# IEC 60794-2-22

Edition 2.0 2023-03

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

colour inside

## Optical fibre cables –
## Part 2-22: Indoor cables – Detail specification for multi-simplex breakout optical cables for use in terminated breakout cable assemblies

## Câbles à fibres optiques –
## Partie 2-22: Câbles intérieurs – Spécification particulière pour les câbles optiques épanouis simplex multiples destinés à être utilisés comme câbles assemblés épanouis équipés



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# CONTENTS

FOREWORD ..... 3
1 Scope ..... 5
2 Normative references ..... 5
3 Terms and definitions ..... 6
4 General ..... 6
5 Construction ..... 6
5.1 General ..... 6
5.2 Optical fibres ..... 7
5.3 Simplex optical fibre cables ..... 7
5.4 Strength and anti-buckling members ..... 7
5.5 Ripcord ..... 7
5.6 Cable sheath ..... 7
5.7 Sheath marking ..... 7
5.8 Examples of cable constructions ..... 7
6 Tests ..... 7
6.1 General ..... 7
6.2 Dimensions ..... 8
6.3 Mechanical requirements ..... 8
6.3.1 General ..... 8
6.3.2 Bend ..... 8
6.4 Environmental requirements – Temperature cycling ..... 9
7 Transmission requirements ..... 9
8 Fire performance ..... 10
Annex A (normative) Cable sample preparation for bend and temperature cycling test ..... 11
Annex B (informative) Examples of cable constructions ..... 12
Bibliography ..... 13

Figure A.1 – Cable sample preparation and lengths ..... 11
Figure B.1 – Example of a cross-section of a six-fibre breakout cable ..... 12
Figure B.2 – Example of a cross-section of a 24-fibre breakout cable ..... 12

Table 1 – Preferred low and high temperatures ..... 9

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# OPTICAL FIBRE CABLES –

# Part 2-22: Indoor cables – Detail specification for multi-simplex breakout optical cables for use in terminated breakout cable assemblies

## FOREWORD

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IEC 60794-2-22 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 2016. This edition constitutes a technical revision.

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

a) changed partly the wording in the title and the scope to align with IEC 60794-2-50, IEC 60794-2-23 and IEC 60794-2-24;
b) added IEC 60793-1-40, IEC 60793-1-46 and IEC 60794-1-2 to the normative references;
c) deleted reference to IEC 60794-2-51;
d) added the definition of terminated breakout cable assembly;

e) changed the number of bend cycles from 10 to 3 to harmonise with IEC 60794-2-50;

f) changed test parameters for temperature cycling to harmonise with IEC 60794-2-50;

g) added maximum attenuation requirements after temperature cycling;

h) replaced the text for the fire performance with an improved description.

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

| Draft | Report on voting |
|---|---|
| 86A/2285/FDIS | 86A/2317/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. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in 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 document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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

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# OPTICAL FIBRE CABLES –

# Part 2-22: Indoor cables – Detail specification for multi-simplex breakout optical cables for use in terminated breakout cable assemblies

## 1 Scope

This part of IEC 60794 is a detail specification and specifies breakout optical cables with multiple simplex optical fibre cables for use in terminated breakout cable assemblies.

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

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

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: Product specifications – 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 – General guidance*

IEC 60794-1-21, *Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical tests methods*

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

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

IEC 60794-2-20, *Optical fibre cables – Part 2-20: Indoor cables – Family specification for multi-fibre optical cables*

IEC 60794-2-50, *Optical fibre cables – Part 2-50: Indoor cables – Family specification for simplex and duplex cables for use in terminated cable assemblies*

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*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60794-1-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

**3.1.1**
**multi-simplex breakout cable**
cable consisting of multiple simplex optical fibre cables, stranded together under a common sheath, which may be stranded in one layer or multi-layers or bundled to subunits around a central member as necessary

**3.1.2**
**simplex optical fibre cable**
cable including a primary or secondary coated fibre that is surrounded with either metallic or non-metallic strength members within a sheath of suitable material

**3.1.3**
**terminated breakout cable assembly**
breakout cable terminated with connectors

## 4 General

The requirements of the sectional specification IEC 60794-2 are applicable to cables covered by this document.

The requirements of the family specification IEC 60794-2-20 are applicable to breakout cables to be installed without terminated connectors.

Fan-out kits used for cable systems are not covered by this document.

## 5 Construction

### 5.1 General

In addition to the constructional requirements in IEC 60794-2 and IEC 60794-2-20, the considerations in Clause 5 apply to multi-simplex breakout cables for use in terminated breakout cable assemblies.

It is not the intention of this document to specify the finished terminated breakout cable assembly complete with terminations.