

**Connector sets and interconnect components
to be used in optical fibre communication
systems - Product specifications Part 5-1: Type
EC terminated on IEC 60793-2 category B1.1
singlemode fibre**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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**Connector sets and interconnect components to be used
in optical fibre communication systems -
Product specifications
Part 5-1: Type EC terminated on IEC 60793-2
category B1.1 singlemode fibre**

Jeux de connecteurs et composants
d'interconnexion à utiliser dans les
systèmes de communication
par fibres optiques –
Spécifications de produit
Partie 5-1: Type EC câblé sur une fibre
unimodale de la catégorie B1.1
de la CEI 60793-2

Steckverbindersätze und
Verbindungselemente für
Lichtwellenleiter-
Datenübertragungssysteme –
Produktnormen
Teil 5-1: Bauart EC zum Anschluss von
Einmodenfasern nach IEC 60793-2,
Kategorie B1.1

This European Standard was approved by CENELEC on 2002-09-01. 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.

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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 86BXA, Fibre optic connectors.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50377-5-1 on 2002-09-01.

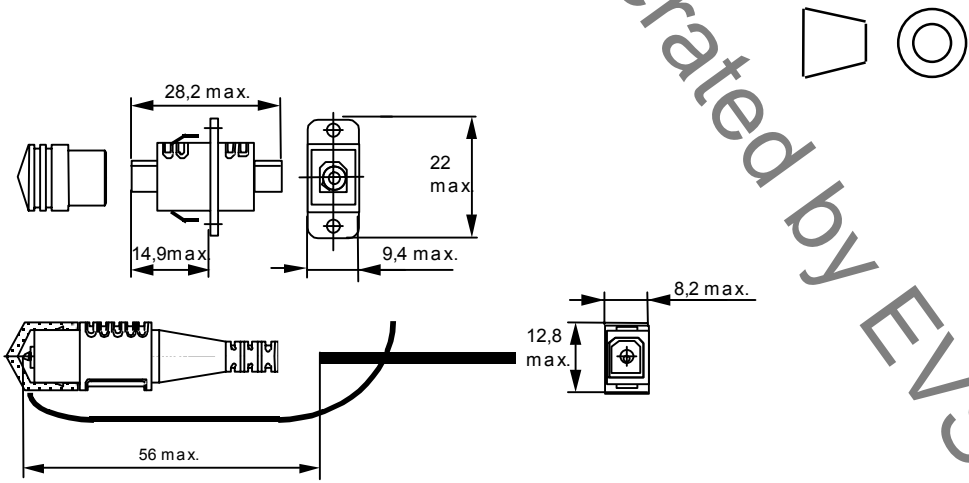
The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2003-10-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-09-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes A and B are normative.

Connector sets and interconnected components to be used in optical fibre communication systems – Product specifications			
Part 5-1: EC terminated on IEC 60793-2 category B1.1 singlemode fibre			
Description		Performance	
Coupling mechanism:	push/pull	Application:	EN 61753-2-1 category U and ETS 300 671 (see 1.3)
Configuration:	plug/adaptor/plug	Attenuation Grades: (Random Mate)	P: ≤ 0,35 dB mean. ≤ 1,0 dB for ≥ 97 % of measurements Q: ≤ 0,30 dB mean. ≤ 0,60 dB for ≥ 99 % of measurements
Fibre Category:	IEC 60793-2 type B1.1		
Cable Type	see Table 3	Return Loss:	≥ 60 dB
Normative references:			
EN 50173	Information technology - Generic cabling systems		
EN 60794-2	Optical fibre cables -- Part 2: Indoor cables – Sectional specification		
EN 61300 series	Fibre optic interconnection devices and passive components - Basic test and measurement procedures		
EN 61753-2-1	Fibre optic connectors interconnecting devices and passive components performance standard -- Part 2-1: Fibre optic connectors terminated on singlemode fibre for category U - Uncontrolled environments		
EN 61754-8	Fibre optic connector interfaces – Part 8: Type CFO8 connector family		
ES 200 671	Transmission and Multiplexing (TM); Passive optical components; Optical fibre connectors for single mode optical fibre communication systems;Common requirements and conformance testing		
ETS 300 019-1-3	Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment – Part 1-3: Classification of environmental conditions; Stationary use at weatherprotected locations		
IEC 60793-2	Optical fibres - Part 2: Product specifications		
Outline and maximum dimensions:			
			

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1 Scope

1.1 Product definition

This standard contains the initial, start of life dimensional, optical, mechanical and environmental performance requirements which a terminated and assembled singlemode EC connector set (plug adapter plug) must meet in order for it to be categorised as an EN product specification.

Since different variants and grades of performance are permitted, product marking details are given in 3.5.

1.2 Intermateability

All products conforming to the requirements of this 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.

In all cases, the intermating of plug variants having different attenuation grades will result in an uncertain level of random attenuation performance.

Similarly, the intermating of plug variants with suffix A, with plug variants with suffix C, will result in an uncertain level of random attenuation performance.

Table 1 – Ensured level of random attenuation

Plug Type/Attenuation Grade	EC Simplex	EC Simplex tuned	EC Duplex	EC Duplex tuned
EC Simplex	P	P	P	P
EC Simplex tuned	P	Q	P	Q
EC Duplex	P	P	P	P
EC Duplex tuned	P	Q	P	Q

1.3 Operating environment

The tests selected combined with the severities and durations are representative of an external weather protected environment defined by

- ES 200 671: external weather protected environment defined by ETS 300 019-1-3 classes 3.3, 3.4 and 3.5
- EN 61753-2-1 category U: uncontrolled environment.

1.4 Reliability

Whilst the anticipated service life expectancy of the product in this environment is 20 years, compliance with this standard 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 standard does not guarantee the manufacturing consistency of the product. This should be maintained using a recognised quality assurance programme.

2 Normative references

EN 50173	Information technology – Generic cabling systems
EN 60794-2 *	Optical fibre cables – Part 2: Indoor cables - Sectional specification
EN 61300 series	Fibre optic interconnection devices and passive components – Basic test and measurement procedures
EN 61300-2-1	Part 2-1: Tests – Vibration (sinusoidal)
EN 61300-2-2	Part 2-2: Tests – Mating durability
EN 61300-2-4	Part 2-4: Tests – Fibre/cable retention
EN 61300-2-5	Part 2-5: Tests – Torsion/twist
EN 61300-2-6	Part 2-6: Tests – Tensile strength of coupling mechanism
EN 61300-2-7	Part 2-7: Tests – Bending moment
EN 61300-2-12	Part 2-12: Tests – Impact
EN 61300-2-17	Part 2-17: Tests – Cold
EN 61300-2-18	Part 2-18: Tests – Dry heat – High temperature endurance
EN 61300-2-19	Part 2-19: Tests – Damp heat (steady state)
EN 61300-2-22	Part 2-22: Tests – Change of temperature
EN 61300-2-26	Part 2-26: Tests – Salt mist
EN 61300-2-27	Part 2-27: Tests – Dust – Laminar flow
EN 61300-2-42	Part 2-42: Tests – Static side load for connectors
EN 61300-3-4	Part 3-4: Examinations and measurements – Attenuation
EN 61300-3-6	Part 3-6: Examinations and measurements – Return loss
EN 61300-3-34	Part 3-34: Examinations and measurements – Attenuation of random mated connectors
EN 61753-2-1	Fibre optic connectors interconnecting devices and passive components performance standard – Part 2-1: Fibre optic connectors terminated on single-mode fibre for category U – Uncontrolled environments
EN 61754-8	Fibre optic connector interfaces – Part 8: Type CFO8 connector family
EN 186000-1	Generic Specification: Connector sets for optical fibres and cables – Part 1: Requirements, test methods and qualification approval procedures
ES 200 671	Fibre optical connectors for single-mode optical fibre communication systems
ETS 300 019-1-3	Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment – Part 1-3: Classification of environmental conditions; Stationary use at weatherprotected locations
IEC 60793-2	Optical fibres -- Part 2: Product specifications
IEC 61300-2-46 *	Fibre optic interconnection devices and passive components - Basic test and measurement procedures -- Part 2-46: Tests – Damp heat (cyclic)

* at draft stage