
Optični kabli - 4-20. del: Nadzemni optični kabli vzdolž elektroenergetskih vodov - Skupinska specifikacija za ADSS (dielektrične samonosne) optične kable (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 (IEC 60794-4-20:2012)

Lichtwellenleiterkabel - Teil 4-20: Lichtwellenleiter-Luftkabel auf Starkstrom-Freileitungen - Familienspezifikation für ADSS-LWL-Kabel (dielektrische, selbsttragende LWL-Kabel) (IEC 60794-4-20:2012)

[SIST EN 60794-4-20:2013](https://standards.iteh.ai/catalog/standards/sist/7fa06b57-bcac-4ca0-a4fb-6a622040c201/iec-60794-4-20:2012)

Câbles à fibres optiques - Partie 4-20: Câbles optiques aériens installés le long des lignes d'énergie électrique - Spécification de famille pour les câbles optiques autoportés par le diélectrique (ADSS) (CEI 60794-4-20:2012)

Ta slovenski standard je istoveten z: EN 60794-4-20:2012

ICS:

33.180.10 (Optična) vlakna in kabli Fibres and cables

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60794-4-20

December 2012

ICS 33.180.10

English version

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

Câbles à fibres optiques -
Partie 4-20: Câbles optiques aériens
installés le long des lignes d'énergie
électrique - Spécification de famille
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(CEI 60794-4-20:2012)

Lichtwellenleiterkabel -
Teil 4-20: Lichtwellenleiter-Luftkabel
auf Starkstrom-Freileitungen -
Familienspezifikation für ADSS-LWL-
Kabel (dielektrische, selbsttragende
LWL-Kabel)
(IEC 60794-4-20:2012)

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SIST EN 60794-4-20:2013

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 86A/1467/FDIS, future edition 1 of IEC 60794-4-20, 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 60794-4-20:2012.

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) 2013-08-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-11-29

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Endorsement notice

The text of the International Standard IEC 60794-4-20:2012 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 60060-1:2010	NOTE	Harmonised as EN 60060-1:2010 (not modified).
IEC 60794 Series	NOTE	Harmonised as 60794 Series (not modified).
IEC 60794-1-2X Series	NOTE	Harmonised as EN 60794-1-2X Series (not modified).
IEC 60794-3	NOTE	Harmonised as EN 60794-3.
ISO 9001	NOTE	Harmonised as EN ISO 9001.

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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<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 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 60793-2-50	-	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN 60793-2-50	-
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	EN 60794-1-2	-
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 60794-4	-	Optical fibre cables - Part 4: Sectional specification - Aerial optical cables along electrical power lines	EN 60794-4	-
IEC 61395	-	Overhead electrical conductors - Creep test procedures for stranded conductors	EN 61395	-

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IEC 60794-4-20

Edition 1.0 2012-10

INTERNATIONAL STANDARD



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

[SIST EN 60794-4-20:2013](https://standards.iteh.ai/catalog/standards/sist/7fa06b57-bcac-4ca0-a4fb-4a6dcf614007/sist-en-60794-4-20-2013)

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE



ICS 33.180.10

ISBN 978-2-83220-434-4

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Table 1 – Cable design characteristics <https://standards.iteh.ai/catalog/standards/sist/7fa06b57-bcac-4ca0-a4fb-4e6dcf614007/sist-en-60794-4-20-2013>

Table 2 – Optional parameters (if required by customer) <https://standards.iteh.ai/catalog/standards/sist/7fa06b57-bcac-4ca0-a4fb-4e6dcf614007/sist-en-60794-4-20-2013>

Table C.1 – R_{eq} and C_{eq} values for different pollution index values

Table D.1 – Blank detail specification

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –

**Part 4-20: Aerial optical cables along electrical power lines –
Family specification for ADSS (All Dielectric Self Supported)
optical cables**

FOREWORD

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International Standard IEC 60794-4-20 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86A/1467/FDIS	86A/1482/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 the 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 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 standard may be published at a later date.

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.

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OPTICAL FIBRE CABLES –

Part 4-20: Aerial optical cables along electrical power lines – Family specification for ADSS (All Dielectric Self Supported) optical cables

1 Scope

This part of IEC 60794, which is a family specification, covers optical telecommunication cables, commonly with single-mode fibres to be used primarily in overhead power lines applications. The cable may also be used in other overhead utility networks, such as for telephony or TV services. Requirements of the sectional specification IEC 60794-4 for aerial optical cables along electrical power lines are applicable to cables covered by this standard.

NOTE In some particular situations in the electrical industry, short overhead links can be also designed with multimode fibres.

The ADSS cable consists of single-mode optical fibres contained in one or more protective dielectric fibre optic units surrounded by or attached to suitable dielectric strength members and sheaths. The cable does not contain metallic components. An ADSS cable is designed to meet the optical and mechanical requirements under different types of installation, operating and environmental conditions and loading, as described in Annex B.

This standard covers the construction, mechanical, electrical, and optical performance, installation guidelines, acceptance criteria, test requirements, environmental considerations, and accessories compatibility for an all dielectric self-supporting fibre optic (ADSS) cable. The standard provides both construction and performance requirements that ensure, within the guidelines of this standard, that the mechanical capabilities of the cable components and maintenance of optical fibre integrity and optical transmissions are proper.

This standard excludes any “lashed” or “wrapped” OPAC cables.

Cables intended for installation in conformity with ISO/IEC 24702 and related standards may require the specification of additional tests to ensure their suitability in the applicable environments defined by the mechanical, ingress, climatic and chemical, and electromagnetic (MICE) classification. These tests are outside of the scope of IEC 60794 cable specifications, and MICE criteria are not part of the requirements for IEC 60794 specifications. The MICE tests may be the same as, similar to, or substantially different from, the tests required by IEC 60794 specifications. Cables manufactured per IEC 60794 specifications may or may not meet the MICE criteria. For supplemental discussion, see IEC/TR 62362.

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