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Optical fibre cables - Part 1-1: Generic specification -
General

EESTI STANDARDI EESSÕNA

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See Eesti standard EVS-EN 60794-1-1:2016 sisaldab Euroopa standardi EN 60794-1-1:2016 ingliskeelset teksti.	This Estonian standard EVS-EN 60794-1-1:2016 consists of the English text of the European standard EN 60794-1-1:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

**Optical fibre cables - Part 1-1: Generic specification - General
(IEC 60794-1-1:2015)**

Câbles à fibres optiques - Partie 1-1 : spécification
générique - Généralités
(IEC 60794-1-1:2015)

Lichtwellenleiterkabel - Teil 1-1: Fachgrundspezifikation -
Allgemeines
(IEC 60794-1-1:2015)

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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

European foreword

The text of document 86A/1651/CDV, future edition 4 of IEC 60794-1-1, 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 60794-1-1:2016.

The following dates are fixed:

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-12-18

This document supersedes EN 60794-1-1:2011.

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Endorsement notice

The text of the International Standard IEC 60794-1-1:2015 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 60793-2-10	NOTE	Harmonized as EN 60793-2-10.
IEC 60794-1-2	NOTE	Harmonized as EN 60794-1-2.
IEC 60794-1-23	NOTE	Harmonized as EN 60794-1-23.
IEC 60794-1-24	NOTE	Harmonized as EN 60794-1-24.
IEC 60794-4:2003	NOTE	Harmonized as EN 60794-4:2003.
IEC 60794-4-20:2012	NOTE	Harmonized as EN 60794-4-20:2012.
IEC 60794-4 (series)	NOTE	Harmonized as EN 60794-4:2003 (series).

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OPTICAL FIBRE CABLES –

Part 1-1: Generic specification – General

1 Scope

This part of IEC 60794 applies to optical fibre cables for use with communication equipment and devices employing similar techniques and to cables having a combination of both optical fibres and electrical conductors.

The object of this standard is to establish uniform generic requirements for the geometrical, transmission, material, mechanical, ageing (environmental exposure), climatic and electrical properties of optical fibre cables and cable elements, where appropriate.

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 60189-1, *Low-frequency cables and wires with PVC insulation and PVC sheath – Part 1: General test and measuring methods*

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 60793-1-40, *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 60793-1-46, *Optical fibres – Part 1-46: Measurement methods and test procedures – Monitoring of changes in optical transmittance*

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

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 60811-201, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 201: General tests – Measurement of insulation thickness*

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 TR 61931, *Fibre optic – Terminology*

ISO 14001, *Environmental management systems – Requirements with guidance for use*

ISO 14064-1, *Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

no change in attenuation

acceptance criterion for attenuation measurement that includes an allowance for measurement uncertainty arising from measurement errors or calibration errors due to a lack of suitable reference standards

Note 1 to entry: For a practical interpretation, the following values shall be used:

a) no change in attenuation, single-mode (Class B): the total uncertainty of measurement shall be $\leq \pm 0,05$ dB for attenuation or $\leq \pm 0,05$ dB/km for attenuation coefficient. Any measured value within this range shall be considered as “no change in attenuation”

The requirement for these parameters is indicated as “No change ($\leq \pm 0,05$ dB or $\leq \pm 0,05$ dB/km)”.

By agreement between customer and supplier, minor deviation from this limit may be accepted at some low frequency, e.g. less than 10%. However for mechanical tests no deviation in excess of 0,15 dB shall be accepted. For environmental tests no deviation in excess of 0,10 dB/km shall be accepted.

b) no change in attenuation, multimode (Category A1): the total uncertainty of measurement shall be $\leq \pm 0,2$ dB for attenuation or $\leq \pm 0,2$ dB/km for attenuation coefficient

Any measured value within this range shall be considered as “no change in attenuation”.

The requirement for these parameters is indicated as “No change ($\leq \pm 0,2$ dB or $\leq \pm 0,2$ dB/km)”.

By agreement between customer and supplier, minor deviation from this limit may be accepted at some low frequency, e.g. less than 10%. However for mechanical tests no deviation in excess of 0,5 dB shall be accepted. For environmental tests no deviation in excess of 0,5 dB/km shall be accepted.

c) no change in attenuation, plastic optical fibre (Category A4): the total uncertainty of measurement for this standard shall be ≤ 2 % of maximum specified attenuation in IEC 60793-2-40 Annex A to G

Any measured value within this range shall be considered as “no change in attenuation”.

3.2

allowable change in attenuation

<during mechanical and environmental tests> change in attenuation that may be a value larger than the no change limits, depending on fibre category, single-mode or multimode, cable design and application