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Standards

Irish Standard  
I.S. EN 60794-1-24:2014

# Optical fibre cables - Part 1-24: Generic specification - Basic optical cable test procedures - Electrical test methods

**I.S. EN 60794-1-24:2014**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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EUROPEAN STANDARD

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(IEC 60794-1-24:2014)**

Câbles à fibres optiques - Partie 1-24: Spécification  
générique - Méthodes fondamentales d'essais applicables  
aux câbles optiques - Procédures - Méthodes d'essais  
électriques  
(CEI 60794-1-24:2014)

Lichtwellenleiterkabel - Teil 1-24: Fachgrundspezifikation -  
Grundlegende Prüfverfahren für Lichtwellenleiterkabel -  
Elektrische Prüfverfahren  
(IEC 60794-1-24:2014)

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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**

## Foreword

The text of document 86A/1591/FDIS, future edition 1 of IEC 60794-1-24, 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 60794-1-24:2014.

The following dates are fixed:

- latest date by which the document has to be (dop) 2015-03-17  
implemented at national level by  
publication of an identical national  
standard or by endorsement
- latest date by which the national (dow) 2017-06-17  
standards conflicting with the  
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This document supersedes EN 60794-1-2:2003 (partially).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

## Endorsement notice

The text of the International Standard IEC 60794-1-24:2014 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 60794-1-2:2003 <sup>1)</sup>	NOTE	Harmonized as EN 60794-1-2:2003 <sup>2)</sup> (not modified).
IEC 60794-1-20	NOTE	Harmonized as EN 60794-1-20.

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<sup>1)</sup> Withdrawn.

<sup>2)</sup> Superseded by EN 60794-1-22:2012, EN 60794-1-23:2012, EN 60794-1-2:2014, EN 60794-1-20:2014, EN 60794-1-24:2014 and the future EN 60794-1-21.



**IEC 60794-1-24**

Edition 1.0 2014-05

# INTERNATIONAL STANDARD



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



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**IEC 60794-1-24**

Edition 1.0 2014-05

# INTERNATIONAL STANDARD



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

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ELECTROTECHNICAL  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## OPTICAL FIBRE CABLES –

**Part 1-24: Generic specification –  
Basic optical cable test procedures –  
Electrical test methods**

## FOREWORD

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International Standard IEC 60794-1-24 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This edition of IEC 60794-1-24 cancels and replaces the electrical tests methods section of the second edition of IEC 60794-1-2, published in 2003 (and subsequently replaced by the third edition). It constitutes a technical revision.

It has been decided to split the second edition of IEC 60794-1-2 into six new documents:

- IEC 60794-1-2 : Cross reference table
- IEC 60794-1-20 : General and definitions
- IEC 60794-1-21 : Mechanical tests
- IEC 60794-1-22 : Environmental tests

- IEC 60794-1-23 : Cable elements
- IEC 60794-1-24 : Electrical tests

The text of this standard is based on the following documents:

FDIS	Report on voting
86A/1591/FDIS	86A/1606/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the 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 publication 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 publication will be

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

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## **OPTICAL FIBRE CABLES –**

### **Part 1-24: Generic specification – Basic optical cable test procedures – Electrical test methods**

#### **1 Scope**

This part of IEC 60794 applies to optical fibre cables for use with telecommunication 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 define test procedures to be used in establishing uniform requirements for electrical requirements.

Throughout the standard the wording “optical cable” may also include optical fibre units, microduct fibre units, etc.

#### **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.

Void.

#### **3 Method H1: Short-circuit test (for OPGW and OPAC)**

##### **3.1 Object**

The short-circuit test is intended to assess the performance of the OPGW (optical ground wire) under typical short-circuit, or the impact on the performance of OPAC (optical attached cable) under short-circuit current on the messenger wire.

##### **3.2 Sample**

###### **3.2.1 OPGW testing**

###### **3.2.1.1 Two samples test method**

A typical arrangement using two test samples is shown in Figure 1.

Two samples, each being at least 10 m long, shall be terminated at each end with suitable fittings. In sample A, one or more thermocouples shall be inserted into holes drilled into the optical unit to monitor the optical unit temperature. In sample B, one or more thermocouples shall be attached to the wires of the OPGW to monitor the OPGW temperature. Fibre optical attenuation shall be measured using a light source and power meter connected to each end of the test fibre of sample B. The test length of the optical fibre shall be a minimum of 100 m (when the sample is shorter than 100 m, concatenation shall be used) .

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