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Optokablar – Del 3: Utomhuskablar – Gruppspecifikation

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

Som svensk standard gäller europastandarden EN 60794-3:2015. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60794-3:2015.

Nationellt förord

Europastandarden EN 60794-3:2015

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60794-3, Fourth edition, 2014 - Optical fibre cables - Part 3: Outdoor cables - Sectional specification**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60794-3, utgåva 3, 2003, gäller ej fr o m 2017-10-14.

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English Version

**Optical fibre cables - Part 3: Sectional specification - Outdoor
cables
(IEC 60794-3:2014)**

Câbles à fibres optiques - Partie 3: Câbles extérieurs -
Spécification intermédiaire
(IEC 60794-3:2014)

Lichtwellenleiterkabel - Teil 3: LWL-Außenkabel -
Rahmenspezifikation
(IEC 60794-3:2014)

This European Standard was approved by CENELEC on 2014-10-14. 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.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 86A/1589/CDV, future edition 4 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 60794-3:2015.

The following dates are fixed:

- latest date by which the document has to be (dop) 2015-07-16
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2017-10-14
standards conflicting with the
document have to be withdrawn

This document supersedes EN 60794-3:2002.

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

Endorsement notice

The text of the International Standard IEC 60794-3:2014 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When 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 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 60793-1-32	-
IEC 60793-1-40 (mod)	-	Optical fibres -- Part 1-40: Measurement methods and test procedures - Attenuation	EN 60793-1-40	-
IEC 60793-1-44	-	Optical fibres -- Part 1-44: Measurement methods and test procedures - Cut-off wavelength	+AA EN 60793-1-44	-
IEC 60793-2	-	Optical fibres -- Part 2: Product specifications - General	EN 60793-2	-
IEC 60794-1-1	-	Optical fibre cables -- Part 1-1: Generic specification - General	EN 60794-1-1	-
IEC 60794-1-21	-	Optical fibre cables -- Part 1-21: Generic specification - Basic optical cable test procedures - Mechanical tests methods	FprEN 60794-1-21	-
IEC 60794-1-22	-	Optical fibre cables -- Part 1-22: Generic specification - Basic optical cable test procedures - Environmental test methods	EN 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 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	-
IEC 60811-203	-	Electric and optical fibre cables - Test methods for non-metallic materials -- Part 203: General tests - Measurement of overall dimensions	EN 60811-203	-
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	EN 60811-401	-

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	EN 60811-406	-
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	EN 60811-501	-
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	EN 60811-604	-
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	EN 60811-607	-
IEC/TR 62690	-	Hydrogen effects in optical fibre cables - Guidelines	-	-
IEC/TR 62691	-	Optical fibre cables - Guide to the installation of optical fibre cables	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

This fourth edition cancels and replaces the third edition, published in 2001, and constitutes a technical revision.

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

- the specification has been streamlined by cross-referencing with IEC 60794-1-1;
- soft strippable tubes introduced into the “polymeric” tube heading and metal tubes have been added;
- ribbon clauses have been simplified;
- more precise outer sheath details have been added;
- cable element tests and cable tests have been simplified by the use of tables instead of text;
- Annex A on PMD has been removed, to avoid duplication with IEC TR 61282-3.

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

CDV	Report on voting
86A/1589/CDV	86A/1621/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 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 publication will remain unchanged until the stability date indicated on the IEC website 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.

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.

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 standard. Also included are cables for specialized use in sewers and in water and gas pipes.

For aerial application, this standard 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 be necessary. Moreover, this standard 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 standard does not cover methods of cable repair, nor repair capability, nor does it cover cables for use with underwater line amplifiers.

NOTE IEC TR 62839-1¹ gives rules to built an environmental declaration if needed.

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 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*

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, *Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical test methods²*

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

IEC 60794-1-23, *Optical fibre cables – Part 1-23: 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 sheaths*

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 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.