SVENSK STANDARD SS-EN IEC 60794-3

Utgåva 5

2022-05-18

REDLINE VERSION

Optokablar – Del 3: Utomhuskablar – Gruppspecifikation

Optical fibre cables – Part 3: Outdoor cables – Sectional specification

En så kallad ”Redline version” (RLV) innehåller både den fastställda IEC-standarden och en ändringsmarkerad standard. Alla tillägg och borttagningar sedan den tidigare utgåvan är markerade med färg. Med en RLV sparar du mycket tid när du ska identifiera och bedöma aktuella ändringar i standarden. SEK Svensk Elstandard kan bara ge ut en RLV i de fall den finns tillgänglig från IEC.

IEC 60794-3

Edition 5.0 2022-02
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Optical fibre cables –
Part 3: Outdoor cables – Sectional specification

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.180.10

ISBN 978-2-8322-1083-8

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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OPTICAL FIBRE CABLES –

Part 3: Outdoor cables – Sectional specification

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.
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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 60794-3:2014. 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 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics. It is an International Standard.

This fifth edition cancels and replaces the fourth edition published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical change with respect to the previous edition: the ribbon specification has been removed, because it is covered in IEC 60794-1-31.

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

Draft	Report on voting
86A/2155/FDIS	86A/2184/RVD

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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.

The language used for the development of this International Standard is English.

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.

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IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

IEC 60794-1-21, IEC 60794-1-22, IEC 60794-1-23, and IEC 60794-1-24 have been (or will be) divided into multiple standards which defines one test method each. IEC 60794-1-2:2021 gives cross references between old standards and new standards.

OPTICAL FIBRE CABLES –

Part 3: Outdoor cables – Sectional specification

1 Scope

This part of IEC 60794 specifies the requirements for optical fibre cables and cable elements which are intended to be used externally in communications networks. Other types of applications requiring similar types of cables can be considered.

Requirements for cables to be used in ducts, for directly buried applications, aerial cables and cables for lake and river crossings are included in this document. Also included are cables for specialized use in sewers and in water and gas pipes.

For aerial application, this document does not cover all functional aspects of cables installed in the vicinity of overhead power lines. For such applications, additional requirements and test methods ~~may~~ can be necessary. Moreover, this document excludes optical ground wires and cables attached to the phase or earth conductors of overhead power lines.

For cables for lake and river crossings, this document does not cover methods of cable repair, nor repair capability, nor does it cover cables for use with underwater line amplifiers.

~~NOTE IEC TR 62839-1[1] gives rules to built an environmental declaration if needed.~~

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

IEC 60708, *Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath*

IEC 60793-1-21, *Optical fibres – Part 1-21: Measurement methods and test procedures – Coating geometry* ~~-[1]~~

IEC 60793-1-32, *Optical fibres – Part 1-32: Measurement methods and test procedures – Coating strippability*

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

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*

_____

~~[1] To be published.~~

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

IEC 60794-1-21:2015, *Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical test methods*~~[2]~~

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

IEC 60794-1-23, *Optical fibre cables – Part 1-23: Generic specification – Basic optical cable test procedures – Cable elements test methods*

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 60811-401, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 401: Miscellaneous tests – Thermal ageing methods – Ageing in an air oven*

IEC 60811-406, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 406: Miscellaneous tests – Resistance to stress cracking of polyethylene and polypropylene compounds*

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

IEC 60811-604:2012, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 604: Physical tests – Measurement of absence of corrosive components in filling compounds*

IEC 60811-607, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 607: Physical tests – Test for the assessment of carbon black dispersion in polyethylene and polypropylene*

~~IEC TR 62690, *Hydrogen effects in optical fibre cables – Guidelines*~~

~~IEC TR 62691, *Optical fibre cables – Guide to the installation of optical fibre cables*~~

~~[2] To be published.~~

SVENSK STANDARD SS-EN IEC 60794-3

Fastställd	Utgåva	Sida	Ansvarig kommitté
2022-05-18	5	1 (1+19)	SEK TK 86

Optokablar – Del 3: Utomhuskablar – Gruppspecifikation

Optical fibre cables – Part 3: Outdoor cables – Sectional specification

Som svensk standard gäller europastandarden EN IEC 60794-3:2022. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60794-3:2022.

Nationellt förord

Europastandarden EN IEC 60794-3:2022

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60794-3, Fifth edition, 2022 - Optical fibre cables - Part 3: Outdoor cables - Sectional specification**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60794-3, utgåva 4, 2015, gäller ej fr o m 2025-03-24.

ICS 33.180.10

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60794-3

April 2022

ICS 33.180.10

Supersedes EN 60794-3:2015 and all of its amendments and corrigenda (if any)

English Version

Optical fibre cables - Part 3: Outdoor cables - Sectional specification (IEC 60794-3:2022)

Câbles à fibres optiques - Partie 3: Câbles extérieurs - Spécification intermédiaire (IEC 60794-3:2022)

Lichtwellenleiterkabel - Teil 3: Rahmenspezifikation - Außenkabel (IEC 60794-3:2022)

This European Standard was approved by CENELEC on 2022-03-24. 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

Ref. No. EN IEC 60794-3:2022 E

SEK Svensk Elstandard

SS-EN IEC 60794-3, utg 5:2022

European foreword

The text of document 86A/2155/FDIS, future edition 5 of IEC 60794-3, 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 60794-3:2022.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2022-12-24
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2025-03-24

This document supersedes EN 60794-3:2015 and all of its amendments and corrigenda (if any).

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Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60794-3:2022 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 60794-1-2:2021	NOTE Harmonized as EN IEC 60794-1-2:2021 (not modified)
IEC 60794-1-24	NOTE Harmonized as EN 60794-1-24
IEC 60794-1-3	NOTE Harmonized as EN 60794-1-3
IEC 60794-1-31	NOTE Harmonized as EN IEC 60794-1-31

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.

Publication	Year	Title	EN/HD	Year
IEC 60304	-	Standard colours for insulation for low-frequency cables and wires	HD 402 S2	-
IEC 60708	-	Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath	EN 60708	-
IEC 60793-1-21	-	Optical fibres - Part 1-21: Measurement methods and test procedures - Coating geometry	EN 60793-1-21	-
IEC 60793-1-32	-	Optical fibres - Part 1-32: Measurement methods and test procedures - Coating strippability	EN IEC 60793-1-32	-
IEC 60793-1-40	-	Optical fibres - Part 1-40: Attenuation measurement methods	EN IEC 60793-1-40	-
IEC 60793-1-44	-	Optical fibres - Part 1-44: Measurement methods and test procedures - Cut-off wavelength	EN 60793-1-44	-
IEC 60793-2	-	Optical fibres - Part 2: Product specifications - General	EN IEC 60793-2	-
IEC 60794-1-1	-	Optical fibre cables - Part 1-1: Generic specification - General	EN 60794-1-1	-
IEC 60794-1-21	2015	Optical fibre cables - Part 1-21: Generic specification - Basic optical cable test procedures - Mechanical tests methods	EN 60794-1-21	2015
IEC 60794-1-22	-	Optical fibre cables - Part 1-22: Generic specification - Basic optical cable test procedures - Environmental test methods	EN IEC 60794-1-22	-
IEC 60794-1-23	-	Optical fibre cables - Part 1-23: Generic specification - Basic optical cable test procedures - Cable element test methods	EN IEC 60794-1-23	-

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	EN 60811-202	-
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IEC 60794-3

Edition 5.0 2022-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Optical fibre cables –
Part 3: Outdoor cables – Sectional specification

Câbles à fibres optiques –
Partie 3: Câbles extérieurs – Spécification intermédiaire

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

IEC 60708, *Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath*

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