SVENSK STANDARD SS-EN 50173-1

Fastställd	Utgåva	Sida	Ansvarig kommitté
2011-07-06	3	1 (1+169)	SEK TK 215

Fastighetsnät för informationsöverföring – Generella kabelnät – Del 1: Allmänna fordringar

Information technology – Generic cabling systems – Part 1: General requirements

Som svensk standard gäller europastandarden EN 50173-1:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50173-1:2011.

Nationellt förord

Tidigare fastställd svensk standard SS-EN 50173-1, utgåva 2, 2007 och SS-EN 50173-1/A1, utgåva 1, 2010, gäller ej fr o m 2014-04-01.

ICS 33.040.50

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som också kan lämna upplysningar om **sakinnehållet** i standarden.
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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50173-1

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English version

Information technology - Generic cabling systems - Part 1: General requirements

Technologies de l'information - Systèmes de câblage générique - Partie 1: Exigences générales

Informationstechnik - Anwendungsneutrale Kommunikationskabelanlagen - Teil 1: Allgemeine Anforderungen

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 50173-1:2011 E

SEK Svensk Elstandard

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 215, *Electrotechnical aspects of telecommunication equipment*. This 3rd edition of EN 50173-1 replaces the text of EN 50173-1:2007, EN 50173-1:2007/A1:2009 and consolidates these two standards with the text of EN 50173-1:2007/FprAB:2010 for the convenience of the user of the standard.

The text of draft amendment EN 50173-1:2007/FprAB was submitted to the Formal Vote and was approved by CENELEC to amend EN 50173-1:2007 on 2011-04-01.

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)	2012-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-04-01

The previous editions of European Standards EN 50173:1995 and EN 50173-1:2002 have been developed to enable the application-independent cabling to support ICT applications in office premises. Their basic principles, however, are applicable to other types of applications and in other types of premises.

TC 215 has decided to establish relevant European Standards which address the specific requirements of these premises. In order to point out the commonalities of these cabling design standards, these ENs are published as individual parts of the series EN 50173, thus also acknowledging that standards users recognize the designation “EN 50173” as a synonym for generic cabling design.

At the time of publication of this European Standard, series EN 50173 comprises the following standards:

- EN 50173-1 Information technology – Generic cabling systems – Part 1: General requirements
- EN 50173-2 Information technology – Generic cabling systems – Part 2: Office premises
- EN 50173-3 Information technology – Generic cabling systems – Part 3: Industrial premises
- EN 50173-4 Information technology – Generic cabling systems – Part 4: Homes
- EN 50173-5 Information technology – Generic cabling systems – Part 5: Data centres

This edition of EN 50173-1:

a) contains a change of electromagnetic parameters in the MICE classification (Table 3);
b) introduces new component Categories 6_A and 7_A in accordance with the channel Classes E_A and F_A defined in EN 50173-1:2007/A1:2009;
c) modifies insertion loss requirements for coaxial channels;
d) modifies optical fibre Class OF-100 media and defines a new cabled optical fibre Category OM4;
e) amends and modifies connecting hardware requirements, defines both a new interface for 2 optical fibres and for 12 and 24 fibres;
f) introduces limits for additional parameters in Annexes A, B and D.2;
g) revises D.3 regarding test requirements for mechanical and environmental performance of connecting hardware;
h) updates Annex F “Supported applications”;

i) introduces a new normative Annex I “Test procedures to assess conformance with EN 50173 standards”;

j) amends various other subclauses, tables and figures.

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Introduction

This European Standard contains general requirements in support of the other standards in the EN 50173 series.

It should be noted that generic cabling is a passive system and cannot be tested for EMC compliance individually. Application-specific equipment, designed for one or more cabling media, is required to meet relevant EMC standards on those media. Care should be taken that the installation of any of those media in a cabling system does not degrade the characteristics of the system. The installation methods of EN 50174 series should be used to minimise the effect of electromagnetic disturbances. For EMC requirements of BCT cabling see EN 50083-8.

Series EN 50174 and EN 50310 specify requirements for earthing and equipotential bonding.

Figure 1 and Table 1 show the schematic and contextual relationships between the standards produced by TC 215 for information technology cabling, namely:

1) this and other parts of the EN 50173 series;
2) application dependent cabling design (e.g. EN 50098 series);
3) installation (EN 50174 series);
4) testing of installed cabling (EN 50346);
5) equipotential bonding requirements (EN 50310).

In addition, a number of Technical Reports have been developed to support or extend the application of these standards, including:

– CLC/TR 50173-99-1, *Cabling guidelines in support of 10 GBASE-T*;
– CLC/TR 50173-99-2, *Information technology – Implementation of BCT applications using cabling in accordance with EN 50173-4*.

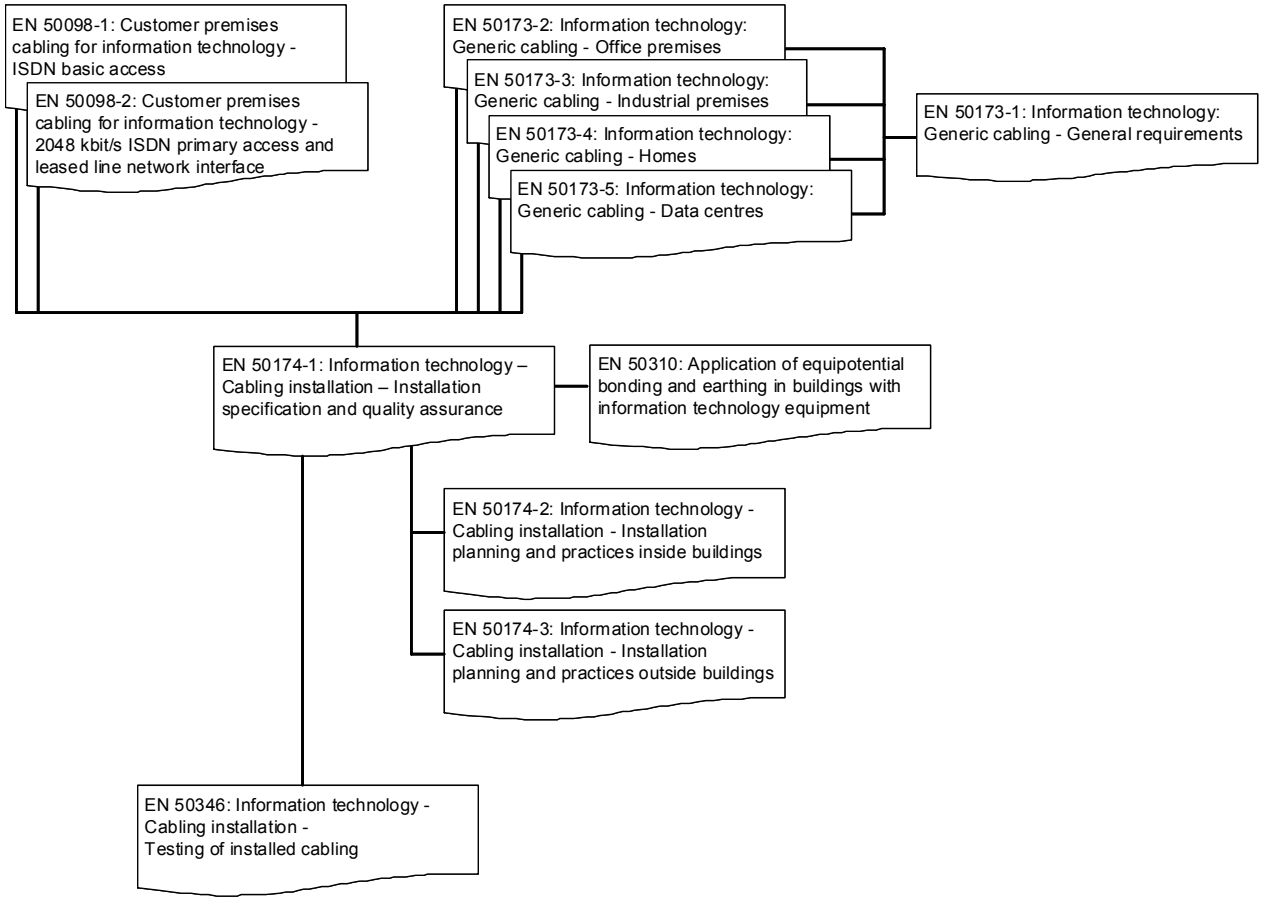

Figure 1 – Schematic relationship between the EN 50173 series and other relevant standards

Table 1 – Contextual relationship between EN 50173 series and other standards relevant for information technology cabling systems

Building design phase	Generic cabling design phase	Specification phase	Installation phase	Operation phase
EN 50310 6. Bonding networks	**EN 50173 series except EN 50173-4** 4: Structure 5: Channel performance 7: Cable requirements 8: Connecting hardware requirements 9: Requirements for cords and jumpers A: Link performance limits	**EN 50174-1** 4 Requirements for specifying installations of information technology cabling 5: Requirements for installers of information technology cabling		**EN 50174-1** 4: Requirements for specifying installations of information technology cabling
		Planning phase		
	and EN 50173-4 4 and 5: Structure 6: Channel performance 8: Cable requirements 9: Connecting hardware requirements 10: Requirements for cords and jumpers A: Link performance limits	**EN 50174-2** 4: Requirements for planning installations of information technology cabling 6: Segregation of metallic information technology cabling and power supply cabling 7: Electricity distribution systems and lightning protection **and EN 50174-3** **and (for equipotential bonding) EN 50310**	**EN 50174-2** 5: Requirements for the installation of information technology cabling 6: Segregation of metallic information technology cabling and power supply cabling 8: Office (commercial) premises 9: Industrial premises 10: Homes 11: Data centres **and EN 50174-3** **and (for equipotential bonding) EN 50310** **and EN 50346** 4: General requirements 5: Test parameters for balanced cabling 6: Test parameters for optical fibre cabling	

1 Scope and conformance

1.1 Scope

This European Standard specifies:

a) the structure and configuration of the backbone cabling subsystems of generic cabling systems within the types of premises defined by the other standards in the EN 50173 series;

b) channel performance requirements in support of the standards in the EN 50173 series;

c) link performance requirements in support of the standards in the EN 50173 series;

d) backbone cabling reference implementations in support of the standards in the EN 50173 series;

e) component performance requirements in support of the standards in the EN 50173 series.

Safety (electrical safety and protection, optical power, fire, etc.) and electromagnetic compatibility (EMC) requirements are outside the scope of this European Standard and are covered by other standards and regulations. However, information given in this European Standard may be of assistance in meeting these standards and regulations.

1.2 Conformance

This European Standard does not contain specific conformance requirements. The other standards in the EN 50173 series incorporate the requirements of this standard as part of their individual conformance requirements.

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 50083 (series), *Cable networks for television signals, sound signals and interactive services*

NOTE EN 50083 series is gradually replaced by EN 60728 series.

EN 50117-1, *Coaxial cables – Part 1: Generic specification*

EN 50117-4-1, *Coaxial cables – Part 4-1: Sectional specification for cables for BCT cabling in accordance with EN 50173 – Indoor drop cables for systems operating at 5 MHz – 3 000 MHz*

EN 50174-1:2009, *Information technology – Cabling installation – Part 1: Installation specification and quality assurance*

EN 50174-2*, Information technology – Cabling installation – Part 2: Installation planning and practices inside buildings*

EN 50174-3, *Information technology – Cabling installation – Part 3: Installation planning and practices outside buildings*

EN 50288-1, *Multi-element metallic cables used in analogue and digital communication and control – Part 1: Generic specification*

EN 50288-2-1, *Multi-element metallic cables used in analogue and digital communication and control – Part 2-1: Sectional specification for screened cables characterized up to 100 MHz – Horizontal and building backbone cables*

EN 50288-2-2, *Multi-element metallic cables used in analogue and digital communication and control – Part 2-2: Sectional specification for screened cables characterized up to 100 MHz – Work area and patch cord cables*

EN 50288-3-1, *Multi-element metallic cables used in analogue and digital communication and control – Part 3-1: Sectional specification for unscreened cables characterized up to 100 MHz – Horizontal and building backbone cables*

EN 50288-3-2, *Multi-element metallic cables used in analogue and digital communication and control – Part 3-2: Sectional specification for unscreened cables characterized up to 100 MHz – Work area and patch cord cables*

EN 50288-4-1, *Multi-element metallic cables used in analogue and digital communication and control – Part 4-1: Sectional specification for screened cables characterised up to 600 MHz – Horizontal and building backbone cables*

EN 50288-4-2, *Multi-element metallic cables used in analogue and digital communication and control – Part 4-2: Sectional specification for screened cables characterised up to 600 MHz – Work area and patch cord cables*

EN 50288-5-1, *Multi-element metallic cables used in analogue and digital communication and control – Part 5-1: Sectional specification for screened cables characterized up to 250 MHz – Horizontal and building backbone cables*

EN 50288-5-2, *Multi-element metallic cables used in analogue and digital communication and control – Part 5-2: Sectional specification for screened cables characterized up to 250 MHz – Work area and patch cord cables*

EN 50288-6-1, *Multi-element metallic cables used in analogue and digital communication and control – Part 6-1: Sectional specification for unscreened cables characterized up to 250 MHz – Horizontal and building backbone cables*

EN 50288-6-2, *Multi-element metallic cables used in analogue and digital communication and control – Part 6-2: Sectional specification for unscreened cables characterized up to 250 MHz – Work area and patch cord cables*

EN 50288-9-1 [1)], *Multi-element metallic cables used in analogue and digital communications and control – Part 9-1: Sectional specification for screened cables characterised up to 1 000 MHz, to be used in horizontal floor and building backbone wiring for information technology generic cabling systems*

EN 50288-9-2 [1)], *Multi-element metallic cables used in analogue and digital communications and control – Part 9-2: Sectional specification for screened cables characterised up to 1 000 MHz – Work area and patch cord cables*

EN 50288-10-1 [1)], *Multi-element metallic cables used in analogue and digital communication and control – Part 10-1: Sectional specification for screened cables characterised up to 500 MHz – Horizontal floor and building backbone cables*

EN 50288-10-2 [1)], *Multi-element metallic cables used in analogue and digital communication and control – Part 10-2: Sectional specification for screened cables characterized up to 500 MHz – Work area and patch cord cables*

EN 50288-11-1 [1)], *Multi-element metallic cables used in analogue and digital communication and control – Part 11: Sectional specification for unscreened cables characterised up to 500 MHz – Horizontal floor and building backbone cables*

[1)] At draft stage.

EN 50288-11-2 [2)], *Multi-element metallic cables used in analogue and digital communication and control – Part 13-2: Sectional specification for unscreened cables characterized up to 500 MHz – Work area and patch cord cables*

EN 50289-1-2, *Communication cables – Specifications for test methods – Part 1-2: Electrical test methods – D.C. resistance*

EN 50289-1-5:2001, *Communication cables – Specifications for test methods – Part 1-5: Electrical test methods – Capacitance*

EN 50289-1-6, *Communication cables – Specifications for test methods – Part 1-6: Electrical test methods – Electromagnetic performance*

EN 50289-1-8, *Communication cables – Specifications for test methods – Part 1-8: Electrical test methods – Attenuation*

EN 50289-1-9, *Communication cables – Specifications for test methods – Part 1-9: Electrical test methods – Attenuation unbalance (Longitudinal conversion loss, longitudinal conversion transfer loss)*

EN 50289-1-11, *Communication cables – Specifications for test methods – Part 1-11: Electrical test methods – Characteristic impedance, input impedance, return loss*

EN 50289-1-14, *Communication cables – Specifications for test methods – Part 1-14: Electrical test methods – Coupling attenuation or screening attenuation of connecting hardware*

EN 50289-3-9:2001*, Communication cables – Specifications for test methods – Part 3-9: Mechanical test methods – Bending tests*

EN 50346, *Information technology – Cabling installation – Testing of installed cabling*

EN 60068-2-14, *Environmental testing – Part 2: Tests – Test N: Change of temperature (IEC 60068-2-14)*

EN 60068-2-38, *Environmental testing – Part 2: Tests – Test Z/AD: Composite temperature/humidity cyclic test (IEC 60068-2-38)*

EN 60352-2, *Solderless connections – Part 2: Crimped connections – General requirements, test methods and practical guidance (IEC 60352-2)*

EN 60352-3, *Solderless connections – Part 3: Solderless accessible insulation displacement connections – General requirements, test methods and practical guidance (IEC 60352-3)*

EN 60352-4, *Solderless connections – Part 4: Solderless non-accessible insulation displacement connections – General requirements, test methods and practical guidance (IEC 60352-4)*

EN 60352-5, *Solderless connections – Part 5: Press-in connections – General requirements, test methods and practical guidance (IEC 60352-5)*

EN 60352-6, *Solderless connections – Part 6: Solderless insulation piercing connections – General requirements, test methods and practical guidance (IEC 60352-6:1997)*

EN 60352-7, *Solderless connections – Part 7: Spring clamp connections – General requirements, test methods and practical guidance (IEC 60352-7)*

[2)] At draft stage.

EN 60352-8, *Solderless connections – Part 8: Compression mount connections – General requirements, test methods and practical guidance (IEC 60352-8)*

EN 60512-2-1:2002, *Connectors for electronic equipment – Tests and measurements – Part 2-1: Electrical continuity and contact resistance tests – Test 2a: Contact resistance – Millivolt level method (IEC 60512-2-1:2002)*

EN 60512-3-1:2002, *Connectors for electronic equipment – Tests and measurements – Part 3-1: Insulation tests – Test 3a: Insulation resistance (IEC 60512-3-1:2002)*

EN 60512-4-1:2003, *Connectors for electronic equipment – Tests and measurements – Part 4-1: Voltage stress tests – Test 4a: Voltage proof (IEC 60512-4-1:2003)*

EN 60512-4-2, *Connectors for electronic equipment – Tests and measurements – Part 4-2: Voltage stress tests – Test 4b: Partial discharge (IEC 60512-4-2)*

EN 60512-5-2:2002, *Connectors for electronic equipment – Tests and measurements – Part 5-2: Current-carrying capacity tests – Test 5b: Current-temperature derating (IEC 60512-5-2:2002)*

EN 60512-6-2, *Connectors for electronic equipment – Tests and measurements – Part 6-2: Dynamic stress tests – Test 6b: Bump (IEC 60512-6-2)*

EN 60512-6-3, *Connectors for electronic equipment – Tests and measurements – Part 6-3: Dynamic stress tests - Test 6c: Shock (IEC 60512-6-3)*

EN 60512-6-4, *Connectors for electronic equipment – Tests and measurements – Part 6-4: Dynamic stress tests – Test 6d: Vibration (sinusoidal) (IEC 60512-6-4)*

EN 60512-11-4, *Connectors for electronic equipment – Tests and measurements – Part 11-4: Climatic tests – Test 11d: Rapid change of temperature (IEC 60512-11-4)*

EN 60512-11-7, *Connectors for electronic equipment – Tests and measurements – Part 11-7: Climatic tests – Test 11g: Flowing mixed gas corrosion test (IEC 60512-11-7)*

EN 60512-11-9, *Connectors for electronic equipment – Tests and measurements – Part 11-9: Climatic tests – Test 11i: Dry heat (IEC 60512-11-9)*

EN 60512-11-10, *Connectors for electronic equipment – Tests and measurements – Part 11-10: Climatic tests – Test 11j: Cold (IEC 60512-11-10)*

EN 60512-11-12, *Connectors for electronic equipment – Tests and measurements – Part 11-12: Climatic tests – Test 11m: Damp heat, cyclic (IEC 60512-11-12)*

EN 60512-16-4, *Connectors for electronic equipment – Tests and measurements – Part 16-4: Mechanical tests on contacts and terminations - Test 16d: Tensile strength (crimped connections) (IEC 60512-16-4:2008)*

EN 60512-17-2, *Connectors for electronic equipment – Tests and measurements – Part 17-2: Cable clamping tests - Test 17b: Cable clamp resistance to cable rotation (IEC 60512-17-2:2011)*

EN 60512-17-4, *Connectors for electronic equipment – Tests and measurements – Part 17-4: Cable clamping tests - Test 17d: Cable clamp resistance to cable torsion (IEC 60512-17-4:2010)*

EN 60512-19-3, *Connectors for electronic equipment – Tests and measurements – Part 19-3: Chemical resistance tests – Section 3: Test 19c – Fluid resistance (IEC 60512-19-3)*

EN 60512-23-3, *Connectors for electronic equipment – Tests and measurements – Part 23-3: Test 23c: Shielding effectiveness of connectors and accessories (IEC 60512-23-3)*

EN 60512-25-1, *Connectors for electronic equipment – Tests and measurements – Part 25-1: Test 25a – Crosstalk ratio (IEC 60512-25-1)*

EN 60512-25-2, *Connectors for electronic equipment – Tests and measurements – Part 25-2: Test 25b – Attenuation/insertion loss (IEC 60512-25-2)*

EN 60512-25-4, *Connectors for electronic equipment – Tests and measurements – Part 25-4: Test 25d – Propagation delay (IEC 60512-25-4)*

EN 60512-25-5, *Connectors for electronic equipment – Tests and measurements – Part 25-5: Test 25e – Return loss (IEC 60512-25-5)*

EN 60512-25-9, *Connectors for electronic equipment – Tests and measurements – Part 25-9: Signal integrity tests – Test 25i – Alien crosstalk (IEC 60512-25-9)*

EN 60512-26-100:2008, *Connectors for electronic equipment – Tests and measurements – Part 26-100: Measurement setup, test and reference arrangements and measurements for connectors according to IEC 60603-7 – Tests 26a to 26g (IEC 60512-26-100:2008)*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529)*

EN 60603-7:2009*, Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors (IEC 60603-7:2008)*

EN 60603-7-1, *Connectors for electronic equipment – Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors (IEC 60603-7-1)*

EN 60603-7-2, *Connectors for electronic equipment – Part 7-2: Detail specification for 8 way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz (IEC 60603-7-2).*

EN 60603-7-3, *Connectors for electronic equipment – Part 7-3: Detail specification for 8 way, shielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz (IEC 60603-7-3)*

EN 60603-7-4, *Connectors for electronic equipment – Part 7-4: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 250 MHz (IEC 60603-7-4)*

EN 60603-7-41, *Connectors for electronic equipment – Part 7-41: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 500 MHz (IEC 60603-7-41)*

EN 60603-7-5, *Connectors for electronic equipment – Part 7-5: Detail specification for 8-way connector, shielded, free and fixed connectors for data transmissions with frequencies up to 250 MHz (IEC 60603-7-5:)*

EN 60603-7-51, *Connectors for electronic equipment – Part 7-51: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 500 MHz (IEC 60603-7-51)*

EN 60603-7-7, *Connectors for electronic equipment – Part 7-7: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 600 MHz (IEC 60603-7-7)*

EN 60603-7-71, *Connectors for electronic equipment – Part 7-71: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 1 000 MHz (IEC 60603-7-71)*

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

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

EN 60793-1-41, *Optical fibres – Part 1-41: Measurement methods and test procedures – Bandwidth (IEC 60793-1-41)*

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

EN 60793-1-49, *Optical fibres – Part 1-49: Measurement methods and test procedures – Differential mode delay (IEC 60793-1-49)*

EN 60793-2, *Optical fibres – Part 2: Product specifications – General (IEC 60793-2)*

EN 60793-2-10:2011, *Optical fibres – Part 2-10: Product specifications – Sectional specification for category A1 multimode fibres (IEC 60793-2-10:2011)*

EN 60793-2-30:2009, *Optical fibres – Part 2-30: Product specifications – Sectional specification for category A3 multimode fibres (IEC 60793-2-30:2007)*

EN 60793-2-40:2011, *Optical fibres – Part 2-40: Product specifications – Sectional specification for category A4 multimode fibres (IEC 60793-2-40:2009)*

EN 60793-2-50:2008*, Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres (IEC 60793-2-50:2008)*

EN 60794-1-1, *Optical fibre cables – Part 1-1: Generic specification – General (IEC 60794-1-1)*

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

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

EN 60794-3, *Optical fibre cables – Part 3: Sectional specification – Outdoor cables (IEC 60794-3)*

EN 60811-1-1:1995, *Insulating and sheathing of electric cables – Common test methods – Part 1: General application – Section 1: Measurement of thickness and overall dimensions – Tests for determining the mechanical properties (IEC 60811-1-1:1993)*

EN 60825-2, *Safety of laser products – Part 2: Safety of optical fibre communication systems (IEC 60825-2)*

EN 60966-2-4, *Radio frequency and coaxial cable assemblies – Part 2-4: Detail specification for cable assemblies for radio and TV receivers – Frequency range 0 to 3000 MHz, IEC 61169-2 connectors (IEC 60966-2-4)*

EN 60966-2-5, *Radio frequency and coaxial cable assemblies – Part 2-5: Detail specification for cable assemblies for radio and TV receivers – Frequency range 0 to 1 000 MHz, IEC 61169-2 connectors (IEC 60966-2-5)*

EN 60966-2-6, *Radio frequency and coaxial cable assemblies – Part 2-6: Detail specification for cable assemblies for radio and TV receivers – Frequency range 0 to 3 000 MHz, IEC 61169-24 connectors (IEC 60966-2-6)*

EN 61073-1, *Mechanical splices and fusion splice protectors for optical fibres and cables – Part 1: Generic specification (IEC 61073-1)*

EN 61076-2-101, *Connectors for electronic equipment – Part 2-101: Circular connectors – Detail specification for circular connectors M8 with screw- or snap-locking, M12 with screw-locking for low voltage applications (IEC 61076-2-101)*

EN 61076-3-104:2006, *Connectors for electronic equipment – Product requirements – Part 3-104: – Detail specification for 8-way, shielded free and fixed connectors, for data transmissions with frequencies up to 1 000 MHz minimum (IEC 61076-3-104:2006)*

EN 61076-3-110, *Connectors for electronic equipment - Product requirements - Part 3-110: Rectangular connectors - Detail specification for shielded, free and fixed connectors for data transmission with frequencies up to 1 000 MHz (IEC 61076-3-110)*

EN 61169-1, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods (IEC 61169-1)*

EN 61169-2, *Radio-frequency connectors – Part 2: Sectional specification – Radio frequency coaxial connectors of type 9,52 (IEC 61169-2)*

EN 61169-24, *Radio-frequency connectors – Part 24: Sectional specification – Radio frequency coaxial connectors with screw coupling, typically for use in 75 ohm cable distribution systems (type F) (IEC 61169-24)*

EN 61300-2-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-1: Tests – Vibrations (sinusoidal) (IEC 61300-2-1)*

EN 61300-2-2, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-2: Tests – Mating durability (IEC 61300-2-2)*

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

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

EN 61300-2-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-6: Tests – Tensile strength of coupling mechanism (IEC 61300-2-6)*

EN 61300-2-9, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-9: Tests – Shock (IEC 61300-2-9)*

EN 61300-2-12, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-12: Tests – Impact (IEC 61300-2-12)*

EN 61300-2-17, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-17: Tests – Cold (IEC 61300-2-17)*

EN 61300-2-18, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-18: Tests – Dry heat – High temperature endurance (IEC 61300-2-18)*

EN 61300-2-19, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-19: Tests – Damp heat (steady state) (IEC 61300-2-19)*

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

EN 61300-2-30, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-30: Tests – Solar radiation (IEC 61300-2-30)*

EN 61300-2-34, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-34: Tests – Resistance to solvents and contaminating fluids (IEC 61300-2-34)*

EN 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 61300-2-42)*

EN 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 61300-2-44)*

EN 61300-2-46*, Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-46: Tests – Damp heat cyclic (IEC 61300-2-46)*

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

EN 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 61300-3-34)*

EN 61935-2, *Specification for the testing of balanced and coaxial information technology cabling – Part 2: Cords as specified in ISO/IEC 11801 and related standards (IEC 61935-2)*

EN 62012-1, *Multicore and symmetrical pair/quad cables for digital communications to be used in harsh environments – Part 1: Generic specification (IEC 62012-1)*

IEC 61156-1:2007*, Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC 61156-5-1, *Multicore and symmetrical pair/quad cables for digital communications – Part 5-1: Symmetrical pair/quad cables with transmission characteristics up to 1000 MHz – Horizontal floor wiring – Blank detail specification*

IEC 61156-6-1, *Multicore and symmetrical pair/quad cables for digital communications – Part 6-1: Symmetrical pair/quad cables with transmission characteristics up to 1000 MHz – Work area wiring – Blank detail specification*

IEC 61156-7, *Multicore and symmetrical pair/quad cables for digital communications – Part 7: Symmetrical pair cables with transmission characteristics up to 1 200 MHz – Sectional specification for digital and analog communication cables*

ITU-T Recommendation O.9, *Measuring arrangements to assess the degree of unbalance about earth*