

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Optical fibre cables –  
Part 3-20: Outdoor cables – Family specification for self-supporting aerial  
telecommunication cables**

**Câbles à fibres optiques –  
Partie 3-20: Câbles extérieurs – Spécification de famille pour  
les câbles optiques de télécommunication aériens autoporteurs**



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## CONTENTS

FOREWORD.....	3
1 Scope .....	5
2 Normative references .....	5
3 Symbols .....	6
4 Optical fibre, cable construction and tests applicable for aerial telecommunication cables to be used in self-supporting aerial applications .....	7
4.1 Optical fibres .....	7
4.1.1 Common single-mode fibre requirements .....	7
4.1.2 Single-mode dispersion unshifted (B1.1) optical fibre .....	7
4.1.3 Single-mode dispersion unshifted (B1.2) optical fibre .....	8
4.1.4 Single-mode dispersion unshifted (B1.3) optical fibre .....	8
4.1.5 Single-mode dispersion shifted (B2) optical fibre .....	8
4.1.6 Single-mode non-zero dispersion (B4) optical fibre .....	8
4.1.7 Single-mode non-zero dispersion shifted (B5) optical fibre .....	9
4.1.8 Single-mode (B6.a) optical fibre .....	9
4.2 Cable element .....	9
4.3 Installation and operating conditions .....	10
4.3.1 Tests applicable .....	10
4.3.2 Installation conditions .....	10
4.4 Mechanical and environmental tests .....	10
4.4.1 Tests applicable .....	10
4.4.2 Details on family requirements and test conditions for optical fibre cable tests .....	11
Annex A (normative) Family specification for self-supporting aerial telecommunication cables .....	17
A.1 Blank detail specification .....	17
A.1.1 Cable description .....	17
A.1.2 Cable construction .....	19
A.2 Additional requirements for cables subject to the MICE environmental classification (ISO/IEC 24702 and related standards) .....	20
A.2.1 General .....	20
A.2.2 Applicable additional specifications for industrial premises installations as defined in ISO/IEC 24702 .....	20
Table 1 – Common single-mode fibre requirements .....	7
Table 2 – Single-mode dispersion unshifted (B1.1) optical fibre .....	7
Table 3 – Single-mode dispersion unshifted (B1.2) optical fibre .....	8
Table 4 – Single-mode dispersion unshifted (B1.3) optical fibre .....	8
Table 5 – Single-mode dispersion shifted (B2) optical fibre .....	8
Table 6 – Single-mode non-zero dispersion (B4) optical fibre .....	8
Table 7 – Single-mode non-zero dispersion shifted (B5) optical fibre .....	9
Table 8 – Single-mode (B6.a) optical fibre .....	9
Table 9 – Cable element .....	9
Table 10 – Tests applicable .....	10
Table 11 – Mechanical and environmental applicable tests .....	10

**INTERNATIONAL ELECTROTECHNICAL COMMISSION****OPTICAL FIBRE CABLES –****Part 3-20: Outdoor cables –  
Family specification for self-supporting  
aerial telecommunication cables****FOREWORD**

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International Standard IEC 60794-3-20 has been prepared by Subcommittee 86A: Fibres and cables, of IEC Technical Committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2002. It constitutes a technical revision. The main changes are listed below:

- the fibres specification clause (Clause 5) has been enlarged to include fibre Types B5 and B6.a;
- an annex has been added for additional requirements according to the MICE table.

This bilingual version (2016-02) corresponds to the monolingual English version, published in 2009-01.

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

FDIS	Report on voting
86A/1246/FDIS	86A/1253/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.

The French version of this standard has not been voted upon.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 60794 series, published under the general title *Optic 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.

Withdrawn

# OPTICAL FIBRE CABLES –

## Part 3-20: Outdoor cables –

### Family specification for self-supporting aerial telecommunication cables

## 1 Scope

This part of IEC 60794 which is a family specification covers optical self-supporting aerial telecommunication cables. Requirements of the sectional specification IEC 60794-3 for duct, buried and aerial cables are applicable to cables covered by this standard.

Self-supporting aerial telecommunication cable in this context means a cable construction with sufficient strength members designed to be suspended on poles and similar devices without the aid of another supporting wire or conductor. ADSS cables and other constructions intended for high-voltage applications are not covered by this standard.

Detail specifications may be prepared based on this family specification.

Clause A.2 contains requirements that supersede the normal requirements in case the cables are intended to be used in installation governed by the MICE table of ISO/IEC 24702.

The parameters specified in this standard may be affected by measurement uncertainty arising either from measurement errors or calibration errors due to lack of suitable standards. Acceptance criteria shall be interpreted with respect to this consideration (see IEC 60794-3, Clause 8).

The number of fibres tested shall be representative of the cable design and shall be agreed between the customer and the supplier.

## 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 60304, *Standard colours for insulation for low-frequency cables and wires.*

IEC 60654-4, *Operating conditions for industrial-process measurement and control equipment – Part 4: Corrosive and erosive influences*

IEC 60721-1, *Classification of environmental conditions – Part 1: Environmental parameters and their severities*

IEC 60721-3-3, *Classification of environmental conditions – Part 3-3: Classification of groups of environmental parameters and their severities – Stationary use at weatherprotected locations*

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

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

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

IEC 60793-1-48, *Optical fibres – Part 1-48: Measurement methods and test procedures – Polarization mode dispersion*

IEC 60793-2-50, *Product specifications – Sectional specification for class B single-mode fibres*

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

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

IEC 60794-3, *Optical fibre cables – Part 3: Sectional specification – Outdoor cables*

IEC 60811-1-1, *Common test methods for insulating and sheathing materials of electric cables and optical cables – Part 1-1: Methods for general application – Measurement of thickness and overall dimensions – Tests for determining the mechanical properties*

IEC 60811-5-1, *Insulating and sheathing materials of electric and optic cables – Common test methods – Part 5-1: Methods specific to filling compounds – Drop-point – Separation of oil – Lower temperature brittleness – Total acid number – Absence of corrosive components – Permittivity at 23 °C – DC resistivity at 23 °C and 100 °C*

IEC 61000-2-5, *Electromagnetic compatibility (EMC) – Part 2: Environment – Section 5: Classification of electromagnetic environments. Basic EMC publication*

IEC 61000-6-2, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments*

IEC 61326-1, *Electrical equipment for measurement, control and laboratory use – EMC requirements - Part 1: General requirements*

IEC 62363, *Radiation protection instrumentation – Portable photon contamination meters and monitors*

ISO/IEC 24702, *Information technology – Generic cabling- Industrial premises*

### 3 Symbols

For the purposes of this standard the following symbols apply

$\lambda_{cc}$  Cabled fibre cut-off wavelength.

$d$  Nominal outer diameter of the cable.

DS Detail specification.

$T_L$  The acceptable amount of long term tensile load which is expected that the cable may experience during operation (i.e. after installation is completed). This load may be due to residual loading from the installation process and/or environmental effect.

$T_M$  The acceptable amount of short term tensile load which is expected that the cable experience during installation and/or handling.