

This is a preview - click here to buy the full publication



IEC 60794-2-41

Edition 1.0 2008-06

INTERNATIONAL STANDARD

**Optical fibre cables –
Part 2-41: Indoor cables – Product specification for simplex and duplex buffered
A4 fibres**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

S

ICS 33.180.10

ISBN 2-8318-9877-3

CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references	5
3 Construction.....	6
3.1 General.....	6
3.2 Optical fibres.....	6
3.3 Buffer.....	6
3.4 Strength and anti-buckling members	6
3.5 Ripcord.....	6
3.6 Sheath.....	6
3.7 Marking.....	6
3.8 Identification.....	6
3.9 Examples of constructions.....	6
4 Dimensions	7
5 Tests.....	7
5.1 General.....	7
5.2 Dimensions	7
5.3 Mechanical requirements.....	7
5.3.1 General.....	7
5.3.2 Tensile performance.....	8
5.3.3 Crush.....	8
5.3.4 Impact.....	8
5.3.5 Bend.....	8
5.3.6 Repeated bending	9
5.3.7 Bend at low temperature.....	9
5.3.8 Flexing	9
5.3.9 Torsion.....	9
5.3.10 Kink.....	9
5.4 Environmental requirements.....	9
5.4.1 Mechanical environmental requirement.....	10
5.4.2 Transmission environmental requirements.....	11
5.5 Transmission requirements	11
5.6 Fire performance.....	11
Annex A (informative) Blank detail specification.....	12
Bibliography.....	22
Figure 1 – Examples of buffered fibres.....	7
Table 1 – Dimensions of buffered fibre.....	7
Table 2 – Minimum tensile load for 4 % elongation	8
Table 3 – Environmental exposure tests	10
Table 4 – Attributes measured	10
Table 5 – Requirement for tensile strength.....	10
Table 6 – Requirement for change in attenuation	11
Table A.1 – Required tests.....	19

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –

**Part 2-41: Indoor cables –
Product specification for simplex and duplex buffered A4 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 provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 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) 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 60794-2-41 has been prepared by sub-committee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This standard is to be used in conjunction with IEC 60794-1-1 and IEC 60794-1-2, and IEC 60794-2. A blank detail specification is provided in Annex A.

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

FDIS	Report on voting
86A/1215/FDIS	86A/1227/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.

A list of all parts of the IEC 60794 series, published under the general title *Optical fibre cables*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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

A bilingual version of this publication may be issued at a later date.

OPTICAL FIBRE CABLES –

Part 2-41: Indoor cables – Product specification for simplex and duplex buffered A4 fibres

1 Scope

This part of IEC 60794 covers simplex and duplex buffered A4a through A4g fibres for indoor use. These may be cut into short lengths, which can be used in patchcord cable assemblies. The requirements of sectional specification IEC 60794-2 are applicable to cables covered by this standard.

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 60189-1, *Low-frequency cables and wires with PVC insulation and PVC sheath – Part 1: General test and measuring methods*

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

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

IEC 60793-1-51, *Optical fibres – Part 1-51: Measurement methods and test procedures – Dry heat*

IEC 60793-1-52, *Optical fibres – Part 1-52: Measurement methods and test procedures – Change of temperature*

IEC 60793-2-40, *Optical fibres – Part 2-40: Product specifications – Sectional specification for category A4 multimode fibres*

IEC 60794-1-1, *Optical fibre cables – Part 1-1: Generic specification – General*

IEC 60794-1-2, *Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures*

IEC 60794-2:2002, *Optical fibre cables – Part 2: Indoor cables – Sectional specification*