

<b>STN</b>	<p style="text-align: center;"><b>Optické káble</b>  <b>Časť 1-218: Kmeňová špecifikácia</b>  <b>Základné skúšobné postupy pre optické káble</b>  <b>Skúšobné metódy vplyvu prostredia</b>  <b>Skúška cyklickou zmenou teploty v strede</b>  <b>rozpätia pre exponované optické jednotky,</b>  <b>metóda F18</b></p>	<p style="text-align: center;"><b>STN</b>  <b>EN IEC</b>  <b>60794-1-218</b></p> <p style="text-align: center;">35 9223</p>
------------	--	---

Optical fibre cables - Part 1-218: Generic specification - Basic optical cable test procedures - Environmental test methods - Mid-span temperature cycling test for exposed optical units, Method F18

Táto norma obsahuje anglickú verziu európskej normy.  
 This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/25

Táto norma čiastočne nahrádza normu STN EN IEC 60794-1-22 z júla 2018. Súbežná platnosť do 31. 10. 2028.

Obsahuje: EN IEC 60794-1-218:2025, IEC 60794-1-218:2025

**141609**

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2026  
 Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN IEC 60794-1-218**

October 2025

ICS 33.180.10

Supersedes EN IEC 60794-1-22:2018 (partially)

English Version

Optical fibre cables - Part 1-218: Generic specification - Basic  
optical cable test procedures - Environmental test methods -  
Mid-span temperature cycling test for exposed optical units,  
Method F18  
(IEC 60794-1-218:2025)

Câbles à fibres optiques - Partie 1-218: Spécification  
généérique - Procédures fondamentales d'essais des câbles  
optiques - Méthodes d'essai d'environnement - Essai de  
cycles de température à mi-portée pour les éléments  
optiques exposés, Méthode F18  
(IEC 60794-1-218:2025)

Lichtwellenleiterkabel - Teil 1-218: Fachgrundspezifikation -  
Grundlegende Prüfverfahren für Lichtwellenleiterkabel -  
Umweltprüfverfahren - Mid-Span-  
Temperaturwechselprüfung für freiliegende optische  
Einheiten, Verfahren F18  
(IEC 60794-1-218:2025)

This European Standard was approved by CENELEC on 2025-09-11. 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, Türkiye 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 60794-1-218:2025 (E)****European foreword**

The text of document 86A/2587/FDIS, future edition 1 of IEC 60794-1-218, 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 60794-1-218:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2026-10-31 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2028-10-31 document have to be withdrawn

This document partially supersedes EN IEC 60794-1-22:2018 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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

**Endorsement notice**

The text of the International Standard IEC 60794-1-218:2025 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60794-1-2      NOTE      Approved as EN IEC 60794-1-2

## 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.cencenelec.eu](http://www.cencenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60793-1-46	-	Optical fibres - Part 1-46: Measurement methods and test procedures - Monitoring of changes in attenuation	EN IEC 60793-1-46	-
IEC 60794-1-1	2023	Optical fibre cables - Part 1-1: Generic specification - General	EN IEC 60794-1-1	2023



IEC 60794-1-218

Edition 1.0 2025-08

# INTERNATIONAL STANDARD

---

**Optical fibre cables -  
Part 1-218: Generic specification - Basic optical cable test procedures -  
Environmental test methods - Mid-span temperature cycling test for exposed  
optical units, Method F18**

**THIS PUBLICATION IS COPYRIGHT PROTECTED****Copyright © 2025 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat  
3, rue de Varembé  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

**About the IEC**

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

**About IEC publications**

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

**IEC publications search -****[webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)**

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

**IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)**

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

**IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)**

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [sales@iec.ch](mailto:sales@iec.ch).

**IEC Products & Services Portal - [products.iec.ch](http://products.iec.ch)**

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

**Electropedia - [www.electropedia.org](http://www.electropedia.org)**

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD.....	2
INTRODUCTION.....	4
1 Scope.....	5
2 Normative references .....	5
3 Terms and definitions .....	5
4 Method F18 – Mid-span temperature cycling test for exposed optical cable elements .....	5
4.1 Object.....	5
4.2 Sample .....	6
4.3 Apparatus .....	6
4.4 Procedure .....	6
4.5 Requirements.....	7
4.6 Details to be specified .....	8
4.7 Details to be reported.....	8
Bibliography .....	9
Figure 1 – Temperature cycling procedure.....	7

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Optical fibre cables -****Part 1-218: Generic specification - Basic optical cable test procedures - Environmental test methods - Mid-span temperature cycling test for exposed optical cable elements, method F18****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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60794-1-218 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics. It is an International Standard.

This first edition partially cancels and replaces the second edition of IEC 60794-1-22 published in 2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 60794-1-22:2017:

- a) extension of the test method scope to apply to any optical cables with optical cable elements including loose tubes, tight buffer tubes, and ribbons, exposed in a mid-span entry (expressed) and stored in a pedestal, closure, or similar;
- b) modification of the test method title according to item a);
- c) deletion of the tube diameter requirement for the test object;
- d) modification of the default temperature range according to IEC 60794-1-1;
- e) addition of the default coiled turns in the assembly during the test.

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

Draft	Report on voting
86A/2587/FDIS	86A/2608/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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 [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

## INTRODUCTION

This document cancels and replaces method F18 of IEC 60794-1-22:2017, which will be withdrawn. It includes an editorial revision, based on the new structure and numbering system for optical fibre cable test methods. Additionally, technical changes were implemented. The environmental tests contained in IEC 60794-1-22:2017 will be individually numbered in the IEC 60794-1-2xx series. Each test method is now considered to be an individual document rather than part of a multi-test method compendium. Full cross-reference details are given in IEC 60794-1-2.

## 1 Scope

This part of IEC 60794 defines test procedures to establish uniform requirements for the environmental performance of:

- optical fibre cables for telecommunication equipment and devices employing similar techniques, and
- cables having a combination of both optical fibres and electrical conductors.

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

This document defines a test standard to determine the ability of optical cable elements from a cable exposed in a mid-span entry (expressed) and stored in a pedestal, closure or similar to withstand the effects of temperature cycling by observing changes in attenuation. The optical cable element bundles up single or multiple optical fibres, e.g. loose tube, tight buffer tube, or optical fibre ribbon.

See IEC 60794-1-2 for a reference guide to test methods of all types and for general requirements and definitions.

## 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 60793-1-46, *Optical fibres - Part 1-46: Measurement methods and test procedures - Monitoring of changes in attenuation*

IEC 60794-1-1:2023, *Optical fibre Cables - Part 1-1: Generic specification – General*

koniec náhľadu – text d'alej pokračuje v platenej verzii STN