# SVENSK STANDARD SS-EN 50174-1


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**Svenska Elektriska Kommissionen, SEK**




# Fastighetsnät för informationsöverföring – Installation av kablage – Del 1: Planering och kvalitetssäkring

*Information technology – Cabling installation – Part 1: Specification and quality assurance*

Som svensk standard gäller europastandarden EN 50174-1:2000. Den svenska standarden innehåller den officiella engelska språkversionen av EN 50174-1:2000.

## Nationellt förord

En serie svenska standarder anger hur interna tele- och datatelenät registreras. Den inledande standarden i denna serie är SS 455 12 00, Registreringssystem för interna tele- och datanät – Översikt av standarder samt terminologi.

Utöver den vägledning som ges i denna standard bör gällande regler och praxis för entreprenader beaktas.

ICS 35.110

Denna standard är fastställd av Svenska Elektriska Kommissionen, SEK, som också kan lämna upplysningar om **sakinnehållet** i standarden.
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EUROPEAN STANDARD **EN 50174-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM August 2000

ICS 35.110

English version

# Information technology - Cabling installation
# Part 1: Specification and quality assurance

Technologies de l'information -
Installation de câblage
Partie 1: Planification de l'assurance de la qualité

Informationstechnik -
Installation von Kommunikations-verkabelung
Teil 1: Spezifikation und Qualitätssicherung

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 50174-1:2000 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 50174-1 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 are 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 50174-1, is intended to be referenced in contracts between cabling installers and their customers. However, the range of options featured in many of the clauses make a single conformance statement impossible. For this reason the standard should be read carefully to ensure that the requirements of the standard (as defined by the use of the word ”shall”) are adhered to where conformance is required under the terms of any contract.

Annexes designated "informative" are given for information only.
In this standard, annexes A and B are 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.

This part, EN 50174-1, is intended to be used by personnel during the planning 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.

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.

These standards contain 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.

In addition the information in EN 50174-2 and EN 50174-3 should be used to construct the detailed specification for the installation in accordance with this standard.

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<br>5.2: Common bonding network (CBN) within a building<br>6.3: AC distribution system and bonding of the protective conductor (TN-S) | EN 50173<br>**or (and)**<br>EN 50098-1<br>**or (and)**<br>EN 50098-2<br>**or (and)**<br>Other application standards | EN 50174-1<br>4: Specification considerations<br>5: Quality assurance<br>7: Cabling administration<br>**and**<br>EN 50174-2<br>4: Safety requirements<br>5: General installation practices for metallic and optical fibre cabling<br>6: Additional installation practice for metallic cabling<br>7: Additional installation practice for optical fibre cabling<br>**and**<br>EN 50174-3<br>**and**<br>**(for equipotential bonding)**<br>EN 50310<br>5.2: Common bonding network (CBN) within a building<br>6.3: AC distribution system and bonding of the protective conductor (TN-S) | EN 50174-1<br>6: Documentation<br>7: Cabling administration<br>**and**<br>EN 50174-2<br>4: Safety requirements<br>5: General installation practices for metallic and optical fibre cabling<br>6: Additional installation practice for metallic cabling<br>7: Additional installation practice for optical fibre cabling<br>**and**<br>EN 50174-3<br>**and**<br>**(for equipotential bonding)**<br>EN 50310<br>5.2: Common bonding network (CBN) within a building<br>6.3: AC distribution system and bonding of the protective conductor (TN-S) | EN 50174-1<br>5: Quality assurance<br>7: Cabling administration<br>8: Repair and maintenance |

**Figure 1 - Relationship between EN 50174 series 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) provides guidance on the preparation and agreement of an installation specification covering the information technology cabling, its accommodation and associated building services;

d) defines installation and acceptance testing practices enabling the agreement of a quality plan used to demonstrate conformance with the installation specification.

This standard does not contain requirements for cabling component performance, link design or installed performance - reference should be made to EN 50173, for generic cabling, or relevant application standards.

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

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

EN 50174-3 [1)], *Information technology – Cabling installation – Part 3: Installation planning and practices external to buildings.*

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

ISO/IEC 14763-1, *Information technology – Implementation and operation of customer premises – Part 1: Administration.*

[1)] At present committee draft