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REDLINE VERSION

Optokablar – Del 3-12: Utomhuskablar – Detaljspecifikation för kablar för förläggning i rör eller mark för användning i fastighetsnät

Optical fibre cables –

Part 3-12: Outdoor cables –

Detailed specification for duct and directly buried optical telecommunication cables for use in premises cabling

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IEC 60794-3-12

Edition 3.0 2021-01
REDLINE VERSION

INTERNATIONAL STANDARD



**Optical fibre cables –
Part 3-12: Outdoor cables – Detailed specification for duct and directly buried
optical telecommunication cables for use in premises cabling**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.180.10

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –

Part 3-12: Outdoor cables – Detailed specification for duct and directly buried optical telecommunication cables for use in premises cabling

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.
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- 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.

This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60794-3-12:2012. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 60794-3-12 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics. It is an International Standard.

This third edition cancels and replaces the second edition published in 2012. This edition constitutes a technical revision.

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

- a) addition of references to ISO/IEC 11801-1;
- b) removal of references to ISO/IEC 24702;
- c) incorporation of the OM5 cabled fibre performance category;
- d) incorporation of the OS1a cabled fibre performance category;
- e) cabled fibre performance categories OM1, OM2 and OS1 are no longer normative, and are retained for information.

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

CDV	Report on voting
86A/2027/CDV	86A/2064/RVC

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/standardsdev/publications.

This International Standard is to be used in conjunction with IEC 60794-1-1, IEC 60794-1-2 and IEC 60794-3-10.

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 document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
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OPTICAL FIBRE CABLES –

Part 3-12: Outdoor cables – Detailed specification for duct and directly buried optical telecommunication cables for use in premises cabling

1 Scope

This part of IEC 60794 is a detailed specification for duct and directly buried optical telecommunication cables for use in premises cabling to ensure compatibility with ISO/IEC 11801-1 ~~and ISO/IEC 24702. Those standards have~~ This document's requirements ~~to~~ ensure that the ISO/IEC 11801-1 models work for generic cabling and system performances. Values in this document support these models.

The requirements of the family specification IEC 60794-3-10 are applicable to cables covered by this document. Particular requirements detailed in Clause 5 either define a specific option relative to the requirements of IEC 60794-3-10 or define additional requirements.

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.

~~NOTE—These references complete the normative references already listed in the generic specifications IEC 60794-1-1 and IEC 60794-1-2, in the sectional specification IEC 60794-3 and in the family specification IEC 60794-3-10.~~

IEC 60793-2-10:~~2011~~2019, *Optical fibres – Part 2-10: Product specifications – Sectional specification for category A1 multimode fibres*

IEC 60793-2-50:~~2012~~2018, *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 – ~~Cross-reference table for optical cable test procedures~~ General*

IEC 60794-1-2, *Optical fibre cables – Part 1-2: Generic specification – ~~Cross-reference table for optical cable test procedures~~⁴ Basic optical cable test procedures – General guidance*

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

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

~~ISO/IEC 11801, Information technology – Generic cabling for customer premises~~

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

⁴ IEC 60794-1-2:2003, Second edition has been withdrawn. A third edition, with the revised title *Optical fibre cables – Part 1-2: Generic specification – Cross-reference table for optical cable test procedures*, is currently in preparation.

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Optical fibre cables –

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Som svensk standard gäller europastandarden EN IEC 60794-3-12:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60794-3-12:2021.

Nationellt förord

Europastandarden EN IEC 60794-3-12:2021

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60794-3-12, Third edition, 2021 - Optical fibre cables - Part 3-12: Outdoor cables - Detailed specification for duct and directly buried optical telecommunication cables for use in premises cabling**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60794-1-1, SS-EN IEC 60794-1-2 och SS-EN 60794-3-10.

Tidigare fastställd svensk standard SS-EN 60794-3-12, utgåva 2, 2013, gäller ej fr o m 2024-03-03.

ICS 33.180.10

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English Version

Optical fibre cables - Part 3-12: Outdoor cables - Detailed specification for duct and directly buried optical telecommunication cables for use in premises cabling (IEC 60794-3-12:2021)

Câbles à fibres optiques - Partie 3-12: Câbles extérieurs - Spécification particulière pour les câbles optiques de télécommunication destinés à être installés dans des conduites ou à être directement enterrés et utilisés dans le câblage de locaux (IEC 60794-3-12:2021)

Lichtwellenleiterkabel - Teil 3-12: LWL-Außenkabel - Produktspezifikation für LWL-Fernmelde-Erd- und Röhrenkabel für anwendungsneutrale Standortverkabelung (IEC 60794-3-12:2021)

This European Standard was approved by CENELEC on 2021-03-03. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 86A/2027/CDV, future edition 3 of IEC 60794-3-12, prepared by SC 86A "Fibres and cables" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60794-3-12:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2021-12-03 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-03-03 document have to be withdrawn

This document supersedes EN 60794-3-12:2013 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60794-3-12:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60794-1-21 NOTE Harmonized as EN 60794-1-21

IEC 60794-1-22 NOTE Harmonized as EN IEC 60794-1-22

IEC 60794-1-23 NOTE Harmonized as EN IEC 60794-1-23

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60793-2-10	2019	Optical fibres - Part 2–10: Product specifications - Sectional specification for category A1 multimode fibres	EN 60793-2-10	2019
IEC 60793-2-50	2018	Optical fibres - Part 2–50: Product specifications - Sectional specification for class B single-mode fibres	EN 60793-2-50	2019
IEC 60794-1-1	-	Optical fibre cables - Part 1–1: Generic specification - General	EN 60794-1-1	-
IEC 60794-1-2	-	Optical fibre cables - Part 1–2: Generic-specification - Basic optical cable test procedures - General guidance	-	-
IEC 60794-3	-	Optical fibre cables - Part 3: Outdoor cables - Sectional specification	EN 60794-3	-
IEC 60794-3-10	-	Optical fibre cables - Part 3–10: Outdoor cables - Family specification for duct, directly buried and lashed aerial optical telecommunication cables	EN 60794-3-10	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –

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OPTICAL FIBRE CABLES –

Part 3-12: Outdoor cables – Detailed specification for duct and directly buried optical telecommunication cables for use in premises cabling

1 Scope

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IEC 60793-2-50:2018, *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 60794-3, *Optical fibre cables – Part 3: Outdoor cables – Sectional specification*

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