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Optokablar – Del 1-2: Artspecifikation – Grundläggande provningsmetoder – Allmän vägledning

*Optical fibre cables –
Part 1-2: Generic specification –
Basic optical cable test procedures –
General guidance*

Som svensk standard gäller europastandarden EN IEC 60794-1-2:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60794-1-2:2021.

Nationellt förord

Europastandarden EN IEC 60794-1-2:2021

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60794-1-2, Fifth edition, 2021 - Optical fibre cables - Part 1-2: Generic specification - Basic optical cable test procedures - General guidance**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60794-1-1.

Tidigare fastställd svensk standard SS-EN 60794-1-2, utgåva 4, 2017, gäller ej fr o m 2024-02-19.

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SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

English Version

**Optical fibre cables - Part 1-2: Generic specification - Basic
optical cable test procedures - General guidance
(IEC 60794-1-2:2021)**

Câbles à fibres optiques - Partie 1-2: Spécification
générique - Procédures fondamentales d'essais des câbles
optiques - Recommandations générales
(IEC 60794-1-2:2021)

Lichtwellenleiterkabel - Teil 1-2: Fachgrundspezifikation -
Grundlegende Prüfverfahren für Lichtwellenleiterkabel -
Allgemeine Anleitung
(IEC 60794-1-2:2021)

This European Standard was approved by CENELEC on 2021-02-19. 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, 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

European foreword

The text of document 86A/2009/CDV, future edition 5 of IEC 60794-1-2, 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 60794-1-2:2021.

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) 2021-11-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-02-19

This document supersedes EN 60794-1-2:2017 and all of its amendments and corrigenda (if any).

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 60794-1-2:2021 was approved by CENELEC as a European Standard without any modification.

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 60793-1-40	-	Optical fibres - Part 1-40: Attenuation measurement methods	EN IEC 60793-1-40	-
IEC 60793-1-46	-	Optical fibres - Part 1-46: Measurement methods and test procedures - Monitoring of changes in optical transmittance	EN 60793-1-46	-
IEC 60793-2-40	-	Optical fibres - Part 2-40: Product specifications - Sectional specification for category A4 multimode fibres	EN 60793-2-40	-
IEC 60794-1-1	-	Optical fibre cables - Part 1-1: Generic specification - General	EN 60794-1-1	-
IEC 60794-1-21	2015	Optical fibre cables - Part 1-21: Generic specification - Basic optical cable test procedures - Mechanical tests methods	EN 60794-1-21	2015
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	2019	Optical fibre cables - Part 1-23: Generic specification - Basic optical cable test procedures - Cable element test methods	EN IEC 60794-1-23	2019
IEC 60794-1-24	2014	Optical fibre cables - Part 1-24: Generic specification - Basic optical cable test procedures - Electrical test methods	EN 60794-1-24	2014

CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	7
3 Terms and definitions	7
4 General guidance	7
4.1 Test procedure format	7
4.2 Standard atmospheric conditions	7
4.3 Symbols and abbreviated terms	8
4.4 Safety and environmental aspects	8
4.5 Calibration	8
4.5.1 Calibration process	8
4.5.2 Assessment of uncertainties	8
4.6 Preconditioning	9
4.7 Guide to qualification sampling	9
4.8 Optical launch conditions	9
4.9 Standard optical test wavelengths	9
Annex A (informative) Cross-references between new and old test method numbers	10
Bibliography	16
Table 1 – Document overview	6
Table 2 – Standard optical test wavelengths	9
Table 3 – Alternative optical test wavelengths	9
Table A.1 – IEC 60794-1-1xx series	10
Table A.2 – IEC 60794-1-2xx series	11
Table A.3 – IEC 60794-1-3xx series	12
Table A.4 – IEC 60794-1-4xx series	12
Table A.5 – IEC 60794-1-21 method numbers	12
Table A.6 – IEC 60794-1-22 method numbers	14
Table A.7 – IEC 60794-1-23 method numbers	14
Table A.8 – IEC 60794-1-24 method numbers	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRE CABLES –**Part 1-2: Generic specification –
Basic optical cable test procedures –
General guidance**

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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International Standard IEC 60794-1-2 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This fifth edition cancels and replaces the fourth edition published in 2017. This edition constitutes a technical revision.

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

- a) addition of cross-reference tables listing the new test method numbers and the previous test method numbers.

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

CDV	Report on voting
86A/2009/CDV	86A/2057/RVC

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 International Standard is to be used in conjunction with IEC 60794-1-1.

This publication 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 web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

A decision has been reached to reorganize the IEC 60794-1-2 set of test methods into single-subject documents. This will be a migration as the existing test methods are revised and as new test methods are promulgated, rather than a wholesale rewrite. Part of this migration is a decision to maintain the traditional letter-number classification and to use a numbering system which maintains connection to the existing numbering system.

The new test method numbering format has been agreed, in line with IEC Secretariat guidelines, to help the cross-referencing from old to new and that will make the updating of the relevant sectional and product specifications easier. Cross-reference tables listing the new test method numbers and the previous test method numbers have been included (see Annex A, Table A.1 to Table A.8).

The format agreed is as follows:

IEC 60794-1-Xnn

where

X = 2nd digit of the old 2-digit reference;

nn = incremental number (starting with old test method number).

For example:

IEC 60794-1-21 method E1 (tensile) becomes IEC 60794-1-101;

IEC 60794-1-22 method F5 (water penetration) becomes IEC 60794-1-205;

IEC 60794-1-23 method G7 (tube kinking) becomes IEC 60794-1-307;

IEC 60794-1-24 method H2 (lightning) becomes IEC 60794-1-402.

Annex A has been added to this document containing a cross-reference between the old and new number scheme.

OPTICAL FIBRE CABLES –

Part 1-2: Generic specification – Basic optical cable test procedures – General guidance

1 Scope

This part of IEC 60794-1 applies to optical fibre cables for use with telecommunications equipment and devices employing similar techniques, and to cables having a combination of both optical fibres and electrical conductors.

An objective of this document is to define general requirements and methodology guidance applicable to all of the cable test methods of IEC 60794-1 (all parts).

A second objective of this document is to provide the end user with an overview of the different test methods contained in the different parts of the IEC 60794-1 series, numbered -Xnn. Table 1 shows the different parts.

Table 1 – Document overview

Test methods	IEC reference	Previous compendium reference	Test method category reference letter
General guidance	IEC 60794-1-2	IEC 60794-1-2	-
Mechanical	IEC 60794-1-1nn	IEC 60794-1-21:2015	Methods E
Environmental	IEC 60794-1-2nn	IEC 60794-1-22:2017	Methods F
Cable elements	IEC 60794-1-3nn	IEC 60794-1-23:2019	Methods G
Electrical	IEC 60794-1-4nn	IEC 60794-1-24:2014	Methods H
NOTE 1 The compendium reference specifications detailed in column 3 will continue in force until all of the test methods therein are revised into the single-subject documents using the new numbering scheme. NOTE 2 For existing test methods, "nn" is the test method number. For new test methods, "nn" is an incremental number following the last test method number for that test category. NOTE 3 Several numbers in the test method numbering sequence are missing. The reasons for these omissions are historical. To avoid confusion, the existing numbering sequence has been retained.			

These documents define test procedures to be used in establishing uniform requirements for the geometrical, transmission, material, mechanical, ageing (environmental exposure) and climatic properties of optical fibre cables, and electrical requirements where appropriate.

Throughout the documents, the wording "optical cable" can also include optical fibre units, microduct fibre units, etc.

The secondary objective of this document is to provide the end user with useful guidance when testing optical fibre cables.

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 60793-1-40, *Optical fibres – Part 1-40: Attenuation measurement methods*

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

IEC 60793-2-40, *Optical fibres – Part 2-40: Product specifications – Sectional specification for category A4 multimode fibres*

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

IEC 60794-1-21:2015, *Optical fibre cables – Part 1-21: Generic specification – Basic optical cable test procedures – Mechanical tests methods*

IEC 60794-1-22:2017, *Optical fibre cables – Part 1-22: Generic specification – Basic optical cable test procedures – Environmental test methods*

IEC 60794-1-23:2019, *Optical fibre cables – Part 1-23: Generic specification – Basic optical cable test procedures – Cable element test methods*

IEC 60794-1-24:2014, *Optical fibre cables – Part 1-24: Generic specification – Basic optical cable test procedures – Electrical test methods*