table E.1 – Dimensional requirements specific to A3e fibres 18
Table E.2 – Mechanical requirements specific to A3e fibres 18
Table E.3 – Transmission requirements specific to A3e fibres 18
Table E.4 – Environmental exposure tests 19
Table E.5 – Attributes measured 19

OPTICAL FIBRES –

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

1 Scope

This part of IEC 60793-2 is applicable to sub-categories A3a, A3b, A3c, A3d and A3e. These fibres are used or can be incorporated in different information transmission equipments, other applications employing similar light transmitting techniques, and finally fibre optic cables.

Three types of requirements apply to these fibres:

- general requirements, as defined in IEC 60793-2;
- specific requirements common to the category A3 multimode fibres covered in this standard and which are given in Clause 3;
- particular requirements applicable to the individual sub-categories or specific applications (e.g. automotive or industrial applications), which are defined in the normative sub-category 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 60793-1-20, *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*

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

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

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

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

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