



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**

INTERNATIONAL
ELECTROTECHNICAL
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OPTICAL FIBRE CABLES –

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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.

This is a preview of "IEC 60794-4-20 Ed. 1...". [Click here to purchase the full version from the ANSI store.](#)

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- withdrawn,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.

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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*

This is a preview of "IEC 60794-4-20 Ed. 1...". [Click here to purchase the full version from the ANSI store.](#)

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 60793-2-50, *Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres*

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

IEC 60794-1-2, *Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures* ^{1, 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 element test methods*

IEC 60794-4, *Optical fibre cables – Part 4: Sectional Specification – Aerial optical cables along electrical power lines*

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