SVENSK STANDARD SS-EN IEC 60794-4

Fastställd	Utgåva	Sida	Ansvarig kommitté
2019-01-23	2	1 (1+25)	SEK TK 86

Optokablar –
Del 4: Gruppspecifikation för kablar för förläggning på kraftledning

Optical fibre cables –
Part 4: Sectional specification –
Aerial optical cables along electrical power lines

Som svensk standard gäller europastandarden EN IEC 60794-4:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60794-4:2018.

Nationellt förord

Europastandarden EN IEC 60794-4:2018

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60794-4, Second edition, 2018 - Optical fibre cables - Part 4: Sectional specification - Aerial optical cables along electrical power lines**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60794-4, utgåva 1, 2004, gäller ej fr o m 2021-07-30.

ICS 33.180.10

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Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60794-4

August 2018

ICS 33.180.10

Supersedes EN 60794-4:2003

English Version

Optical fibre cables - Part 4: Sectional specification - Aerial optical cables along electrical power lines (IEC 60794-4:2018)

Câbles à fibres optiques - Partie 4: Spécification intermédiaire - Câbles optiques aériens le long des lignes électriques de transport d'énergie (IEC 60794-4:2018)

Lichtwellenleiterkabel - Teil 4: Rahmenspezifikation - Lichtwellenleiter-Luftkabel auf Starkstrom-Freileitungen (IEC 60794-4:2018)

This European Standard was approved by CENELEC on 2018-07-30. 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, 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 60794-4:2018 E

SEK Svensk Elstandard SS-EN IEC 60794-4, utg 2:2019

European foreword

The text of document 86A/1862/FDIS, future edition 2 of IEC 60794-4, 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 60794-4:2018.

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)	2019-04-30
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-07-30

This document supersedes EN 60794-4:2003

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 60794-4:2018 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	NOTE	Harmonized as EN 60794-1-2
IEC 60794-1-23	NOTE	Harmonized as EN 60794-1-23
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 60104	-	Aluminium-magnesium-silicon alloy wire for overhead line conductors	-	-
IEC 60304	-	Standard colours for insulation for low-frequency cables and wires	HD 402 S2	-
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	-	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	EN 60793-1-44	-
IEC 60793-1-48	-	Optical fibres – Part 1-48: Measurement methods and test procedures -Polarization mode dispersion	EN 60793-1-48	-
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	EN 60794-1-21	-
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 60794-1-23	-
IEC 60794-1-24	-	Optical fibre cables -- Part 1-24: Generic specification - Basic optical cable test procedures - Electrical test methods	EN 60794-1-24	-
IEC 60794-3	-	Optical fibre cables - Part 3: Outdoor cables - Sectional specification	EN 60794-3	-
IEC 60794-4-20	2012	Optical fibre cables -- Part 4-20: Aerial optical cables along electrical power lines - Family specification for ADSS (All Dielectric Self Supported) Optical cables	EN 60794-4-20	2012
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	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	EN 60811-604	2012
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 60888	-	Zinc-coated steel wires for stranded conductors	-	-
IEC 60889	-	Hard-drawn aluminium wire for overhead line conductors	EN 60889	-
IEC 61089	1991	Round wire concentric lay overhead electrical stranded conductors	-	-
IEC 61232	-	Aluminium-clad steel wires for electrical purposes	EN 61232	-

IEC 61394	-	Overhead lines - Requirements for greases for aluminium, aluminium alloy and steel bare conductors	-	-
IEC 61395	-	Overhead electrical conductors - Creep test procedures for stranded conductors	EN 61395	-

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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OPTICAL FIBRE CABLES –

Part 4: Sectional specification – Aerial optical cables along electrical power lines

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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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.

International Standard IEC 60794-4 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee TC 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2003. This edition constitutes a technical revision.

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

a) the specification has been streamlined by cross-referencing IEC 60794-1-1;
b) the classification as type tests or routine tests has been deleted;
c) cable kink test has been deleted;
d) creep test for ADSS is referred to IEC 60794-4-20.

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

FDIS	Report on voting
86A/1862/FDIS	86A/1868/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document 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 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,
- replaced by a revised edition, or
- amended.

OPTICAL FIBRE CABLES –

Part 4: Sectional specification – Aerial optical cables along electrical power lines

1 Scope

This part of IEC 60794 covers cable construction, test methods, optical, mechanical, environmental and electrical performance requirements for aerial optical fibre cables and cable elements which are intended to be used along power lines (OCEPL) as a high bandwidth transport media for communications and control optical signals, including optical ground wires (OPGW), optical phase conductors (OPPC), metallic aerial self-supported cables (MASS), all-dielectric self-supporting cables (ADSS) and optical attached cables (OPAC).

This document excludes figure-8 optical cables to be used on telephone utility poles.

The IEC TR 62839-1 gives recommendations to provide the customer with the environmental declaration on request.

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 60104, *Aluminium-magnesium-silicon alloy wire for overhead line conductors*

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

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

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 60793-1-48, *Optical fibres – Part 1-48: Measurement methods and test procedures – Polarization mode dispersion*

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

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 tests methods*

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

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

IEC 60794-1-24, *Optical fibre cables – Part 1-24: Generic specification – Basic optical cable test procedures – Electrical test methods*

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

IEC 60794-4-20:2012, *Optical fibre cables – Part 4-20: Aerial optical cables along power lines – Family specification for ADSS (All Dielectric Self Supported) optical cables*

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: 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 60888, *Zinc-coated steel wires for stranded conductors*

IEC 60889, *Hard-drawn aluminium wire for overhead line conductors*

IEC 61089:1991, *Round wire concentric lay overhead electrical stranded conductors*

IEC 61232, *Aluminium-clad steel wires for electrical purposes*

IEC 61394*, Overhead lines – Requirements for greases for aluminium, aluminium alloy and steel bare conductors*

IEC 61395, *Overhead electrical conductors – Creep test procedures for stranded conductors*