



**NSAI**  
Standards

Irish Standard  
I.S. EN 50173-2:2007

# Information technology - Generic cabling systems -- Part 2: Office premises

## I.S. EN 50173-2:2007

*Incorporating amendments/corrigenda issued since publication:*

EN 50173-2:2007/A1:2010  
EN 50173  
-2:2007/A1:2010/AC:2011

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Corrigendum to EN 50173-2:2007/A1:2010

English version

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**Replace** all occurrences of EN 50173-1:2007 and EN 50173-1:201X, respectively, **with** EN 50173-1:2011.

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May 2011

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 50173-2/A1**

December 2010

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ICS 33.040.50

English version

**Information technology -  
Generic cabling systems -  
Part 2: Office premises**

Technologies de l'information -  
Systèmes de câblage générique -  
Partie 2: Locaux du secteur tertiaire

Informationstechnik -  
Anwendungsneutrale  
Kommunikationskabelanlagen -  
Teil 2: Bürogebäude

This amendment A1 modifies the European Standard EN 50173-2:2007; 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

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## 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 50173-2:2007 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 mainly from the introduction of new Channel classes and component Categories in EN 50173-1:201X.

*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.*

EUROPEAN STANDARD

**EN 50173-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2007

ICS 33.040.50

Partially supersedes EN 50173-1:2002

English version

**Information technology -  
Generic cabling systems -  
Part 2: Office premises**

Technologies de l'information -  
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Partie 2: Locaux du secteur tertiaire

Informationstechnik -  
Anwendungsneutrale  
Kommunikationskabelanlagen -  
Teil 2: Bürogebäude

This European Standard was approved by CENELEC on 2007-04-11. 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.

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**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**

## 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 50173-2 on 2007-04-11.

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) 2008-05-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2010-05-01

The previous editions of European Standards EN 50173:1995 and EN 50173-1:2002 have been developed to enable the application-independent cabling to support ICT applications in office premises. Their basic principles, however, are applicable to other types of applications and in other types of premises.

TC 215 has decided to establish relevant European Standards which address the specific requirements of these premises. In order to point out the commonalities of these cabling design standards, these EN are published as individual parts of the series EN 50173, thus also acknowledging that standards users recognize the designation “EN 50173” as a synonym for generic cabling design.

At the time of publication of this European Standard, series EN 50173 comprises the following standards:

EN 50173-1	Information technology – Generic cabling systems – Part 1: General requirements
EN 50173-2	Information technology – Generic cabling systems – Part 2: Office premises
EN 50173-3	Information technology – Generic cabling systems – Part 3: Industrial premises
EN 50173-4	Information technology – Generic cabling systems – Part 4: Homes
EN 50173-5	Information technology – Generic cabling systems – Part 5: Data centres

This European Standard, EN 50173-2, together with EN 50173-1:2007 supersedes, EN 50173-1:2002. It is an editorial revision of EN 50173-1:2002 and contains those specifications of EN 50173-1:2002, which are relevant to generic cabling systems to be operated in office premises, referencing the general requirements of EN 50173-1:2007.



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## Introduction

The importance of the information technology cabling infrastructure is similar to that of other utilities such as heating, lighting and electricity 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.

Historically, the cabling within premises comprised both application-specific and multipurpose networks. Standards within the EN 50173 series have enabled a controlled migration to generic cabling (with an associated reduction in the use of application-specific cabling) and supported the development of high data rate applications based upon defined cabling models.

This European Standard, EN 50173-2, has been prepared to reflect the demands of generic cabling within office premises and provides:

- a) users with an application independent generic cabling system and an open market for cabling components;
- b) users with a flexible cabling scheme such that modifications are both easy and economical;
- c) building professionals (for example, architects) with guidance allowing the accommodation of cabling before specific requirements are known; i.e., in the initial planning either for construction or refurbishment;
- d) industry and standardisation bodies with a cabling system which supports current products and provides a basis for future product development and applications standardisation.

This European Standard specifies multi-vendor cabling, and is related to:

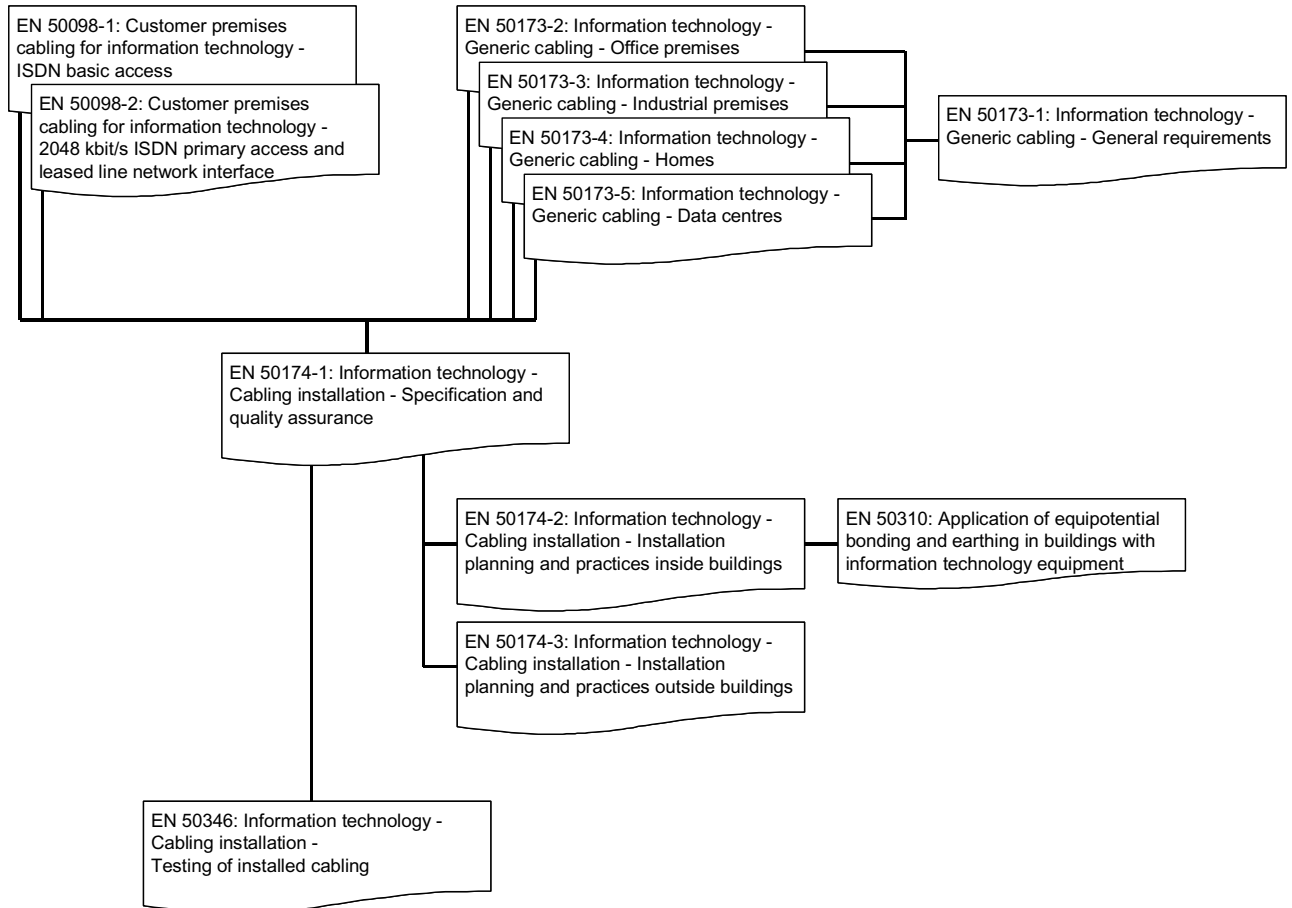
- the associated standard covering general requirements for generic cabling within premises (EN 50173-1);
- standards for cabling components developed by Technical Committees of CENELEC and/or IEC;
- standards for the quality assurance and installation of information technology cabling (series EN 50174) and testing of installed cabling (EN 50346);
- applications developed by the technical bodies of IEC (including the subcommittees of ISO/IEC JTC 1) and study groups of ITU-T.

The applications listed in EN 50173-1:2007, Annex F, have been analysed to determine the requirements for a generic cabling system. These requirements, together with statistics concerning premises geography from different countries and the models described in Clause 6, have been used to develop the requirements for cabling components and to stipulate their arrangement into cabling systems. As a result, generic cabling defined within this European Standard is targeted at, but not limited to, office premises.

It is anticipated that the generic cabling system meeting the minimum requirements of this European Standard will have a life expectancy in excess of ten years.

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

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



NOTE For the purposes of the standards in the EN 50173 and EN 50174 series the term "information technology" includes ICT, BCT and CCCB applications.

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

**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
<p><b>EN 50310</b></p> <p>5.2: Common bonding network (CBN) within a building</p> <p>6.3: AC distribution system and bonding of the protective conductor (TN-S)</p>	<p><b>EN 50173 series except EN 50173-4</b></p> <p>4: Structure</p> <p>5: Channel performance</p> <p>7: Cable requirements</p> <p>8: Connecting hardware requirements</p> <p>9: Requirements for cords and jumpers</p> <p>A: Link performance limits</p>	<p><b>EN 50174-1</b></p> <p>4 Requirements for installers</p> <p>5: Requirements for premises owners</p>		<p><b>EN 50174-1</b></p> <p>5: Requirements for premises owners</p>
		<p><b>Planning phase</b></p>		
		<p><b>EN 50174-2</b></p> <p>5: Requirements for planning installations of information technology cabling</p> <p>6: Segregation of metallic information technology and mains power cabling</p> <p>7: Additional considerations</p>		
	<p><b>and EN 50173-4</b></p> <p>4 and 5: Structure</p> <p>6: Channel performance</p> <p>8: Cable requirements</p> <p>9: Connecting hardware requirements</p> <p>10: Requirements for cords and jumpers</p> <p>A: Link performance limits</p>	<p><b>and EN 50174-3</b></p> <p><b>and (for equipotential bonding) EN 50310</b></p> <p>5.2: Common bonding network (CBN) within a building</p> <p>6.3: AC distribution system and bonding of the protective conductor (TN-S)</p>	<p><b>and EN 50174-3</b></p> <p><b>and (for equipotential bonding) EN 50310</b></p> <p>5.2: Common bonding network (CBN) within a building</p> <p>6.3: AC distribution system and bonding of the protective conductor (TN-S)</p> <p><b>and EN 50346</b></p> <p>4: General requirements</p> <p>5: Test parameters for balanced cabling</p> <p>6: Test parameters for optical fibre cabling</p>	

## 1 Scope and conformance

### 1.1 Scope

This European Standard specifies generic cabling that supports a wide range of communications services for use within office premises, or office areas within other types of premises, that comprise single or multiple buildings on a campus. The requirements of this standard may be applied to other premises that are not explicitly specified within other parts of the EN 50173 series of standards. It covers balanced cabling and optical fibre cabling.

This European Standard is based upon and references the requirements of EN 50173-1. This European Standard contains additional requirements that are appropriate to office premises in which the maximum distance over which communications services have to be distributed is 2 000 m. The principles of this European Standard may also be applied to installations that do not fall within this range.

In addition to the requirements of EN 50173-1, this European Standard specifies:

- a) an extended structure and configuration for generic cabling within office premises in support of a wide range of services including voice, data, text, image and video;
- b) implementation options;

Safety (electrical safety and protection, optical power, fire, etc.) and electromagnetic compatibility (EMC) requirements are outside the scope of this European Standard and are covered by other standards and regulations. However, information given in this international Standard may be of assistance in meeting these standards and regulations.

### 1.2 Conformance

For a cabling system to conform to this European Standard:

- a) the structure and configuration shall conform to the requirements of Clause 4;
- b) the interfaces to the cabling at the telecommunications outlet shall conform to the requirements of Clause 8 with respect to mating interfaces and performance;
- c) connecting hardware at other places in the cabling structure shall meet the performance requirements specified in Clause 8;
- d) the performance of channels shall conform to the requirements of Clause 5. This shall be achieved by one of the following:
  - a channel design and implementation ensuring that the prescribed channel performance Class of Clause 5 is met;
  - 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;
  - using the reference implementations of Clause 6 and compatible cabling components conforming to the requirements of Clauses 7, 8 and 9, based upon a statistical approach of performance modelling.
- e) local regulations concerning safety shall be met.

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

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