



# INTERNATIONAL STANDARD

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**Optical fibre cables –  
Part 3-40: Outdoor cables – Family specification for sewer cables and conduits  
for installation by blowing and/or pulling in non-man accessible storm and  
sanitary sewers**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## OPTICAL FIBRE CABLES –

**Part 3-40: Outdoor cables –  
Family specification for sewer cables and  
conduits for installation by blowing and/or pulling  
in non-man accessible storm and sanitary sewers**

## FOREWORD

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International Standard IEC 60794-3-40 Ed. 1 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, IEC 60794-1-2 and IEC 60794-3.

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

FDIS	Report on voting
86A/1228/FDIS	86A/1241/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 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- withdrawn,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 3-40: Outdoor cables – Family specification for sewer cables and conduits for installation by blowing and/or pulling in non-man accessible storm and sanitary sewers

#### 1 Scope

This part of IEC 60794 is a family specification that covers sewer cables and conduits for installation by blowing and/or pulling in non-man accessible storm and sanitary sewers, also applicable for man-accessible and lateral ones. Systems built with components covered by this standard are subject to the requirements of sectional specification IEC 60794-3.

Sewer cable and conduit constructions have to meet the different requirements of the sewer operating companies and/or associations regarding chemical, environmental, operational, cleaning and in general maintenance conditions.

Preferential applications, describing sewer cable characteristics versus methods of installation is reported in Annex A and Annex B for non-man accessible sewers.

Clause 4 describes a blank detail specification for sewer cables and conduits for installation by blowing and/or pulling in storm and sanitary sewers. It incorporates some minimum requirements.

Detail specifications may be prepared on the basis of this family specification.

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 representative of the sewer cable and should 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 60384:1982, *Standard colours for insulation for low-frequency cables and wires*

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 60793-2, *Optical fibres – Part 2: Product specifications– General*

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*

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

IEC 60794-3-10, *Optical fibre cables – Part 3-10: Outdoor cables – Family specification for duct and directly buried optical telecommunication cables*

IEC 60811-1-1:1993, *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 60811-5-1:1990, *Insulating and sheathing materials of electric and optical 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*