

Optical fibre cables - Part 1-213: Generic specification  
- Basic optical cable test procedures - Environmental  
test methods - Microduct pressure withstand, Method  
F13

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <p>See Eesti standard EVS-EN IEC 60794-1-213:2024 sisaldab Euroopa standardi EN IEC 60794-1-213:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 14.06.2024.</p> <p>Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.</p> | <p>This Estonian standard EVS-EN IEC 60794-1-213:2024 consists of the English text of the European standard EN IEC 60794-1-213:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 14.06.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p> |
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English Version

Optical fibre cables - Part 1-213: Generic specification - Basic  
optical cable test procedures - Environmental test methods -  
Microduct pressure withstand, method F13  
(IEC 60794-1-213:2024)

Câbles à fibres optiques - Partie 1-213: Spécification  
générique - Procédures fondamentales d'essais des câbles  
optiques - Méthodes d'essais d'environnement - Tenue à la  
pression des microconduits, méthode F13  
(IEC 60794-1-213:2024)

Lichtwellenleiterkabel - Teil 1-213: Fachgrundspezifikation -  
Grundlegende Prüfverfahren für Lichtwellenleiterkabel -  
Umweltprüfverfahren - Druckfestigkeit von Mikrorohren,  
Verfahren F13  
(IEC 60794-1-213:2024)

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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/2331/CDV, future edition 1 of IEC 60794-1-213, 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 60794-1-213:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-03-12 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2027-06-12 document have to be withdrawn

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

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Optical fibre cables –**

**Part 1-213: Generic specification – Basic optical cable test procedures –  
Environmental test methods – Microduct pressure withstand, method F13**

**Câbles à fibres optiques –**

**Partie 1-213: Spécification générique – Procédures fondamentales d'essais  
des câbles optiques – Méthodes d'essais d'environnement – Tenue à la  
pression des microconduits, méthode F13**



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des câbles optiques – Méthodes d'essais d'environnement – Tenue à la  
pression des microconduits, méthode F13**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## OPTICAL FIBRE CABLES –

**Part 1-213: Generic specification –  
Basic optical cable test procedures –  
Environmental test methods –  
Microduct pressure withstand, method F13**

## FOREWORD

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IEC 60794-1-213 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics. It is an International Standard.

This document partially cancels and replaces IEC 60794-1-22:2017. This edition constitutes a technical revision.

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

- a) pressure gauge used to monitor internal pressure of microduct added as part of the test apparatus;

- b) "test temperature" added to the details to be specified;
- c) added a new subclause "4.7 Details to be reported".

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

| Draft        | Report on voting |
|--------------|------------------|
| 86A/2331/CDV | 86A/2432/RVC     |

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 F13 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.

## **OPTICAL FIBRE CABLES –**

### **Part 1-213: Generic specification – Basic optical cable test procedures – Environmental test methods – Microduct pressure withstand, method F13**

#### **1 Scope**

This part of the IEC 60794 series defines test procedures to be used in establishing uniform requirements for the environmental performance of microduct. The test determines the capability of the microduct to withstand internal pressure without leakage and visible damage.

This document applies to microduct used for installation of microduct cable or fibre unit by blowing.

Throughout this document, the wording "microduct" can also include protected microduct(s).

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

#### **2 Normative references**

There are no normative references in this document.

#### **3 Terms and definitions**

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

#### **4 Method F13 – Microduct pressure withstand**

##### **4.1 Object**

The purpose of this test is to verify that the microduct can withstand the maximum internal pressure used for blowing the microduct cable or fibre unit.

This test ensures safe operation over a range of temperatures. The test pressure is chosen to be either the maximum working pressure of the microduct or a multiple of this as stated in the relevant specification. The controlled area is a heating or cooling chamber if the relevant specification requires testing above or below ambient temperatures. Typical ranges are –20 °C to +60 °C. In general, polymer microducts will have a reduced tolerance to pressure as the temperature is increased.