

Optical fibres - Part 1-30: Measurement methods and test procedures - Fibre proof test

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60793-1-30:2011 sisaldab Euroopa standardi EN 60793-1-30:2011 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.03.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 18.02.2011.

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English version

**Optical fibres -
Part 1-30: Measurement methods and test procedures -
Fibre proof test
(IEC 60793-1-30:2010)**

Fibres optiques -
Partie 1-30: Méthodes de mesure et
procédures d'essai -
Essais d'épreuve
(CEI 60793-1-30:2010)

Lichtwellenleiter -
Teil 1-30: Messmethoden und
Prüfverfahren -
Nachweis von Fehlern in Fasern
(IEC 60793-1-30:2010)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 86A/1288/CDV, future edition 2 of IEC 60793-1-30, prepared by SC 86A, Fibres and cables, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60793-1-30 on 2011-01-02.

This European Standard supersedes EN 60793-1-30:2002.

The main technical change with respect to EN 60793-1-30:2002 is an improved description of the procedure.

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

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2011-10-02
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2014-01-02

Endorsement notice

The text of the International Standard IEC 60793-1-30:2010 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 60793-1 series NOTE Partially harmonized in EN 60793-1 series (partially modified).

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INTRODUCTION

Publications in the IEC 60793-1 series concern measurement methods and test procedures as they apply to optical fibres.

Within the same series, several different areas are grouped, but all numbers possibly not used, as follows:

- parts 1-10 to 1-19: General
- parts 1-20 to 1-29: Measurement methods and test procedures for dimensions
- parts 1-30 to 1-39: Measurement methods and test procedures for mechanical characteristics
- parts 1-40 to 1-49: Measurement methods and test procedures for transmission and optical characteristics
- parts 1-50 to 1-59: Measurement methods and test procedures for environmental characteristics

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OPTICAL FIBRES –

Part 1-30: Measurement methods and test procedures – Fibre proof test

1 Scope

This part of IEC 60793 describes procedures for briefly applying a specified tensile load as a proof test to continuous lengths of optical fibre. The tensile load is applied for as short a time as possible, yet sufficiently long to ensure the glass experiences the proof stress, typically much less than one second.

This method is applicable to types A1, A2, A3 and B optical fibres.

The object of this standard is to establish uniform requirements for the mechanical characteristic fibre proof test.

2 Normative references

None.

3 Apparatus

3.1 General

There are several possible machine designs, all of which perform the basic functions required for measuring fibre proof with the indicated general operating requirements. Care should be used in the design so as to prevent coating damage.

Two machine types are used:

- braked capstan type;
- dead weight type.

Either machine may be used during the fibre-drawing process (on-line for coated fibre only), or as a separate process step (off-line).

NOTE There are dynamics with on-line screening, (different from off-line screening), which should be taken into account.

3.2 Fibre pay out

Isolate the tensile load variations from the proof test region so as not to cause variations in the proof load. Do not permit the applied proof stress to fluctuate below the value specified in the detail specification.

3.3 Proof test region

With the exception of additional bend stress of up to 10 % of the proof stress, apply the proof stress uniformly through the cross-sectional area of the test sample. Ensure that the load-bearing members in this region are rigid (e. g. made of steel or aluminium). During testing, the tension-producing mechanism(s) shall not allow the proof stress to fluctuate below the value specified in the detail specification.