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IEC 60794-5-20

Edition 1.0 2014-02

# INTERNATIONAL STANDARD



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**Optical fibre cables –  
Part 5-20: Family specification – Outdoor microduct fibre units, microducts and  
protected microducts for installation by blowing**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

PRICE CODE



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ICS 33.180.01, 33.180.10

ISBN 978-2-8322-1420-6

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## CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references .....	6
3 Symbols .....	7
4 General requirements .....	8
4.1 Construction .....	8
4.1.1 General .....	8
4.1.2 Microduct fibre units .....	9
4.1.3 Microducts .....	9
4.1.4 Protected microducts .....	9
4.1.5 Microduct fittings .....	9
4.1.6 Microduct hardware .....	10
4.2 Optical fibres .....	10
4.3 Installation performance tests .....	10
4.3.1 Installation conditions .....	10
4.3.2 Tests applicable .....	11
4.3.3 Mechanical and environmental tests .....	11
5 Microduct fibre unit.....	11
5.1 Tests applicable.....	11
5.2 Family requirements and test conditions for microduct fibre unit tests .....	12
5.3 Tensile performance .....	12
5.4 Crush.....	12
5.5 Repeated bending.....	13
5.6 Torsion .....	13
5.7 Kink .....	13
5.8 Bend.....	13
5.9 Temperature cycling .....	13
5.10 Ageing .....	14
5.11 Water immersion.....	14
5.12 Buffer removal .....	14
6 Microduct .....	14
6.1 Tests applicable.....	14
6.2 Tensile performance .....	15
6.3 Crush.....	15
6.4 Impact .....	16
6.5 Repeated bending.....	16
6.6 Torsion .....	16
6.7 Kink .....	16
6.8 Bend.....	16
6.9 Microduct route verification test .....	17
6.10 Microduct pressure withstand.....	17
6.11 Ageing .....	17
7 Protected microducts .....	17
7.1 Tests applicable.....	17
7.2 Tensile performance .....	18
7.3 Crush.....	18

7.4	Impact .....	19
7.5	Repeated bending.....	19
7.6	Kink .....	19
7.7	Bend.....	19
7.8	Microduct route verification test .....	19
7.9	Microduct pressure withstand.....	20
7.10	Ageing .....	20
Annex A (informative)	Examples of microduct fibre units, microducts, and protected microducts.....	21
Annex B (informative)	Product descriptions (blank detail specification and minimum requirements) .....	22
Annex C (normative)	Product constructions .....	25
Annex D (normative)	Transmission requirements .....	28
D.1	Attenuation of cabled fibre .....	28
D.2	Fibre bandwidth requirements .....	29
Annex E (normative)	IEC 60794-1-21 Method Exx – Microduct inner clearance test .....	30
E.1	Object.....	30
E.2	General.....	30
E.3	Sample .....	30
E.4	Test equipment.....	30
E.5	Procedure .....	30
E.6	Requirements .....	30
E.7	Details to be recorded.....	31
Figure A.1	– Protected microducts, tight package .....	21
Figure A.2	– Microduct fibre units .....	21
Table 1	– Tests applicable for installation performance.....	11
Table 2	– Tests applicable for mechanical and environmental performance of microduct fibre unit .....	11
Table 3	– Tests applicable for mechanical and environmental performance of microduct .....	15
Table 4	– Tests applicable for mechanical and environmental performance of protected microduct .....	18
Table B.1	– Microduct fibre unit description .....	22
Table B.2	– Microduct description .....	23
Table B.3	– Protected microduct description .....	24
Table C.1	– Typical microduct fibre unit construction .....	25
Table C.2	– Microduct construction .....	26
Table C.3	– Protected microduct construction .....	27
Table D.1	– Multimode maximum cable attenuation coefficient (dB/km) .....	28
Table D.2	– Single-mode maximum cable attenuation coefficient (dB/km) – Premises cabling applications .....	28
Table D.3	– Single-mode maximum cable attenuation coefficient (dB/km) – All other applications .....	29
Table D.4	– Minimum multimode fibre bandwidth (MHz×km) .....	29

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### OPTICAL FIBRE CABLES –

#### **Part 5-20: Family specification – Outdoor microduct fibre units, microducts and protected microducts for installation by blowing**

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International Standard IEC 60794-5-20 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

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

CDV	Report on voting
86A/1497/CDV	86A/1543/RVC

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 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 stability 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.

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## OPTICAL FIBRE CABLES –

### Part 5-20: Family specification – Outdoor microduct fibre units, microducts and protected microducts for installation by blowing

#### 1 Scope

This part of IEC 60794 is a family specification that covers outdoor microduct fibre units and corresponding microducts and protected microducts for installation by blowing. The protected microducts are intended for duct, directly buried or lashed applications.

Microduct fibre units differ from microduct optical fibre cables (see IEC 60794-5-10) in that they provide less protection to the fibres that they contain. Specifically, microduct fibre units rely on the structure of the microduct, protected microduct or appropriate housing to support installation and to provide additional mechanical protection for the optical fibre over the lifetime of the product.

Systems built with components covered by this standard are subject to the requirements of sectional specification IEC 60794-5 where applicable.

Annex A gives examples of microduct optical fibre units and microducts.

Annex B describes a blank detail specification for outdoor microduct fibre units and the associated microducts and incorporates some minimum requirements. Detail product specifications may be prepared on the basis of this family specification using Annex B as a guide. Annex C provides normative product constructions for microduct optical fibre units, microducts and protected microducts.

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 should be interpreted with respect to this consideration.

The number of fibres tested is intended to be representative of the microduct fibre unit design and should be agreed between the customer and supplier.

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

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

IEC 60793-1-53, *Optical fibres – Part 1-53: Measurement methods and test procedures – Water immersion*

IEC 60793-2-10, *Optical fibres – Part 2-10: Product specifications – Sectional specification for category A1 multimode fibres*

IEC 60793-2-50, *Optical fibres – Part 2-50: Products specification – Sectional specification for class B single-mode 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 60794-1-21, *Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical test methods*

IEC 60794-1-22, *Optical fibre cables – Part 1-22: Generic specification – Basic optical cable test procedures – Environmental test methods*

IEC 60794-3:2001, *Optical fibre cables – Part 3: Sectional specification – Outdoor cables*

IEC 60794-5, *Optical fibre cables – Part 5: Sectional specification – Microduct cabling for installation by blowing*

IEC 60794-5-10, *Optical fibre cables – Part 5-10: Family specification – Outdoor microduct optical fibre cables, microducts and protected microducts for installation by blowing*

IEC 60811-202, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 202: General tests – Measurement of thickness of non-metallic sheath*

IEC 60811-203, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 203: General tests – Measurement of overall dimensions*

IEC 60811-501, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 501: Mechanical tests – Tests for determining the mechanical properties of insulating and sheathing compounds*

IEC 60811-601, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 601: Physical tests – Measurement of the drop-point of filling compounds*

IEC 60811-602, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 602: Physical tests – Separation of oil in filling compounds*

IEC 60811-604, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 604: Physical tests – Measurement of absence of corrosive components in filling compounds*

ISO/IEC 11801, *Information technology – Generic cabling for customers premises*