SLOVENSKI STANDARD
SIST EN 50173-4:2008/A1:2011

01-marec-2011

Informacijska tehnologija - Univerzalni sistemi polaganja kablov - 4. del: Bivalni prostori

Information technology - Generic cabling systems -- Part 4: Homes

Informationstechnik - Anwendungsneutrale Kommunikationskabelanlagen -- Teil 4: Wohnungen

Technologies de l'information - Systèmes de câblage générique -- Partie 4: Locaux d'habitation

Ta slovenski standard je istoveten z: **EN 50173-4:2007/A1:2010**

ICS:

33.040.50	Vodi, zveze in tokokrogi	Lines, connections and circuits
35.110	Omreževanje	Networking
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST EN 50173-4:2008/A1:2011 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50173-4/A1

December 2010

ICS 33.040.50

English version

Information technology - Generic cabling systems - Part 4: Homes

Technologies de l'information - Systèmes de câblage générique - Partie 4: Locaux d'habitation

Informationstechnik - Anwendungsneutrale Kommunikationskabelanlagen - Teil 4: Wohnungen

This amendment A1 modifies the European Standard EN 50173-4:2007, it was approved by CENELEC on 2010-12-01. 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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 50173-4:2007/A1:2010 E

Foreword

This amendment 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 50173-4:2007 on 2010-12-01.

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)	2011-12-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2013-12-01

This standard introduces several changes in order to align the standard with the changes resulting from the introduction of new Channel classes and component Categories in EN 50173-1:201X. Furthermore, it introduces several technical changes to requirements for BCT cabling in Clauses 6 and 7.

For the convenience of the reader of this standard, the pertinent tables are reproduced in total, with grey shading of new table cells. Where modifications to text apply to single expressions or a few words only, this is indicated by underlining.

Text of A1 to EN 50173-4:2007

General change

Replace all occurrences of "EN 50173-1:2007" **with** "EN 50173-1:201X" (in addition to the changes indicated below).

Introduction

Replace Figure 1 **with:**

In addition, a number of Technical Reports have been developed to support or extend the application of these standards, including

- CLC/TR 50173-99-1, *Cabling guidelines in support of 10 GBASE-T*,
- CLC/TR 50173-99-2, *Information technology – Implementation of BCT applications using cabling in accordance with EN 50173-4*.

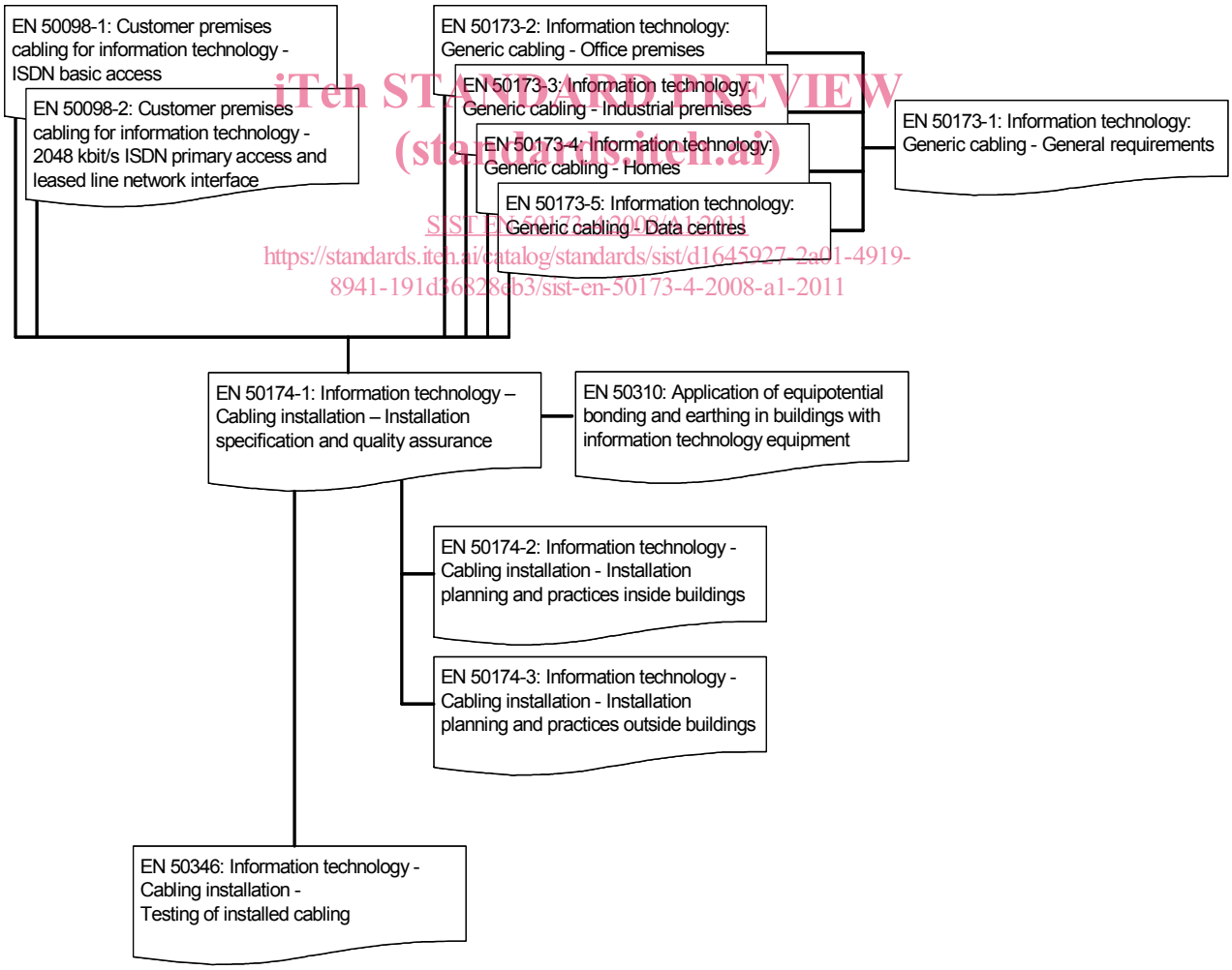

Figure 1 – Schematic relationship between the EN 50173 series and other relevant standards

Replace Table 1 **with:**

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	**EN 50173 series except EN 50173-4**	**EN 50174-1**		**EN 50174-1**
6. Bonding networks	4: Structure 5: Channel performance 7: Cable requirements 8: Connecting hardware requirements 9: Requirements for cords and jumpers A: Link performance limits	4: Requirements for specifying installations of information technology cabling 5: Requirements for installers of information technology cabling		4: Requirements for specifying installations of information technology cabling
		Planning phase		
	and EN 50173-4	**EN 50174-2**	**EN 50174-2**	
	4 and 5: Structure 6: Channel performance 8: Cable requirements 9: Connecting hardware requirements 10: Requirements for cords and jumpers A: Link performance limits	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	5: Requirements for the installation of information technology cabling 6: Segregation of metallic information technology cabling and power supply cabling 8: Office (commercial) premises 9: Industrial premises 10: Homes 11: Data centres	
		and EN 50174-3	**and EN 50174-3**	
		and (for equipotential bonding) EN 50310	**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	

Amend title of Figure 2 to read:

Figure 2 – Schematic of generic cabling within a home

1.2 Conformance

Delete the word “performance” in bullet e).

In the English version **replace** bullet f), second sub-bullet, **with:**

attachment of appropriate components to a link design meeting the prescribed performance Class of Annex A. Channel performance shall be assured where a channel is created by adding more than one cord to either end of a link meeting the requirements of Annex A;

Replace text starting from “In addition the following requirements …” up to and including bullet j) **by**:

In addition the requirements of the EN 50174 series of standards shall be met.

The test parameters to be measured and the sampling levels to be applied for a particular installation shall be defined in the installation specification and quality plans for that installation prepared in accordance with EN 50174-1.

The treatment of measured results that fail to meet the requirements of this clause, or lie within the relevant measurement accuracy, shall be clearly documented within a quality plan as described in EN 50174-1.

Delete the sentence “Neither this standard nor EN 50174-1 specify the test and sampling levels to be adopted”.

Delete the last paragraph, which starts with “Specifications marked “ffs” (for further study) …”.

2 Normative references

Update the reference to EN 50173-1:2007 to read “EN 50173-1:201X”.

Update the title of EN 50174-1 to read “*Information technology – Cabling installation – Part 1: Installation specification and quality assurance*”

Replace EN 50083-7 and the related note **with:**

EN 60728-1:2008, *Cable networks for television signals, sound signals and interactive services – Part 1: System performance of forward paths* (IEC 60728-1:2007)

Add:

CLC/TR 50173-99-2, *Information technology – Implementation of BCT applications using cabling in accordance with EN 50173-4*

4.7.2 Network access cabling

Amend 2nd last paragraph **to read:**

When used to provide a connection between the generic cabling system and an external network interface in the same premises (but not within the home served by the home distributor), the network access cabling shall be in accordance with EN 50173-1 (backbone cabling) for ICT applications and shall take into account CLC/TR 50173-99-2 for BCT applications in accordance with EN 60728-1.

4.7.3 External network interface

Insert a new 2nd paragraph:

The equivalent to the ENI for BCT applications in accordance with EN 60728-1 is described in CLC/TR 50173-99-2.

4.7.5.1 General requirements

Replace 5th paragraph **with:**

Where a BCT channel is provided by a balanced cable containing more than one pair, the transmission performance of the cable shall enable channels to be created using the pairs which

1) shall meet the requirements of 6.3.2,
2) should meet EN 50173-1:201X, Class F or Class F_A.

5.7.7 Sharing of cable and connecting hardware

Amend 1st paragraph to **read**:

The channels specified in Clause 6 do not support the simultaneous transmission of multiple applications, of the same or different application Classes, within a cable or at an interface to the generic cabling. The sharing of components by applications (to, for example, maximise the capacity of cable management systems) may require additional performance requirements, which are outside the scope of this standard, and/or shall be incorporated in accordance with the supplier's specifications and instructions.

6.3.2 ICT channel performance

Replace 1st paragraph **with:**

Home and, where relevant, secondary home cabling

a) shall be designed to provide a channel performance as required from Classes D or higher as specified in EN 50173-1:201X, taking into consideration the requirements for application support over the lifetime of the cabling,

b) should be designed to provide a channel performance in excess of Class D as specified in EN 50173-1:201X.

6.3.3 BCT channel performance

Add the following text at the end of the 2nd paragraph:

Further information is provided in CLC/TR 50173-99-2.

Replace Table 4 **with:**

Table 4 – BCT channel levels

Name	BCT-H	BCT-M	BCT-L
Using coaxial cabling			
Insertion loss value at 1 000 MHz	21,9 dB	16,1 dB	7,7 dB
Max. reference lengths with coaxial cable assuming total cordage of 4 m	100 m	73 m	34 m
Using balanced cabling			
Insertion loss value at 1 000 MHz	33,2 dB	17,6 dB	9,5 dB
Max. reference length with balanced cable assuming total cordage of 4 m	50 m	25 m	11,8 m
NOTE The signal impairment requirements of EN 60728-1 at the terminal equipment are unlikely to be supported by BCT-B-H or BCT-C-H channels (see EN 50173-1:201X, Annex F).			

7.1 General

Replace Table 5 **with:**

Table 5 – Channel length equations

			Implementation equations			
Model	**Figure**	**Max. length m**	**ICT components**	**BCT balanced components**	**BCT coaxial components**	**CCCB components**
CCCB area feeder cabling	14, 15	90	90	90	N/A	N/A
CCCB coverage area cabling	14, 15	50	50	50	N/A	50
ICT (≤ 2 connections)	13a	100	$H = 109 - F \times X$	$H = 135 - F \times X$	N/A	N/A
ICT (4 connections)	13b	100	$H = 105 - F \times X$	$H = 133 - F \times X$	N/A	N/A
BCT-B-L (2 connections)	13a	50	N/A	$H = 51{,}4 - F \times X$	N/A	N/A
BCT-B-M (2 connections)	13a	25	N/A	$H = 26{,}4 - F \times X$	N/A	N/A
BCT-B-H (2 connections)	13a	11,8	N/A	$H = 13{,}2 - F \times X$	N/A	N/A
BCT-C-L (2 connections)	13a	100	N/A	N/A	$H = 101 - 1{,}25 \times F$	N/A
BCT-C-M (2 connections)	13a	73	N/A	N/A	$H = 74 - 1{,}25 \times F$	N/A
BCT-C-H (2 connections)	13a	34	N/A	N/A	$H = 35 - 1{,}25 \times F$	N/A

H maximum length of the fixed cable (m)

F combined length of patch cords, jumpers and equipment cords (m)

X ratio of flexible cable attenuation (dB/m) to fixed cable attenuation (dB/m);
for ICT cable (balanced), 1,5 is used as default value;
for BCT cable (balanced), 1,35 is used as default value

For operating temperatures above 20 °C, H should be reduced by 0,2 % per °C for screened balanced and coaxial cables and 0,4 % per °C (20 °C to 40 °C) and 0,6 % per °C (> 40 °C to 60 °C) for unscreened balanced cables.

These are default values and should be used where the actual characteristic of the cable is not known.

If the cable is specified to meet the insertion loss requirements of Clause 8 at a “base” temperature above 20 °C then the calculation shall only apply to planned temperatures above the “base” temperature.