

# INTERNATIONAL STANDARD

---

**Optical fibres -  
Part 2-60: Product specifications - Sectional specification for class C single-  
mode interconnection fibres**

get full document from [standards.iteh.ai](https://standards.iteh.ai)



**THIS PUBLICATION IS COPYRIGHT PROTECTED**  
**Copyright © 2025 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat  
3, rue de Varembeé  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

**About the IEC**

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

**About IEC publications**

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

**IEC publications search -**

[webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

**IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)**

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

**IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)**

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [sales@iec.ch](mailto:sales@iec.ch).

**IEC Products & Services Portal - [products.iec.ch](http://products.iec.ch)**

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

**Electropedia - [www.electropedia.org](http://www.electropedia.org)**

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references .....	5
3 Terms, definitions, symbols, and abbreviated terms.....	6
3.1 Terms and definitions.....	6
3.2 Symbols and abbreviated terms .....	6
4 Specifications .....	6
4.1 General.....	6
4.2 Dimensional requirements.....	7
4.3 Mechanical requirements .....	8
4.4 Transmission requirements .....	8
4.5 Environmental requirements .....	9
4.5.1 General .....	9
4.5.2 Transmission requirements.....	10
4.5.3 Mechanical requirements.....	10
Annex A (normative) Family specification for C1 single-mode fibres.....	12
A.1 General.....	12
A.2 Dimensional requirements.....	12
A.3 Mechanical requirements .....	12
A.4 Transmission requirements .....	13
A.5 Environmental requirements .....	13
A.5.1 General .....	13
A.5.2 Transmission requirements.....	13
A.5.3 Mechanical requirements – Coating strip force .....	14
Annex B (normative) Family specification for C2 single-mode fibres.....	15
B.1 General.....	15
B.2 Dimensional requirements.....	15
B.3 Mechanical requirements .....	15
B.4 Transmission requirements .....	15
B.5 Environmental requirements .....	16
B.5.1 General .....	16
B.5.2 Transmission requirements.....	16
B.5.3 Mechanical requirements – Coating strip force .....	16
Annex C (normative) Family specification for C3 single-mode fibres .....	17
C.1 General.....	17
C.2 Dimensional requirements.....	17
C.3 Mechanical requirements .....	17
C.4 Transmission requirements .....	18
C.5 Environmental requirements .....	18
C.5.1 General .....	18
C.5.2 Transmission requirements.....	18
C.5.3 Mechanical requirements – Coating strip force .....	18
Annex D (normative) Family specification for C4 single-mode fibres .....	19
D.1 General.....	19
D.2 Dimensional requirements.....	19
D.3 Mechanical requirements .....	19

D.4	Transmission requirements .....	20
D.5	Environmental requirements .....	20
D.5.1	General .....	20
D.5.2	Transmission requirements.....	20
D.5.3	Mechanical requirements – Coating strip force .....	20
	Bibliography.....	21
	Table 1 – List of families and main differences.....	7
	Table 2 – Dimensional attributes and measurement methods .....	7
	Table 3 – Requirements common to class C fibres.....	8
	Table 4 – Mechanical attributes and measurement methods .....	8
	Table 5 – Mechanical requirements common to class C fibres .....	8
	Table 6 – Transmission attributes and measurement methods .....	9
	Table 7 – Transmission requirements common to class C fibres .....	9
	Table 8 – Transmission attributes required in family specifications .....	9
	Table 9 – Environmental attributes and test methods .....	9
	Table 10 – Environment-dependent mechanical or transmission attributes and test methods.....	10
	Table 11 – Tensile strength requirements common to class C fibres .....	10
	Table 12 – Stress corrosion susceptibility requirements common to class C fibres .....	11
	Table A.1 – Dimensional requirements for C1 fibres.....	12
	Table A.2 – Mechanical requirements for C1 fibres .....	12
	Table A.3 – Transmission requirements for C1 fibres .....	13
	Table A.4 – Environment-dependent transmission requirements for C1 fibres.....	13
	Table A.5 – Environment-dependent mechanical requirements for C1 fibres .....	14
	Table B.1 – Dimensional requirements for C2 fibres.....	15
	Table B.2 – Mechanical requirements for C2 fibres .....	15
	Table B.3 – Transmission requirements for C2 fibres .....	16
	Table B.4 – Environment-dependent transmission requirements for C2 fibres .....	16
	Table B.5 – Environment-dependent mechanical requirements for C2 fibres .....	16
	Table C.1 – Dimensional requirements for C3 fibres .....	17
	Table C.2 – Mechanical requirements for C3 fibres .....	17
	Table C.3 – Transmission requirements for C3 fibres.....	18
	Table C.4 – Environment-dependent transmission requirements for C3 fibres .....	18
	Table C.5 – Environment-dependent mechanical requirements for C3 fibres .....	18
	Table D.1 – Dimensional requirements for C4 fibres .....	19
	Table D.2 – Mechanical requirements for C4 fibres .....	19
	Table D.3 – Transmission requirements for C4 fibres.....	20
	Table D.4 – Environment-dependent transmission requirements for C4 fibres .....	20

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Optical fibres -  
Part 2-60: Product specifications - Sectional specification  
for class C single-mode interconnection 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.
- 2) The formal decisions or agreements of 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60793-2-60 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics. It is an International Standard.

This second edition cancels and replaces the first edition published in 2008. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) replacement of "intraconnection" with "interconnection" and addition of the definition of "interconnection fibres";
- b) modification of the nominal MFD limit of C1 fibres;
- c) addition of "Primary coating diameter-coloured" limits for class C fibres and change of "Primary coating diameter-uncoloured" limits for class C<sub>80</sub> fibres;

- d) change of coating strip force limits for class C1, class C2, and class C3 fibres;
- e) replacement of "Fibre cut-off wavelength" with "Cable cut-off wavelength" and revision of "Note b" in Table 6;
- f) replacement of "Fibre cut-off wavelength" with "Cable cut-off wavelength" and deletion of the "Note" in Table 8;
- g) addition of 200 µm coating diameter requirements for C1\_125 fibres and change of coating diameters limits for C1\_80 fibres in Table A.1;
- h) addition of 200 µm coating diameter requirements for C1\_125 fibres and change of coating strip force limits in Table A.2 and in Table A.5;
- i) replacement of "Fibre cut-off wavelength" with "Cable cut-off wavelength", modification of the "Cable cut-off wavelength" limit and addition of a new "Note" in Table A.3;
- j) addition of a transmission requirements at 1 625 nm and deletion of 1 310 nm for C1 fibres in Table A.4;
- k) modification of "Fibre cut-off wavelength" limits of C3 fibres in Table C.3;
- l) replacement of "Fibre cut-off wavelength" with "Cable cut-off wavelength" for C4 fibres in Table D.3.

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

Draft	Report on voting
86A/2599/FDIS	86A/2617/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).

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 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, or
- revised.

## 1 Scope

This part of IEC 60793 is applicable to optical fibre types C1, C2, C3, and C4, as described in Table 1. These fibres are used for the interconnections within or between optical components systems and are optimized to support dense optical connectivity. While the fibres can be overcoated or buffered for the purpose of making protected pigtails, they can be used without overcoating. They can, however, be colour coded.

## 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 60793-1-20, *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 60793-1-32, *Optical fibres - Part 1-32: Measurement methods and test procedures - Coating strippability*

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

IEC 60793-1-40, *Optical fibres - Part 1-40: Attenuation measurement methods*

IEC 60793-1-44, *Optical fibres - Part 1-44: Measurement methods and test procedures - Cut-off wavelength*

IEC 60793-1-45, *Optical fibres - Part 1-45: Measurement methods and test procedures - Mode field diameter*

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

IEC 60793-1-47, *Optical fibres - Part 1-47: Measurement methods and test procedures - Macrobending loss*

IEC 60793-1-50, *Optical fibres - Part 1-50: Measurement methods and test procedures - Damp heat (steady state) tests*

IEC 60793-1-51, *Optical fibres - Part 1-51: Measurement methods and test procedures - Dry heat (steady state) tests*