SVENSK STANDARD SS-EN 61753-121-3

Fastställd	Utgåva	Sida	Ansvarig kommitté
2010-11-22	1	1 (1+24)	SEK TK 86

Fiberoptik -– Funktionsfordringar på anslutningsdon och passiva komponenter – Del 121-3: Anslutningskablar för simplex och duplex med singelmodfiber och anslutningsdon med cylindrisk ferrul för kategori U – Okontrollerad miljö

Fibre optic interconnecting devices and passive components – Performance standard – Part 121-3: Simplex and duplex cords with single-mode fibre and cylindrical ferrule connectors for category U – Uncontrolled environment

Som svensk standard gäller europastandarden EN 61753-121-3:2010. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61753-121-3:2010.

Nationellt förord

Europastandarden EN 61753-121-3:2010

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61753-121-3, First edition, 2010 - Fibre optic interconnecting devices and passive components - Performance standard - Part 121-3: Simplex and duplex cords with single-mode fibre and cylindrical ferrule connectors for category U - Uncontrolled environment**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 33.180.20

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61753-121-3

July 2010

ICS 33.180.20

English version

Fibre optic interconnecting devices and passive components - Performance standard - Part 121-3: Simplex and duplex cords with single-mode fibre and cylindrical ferrule connectors for category U - Uncontrolled environment

(IEC 61753-121-3:2010)

Dispositifs d'interconnexion et composants passifs à fibres optiques - Norme de qualité de fonctionnement - Partie 121-3: Cordons simplex et duplex avec fibres unimodales, munis de connecteurs à férule cylindrique pour catégorie U - Environnement non contrôlé (CEI 61753-121-3:2010)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Betriebsverhalten - Teil 121-3: Simplex- und Duplexkabel mit Einmoden-Lichtwellenleiter-Steckverbindern mit zylindrischen Ferrulen für die Kategorie U - Unkontrollierte Umgebung (IEC 61753-121-3:2010)

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61753-121-3:2010 E

SEK Svensk Elstandard

Foreword

The text of document 86B/2989/FDIS, future edition 1 of IEC 61753-121-3, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61753-121-3 on 2010-07-01.

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)	2011-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-07-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61753-121-3:2010 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60794-2	NOTE	Harmonized as EN 60794-2.
IEC 61300-3-28	NOTE	Harmonized as EN 61300-3-28.
IEC 61756-1	NOTE	Harmonized as EN 61756-1.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60793-2-50	-	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN 60793-2-50	-
IEC 60794-1-2	-	Optical fibre cables - Part 1-2: Generic specification - Basic optical cable test procedures	EN 60794-1-2	-
IEC 60794-2-50	-	Optical fibre cables - Part 2-50: Indoor cables - Family specification for simplex and duplex cables for use in terminated cable assemblies	EN 60794-2-50	-
IEC 61300	Series	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures	EN 61300	Series
IEC 61300-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 1: General and guidance	EN 61300-1	-
IEC 61300-2-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre/cable retention	EN 61300-2-4	-
IEC 61300-2-5	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-5: Tests - Torsion	EN 61300-2-5	-
IEC 61300-2-22	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-22: Tests - Change of temperature	EN 61300-2-22	-
IEC 61300-2-42	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-42: Tests - Static side load for connectors	EN 61300-2-42	-

Publication	Year	Title	EN/HD	Year
IEC 61300-2-44	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-44: Tests - Flexing of the strain relief of fibre optic devices	EN 61300-2-44	-
IEC 61300-3-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	-
IEC 61300-3-3	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-3: Examinations and measurements - Active monitoring of changes in attenuation and return loss	EN 61300-3-3	-
IEC 61300-3-6	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss	EN 61300-3-6	-
IEC 61300-3-15	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-15: Examinations and measurements - Dome eccentricity of a convex polished ferrule endface	EN 61300-3-15	-
IEC 61300-3-16	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-16: Examinations and measurements - Endface radius of spherically polished ferrules	EN 61300-3-16	-
IEC 61300-3-17	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-17: Examinations and measurements - Endface angle of angle-polished ferrules	EN 61300-3-17	-
IEC 61300-3-22	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-22: Examinations and measurements - Ferrule compression force	EN 61300-3-22	-
IEC 61300-3-23	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-23: Examination and measurements - Fibre position relative to ferrule endface	EN 61300-3-23	-
IEC 61300-3-34	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-34: Examinations and measurements - Attenuation of random mated connectors	EN 61300-3-34	-

Publication	Year	Title	EN/HD	Year
IEC 61300-3-35	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-35: Examinations and measurements - Fibre optic cylindrical connector endface visual and automated inspection	EN 61300-3-35	-
IEC 61753	Series	Fibre optic interconnecting devices and passive components performance standard	EN 61753	Series
IEC 61753-1	-	Fibre optic interconnecting devices and passive components performance standard - Part 1: General and guidance for performance standards	EN 61753-1	-
IEC 61754	Series	Fibre optic connector interfaces	EN 61754	Series
IEC 61755	Series	Fibre optic connector optical interfaces	EN 61755	Series
IEC 61755-2-1	-	Fibre optic connector optical interfaces - Part 2-1: Optical interface standard single mode non-angled physically contacting fibres	EN 61755-2-1	-
IEC 61755-2-2	-	Fibre optic connector optical interfaces - Part 2-2: Optical interface standard single mode 8 degrees angled physically contacting fibres	EN 61755-2-2	-
IEC/TR 61931	-	Fibre optic - Terminology	-	-

CONTENTS

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 121-3: Simplex and duplex cords with single-mode fibre and cylindrical ferrule connectors for category U – Uncontrolled environment

1 Scope

This part of IEC 61753 specifies the test requirements for finished cable assemblies for use as patchcords, work area cords and equipment cords for applications in a uncontrolled (U) environment according to IEC 61753-1, where the connectors already comply with the Category U requirements of IEC 61753-1. The assemblies consist of simplex or duplex fibre optic cable terminated at each end of the cable with non-angled (PC) or angled (APC) polished single-mode fibre optic connectors with cylindrical ferrules. The wavelength of operation is between 1 260 nm [1] and 1 625 nm.

The relevant requirements for mechanical and optical connectivity systems are covered by mechanical and optical interface standards IEC 61754 series and IEC 61755 series respectively. The relevant requirements for connector sets are covered by IEC 61753 series. The relevant requirements for cable are covered by IEC 60794-2-50.

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.

IEC 60793-2-50, *Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres*

IEC 60794-1-2, *Optical fibre cables – Part 1-2: Generic specification – Basic optical cable test procedures*

IEC 60794-2-50, *Optical fibre cables – Part 2-50: Indoor optical fibre cables – Family specification for simplex and duplex cables for use in patchcords*

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

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance*

IEC 61300-2-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-4: Tests – Fibre/cable retention*

IEC 61300-2-5, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-5: Tests – Torsion*

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[1] Low wavelength limit depends on maximum cabled fibre cut-off wavelength specification.

IEC 61300-2-22, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-22: Tests – Change of temperature*

IEC 61300-2-42, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-42: Tests – Static side load for connectors*

IEC 61300-2-44, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-44: Tests – Flexing of the strain relief of fibre optic devices*

IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61300-3-3, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-3: Examinations and measurements – Active monitoring of changes in attenuation and return loss*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss*

IEC 61300-3-15, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-15: Examinations and measurements – Dome eccentricity of a convex polished ferrule endface*

IEC 61300-3-16, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-16: Examinations and measurements – Endface radius of spherically polished ferrules*

IEC 61300-3-17, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-17: Examinations and measurements – Endface angle of angle-polished ferrules*

IEC 61300-3-22, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-22: Examinations and measurements – Ferrule compression force*

IEC 61300-3-23, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-23: Examination and measurements – Fibre position relative to ferrule endface*

IEC 61300-3-34, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-34: Examinations and measurements – Attenuation of random mated connectors*

IEC 61300-3-35, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedure – Part 3-35: Examinations and measurements – Fibre optic connector endface visual and automated inspection*

IEC 61753 series, *Fibre optic interconnecting devices and passive components – Performance standard*

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

IEC 61754 series, *Fibre optic connector interfaces*

IEC 61755 series, *Fibre optic connector optical interfaces*

IEC 61755-2-1*, Fibre optic connector optical interfaces – Part 2-1: Optical interface standard single mode non-angled physically contacting fibres*

IEC 61755-2-2, *Fibre optic connector optical interfaces – Part 2-2: Optical interface standard single mode angled physically contacting fibres*

IEC/TR 61931, *Fibre optic – Terminology*