SVENSK STANDARD SS-EN 50174-2

Fastställd	Utgåva	Sida	Ansvarig kommitté
2009-08-24	2	1 (1+60)	SEK TK 215

Fastighetsnät för informationsöverföring – Installation av kabelnät – Del 2: Planering och genomförande av installation inomhus

Information technology – Cabling installation – Part 2: Installation planning and practices inside buildings

Som svensk standard gäller europastandarden EN 50174-2:2009. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50174-2:2009.

Nationellt förord

Tidigare fastställd svensk standard SS-EN 50174-2, utgåva 1, 2001, gäller ej fr o m 2012-05-01.

ICS 35.110; 91.140.50

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 50174-2

May 2009

ICS 35.110; 91.140.50

Supersedes EN 50174-2:2000

English version

Information technology - Cabling installation - Part 2: Installation planning and practices inside buildings

Technologies de l'information - Installation de câblages - Partie 2: Planification et pratiques d'installation à l'intérieur des bâtiments

Informationstechnik - Installation von Kommunikationsverkabelung - Teil 2: Installationsplanung und Installationspraktiken in Gebäuden

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 50174-2:2009 E

SEK Svensk Elstandard

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 50174-2 on 2009-05-01.

This European Standard supersedes EN 50174-2:2000.

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)	2010-05-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-05-01

EN 50174 comprises three parts. All three parts support the specification, implementation and operation of information technology cabling. There are specific requirements for cabling systems that are in accordance with the design requirements of the EN 50173 series. However, the three parts also apply to cabling systems of any design including those in accordance with standards such as EN 50098-1 or EN 50098-2.

This part, EN 50174-2, is concerned with the planning and installation of information technology cabling using metallic cabling and optical fibre cabling inside buildings. It provides guidance as to the responsibilities of those involved and is intended to be referenced in relevant contracts.

Additional clauses containing normative requirements for specific types of premises will be added as amendments, or as revisions, to this standard. At the time of publication of this European Standard, the following clauses are planned:

– homes;
– data centres;
– operator buildings.

It does not cover those aspects of installation associated with the transmission of signals in free space between transmitters, receivers or their associated antenna systems (e.g. wireless, radio, microwave or satellite).

This document contains two informative annexes:

– Annex A, providing information on EMC and protection;
– Annex B, containing a minimum set of responsibilities applicable to installers and enabling national-specific amendment to define other responsibilities.

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Introduction

The importance of services delivered by information technology cabling infrastructure is similar to that of utilities such as heating, lighting and electricity supplies. As with those utilities, interruptions to service can have a serious impact. Poor quality of service due to lack of planning, use of inappropriate components, incorrect installation, poor administration or inadequate support can threaten an organisation's effectiveness.

There are four phases in the successful implementation of information technology cabling. These are:

a) design;

b) specification – the detailed requirement for the cabling, including the planning of its accommodation and associated building services addressing specific environments (e.g. electromagnetic) together with the quality assurance requirements to be applied;

c) installation – in accordance with the requirements of the specification;

d) operation – the management of connectivity and the maintenance of transmission performance during the life of the cabling.

This European Standard is in three parts and addresses the specification, installation and operational aspects. The EN 50173 series and other application standards cover design issues.

EN 50174-1 is used during the specification phase. It addresses the:

– installation specification, quality assurance documentation and procedures;

– documentation and administration;

– operation and maintenance.

This part, EN 50174-2, and EN 50174-3 are intended to be used by the personnel directly involved in the planning aspects (of the specification phase) and installation phase. EN 50174-2 is applicable inside buildings and EN 50174-3 is applicable outside buildings.

This European Standard is also relevant to:

- architects, building designers and builders;
- main contractors;
- designers, suppliers, installers, inspectors (auditors), maintainers and owners of information technology cabling;
- public network providers and local service providers;
- end users.

This part, EN 50174-2, contains requirements and recommendations relating to the installation planning and practices by defining:

i) planning strategy (road map) and guidance depending on the application, electromagnetic environment, building infrastructure and facilities, etc.;

ii) planning and installation requirements for metallic and optical fibre information technology cabling depending on the application, electromagnetic environment, building infrastructure and facilities, etc.;

iii) the practices and procedures to be adopted to ensure that the cabling is installed in accordance with the specification.

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

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

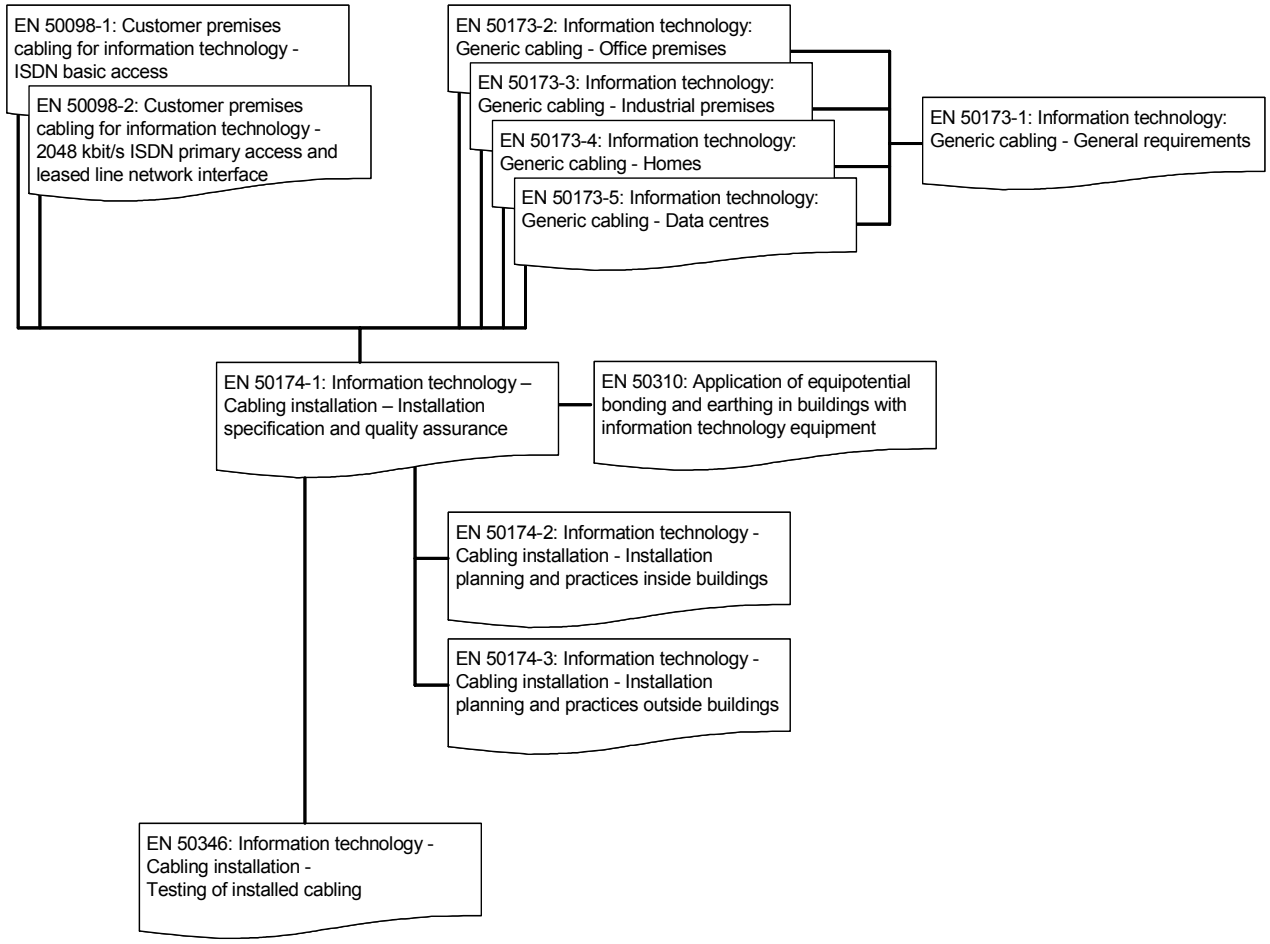

Figure 1 – Schematic relationship between the EN 50174 series and other relevant standards

Table 1 – Contextual relationship between EN 50174 series and other standards relevant for information technology cabling systems

<table>
<tr><th>Building design phase</th><th>Generic cabling design phase</th><th>Specification phase</th><th>Installation phase</th><th>Operation phase</th></tr>
<tr>
<td rowspan="2">EN 50310

5.2: Common bonding network (CBN) within a building
6.3: AC distribution system and bonding of the protective conductor (TN-S)</td>
<td>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</td>
<td>EN 50174-1

4: Requirements for specifying installations of information technology cabling
5: Requirements for installers of information technology cabling</td>
<td rowspan="2"></td>
<td rowspan="2">EN 50174-1

4: Requirements for specifying installations of information technology cabling</td>
</tr>
<tr>
<td>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</td>
<td>Planning phase

EN 50174-2

4: Requirements for planning installations of information technology cabling
6: Segregation of metallic information technology cabling and mains power cabling
7: Electricity distribution systems and lightning protection

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)</td>
<td>EN 50174-2

5: Requirements for the installation of information technology cabling
6: Segregation of metallic information technology cabling 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</td>
</tr>
</table>

1 Scope and conformance

1.1 Scope

This European Standard specifies requirements for the following aspects of information technology cabling:

a) planning;

b) installation practice.

This European Standard is applicable to all types of information technology cabling inside buildings (and may be applied to cabling that is defined as part of the building) including generic cabling systems designed in accordance with the EN 50173 series. The requirements of Clauses 4, 5 and 6 of this standard are premises-independent unless amended by the requirements of premises-specific clauses.

This European Standard:

1) details the considerations for satisfactory installation and operation of information technology cabling;

2) excludes specific requirements applicable to other cabling systems (e.g. mains power cabling); however, it takes account of the effects other cabling systems may have on the installation of information technology cabling (and vice versa) and gives general advice;

3) excludes those aspects of installation associated with the transmission of signals in free space between transmitters, receivers or their associated antenna systems (e.g. wireless, radio, microwave or satellite).

This European Standard is intended for application within commercial and residential premises.

This standard is applicable to certain hazardous environments but does not exclude additional requirements which are applicable in particular circumstances, defined by e.g. electricity supply and electrified railways.

1.2 Conformance

For a cabling installation to conform to this European Standard:

a) the planning of the installation shall meet the requirements of Clause 4;

b) the installation practices shall meet the requirements of Clause 5;

c) the additional requirements of the applicable premises-specific clause shall be met;

d) the equipotential bonding system within the premises shall be in accordance with EN 50310;

e) where a lightning protection system is required, it shall conform to the “integrated lightning protection system" according to EN 62305-4;

f) other lightning protection systems, including the “isolated lightning protection system” according to EN 62305-3 are allowed provided that specific restrictions are applied both to the implementation of the information technology cabling and the requirements of EN 50310 as agreed between the planners of the lightning protection system and the information technology cabling;

g) local regulations, including safety, shall be met.

The responsibilities for specific elements of conformance may be made by national-specific amendment of Annex B.