SVENSK STANDARD SS-EN 50174-2

Fastställd	Utgåva	Sida	Ingår i
2001-08-28	1	1 (1+47)	SEK Område 215

Svenska Elektriska Kommissionen, SEK

Fastighetsnät för informationsöverföring – Installation av kablage – 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 50174:2:2000. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50174-2:2000.

ICS 35.110; 91.140.50

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: SEK, Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00. *Telefax*: 08 - 444 14 30
E-post: sek@sekom.se. *Internet*: www.sekom.se

EUROPEAN STANDARD **EN 50174-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM August 2000

ICS 35.110;91.140.50

English version

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

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

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

This European Standard was approved by CENELEC on 2000-08-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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 50174-2:2000 E

Foreword

This European Standard has been prepared by Technical Committee CENELEC TC 215 "Electrotechnical aspects of telecommunication equipment" under the framework of the Mandates M/212 on “Telecommunication cables and cabling systems“ and M/239 on “Air traffic management equipment and systems“.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50174-2 on 2000-08-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at the national level by publication of an identical national standard or by endorsement	(dop)	2001-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2003-08-01

This standard comprises three parts. All three parts support the specification, implementation and operation of information technology cabling using both balanced copper and optical fibre cabling components. These components may be combined to provide cabling solutions either in accordance with the design requirements of EN 50173 or to meet the requirements of one or more application-specific standards (such as EN 50098-1 or EN 50098-2).

This part, EN 50174-2, contains detailed requirements and guidance relating to the installation planning and practices inside buildings and is intended to be used by the personnel directly involved in the planning and installation of information technology cabling. It shall be used during the different implementation phases when installing information technology cabling, i.e. during the planning phase, the design phase and installation phase.

Annexes designated "informative" are given for information only.
In this standard, annex A is informative.

Contents

Introduction

Within premises, the importance of the information technology cabling infrastructure is similar to that of other fundamental building utilities such as heating, lighting and mains power supplies. As with other utilities, interruptions to service can have 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 installation of information technology cabling. These are:

a) design - the selection of cabling components and their configuration;

b) specification - the detailed requirement for the cabling, its accommodation and associated building services addressing specific environment(s) identified within the premises together with the quality assurance requirements to be applied;

c) implementation - the physical 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, implementation and operational aspects. The design issues are covered in EN 50173 and / or other application standards.

EN 50174-1 is intended to be used by personnel during the specification phase of the installation together with those responsible for the quality planning and operation of the installation. It contains requirements and guidance for the specification and quality assurance of the information technology cabling by defining:

- aspects to be addressed during the specification of the cabling;
- quality assurance documentation and procedures;
- requirements for the documentation and administration of cabling;
- recommendations for repair and maintenance.

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

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

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

2) design and installation rules for metallic and optical fibre cabling depending on the application, electromagnetic environment, building infrastructure and facilities, etc.

3) requirements on satisfactory operation of the cabling depending on the application, electromagnetic environment, building infrastructure and facilities, etc.

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

Figure 1 shows the relationships between the standards produced by TC 215 for information technology cabling, namely cabling design standards (EN 50098 series, EN 50173), cabling installation standards (EN 50174 series) and equipotential bonding requirements (EN 50310):

Building design phase	Cabling design phase	Planning phase	Implementation 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 **or (and)** EN 50098-1 **or (and)** EN 50098-2 **or (and)** Other application standards	EN 50174-1 4: Specification considerations 5: Quality assurance 7: Cabling administration **and** EN 50174-2 4: Safety requirements 5: General installation practices for metallic and optical fibre cabling 6: Additional installation practice for metallic cabling 7: Additional installation practice for optical fibre 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)	EN 50174-1 6: Documentation 7: Cabling administration **and** EN 50174-2 4: Safety requirements 5: General installation practices for metallic and optical fibre cabling 6: Additional installation practice for metallic cabling 7: Additional installation practice for optical fibre 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)	EN 50174-1 5: Quality assurance 7: Cabling administration 8: Repair and maintenance

Figure 1 – Relationship between series EN 50174 and other design standards

1 Scope

This European Standard specifies the basic requirements for the planning, implementation and operation of information technology cabling using balanced copper cabling and optical fibre cabling. This standard is applicable to:

a) cabling designed to support particular analogue and digital telecommunications services including voice services;

b) generic cabling systems designed in accordance with EN 50173 and intended to support a wide range of telecommunications services.

This standard is intended for those involved in the procurement, installation and operation of information technology cabling. Furthermore this standard is addressed to:

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

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.

This part of the standard:

c) details the considerations for satisfactory installation and operation of information technology cabling within the environment of a premise building operating a low-voltage electricity distribution system (less than AC 1 000 V rms);

d) excludes specific requirements applicable to other cabling systems (e.g. power cabling, coaxial 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.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 50085-1, *Cable trunking systems and cable ducting systems for electrical installations – Part 1: General requirements.*

EN 50085-2-4 [1)], *Cable trunking systems and cable ducting systems for electrical installations – Part 2-4: Service poles.*

EN 50086-1, *Conduit systems for electrical installations – Part 1: General requirements.*

EN 50173, *Information technology – Generic cabling systems.*

EN 50174-1, *Information technology – Cabling installation – Part 1: Specification and quality assurance.*

EN 50174-3 [2)], *Information technology – Cabling installation - Part 3: Installation planning and practices outside buildings.*

EN 50288 series, *Multi-element metallic cables used in analogue and digital communication and control.*

EN 50310, *Application of equipotential bonding and earthing in buildings with information technology equipment.*

EN 60439-2, *Low-voltage switchgear and controlgear assemblies – Part 2: Particular requirements for busbar trunking systems (busways) (IEC 60439-2:1987 + A1:1991)*

[1)] In preparation by TC 213

[2)] At present committee draft