Irish Standard
I.S. EN 50174-3:2013&A1:2017

Information technology - Cabling installation - Part 3: Installation planning and practices outside buildings

I.S. EN 50174-3:2013&A1:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 50174-3:2013/A1:2017

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

I.S. EN 50174-3:2013&A1:2017 is the adopted Irish version of the European Document EN 50174-3:2013, Information technology - Cabling installation - Part 3: Installation planning and practices outside buildings

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50174-3:2013/A1

May 2017

ICS 35.110

English Version

Information technology - Cabling installation - Part 3: Installation planning and practices outside buildings

Technologies de l'information - Installation de câblage - Partie 3: Planification et pratiques d'installation à l'extérieur des bâtiments

Informationstechnik - Installation von Kommunikationsverkabelung - Teil 3: Installationsplanung und Installationspraktiken im Freien

This amendment A1 modifies the European Standard EN 50174-3:2013; it was approved by CENELEC on 2017-04-17. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

This document (EN 50174-3:2013/A1:2017) has been prepared by CLC/TC 215 "Electrotechnical aspects of telecommunication equipment".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2018-04-17
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2020-04-17

This document comes with:

– a new sub-clause 4.10 on planning of repair;

– modifications to the definitions used;

– technical and editorial corrections to Clauses 4, 5, 6, 7, Annex A and Annex B.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

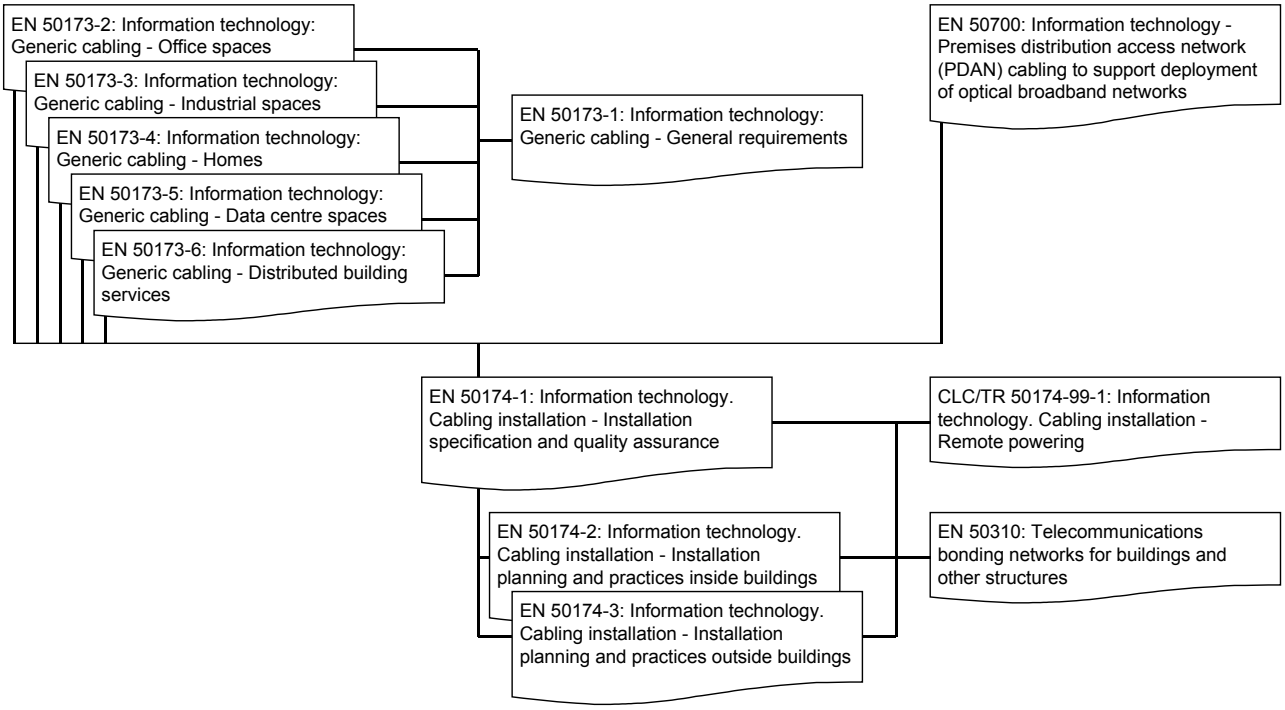
Introduction

Replace bullet 3 with “3) application dependent cabling design (e.g. EN 50700);

Delete bullet 4)

Replace bullet 5) with “4) bonding requirements (EN 50310) - the principles of which can be employed in installations outside buildings.

Replace Figure 1 by the following figure:



Replace Table 1 by the following Table

Building design phase	Generic cabling design phase	Specification phase	Installation phase	Operation phase
EN 50310	**EN 50173-2** **EN 50173-3** **EN 50173-4** **EN 50173-5** **EN 50173-6** (these ENs reference general requirements of EN 50173-1)	**EN 50174-1** **Planning phase** **EN 50174-2** **EN 50174-3** **EN 50310**	**EN 50174-2** **EN 50174-3** **EN 50310**	**EN 50174-1**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50174-3

October 2013

ICS 35.110

Supersedes EN 50174-3:2003

English version

Information technology - Cabling installation - Part 3: Installation planning and practices outside buildings

Technologies de l'information - Installation de câblage - Partie 3: Planification et pratiques d'installation à l'extérieur des bâtiments

Informationstechnik - Installation von Kommunikationsverkabelung - Teil 3: Installationsplanung und Installationspraktiken im Freien

This European Standard was approved by CENELEC on 2013-09-02. 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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 50174-3:2013 E

Contents

Page

Figures

Tables

Foreword

This document (EN 50174-3:2013) has been prepared by CLC/TC 215 “Electrotechnical aspects of telecommunication equipment”.

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-09-02
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2016-09-02

This document supersedes EN 50174-3:2003.

EN 50174 comprises three parts:

- EN 50174-1, *Information technology — Cabling installation — Part 1: Installation specification and quality assurance*;
- EN 50174-2, *Information technology — Cabling installation — Part 2: Installation planning and practices inside buildings*;
- EN 50174-3, *Information technology — Cabling installation — Part 3: Installation planning and practices outside buildings* (the present document).

All three parts support the specification, implementation and operation of information technology cabling. There are specific requirements for cabling systems that are in accordance with the design requirements of EN 50173 series. However, the three parts also apply to cabling systems of any design including those in accordance with standards such as EN 50098-1 or EN 50098-2.

This part, EN 50174-3, is concerned with the planning and installation of information technology cabling using metallic cabling and optical fibre cabling outside buildings; it is not confined to the border of a particular premises and includes wide area information technology cabling of any kind. It provides guidance as to the responsibilities of those involved and is intended to be referenced in relevant contracts.

EN 50174-3:2003 (the 1st edition) has been completely revised in the light of the technical evolution and the feedback received from the users of the 1st edition. Major changes include:

a) restructuring of the contents to align with the structure of EN 50174-1:2009 and EN 50174-2:2009 (including their associated amendments); in particular, the pertinent requirements and recommendations have been clearly distinguished and are presented in separate subclauses;

b) where appropriate, text has been aligned with that of EN 50174-1 and EN 50174-2;

c) requirements and recommendations for wide area information technology cabling have been elaborated in greater detail;

d) a new Annex A on EMC and protection (the existing Annex A is renumbered as Annex B) and a new Annex C on the application of responsibilities have been added.

Introduction

The importance of services delivered by information technology cabling infrastructure is similar to that of utilities such as heating, lighting and electricity supplies. As with those utilities, interruptions to service can have a 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 implementation of information technology cabling. These are:

a) design;

b) specification – the detailed requirement for the cabling, including the planning of its accommodation and associated building services addressing specific environments (e.g. electromagnetic) together with the quality assurance requirements to be applied;

c) 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, installation and operational aspects. EN 50173 series and other application standards cover design issues.

EN 50174-1 is used during the specification phase. It addresses the:

– installation specification, quality assurance documentation and procedures;

– documentation and administration;

– operation and maintenance.

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

This European Standard is applicable to all types of information technology cabling outside buildings, including generic cabling systems designed in accordance with EN 50173 series. The requirements and recommendations of this European Standard may be applied to cabling that is defined as part of the building.

The planning of the pathway systems, spaces and structures within the core and access network cabling as described in Figure 2 that are owned by access providers is excluded except for requirements and recommendations that provide basic safety, function and environmental objectives for mechanical, ingress and climatic characteristics (i.e. excluding pathway dimensions, distribution of spaces and similar constraints based on specific transmission methods).

This European Standard is also relevant to:

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

This part, EN 50174-3, contains requirements and recommendations relating to the installation planning and practices by defining:

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

ii) planning and installation requirements for metallic and optical fibre information technology cabling depending on the application, electromagnetic environment, building infrastructure and facilities, etc.;

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

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

1) this part and other parts of EN 50174 series;

2) generic cabling design (EN 50173 series);

3) application dependent cabling design (e.g. EN 50098 series);

4) testing of installed cabling (EN 50346);

5) equipotential bonding requirements (EN 50310).

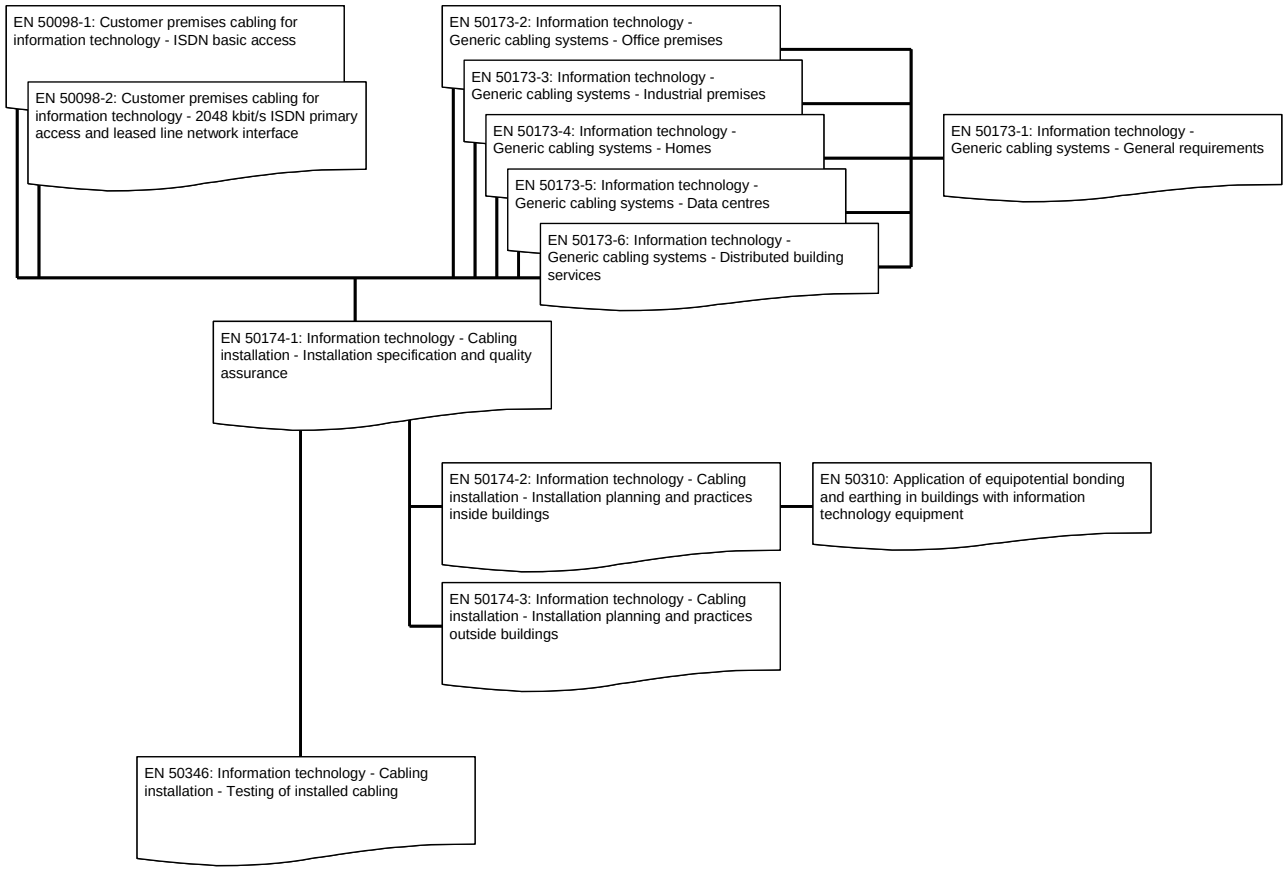


Figure 1 — Schematic relationship between EN 50174 series and other relevant standards

Table 1 — Contextual relationship between EN 50174 series and other standards relevant for information technology cabling systems

<table>
<tr><th>Building design phase</th><th>Generic cabling design phase</th><th>Specification phase</th><th>Installation phase</th><th>Operation phase</th></tr>
<tr><td>EN 50310

6. Earthing networks</td><td>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

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</td><td>EN 50174-1

4: Requirements for specifying installations of information technology cabling
5: Requirements for installers 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

and
EN 50174-3

and
(for equipotential bonding)
EN 50310</td><td>EN 50174-2

5: Requirements for the installation of information technology cabling
6: Segregation of metallic information technology cabling and power supply cabling

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</td><td>EN 50174-1

4: Requirements for specifying installations of information technology cabling</td></tr>
</table>

1 Scope and conformance

1.1 Scope

This European Standard specifies requirements and provides recommendations for the following aspects of information technology cabling:

a) planning;

b) installation practice.

This European Standard is applicable to all types of information technology cabling outside buildings including generic cabling systems designed in accordance with EN 50173 series. The requirements and recommendations of this European Standard may be applied to cabling that is defined as part of the building.

The requirements and recommendations of Clauses 4, 5 and 6 of this European Standard are subject to any site-specific requirements and recommendations of Clause 7.

The planning of the pathway systems, spaces and structures within the core and access network cabling as described in Figure 2 that are owned by access providers is excluded except for requirements and recommendations that provide basic safety, function and environmental objectives for mechanical, ingress and climatic characteristics (i.e. excluding pathway dimensions, distribution of spaces and similar constraints based on specific transmission methods).

The installation practices applicable to all cabling installation methods are included by the provision of the necessary planning requirements and recommendations associated with each one with the exception of information technology cabling installed:

– around or within aerial power supply or associated earth conductors;

– on infrastructures carrying power supplies in excess of AC/DC 25 kV.

This European Standard:

1) details the considerations for satisfactory installation and operation of information technology cabling;

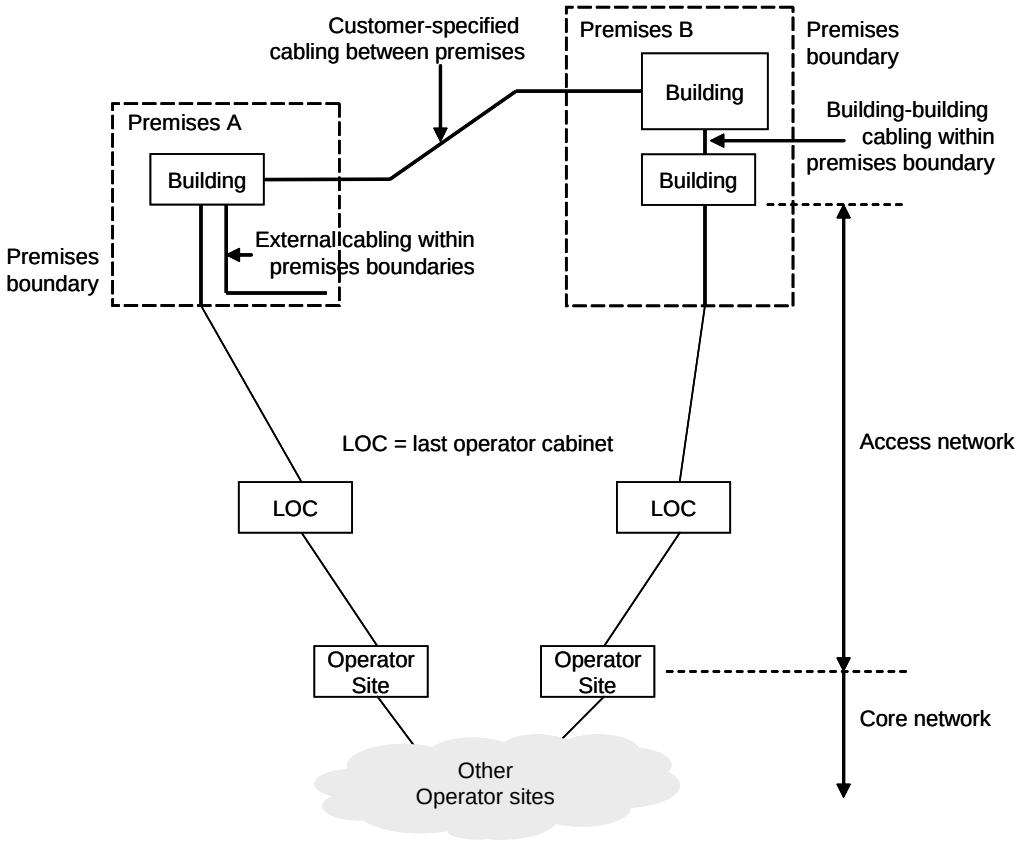
2) excludes specific requirements applicable to other cabling systems (e.g. power supply cabling); however, it takes account of the effects other cabling systems may have on the installation of information technology cabling (and vice versa) and gives general advice;

3) excludes those aspects of installation associated with the transmission of signals in free space between transmitters, receivers or their associated antenna systems (e.g. wireless, radio, microwave or satellite).

This European Standard is applicable to certain hazardous environments. It does not exclude additional requirements which are applicable in particular circumstances, defined by e.g. electricity supply and electrified railways.

The requirements within this European Standard do not cover any additional requirements for the information technology cables installed in hazardous or stressful environments e.g. electricity supply and electric railway locations (see Clause 7).

Examples of areas covered by this European Standard are shown in Figure 2.



NOTE Pathways and spaces between premises A and B are assumed to be designed to meet specific networking objectives, whereas the pathways and spaces between the premises boundary and the buildings in the premises, if provided by the premises owner, are aimed to be more generic to meet the needs of multiple access providers and transmission systems within their access networks.

Figure 2 — Examples of areas covered by this document

1.2 Conformance

For a cabling installation to conform to this European Standard:

a) the planning of the installation shall meet the requirements of Clause 4;

b) the installation practices shall meet the requirements of Clause 5;

c) local regulations, including safety, shall be met.

The responsibilities for specific elements of conformance may be made by national-specific amendment of Annex C.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 124:1994 [1)], *Gully tops and manhole tops for vehicular and pedestrian areas - Design requirements, type testing, marking, quality control*

EN 12613, *Plastics warning devices for underground cables and pipelines with visual characteristics*

1) To be replaced by series EN 124, which is at draft stage.