

Single mode optical cable (duct/direct buried installation)

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 187105:2003 sisaldab Euroopa standardi EN 187105:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 15.01.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 187105:2003 consists of the English text of the European standard EN 187105:2002. This document is endorsed on 15.01.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This document sets forth telecom operators', other service providers' and manufacturers' view of proposed technical requirements and characteristics of single mode optical fibres and cables for duct and direct buried installation.	Scope: This document sets forth telecom operators', other service providers' and manufacturers' view of proposed technical requirements and characteristics of single mode optical fibres and cables for duct and direct buried installation.
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Võtmesõnad: electronic equ, family s, glass fibre cables, materials specification, monomode fibres, optical communication systems, optical waveguides, product specifications, quality, specification, specification (approval), specifications, testing, underground installations

EUROPEAN STANDARD

EN 187105

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English version

**Single mode optical cable
(duct/direct buried installation)**

Câbles à fibres optiques unimodales
(installations en conduite/ directement
enterrées)

Einmoden-Lichtwellenleiterkabel für
Röhren- und direkte Erdverlegung

This European Standard was approved by CENELEC on 2001-12-04. 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 Central Secretariat or to any CENELEC member.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 86A, Optical fibres and optical fibre cables.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 187105 on 2001-12-04.

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) 2002-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2004-12-01

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1 Scope

This document sets forth telecom operators', other service providers' and manufacturers' view of proposed technical requirements and characteristics of single mode optical fibres and cables for duct and direct buried installation.

This specification includes proposed functional mechanical, environmental and optical requirements, recommended features, and test methods for assessing the product against the stated requirements.

The specified test methods where applicable, are those referenced in EN 60794-1-1 "Optical fibre cables – Part 1-1: Generic specification – General" and described in detail in EN 60794-1-2 "Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures".

The requirements of this specification shall be used in conjunction with EN 60794-3 "Optical fibre cables - Part 3: Duct, buried and aerial cables - Sectional specification" and EN 60794-3-10 "Optical fibre cables – Part 3-10: External cables – Duct and directly buried optical telecommunication cables – Family specification".

Multimode fibre requirements are not addressed in this document.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

EN 50290-2-24	2002	Communication cables - Part 2-24: Common design rules and construction - PE sheathing
EN 50290-2-28	2002	Communication cables - Part 2-28: Common design rules and construction - Filling compounds for filled cables
EN 50290-3	¹⁾	Communication cables – Part 3: Quality assessment
EN 60793-1-30	2002	Optical fibres - Part 1-30: Measurement methods and test procedures – Fibre proof (IEC 60793-1-30)
EN 60793-1-32	²⁾	Optical fibres - Part 1-32: Measurement methods and test procedures – Coating strippability (IEC 60793-1-32)
EN 60793-1-33	2002	Optical fibres - Part 1-33: Measurement methods and test procedures – Stress corrosion susceptibility (IEC 60793-1-33)
EN 60793-1-40	²⁾	Optical fibres - Part 1-40: Measurement methods and test procedures – Attenuation (IEC 60793-1-40)
EN 60793-1-42	2002	Optical fibres - Part 1-42: Measurement methods and test procedures – Chromatic dispersion (IEC 60793-1-42)
EN 60793-1-44	2002	Optical fibres - Part 1-44: Measurement methods and test procedures – Cut-off wavelength (IEC 60793-1-44)
EN 60793-1-45	²⁾	Optical fibres - Part 1-45: Measurement methods and test procedures – Mode field diameter (IEC 60793-1-45)
EN 60793-1-47	2002	Optical fibres - Part 1-47: Measurement methods and test procedures – Macrobending loss attenuation (IEC 60793-1-47)

¹⁾ At draft stage.

²⁾ Awaiting publication pending ratification of prAA.

EN 60794-1-1	2002	Optical fibre cables - Part 1-1: Generic specification – General (IEC 60794-1-1:2001)
EN 60794-1-2	1999	Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures (IEC 60794-1-2:1999)
EN 60794-3	2002	Optical fibre cables – Part 3: Duct, buried and aerial cables – Sectional specification (IEC 60794-3:2001)
EN 60794-3-10	2002	Optical fibre cables – Part 3-10:– External cables – Duct and directly buried optical telecommunication cables - Family specification (IEC 60794-3-10)
EN 60811-1-1	1995	Insulating and sheathing materials of electric cables – Common test methods – Part 1: General application – Section 1: Measurement of thickness and overall dimensions – Tests for determining the mechanical properties (IEC 60811-1-1:1993)
EN 61663-1	1999	Lightning protection – Telecommunication lines – Part 1: Fibre optic installations (IEC 61663-1:1999)
EN 188000	1992	Generic specification: Optical fibres
EN 188100	1995	Sectional specification: Single-mode (SM) optical fibre
EN 188101	1995	Family specification: Single-mode dispersion unshifted (B1.1) optical fibre
EN 188102	1995	Family specification: Single-mode dispersion shifted (B2) optical fibre
HD 402 S2	1984	Standard colours for insulation for low-frequency cables and wires (IEC 60304:1982)
IEC 60708-1	1981	Low-frequency cables with polyolefin insulation and moisture barrier polyolefin sheath – Part 1: General design details and requirements
IEC 60793-1-1	1995	Optical fibres –Part 1-1: Generic specification – General
IEC 60793-1-2	1995	Optical fibres – Part 1-2: Generic specification – Measuring methods for dimensions
IEC 60793-1-4	1995	Optical fibres – Part 1-4: Generic specification - Measuring methods for transmission and optical characteristics
IEC 60793-1-5	1995	Optical fibres – Part 1-5: Generic specification - Measuring methods for environmental characteristics
IEC 60793-2	1998	Optical fibres – Part 2: Product specifications
IEC 61282-3		Guidelines for the calculation of PMD in fiber optic systems
IEC 61931	1998	Fibre optic – Terminology (<i>Technical Report</i>)
IEC 61941	2000	Optical fibres – Polarization mode dispersion measurement techniques for single-mode optical fibres (<i>Technical Specification</i>)

3 Terminology

Unless otherwise specified the definitions are given in IEC 61931.