

Connector sets and interconnect components to be used in optical fibre communication systems - Product specifications - Part 7-3: Type LC-APC duplex terminated on IEC 60793-2 category B1.1singlemode fibre

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50377-7-3:2005 sisaldab Euroopa standardi EN 50377-7-3:2004 ingliskeelset teksti. Käesolev dokument on jõustatud 23.02.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 50377-7-3:2005 consists of the English text of the European standard EN 50377-7-3:2004. This document is endorsed on 23.02.2005 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 European Standard contains the initial, start of life dimensional, optical, mechanical and environmental performance requirements which a terminated and assembled singlemode resilient alignment sleeve LC-PC duplex connector set (plug / adaptor / plug) must meet in order for it to be categorised as an European Standard product. Since different variants and grades of performance are permitted, product marking details are given in 3.5.	Scope: This European Standard contains the initial, start of life dimensional, optical, mechanical and environmental performance requirements which a terminated and assembled singlemode resilient alignment sleeve LC-PC duplex connector set (plug / adaptor / plug) must meet in order for it to be categorised as an European Standard product. Since different variants and grades of performance are permitted, product marking details are given in 3.5.
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ICS 33.180.20

Võtmesõnad:

**Connector sets and interconnect components
to be used in optical fibre communication systems –
Product specifications
Part 7-3: Type LC-APC duplex 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 produits
Partie 7-3: Type duplex LC-APC
câblé sur une fibre unimodale
de catégorie B1.1 selon la CEI 60793-2

Steckverbindersätze
und Verbindungselemente
für Lichtwellenleiter-
Datenübertragungssysteme –
Produktnormen
Teil 7-3: Bauart LC-APC-Duplex
zum Anschluss an Einmodenfasern
der Kategorie B1.1 nach IEC 60793-2

This European Standard was approved by CENELEC on 2003-12-02. 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 86BXA, Fibre optic interconnect, passive and connectorised components.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50377-7-3 on 2003-12-02.

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) 2004-12-01
 - latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2006-12-01
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**Connector sets and interconnect components to be used in optical fibre communication systems –
Product specifications**

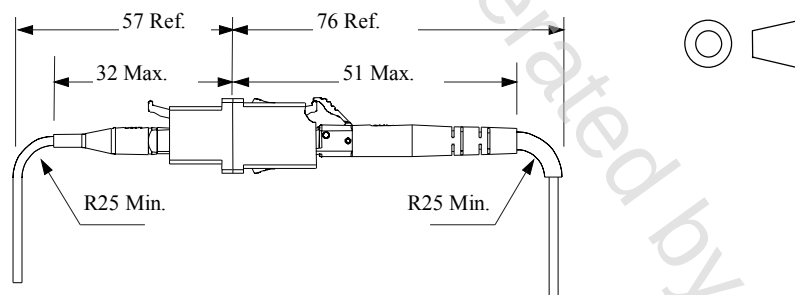
Part 7-3: LC-APC duplex terminated on IEC 60793-2 category B1.1 singlemode fibre

Description		Performance	
Coupling mechanism:	latch push-pull	Application:	IEC 61753-2-1 category U and ES 200-671 environments (see 1.3)
Configuration:	plug/adaptor/plug	Attenuation grade:	P: $\leq 0,35$ dB mean. $\leq 1,0$ dB for > 97 % of measurements
Fibre category:	IEC 60793-2-50 type B1.1	(Random mate)	Q: $\leq 0,30$ dB mean. $\leq 0,60$ dB for > 99 % of measurements
Cable type	see Clause 4	Return loss grade:	1: ≥ 55 dB unmated ≥ 60 dB mated
		(Random mate)	

Normative references

EN 60068-2-30	Environmental testing -- Part 2: Tests - Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)
EN 61300 Series	Fibre optic interconnection devices and passive components - Basic test and measurement procedures
EN 61753-1-1	Fibre optic interconnecting devices and passive components performance standard - - Part 1-1: General and guidance - Interconnecting devices (connectors)
EN 61754-20	Basic standard for interface dimensions - Part 20: Type LC connector family
EN 186000	Generic specification - Connector sets for optical fibres and cables
IEC 60794-2	Optical fibre cables - Part 2: Product specifications (Indoor cable)
ES 200-671	Passive optical components; Optical fibre connectors for single – Mode optical fibre communications system; Common requirements and conformance testing
ES 300 019 Series	Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment.

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 terminated and assembled singlemode resilient alignment sleeve LC-PC duplex connector set (plug / adaptor / plug) must meet in order for it to be categorised as an European Standard product.

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

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.

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

Table 1 - Ensured level of random attenuation

Plug variant/attenuation grade	P	Q
P	P	P
Q	P	Q

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

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 ES 300 019 [8] 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 European 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 European Standard does not guarantee the manufacturing consistency of the product. This should be maintained using a recognised quality assurance programme.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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
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 61300-2-21	Part 2-21: Tests - Damp heat (cycling)
EN 61300-2-22	Part 2-22: Tests - Change of temperature
EN 61300-2-23	Part 2-23: Tests - Undercut
EN 61300-2-26	Part 2-26: Tests - salt mist
EN 61300-2-27	Part 2-27: Tests - Dust
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 61753-1-1	Fibre optic interconnecting devices and passive components performance standard -- Part 1-1: General and guidance - Interconnecting devices (connectors)
IEC 60794-2	Optical fibre cables - Part 2: Product specifications
IEC 61754-20	Basic standard for interface dimensions - Part 20: Type LC connector family
ES 200 671	Passive optical components; optical fibre connectors for singlemode optical fibre communications system; common requirements and conformance testing
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