



SLOVENSKI STANDARD
SIST EN 50174-1:2009/A1:2011
01-maj-2011

Informacijska tehnologija - Polaganje kablov - 1. del: Specifikacija in zagotavljanje kakovosti - Dodatek A1

Information technology - Cabling installation -- Part 1: Installation specification and quality assurance

Informationstechnik - Installation von Kommunikationsverkabelung - Teil 1: Installationspezifikation und Qualitätssicherung

Technologies de l'information - Installation de câblages -- Partie 1: Spécification de l'installation et assurance de la qualité

SIST EN 50174-1:2009/A1:2011
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Ta slovenski standard je istoveten z: EN 50174-1:2009/A1:2011

ICS:

33.040.50 Vodi, zveze in tokokrogi Lines, connections and circuits

35.110 Omreževanje Networking

SIST EN 50174-1:2009/A1:2011 **en,fr,de**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50174-1/A1

March 2011

ICS 35.110

English version

**Information technology -
Cabling installation -
Part 1: Installation specification and quality assurance**

Technologies de l'information -
Installation de câblages -
Partie 1: Spécification de l'installation et
assurance de la qualité

Informationstechnik -
Installation von
Kommunikationsverkabelung -
Teil 1: Installationspezifikation und
Qualitätssicherung

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This amendment A1 modifies the European Standard EN 50174-1:2009; it was approved by CENELEC on 2011-01-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This amendment to the European Standard EN 50174-1:2009 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 Amendment A1 to EN 50174-1:2009 on 2011-01-01.

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 amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-01-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2014-01-01

This amendment comes with

- a new normative Annex E on sampling plans and marginal results;
- simplified administration requirements (see 4.5.2), simplified complexity installation and operational levels (see 6.2) and simplified minimum requirements for technical specifications and quality plans (see Annex A);
- some technical and editorial changes to Clauses 4 and 5.

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Text of A1 to EN 50174-1:2009

Introduction

Replace Table 1 with:

Table 1 – Contextual relationship between EN 50174 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 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	EN 50174-2 5: Requirements for the installation of information technology cabling 6: Segregation of metallic and power supply cabling 8: Office (commercial) premises 9: Industrial premises 10: Homes 11: Data centres	
	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	and EN 50174-3 and (for equipotential bonding) EN 50310	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	

General change

Replace all occurrences of “EN 50173-1:2007” **with** “EN 50173-1:2011 (in addition to the changes indicated below).

1.2 Conformance

Replace bullet f) with:

- f) local regulations, including safety, that are more stringent than the requirements listed in a) to e) shall be met.

2 Normative references

Update the reference to EN 50173-1:2007 to read “EN 50173-1:2011.

Add the following references:

EN 61935-1, *Specification for the testing of balanced and coaxial information technology cabling – Part 1: Installed balanced cabling as specified in the standards series EN 50173* (IEC 61935-1:2009, mod.)

ISO/IEC TR 14763-2-1¹⁾, *Information technology – Implementation and operation of customer premises cabling – Part 2-1: Planning and installation of copper cabling – Identifiers within administration systems*

3 Terms, definitions and abbreviations**3.1 Terms and definitions**

SIST EN 50174-1:2009/A1:2011

Modify as follows: <https://standards.iteh.ai/catalog/standards/sist/eccfffac-0e08-408e-b445-61b6d3b95d9d/sist-en-50174-1-2009-a1-2011>

3.1.3**building entrance facility**

facility that provides all necessary mechanical and electrical services for the entry of telecommunications cables into a building and which may allow for transition from external to internal cable

[EN 50173-1:2011]

3.1.5**cable element**

smallest construction unit in a cable

NOTE 1 A cable element may have a screen

NOTE 2 A pair, a quad, a single isolated lead with coaxial screen and a single optical fibre are examples of a cable element.

[EN 50173-1:2011]

Replace definition 3.1.12 and **insert** the following definitions:

3.1.12**external fire barrier**

a boundary, designated by local fire authorities, that demarcates the extent of the fire zones or compartments of a building

¹⁾ Under development.

3.1.13**fire barrier**

fire compartment boundary with appropriate levels of fire performance in order to prevent the spread of fire and its effluent and minimize the extent of loss

3.1.14**fire-stop materials**

sealing products that, at all times, take up imperfections of fit or design tolerance between the fire resisting fixed elements of a building and which provide the same fire performance as the fixed elements in order to restrict the passage of fire and smoke

3.1.15**fire-stopping techniques**

processes, products and materials that reinstate the original fire rating of a fire barrier

3.1.16**frame**

open construction, typically wall-mounted, for housing closures and other information technology equipment

Renumber 3.1.13 into 3.1.17 and replace existing 3.1.14 with:

3.1.18**information technology****telecommunications**

branch of technology concerned with the transmission, emission and reception of signs, signals, writing, images and sounds; that is, information of any nature by cable, radio, optical or other electromagnetic systems

NOTE The term telecommunications has no legal meaning when used in this document.

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Renumber 3.1.15 to 3.1.23 accordingly and insert the following definitions:

3.1.28**power supply cabling**

cabling whose primary purpose is the supply of electrical power

3.1.29**rack**

open construction, typically self-supporting and floor-mounted, for housing closures and other information technology equipment

Renumber 3.1.24 to 3.1.29 and replace existing 3.1.27 with:

3.1.33**space**

specified volume within premises allocated to information technology cabling infrastructure (e.g. entrance facilities, functional elements in accordance with EN 50173 series standards)

NOTE Examples include rooms, maintenance holes or part thereof, housing closures and/or other information technology equipment.

3.2 Abbreviations

Insert the following abbreviation:

BEF building entrance facility

4 Requirements for specifying installations of information technology cabling

4.1.1.1 Requirements

In 3rd paragraph, bullet 1), **replace** “mains power” with “power supply”.

4.1.1.2 Recommendations

Delete “mains” in bullet d).

4.1.3.2.1 Requirements

Insert new bullet 4) to read:

- 4) means and methods for securing cables within pathway systems;

4.2.1 Mains power/information technology cabling segregation requirements

Replace the title with:

4.2.1 Power supply/information technology cabling segregation requirements

In 1st paragraph **replace** “mains power” with “power supply”.

4.2.2.1 Requirements

Replace bullet b) of 1st paragraph with the following text:

b) environment:

- entrance facilities shall be located in dry areas that are not subject to flooding;
- the selection of pathway systems (including blown cabling media conduits) entering building shall enable their sealing to prevent ingress of water, fluids or gases.

Replace 2nd paragraph with the following text:

Information technology cables that do not comply with the minimum recommended performance requirements of EN 60332-1-2 shall either be:

- 1) terminated inside the building, within 2 m (unless an alternative distance if specified by local regulations) of the point of internal penetration of the external fire barrier (e.g. floor/ceiling/wall);

or

- 2) any length exceeding 2 m (unless an alternative distance if specified by local regulations) is installed within trunking or conduit that is considered as a fire barrier in accordance with local fire regulations.

NOTE This also applies where the cable has to pass through a space between two external fire barriers within a building.

4.2.3.2 Recommendations

Replace 6th paragraph with:

Fire barriers should be designed to facilitate their refurbishment following cable installation. Cables passing through fire barriers should be segregated and appropriate fire-stopping techniques applied to minimise disruption to the fire barriers during any subsequent installation (or removal) of cables.

4.2.5.1 Requirements

Replace 2nd paragraph with:

Cabinets, frames and racks shall not be installed:

- 1) in toilet facilities and kitchens;
- 2) in emergency escape ways (where they would cause an obstruction);
- 3) in ceiling or sub-floor spaces;
- 4) within cabinets or closures containing fire hose reels or other fire-extinguishing equipment;
- 5) in spaces that are subject to risk of flooding.

Insert the following after the existing three bullet points:

- fittings are provided for the functional and protective earthing of information technology equipment and cabling;
- adequate ventilation is provided for anticipated information technology equipment;
- cable segregation requirements of EN 50174-2:2009 + A1:2011 Clause 6 are met.

4.2.7.1 Requirements

Insert the following text after the bullet e):

Termination points within floor-standing cabinets, frames and racks should be located between 0,15 m and 2,5 m above the finished floor.

4.3.2.1 Requirements

Replace 3rd paragraph with:

The pathway systems selected shall enable the reinstatement of the original fire rating of fire barrier, if required, by the use of identified fire-stop materials and/or fire-stopping techniques.

4.3.2.2 Recommendations

Delete 5th paragraph.

4.3.3.1 Requirements

Retain 1st paragraph but **delete** remainder of text.

Insert new subclause as follows:

4.3.4 Labels

4.3.4.1 Requirements

Label(s) shall provide a direct link to the identifier within the record within the administration system.

Labels shall be durably affixed. Labels shall be resistant to the environmental conditions at the point of installation (such as moisture, heat, or ultraviolet light), and shall have a design life equal to or greater than that of the labelled component.

Non-machine readable labels shall:

- a) feature readable text (by use of appropriate size, colour and contrast);
- b) be printed, machine-generated or manufactured as part of the component.

Machine readable labels shall:

- c) be printed, machine-generated or manufactured as part of the component;
- d) use permanent media;
- e) be located so that each machine readable label can be read uniquely.

Labels shall be located where they can be read without risk of material degradation of the transmission performance of the cabling. Additional labels may be applied for convenience of cabling maintenance.

4.3.4.2 Recommendations

No additional recommendations.

Insert new subclause as follows:

4.3.5 Spaces

4.3.5.1 Requirements

Dimensions of spaces shall take into account the initial volume and future expansion of information technology cabling and associated equipment.

Spaces shall be located to provide appropriate levels of security (restricted access) to the cabling and equipment to be contained within them.

Signage associated with spaces shall be in accordance with the security plan for the premises.

4.3.5.2 Recommendations

No additional recommendations.

4.5.2 Administration requirements

Replace subclause with:

An administration system shall be specified to enable effective operation, maintenance and repair of the cabling infrastructure. All information produced for or by the administration system shall be dated. Change control shall be exercised and records shall be retained for a specified minimum period.

The administration system shall meet the requirements of:

- a) Table 2 based upon the installation complexity level determined from Table 4;
- b) Table 3 based upon the operational complexity level of Table 5.

Table 2 and Table 3 define the minimum requirements that apply to Levels 1 to 3.

Table 2 – Minimum requirements of administration systems

Administration system			
IDENTIFIERS			
Installation complexity level	1	2	3
Bonds - functional earth	–	–	Yes
Cabinets/frames	Yes	Yes	Yes
Cables	Yes	Yes	Yes
Closures	–	Yes	Yes
Pathways	–	–	Yes
Spaces	–	Yes	Yes
Termination points including joints	Yes	Yes	Yes
LABELS (fixed to the item or are part of the item)			
Installation complexity level	1	2	3
Bonds - functional earth ^a	–	–	–
Cabinets/frames	Yes	Yes	Yes
Cables ^b	–	–	Yes
Closures (unless indicated by visible termination point labelling)	–	Yes	Yes
Pathways	–	–	Yes
Spaces (at entrances)	–	Yes	Yes
Termination points including joints ^c	Yes	Yes	Yes
RECORDS (AND/OR DRAWINGS) that provide information about the item together with other items related to it			
Installation complexity level	1	2	3
Fixed cabling	Manual	Manual	Electronic
NOTE Manual records include paper-based systems. Electronic records include spreadsheets, databases etc.			
^a National or local regulation may require labels to identify their function.			
^b Labels at both ends.			
^c indicating the treatment of cable elements at the joint.			