SVENSK STANDARD SS-EN 60794-3-10

Fastställd	Utgåva	Sida	Ansvarig kommitté
2009-09-28	2	1 (1+27)	SEK TK 86

Optokablar –
Del 3-10: Familjespecifikation –
Utomhuskablar –
Kablar för förläggning i rör och mark

Optical fibre cables –
Part 3-10: Outdoor cables –
Family specification for duct, directly buried and lashed aerial optical telecommunication cables

Som svensk standard gäller europastandarden EN 60794-3-10:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60794-3-10:2009[*)].

Nationellt förord

Europastandarden EN 60794-3-10:2009

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60794-3-10, Second edition, 2009 - Optical fibre cables - Part 3-10: Outdoor cables - Family specification for duct, directly buried and lashed aerial optical telecommunication cables**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 60794-3-10, utgåva 1, 2004, gäller ej fr o m 2012-04-01.

[*)] Corrigendum, May 2009, till EN 60794-3-10:2009, är inarbetat i texten.

ICS 33.180.10

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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SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

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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 60794-3-10

April 2009

ICS 33.180.10

Supersedes EN 60794-3-10:2002
Incorporates corrigendum May 2009

English version

Optical fibre cables - Part 3-10: Outdoor cables - Family specification for duct, directly buried and lashed aerial optical telecommunication cables
(IEC 60794-3-10:2009)

Câbles à fibres optiques -
Partie 3-10: Câbles extérieurs -
Spécification de famille pour
les câbles optiques
de télécommunication
destinés à être installés
dans des conduites,
directement enterrés
ou attachés en aérien
(CEI 60794-3-10:2009)

Lichtwellenleiterkabel -
Teil 3-10: Außenkabel -
Familienspezifikation für
LWL-Fernmeldekabel für Röhren- und
direkte Erdverlegung sowie Befestigung
an Freileitungen oder Seilen
(IEC 60794-3-10:2009)

CENELEC

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

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60794-3-10:2009 E

SEK Svensk Elstandard

Foreword

The text of document 86A/1245/FDIS, future edition 2 of IEC 60794-3-10, prepared by SC 86A, Fibres and cables, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60794-3-10 on 2009-04-01.

This European Standard supersedes EN 60794-3-10:2002.

The main changes are listed below:

– the title of the specification has been updated to include lashed applications;

– the fibres specification clause (Clause 4) has been enlarged to include fibre Types B5 and B6.a;

– an annex has been added for additional requirements according to the MICE table.

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)	2010-01-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-04-01

Annex ZA has been added by CENELEC.

The contents of the corrigendum of May 2009 have been included in this copy.

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Endorsement notice

The text of the International Standard IEC 60794-3-10:2009 was approved by CENELEC as a European Standard without any modification.

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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 60304	-[1)]	Standard colours for insulation for low-frequency cables and wires	HD 402 S2	1984[2)]
IEC 60654-4	-[1)]	Operating conditions for industrial-process measurement and control equipment - Part 4: Corrosive and erosive influences	EN 60654-4	1997[2)]
IEC 60721-1	-[1)]	Classification of environmental conditions - Part 1: Environmental parameters and their severities	EN 60721-1	1995[2)]
IEC 60721-3-3	-[1)]	Classification of environmental conditions - Part 3-3: Classification of groups of environmental parameters and their severities - Stationary use at weatherprotected locations	EN 60721-3-3	1995[2)]
IEC 60793-1-20	-[1)]	Optical fibres - Part 1-20: Measurement methods and test procedures - Fibre geometry	EN 60793-1-20	2002[2)]
IEC 60793-1-40 (mod)	-[1)]	Optical fibres - Part 1-40: Measurement methods and test procedures - Attenuation	EN 60793-1-40	2003[2)]
IEC 60793-1-44	-[1)]	Optical fibres - Part 1-44: Measurement methods and test procedures - Cut-off wavelength	EN 60793-1-44	2002[2)]
IEC 60793-1-48	-[1)]	Optical fibres - Part 1-48: Measurement methods and test procedures - Polarization mode dispersion	EN 60793-1-48	2007[2)]
IEC 60793-2-50	-[1)]	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN 60793-2-50	2008[2)]
IEC 60794-1-1	-[1)]	Optical fibre cables - Part 1-1: Generic specification - General	EN 60794-1-1	2002[2)]
IEC 60794-1-2	-[1)]	Optical fibre cables - Part 1-2: Generic specification - Basic optical cable test procedures	EN 60794-1-2	2003[2)]
IEC 60794-3	-[1)]	Optical fibre cables - Part 3: Sectional specification - Outdoor cables	EN 60794-3	2002[2)]

[1)] Undated reference.

[2)] Valid edition at date of issue.

Publication	Year	Title	EN/HD	Year
IEC 60811-1-1	-[1)]	Insulating and sheathing materials of electric and optical cables - Common test methods - Part 1-1: General application - Measurement of thickness and overall dimensions - Tests for determining the mechanical properties	EN 60811-1-1	1995[2)]
IEC 60811-5-1 (mod)	-[1)]	Insulating and sheathing materials of electric and optical cables - Common test methods - Part 5-1: Methods specific to filling compounds - Drop point - Separation of oil - Lower temperature brittleness - Total acid number - Absence of corrosive components - Permittivity at 23 °C - D.C. resistivity at 23 °C and 100 °C	EN 60811-5-1	1999[2)]
IEC/TS 61000-2-5	-[1)]	Electromagnetic compatibility (EMC) - Part 2: Environment - Section 5: Classification of electromagnetic environments - Basic EMC publication	-	-
IEC 61000-6-2	-[1)]	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments	EN 61000-6-2 + corr. September	2005[2)] 2005
IEC 61326-1	-[1)]	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements	EN 61326-1	2006[2)]
IEC 62363	-[1)]	Radiation protection instrumentation - Portable photon contamination meters and monitors	-	-
ISO/IEC 24702	-[1)]	Information technology - Generic cabling - Industrial premises	-	-

CONTENTS

OPTICAL FIBRE CABLES –

Part 3-10: Outdoor cables – Family specification for duct, directly buried and lashed aerial optical telecommunication cables

1 Scope

This part of IEC 60794 which is a family specification covers optical telecommunication cables to be used in ducts or direct buried applications. The cable may also be used for lashed aerial applications. Requirements of the sectional specification IEC 60794-3 for duct, buried and aerial cables are applicable to cables covered by this standard.

Clause A.2 contains requirements that supersede the normal requirements in case the cables are intended to be used in installation governed by the MICE table of ISO/IEC 24702.

Annex B gives information on the lashed aerial application.

The parameters specified in this standard may be affected by measurement uncertainty arising either from measurement errors or calibration errors due to lack of suitable standards. Acceptance criteria shall be interpreted with respect to this consideration (see IEC 60794-3 Clause 8).

The number of fibres tested shall be representative of the cable design and shall be agreed between the customer and the supplier.

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 60304, *Standard colours for insulation for low-frequency cables and wires*

IEC 60654-4, *Operating conditions for industrial-process measurement and control equipment – Part 4: Corrosive and erosive influences*

IEC 60721-1, *Classification of environmental conditions – Part 1: Environmental parameters and their severities*

IEC 60721-3-3, *Classification of environmental conditions – Part 3-3: Classification of groups of environmental parameters and their severities – Stationary use at weatherprotected locations*

IEC 60793-1-20, *Optical fibres – Part 1-20: Measurement methods and test procedures – Fibre geometry*

IEC 60793-1-40, *Optical fibres – Part 1-40: Measurement methods and test procedures – Attenuation*

IEC 60793-1-44, *Optical fibres – Part 1-44: Measurement methods and test procedures – Cut-off wavelength*