

Connector sets and interconnect components to be used in optical fibre communication systems - Product specifications - Part 4-4: Type SC-PC simplex terminated on IEC 60793-2-50 category B1.1 and B1.3 singlemode fibre, with full zirconia ferrule category U

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50377-4-4:2011 sisaldab Euroopa standardi EN 50377-4-4:2011 ingliskeelset teksti.

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Product specifications -
Part 4-4: Type SC-PC simplex terminated on IEC 60793-2-50 category B1.1 and B1.3 singlemode fibre, with full zirconia ferrule category U**

Jeux de connecteurs et composants d'interconnexion à utiliser dans les systèmes de communication par fibres optiques -
Spécifications de produits -
Partie 4-4: Type simplex SC-PC câblé sur une fibre unimodale des catégories B1.1 et B1.3 de la CEI 60793-2-50, avec ferrule en zircone, catégorie U

Steckverbindersätze und Verbindungselemente für Lichtwellenleiter-Datenübertragungssysteme -
Produktnormen -
Teil 4-4: Bauart SC-PC-Simplex zum Anschluss an Einmodenfasern der Kategorie B1.1 und B1.3 nach IEC 60793-2-50 mit Zirkonium-Ferrule für die Kategorie U

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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

This European Standard was prepared by the Technical Committee CENELEC TC 86BXA, Fibre optic interconnect, passive and connectorised components.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50377-4-4 on 2011-01-02.

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The following dates were fixed:

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|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2012-01-02 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2014-01-02 |

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Connector sets and interconnect components to be used in optical fibre communication systems – Product specifications

Part 4-4: Type SC-PC simplex terminated on IEC 60793-2-50 category B1.1 and B1.3 singlemode fibre, with full zirconia ferrule category U

Description	Performance
Coupling mechanism: Push-pull	Application: For use in EN category U (Uncontrolled environment)
Configuration: Plug/adaptor/plug	Attenuation grade: B: $\leq 0,12$ dB mean $\leq 0,25$ dB for > 97 % of measurements
Fibre category: EN 60793-2-50, Types B1.1 and B1.3	C: $\leq 0,25$ dB mean $\leq 0,50$ dB for > 97 % of measurements
Cable type: see Table 3	Return loss grades: 2: ≥ 45 dB (random mate)

Related documents:

EN 60794-2, *Optical fibre cables – Part 2: Indoor cables – Sectional specification* (IEC 60794-2)

EN 61300 series, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures* (IEC 61300 series)

EN 61753-1, *Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance standards* (IEC 61753-1)

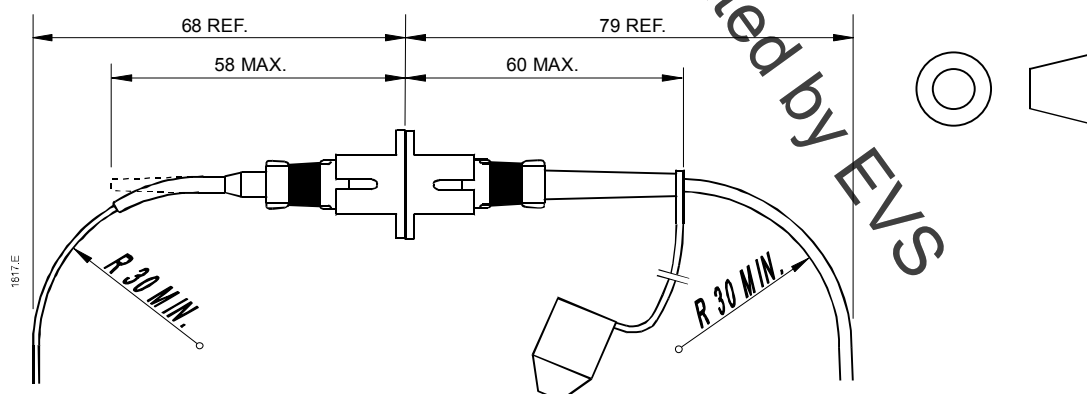
EN 61754-4, *Fibre optic connector interfaces – Part 4: Type SC connector family* (IEC 61754-4)

EN 61755-1, *Fibre optic connector optical interfaces – Part 1: Optical interfaces for single mode non-dispersion shifted fibres – General and guidance* (IEC 61755-1)

EN 61755-3-1, *Fibre optic connector optical interfaces – Part 3-1: Optical interface, 2,5 mm and 1,25 mm diameter cylindrical full zirconia PC ferrule, single mode fibre* (IEC 61755-3-1)

ETSI TS 100 671, *Transmission and Multiplexing (TM); Passive optical components; Optical fibre connectors for single mode optical fibre communication systems; Common requirements and conformance testing*

Outline and maximum dimensions:



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1 Scope

1.1 Product definition

This European Standard contains the initial, start of life dimensional, optical, mechanical and environmental performance requirements which a connector terminated with cylindrical zirconia PC ferrule and assembled singlemode resilient alignment sleeve SC-PC simplex connector set (plug/adaptor/plug), adaptor and patchcord must meet in order for it to be categorised as an EN standard product.

Since different variants and grades of performance are permitted, product marking details are given in 3.6.

1.2 Intermateability

Although all products conforming to the requirements of this European Standard will intermate, the resulting level of random attenuation performance will only be ensured in accordance with Table 1. The intention is that this will be true irrespective of the manufacturing source(s) of the product.

When intermating plug variants having different attenuation grades, the resulting level of attenuation cannot be assured to be any better than the worst attenuation grade.

The intermating of a Grade C plug with a Grade B plug will result in an uncertain level of random attenuation performance.

Table 1 – Ensured level of random attenuation

Plug attenuation grade	C	B
C	C	C
B	C	B

A simplex plug can be connected in a duplex adaptor without degrading its level of performance.

1.3 Operating environment

The tests selected combined with the severities and durations are representative of a category U environment described in EN 61753-1.

1.4 Reliability

Whilst the anticipated service life expectancy of the product in this environment is 20 years, compliance with this specification does not guarantee the reliability of the product. This should be predicted using a recognised reliability assessment programme.

1.5 Quality assurance

Compliance with this specification does not guarantee the manufacturing consistency of the product. This should be maintained using a recognised quality assurance programme.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 60793-2-50	Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres (IEC 60793-2-50)
EN 61300 (series)	Fibre optic interconnecting devices and passive components – Basic test and measurement procedures (IEC 61300 series)
EN 61300-2-1	Part 2-1: Tests – Vibration (sinusoidal) (IEC 61300-2-1)
EN 61300-2-2	Part 2-2: Tests – Mating durability (IEC 61300-2-2)
EN 61300-2-4	Part 2-4: Tests – Fibre/cable retention (IEC 61300-2-4)
EN 61300-2-5	Part 2-5: Tests – Torsion/twist (IEC 61300-2-5)
EN 61300-2-6	Part 2-6: Tests – Tensile strength of coupling mechanism (IEC 61300-2-6)
EN 61300-2-7	Part 2-7: Tests – Bending moment (IEC 61300-2-7)
EN 61300-2-12	Part 2-12: Tests – Impact (IEC 61300-2-12)
EN 61300-2-17	Part 2-17: Tests – Cold (IEC 61300-2-17)
EN 61300-2-18	Part 2-18: Tests – Dry heat – High temperature endurance (IEC 61300-2-18)
EN 61300-2-22	Part 2-22: Tests – Change of temperature (IEC 61300-2-22)
EN 61300-2-26	Part 2-26: Tests – Salt mist (IEC 61300-2-26)
EN 61300-2-27	Part 2-27: Tests – Dust – Laminar flow (IEC 61300-2-27)
EN 61300-2-42	Part 2-42: Tests – Static side load for connectors (IEC 61300-2-42)
EN 61300-2-44	Part 2-44: Tests – Flexing of the strain relief of fibre optic devices (IEC 61300-2-44)
EN 61300-2-46	Part 2-46: Tests – Damp heat cyclic (IEC 61300-2-46)
EN 61300-3-6	Part 3-6: Examinations and measurements – Return loss (IEC 61300-3-6)
EN 61300-3-10	Part 3-10: Examinations and measurements – Gauge retention force (IEC 61300-3-10)
EN 61300-3-15	Part 3-15: Examinations and measurements – Dome eccentricity of a convex polished ferrule endface (IEC 61300-3-15)
EN 61300-3-16	Part 3-16: Examinations and measurements – Endface radius of spherically polished ferrules (IEC 61300-3-16)
EN 61300-3-23	Part 3-23: Examination and measurements – Fibre position relative to ferrule endface (IEC 61300-3-23)
EN 61300-3-28	Part 3-28: Examinations and measurements – Transient loss (IEC 61300-3-28)
EN 61300-3-34	Part 3-34: Examinations and measurements – Attenuation of random mated connectors (IEC 61300-3-34)
EN 61300-3-42	Part 3-42: Examinations and measurements – Attenuation of single mode alignment sleeves and or adaptors with resilient alignment sleeves (IEC 61300-3-42)
EN 61753-1	Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance standards (IEC 61753-1)
EN 61754-4	Fibre optic connector interfaces – Part 4: Type SC connector family (IEC 61754-4)
ISO 8015	Technical drawings – Fundamental tolerancing principle