

SLOVENSKI STANDARD

SIST EN IEC 60794-6-30:2021

01-januar-2021

Optični kabli - 6-30. del: Notranji ali zunanji kabli - Skupinska specifikacija za vremensko odporne notranje kable (IEC 60794-6-30:2020)

Optical fibre cables - Part 6-30: Indoor-outdoor cables - Family specification for weatherised indoor cables (IEC 60794-6-30:2020)

Lichtwellenleiterkabel - Teil 6-30: Innen-/Außenkabel - Familienspezifikation für witterungsbeständige Innenkabel (IEC 60794-6-30:2020)

Câbles à fibres optiques - Partie 6-30: Câbles intérieurs/extérieurs - Spécification de famille pour les câbles intérieurs résistants aux intempéries (IEC 60794-6-30:2020)

[SIST EN IEC 60794-6-30:2021](https://standards.iteh.ai/catalog/standards/sist/b957c6e3-c157-4508-9afe-0147354bf67a/sist-en-iec-60794-6-30-2021)

[https://standards.iteh.ai/catalog/standards/sist/b957c6e3-c157-4508-9afe-](https://standards.iteh.ai/catalog/standards/sist/b957c6e3-c157-4508-9afe-0147354bf67a/sist-en-iec-60794-6-30-2021)

Ta slovenski standard je istoveten z: EN IEC 60794-6-30:2020

ICS:

33.180.10 (Optična) vlakna in kabli Fibres and cables

SIST EN IEC 60794-6-30:2021

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN IEC 60794-6-30:2021](https://standards.iteh.ai/catalog/standards/sist/b957c6e3-c157-4508-9af8-9147354bf67a/sist-en-iec-60794-6-30-2021)

<https://standards.iteh.ai/catalog/standards/sist/b957c6e3-c157-4508-9af8-9147354bf67a/sist-en-iec-60794-6-30-2021>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 60794-6-30

November 2020

ICS 33.180.10

English Version

**Optical fibre cables - Part 6-30: Indoor-outdoor cables - Family
specification for weatherised indoor cables
(IEC 60794-6-30:2020)**

Câbles à fibres optiques - Partie 6-30: Câbles
intérieurs/extérieurs - Spécification de famille pour les
câbles intérieurs résistants aux intempéries
(IEC 60794-6-30:2020)

Lichtwellenleiterkabel - Teil 6-30: Innen-/Außenkabel -
Familienspezifikation für witterungsbeständige Innenkabel
(IEC 60794-6-30:2020)

This European Standard was approved by CENELEC on 2020-10-30. 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.

SIST EN IEC 60794-6-30:2021

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, 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

EN IEC 60794-6-30:2020 (E)**European foreword**

The text of document 86A/2038/FDIS, future edition 1 of IEC 60794-6-30, 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 60794-6-30:2020.

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) 2021-07-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-10-30

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 60794-6-30:2020 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	NOTE	Harmonized as EN IEC 60793-2 <small>https://standards.iteh.ai/en/standards/IEC/60793-2/2020-07-4508-9afe-9147354bf67a/sist-en-iec-60794-6-30-2021</small>
IEC 60794-1-219	NOTE	Harmonized as EN IEC 60794-1-219 ¹
IEC 60794-2-10	NOTE	Harmonized as EN 60794-2-10

¹ To be published. Stage at the time of publication: prEN IEC 60794-1-219:2020.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60332-1	series	Tests on electric and optical fibre cables under fire conditions - Part 1: Test for vertical flame propagation for a single insulated wire or cable	EN 60332-1	series
IEC 60332-3	series	Tests on electric and optical fibre cables under fire conditions - Part 3: Test for vertical flame spread of vertically-mounted bunched wires or cables	EN IEC 60332-3	series
IEC 60793-2-10	2019	Optical fibres - Part 2-10: Product specifications - Sectional specification for category A1 multimode fibres	EN IEC 60793-2-10	2019
IEC 60793-2-50	2018	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN IEC 60793-2-50	2019
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	2017	Optical fibre cables - Part 1-22: Generic specification - Basic optical cable test procedures - Environmental test methods	EN IEC 60794-1-22	2018
IEC 60794-1-23	-	Optical fibre cables - Part 1-23: Generic specification - Basic optical cable test procedures - Cable element test methods	EN IEC 60794-1-23	-

EN IEC 60794-6-30:2020 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 60794-1-31	2018	Optical fibre cables - Part 1-31: Sectional specification for cable element - optical fibre ribbon	EN IEC 60794-1-31	2018
IEC 60794-1-215	-	Optical fibre cables - Part 1-215: Generic specification - Basic optical cable test procedures - Environmental test methods - Cable external freezing test, Method F15	EN IEC 60794-1-215	-
IEC 60794-2	-	Optical fibre cables - Part 2: Indoor cables - Sectional specification	EN 60794-2	-
IEC 60794-2-20	2013	Optical fibre cables - Part 2-20: Indoor cables - Family specification for multi-fibre optical cables	EN 60794-2-20	2014
IEC 60794-2-30	2019	Optical fibre cables - Part 2-30: Indoor cables - Family specification for optical fibre ribbon cables for use in terminated cable assemblies	EN IEC 60794-2-30	2019
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 60811-406	-	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	-
ISO 4892-2	2013	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	EN ISO 4892-2	2013



IEC 60794-6-30

Edition 1.0 2020-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Optical fibre cables –

Part 6-30: Indoor-outdoor cables – Family specification for weatherised indoor cables

Câbles à fibres optiques –

Partie 6-30: Câbles intérieurs/extérieurs – Specification de famille pour les câbles intérieurs résistants aux intempéries

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.180.10

ISBN 978-2-8322-8909-9

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms, definitions and abbreviated terms	7
3.1 Terms and definitions.....	7
3.2 Abbreviated terms.....	7
4 General specifications	7
4.1 Optical fibres	7
4.2 Cable elements.....	7
5 Specifications for weatherised indoor cables – Construction.....	8
6 Details of family specifications and test conditions for weatherised indoor cables.....	8
6.1 General.....	8
6.1.1 Referenced cable specifications	8
6.1.2 Test criteria	8
6.1.3 Applicable tests	8
6.2 Mechanical tests	10
6.2.1 Tensile performance	10
6.2.2 Abrasion.....	11
6.2.3 Crush	12
6.2.4 Impact	12
6.2.5 Repeated bending	13
6.2.6 Torsion	13
6.2.7 Bend	13
6.2.8 Bending under tension	14
6.2.9 Bending at low temperature	14
6.2.10 Flexing	14
6.2.11 Kink	15
6.2.12 Rip cord functional test.....	15
6.3 Environmental	15
6.3.1 Temperature cycling	15
6.3.2 Water penetration	16
6.3.3 UV resistance	16
6.3.4 Environmental stress cracking	17
6.3.5 Compound flow.....	17
6.3.6 Bleeding and evaporation	17
6.3.7 Material compatibility	17
6.3.8 Ageing	17
6.4 Cable element tests	18
6.4.1 Ribbon strippability	18
6.4.2 Ribbon tear (separability)	18
6.4.3 Ribbon dimensions and geometry	18
6.4.4 Ribbon torsion	18
6.4.5 Ribbon residual twist	18
6.4.6 Tube kinking.....	19
6.4.7 Bend test for optical cable elements	19
6.4.8 Stripping force stability of cabled fibres	19

6.5	Other tests	19
6.5.1	Fire performance	19
6.5.2	Electrical continuity	19
6.5.3	Thickness of non-metallic sheath	19
6.5.4	Overall dimensions	20
Annex A (informative)	Examples of weatherised indoor cables	21
Annex B (informative)	Blank detail specification and minimum requirements	22
Bibliography		23
Figure A.1 – Weatherised, reinforced simplex indoor cable		21
Figure A.2 – Weatherised mini-breakout indoor cable		21
Figure A.3 – Weatherised jelly free central loose tube indoor cable		21
Table 1 – Tests applicable for mechanical and environmental performance of weatherised indoor cables		9
Table 2 – Low and high temperatures		16

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN IEC 60794-6-30:2021

<https://standards.iteh.ai/catalog/standards/sist/b957c6e3-c157-4508-9afe-9147354bf67a/sist-en-iec-60794-6-30-2021>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –

**Part 6-30: Indoor-outdoor cables –
Family specification for weatherised indoor cables**

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 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 60794-6-30 has been prepared by subcommittee SC86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86A/2038/FDIS	86A/2049/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.

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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN IEC 60794-6-30:2021](https://standards.iteh.ai/catalog/standards/sist/b957c6e3-c157-4508-9af8-9147354bf67a/sist-en-iec-60794-6-30-2021)

<https://standards.iteh.ai/catalog/standards/sist/b957c6e3-c157-4508-9af8-9147354bf67a/sist-en-iec-60794-6-30-2021>