SVENSK STANDARD SS-EN 50173-1

Fastställd	Utgåva	Sida	Ansvarig kommitté
2007-11-19	2	1 (1+128)	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 50173-1:2007. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50173-1:2007.

Nationellt förord

Den svenska standarden innehåller två nationella informativa bilagor. Den första bilagan, NA, innehåller svenska termer som motsvarar de engelska termerna i standardens avsnitt 3. Den andra bilagan, NB, innehåller en återgivning av de kabelbeteckningar för balanserade kopparkablar som finns med som information i ISO/IEC 18801, second edition, 2002.

Tidigare fastställd svensk standard SS-EN 50173-1, utgåva 1, 2003 och SS-EN 50173-1 C1, utgåva 1, 2004, gäller ej fr o m 2010-05-01.

SS-EN 50173-1, utgåva 2, 2007 och SS-EN 50173-2, utgåva 1, 2007 ersätter tillsammans SS-EN 50173-1, utgåva 1, 2003 och SS-EN 50173-1 C1, utgåva 1, 2004.

ICS 33.040.50

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.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

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 50173-1

May 2007

ICS 33.040.50

Partially supersedes EN 50173-1:2002

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 50173-1:2007 E

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 215, *Electrotechnical aspects of telecommunication equipment*.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50173-1 on 2007-04-11.

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)	2008-05-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-05-01

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 EN 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 European Standard, EN 50173-1, together with EN 50173-2:2007 supersedes EN 50173-1:2002. This standard contains those specifications of EN 50173-1:2002, which are common to generic cabling systems irrespective of the type of premises. This European Standard also

- introduces the concept of environmental classification (Subclause 5.1);
- specifies additional channels for balanced and optical fibre cabling media;
- specifies additional channels for coaxial cabling;
- specifies the minimum component requirements in support of these additional cabling channels;
- extends and amends the list of applications supported by generic cabling systems.

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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:

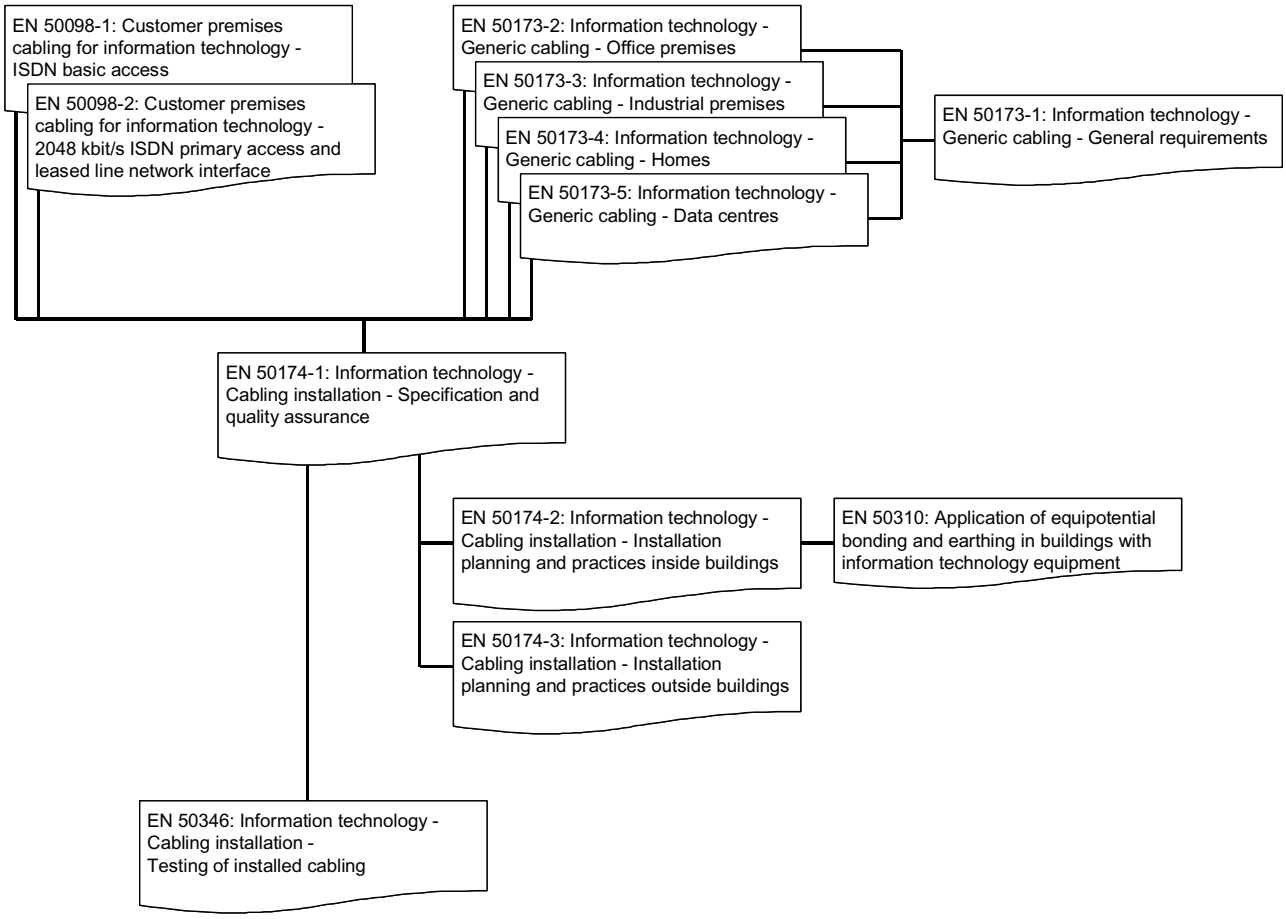
1) this and other parts of the EN 50173 series;

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).



NOTE For the purposes of the standards in the EN 50173 and EN 50174 series the term “information technology” includes ICT, BCT and CCCB applications

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 5.2: Common bonding network (CBN) within a building 6.3: AC distribution system and bonding of the protective conductor (TN-S)	**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 installers 5: Requirements for premises owners		**EN 50174-1** 5: Requirements for premises owners
		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** 5: Requirements for planning installations of information technology cabling 6: Segregation of metallic information technology and mains power cabling 7: Additional considerations **and EN 50174-3** **and (for equipotential bonding) EN 50310** 5.2: Common bonding network (CBN) within a building 6.3: AC distribution system and bonding of the protective conductor (TN-S)	**EN 50174-2** 4: Requirements for installers of information technology cabling 6: Segregation of metallic information technology and mains power cabling **and EN 50174-3** **and (for equipotential bonding) EN 50310** 5.2: Common bonding network (CBN) within a building 6.3: AC distribution system and bonding of the protective conductor (TN-S) **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 50174-1, *Information technology – Cabling installation – Part 1: 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*