



**NSAI**  
Standards

Irish Standard Recommendation  
S.R. HD 60364-5-51:2009&A11:2013&A12:2017

# Electrical installations of buildings - Part 5-51: Selection and erection of electrical equipment - Common rules

**S.R. HD 60364-5-51:2009&A11:2013&A12:2017**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

HD 60364-5-51:2009/A11:2013

HD 60364-5-51:2009/A12:2017

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## National Foreword

S.R. HD 60364-5-51:2009&A11:2013&A12:2017 is the adopted Irish version of the European Document HD 60364-5-51:2009, Electrical installations of buildings - Part 5-51: Selection and erection of electrical equipment - Common rules

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**HARMONIZATION DOCUMENT**

**HD 60364-5-51:2009/A12**

**DOCUMENT D'HARMONISATION**

**HARMONISIERUNGSDOKUMENT**

August 2017

ICS 13.260; 91.140.50

English Version

## **Electrical installations of buildings - Part 5-51: Selection and erection of electrical equipment - Common rules**

Installations électriques des bâtiments - Partie 5-51: Choix  
et mise en oeuvre des matériels électriques - Règles  
communes

Errichten von Niederspannungsanlagen - Teil 5-51:  
Auswahl und Errichtung elektrischer Betriebsmittel -  
Allgemeine Bestimmungen

This amendment A12 modifies the Harmonization Document HD 60364-5-51:2009; it was approved by CENELEC on 2017-05-31. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this amendment at national level.

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This amendment exists in three official versions (English, French, German).

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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**

**HD 60364-5-51:2009/A12:2017 (E)**

## **European foreword**

This document (HD 60364-5-51:2009/A12:2017) has been prepared by CLC/TC 64, "Electrical installations and protection against electric shock".

The following dates are fixed:

- latest date by which this document has (dop) 2018-05-31  
to be implemented at national level by  
publication of an identical national  
standard or by endorsement
- latest date by which the national (dow) 2020-05-31  
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HARMONIZATION DOCUMENT  
DOCUMENT D'HARMONISATION  
HARMONISIERUNGSDOKUMENT

**HD 60364-5-51/A11**

August 2013

ICS 13.260; 91.140.50

English version

**Electrical installations of buildings -  
Part 5-51: Selection and erection of electrical equipment -  
Common rules**

Installations électriques des bâtiments -  
Partie 5-51: Choix et mise en oeuvre des  
matériels électriques -  
Règles communes

Errichten von Niederspannungsanlagen -  
Teil 5-51: Auswahl und Errichtung  
elektrischer Betriebsmittel -  
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This amendment A11 modifies the Harmonization Document HD 60364-5-51:2009; it was approved by CENELEC on 2013-07-22. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this amendment at national level.

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HD 60364-5-51:2009/A11:2013 (E)

## **Foreword**

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an identical national standard or by endorsement
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HARMONISIERUNGSDOKUMENT

**HD 60364-5-51**

September 2009

ICS 13.260; 91.140.50

Supersedes HD 60364-5-51:2006

English version

**Electrical installations of buildings -  
Part 5-51: Selection and erection of electrical equipment -  
Common rules  
(IEC 60364-5-51:2005, modified)**

Installations électriques des bâtiments -  
Partie 5-51: Choix et mise en oeuvre  
CTdes matériels électriques -  
Règles communes  
(CEI 60364-5-51:2005, modifiée)

Errichten von Niederspannungsanlagen -  
Teil 5-51: Auswahl und Errichtung  
elektrischer Betriebsmittel -  
Allgemeine Bestimmungen  
(IEC 60364-5-51:2005, modifiziert)

This Harmonization Document was approved by CENELEC on 2009-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document at national level.

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Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of the International Standard IEC 60364-5-51:2005, prepared by IEC TC 64, Electrical installations and protection against electric shock, together with common modifications prepared by SC 64B, Protection against thermal effects, of Technical Committee CENELEC TC 64, Electrical installations and protection against electric shock, was submitted to the formal vote and was approved by CENELEC as HD 60364-5-51 on 2009-04-01.

This Harmonization Document supersedes HD 60364-5-51:2006.

The main changes with respect to HD 60364-5-51:2006 are listed below:

- corrections of misprints in Table 51 based on Table 321 derived from the old Part 3;
- introduction of a new Clause 516 dealing with measures for mitigation of protective conductor currents.

In this document the common modifications to the International Standard are indicated by a vertical line in the left margin of the text.

The following dates were fixed:

- |                                                                                                                                          |       |            |
|------------------------------------------------------------------------------------------------------------------------------------------|-------|------------|
| – latest date by which the existence of the HD has to be announced at national level                                                     | (doa) | 2009-10-01 |
| – latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement | (dop) | 2010-04-01 |
| – latest date by which the national standards conflicting with the HD have to be withdrawn                                               | (dow) | 2012-04-01 |

Annexes ZA, ZB, ZC, ZD and ZE have been added by CENELEC.

Clauses, subclauses, notes, tables and figures which are additional to those in IEC 60364-5-51:2005 are prefixed “Z”.

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## 510 Introduction

### 510.1 Scope

This part of HD 60364 deals with the selection of equipment and its erection. It provides common rules for compliance with measures of protection for safety, requirements for proper functioning for intended use of the installation, and requirements appropriate to the external influences foreseen.

### 510.2 Normative references

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

EN 60073, *Basic and safety principles for man-machine interface, marking and identification – Coding principles for indication devices and actuators* (IEC 60073)

HD 60364-4-41:2007, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock* (IEC 60364-4-41:2005, mod.)

HD 60364-4-443:2006, *Electrical installations of buildings – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances – Clause 443: Protection against overvoltages of atmospheric origin or due to switching* (IEC 60364-4-44:2001/A1:2003, mod.)

HD 384.5.52 S1:1995, *Electrical installations of buildings – Part 5: Selection and erection of electrical equipment – Chapter 52: Wiring systems* (IEC 60364-5-52:1993, mod.)

HD 60364-5-54:2007, *Low-voltage electrical installations – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements, protective conductors and protective bonding conductors* (IEC 60364-5-54:2002, mod.)

EN 60446, *Basic and safety principles for man-machine interface, marking and identification – Identification of conductors by colours or numerals* (IEC 60446)

EN 60447, *Basic and safety principles for man-machine interface, marking and identification – Actuating principles* (IEC 60447)

IEC 60617 database, *Graphical symbols for diagrams*.

EN 60695 series, *Fire hazard testing* (IEC 60695 series)

EN 61082 series, *Preparation of documents used in electrotechnology* (IEC 61082 series)

EN 61140:2002, *Protection against electric shock – Common aspects for installation and equipment* (IEC 61140:2001)

EN 61346-1, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 1: Basic rules* (IEC 61346-1)

HD 308 S2, *Identification of cores in cables and flexible cords*

### 510.3 General

Every item of equipment shall be selected and erected so as to allow compliance with the rules stated in the following clauses of this part of HD 60364 and the relevant rules in other parts of the HD 384/60364 series.

**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC**

**60364-5-51**

Cinquième édition  
Fifth edition  
2005-04

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**Installations électriques des bâtiments –**

**Partie 5-51:  
Choix et mise en œuvre des matériels  
électriques – Règles communes**

**Electrical installations of buildings –**

**Part 5-51:  
Selection and erection of electrical  
equipment – Common rules**



Numéro de référence  
Reference number  
CEI/IEC 60364-5-51:2005

## Numérotation des publications

Depuis le 1<sup>er</sup> janvier 1997, les publications de la CEI sont numérotées à partir de 60000. Ainsi, la CEI 34-1 devient la CEI 60034-1.

## Editions consolidées

Les versions consolidées de certaines publications de la CEI incorporant les amendements sont disponibles. Par exemple, les numéros d'édition 1.0, 1.1 et 1.2 indiquent respectivement la publication de base, la publication de base incorporant l'amendement 1, et la publication de base incorporant les amendements 1 et 2.

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IEC**

**60364-5-51**

Cinquième édition  
Fifth edition  
2005-04

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**Installations électriques des bâtiments –**

**Partie 5-51:  
Choix et mise en œuvre des matériels  
électriques – Règles communes**

**Electrical installations of buildings –**

**Part 5-51:  
Selection and erection of electrical  
equipment – Common rules**

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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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### INSTALLATIONS ÉLECTRIQUES DES BÂTIMENTS –

#### **Partie 5-51: Choix et mise en œuvre des matériels électriques – Règles communes**

#### AVANT-PROPOS

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La Norme internationale CEI 60364-5-51 a été établie par le comité d'études 64 de la CEI: Installations électriques et protection contre les chocs électriques.

Cette cinquième édition de la CEI 60364-5-51 annule et remplace la quatrième édition parue en 2001. Cette édition constitue une révision technique.

Le document 64/1438/FDIS circulé comme amendement 1 auprès des Comités nationaux de la CEI a conduit à la publication de la nouvelle édition.

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### ELECTRICAL INSTALLATIONS OF BUILDINGS –

#### **Part 5-51: Selection and erection of electrical equipment – Common rules**

#### FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 60364-5-51 has been prepared by IEC technical committee 64: Electrical installations and protection against electric shock.

This fifth edition of IEC 60364-5-51 cancels and replaces the fourth edition published in 2001 and constitutes a technical revision.

The document 64/1438/FDIS, circulated to National Committees as Amendment 1, led to the publication of the new edition.

Les modifications principales par rapport à l'édition précédente sont les suivantes:

- corrections des erreurs du Tableau 51 basé sur le Tableau 321, extrait de l'ancienne Partie 3;
- introduction d'un nouvel Article 516 traitant des dispositions d'atténuation des courants dans les dispositifs de protection;
- introduction de l'Annexe informative B extraite de la CEI 61140 dans l'Annexe E de cette norme. L'Annexe B de la CEI 61140 traite des courants dans les conducteurs de protection.

Le texte de cette norme est basé sur les documents suivants:

| FDIS         | Rapport de vote |
|--------------|-----------------|
| 64/1438/FDIS | 64/1460/RVD     |

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette norme.

Cette publication a été rédigée selon les Directives ISO/CEI, Partie 2.

La CEI 60364 comprend les parties suivantes, sous le titre général *Installations électriques dans les bâtiments*

Partie 1: Principes fondamentaux, détermination des caractéristiques générales, définitions

Partie 2: Vacant

Partie 3: Vacant

Partie 4: Protection pour assurer la sécurité

Partie 5: Choix et mise en oeuvre des matériels électriques

Partie 6: Vérification

Partie 7: Règles pour les installations et emplacements spéciaux

Le comité a décidé que le contenu de cet amendement et de la publication de base ne sera pas modifié avant la date de maintenance indiquée sur le site web de la CEI sous "<http://webstore.iec.ch>" dans les données relatives à la publication recherchée. A cette date, la publication sera

- reconduite,
- supprimée,
- remplacée par une édition révisée, ou
- amendée.

The main changes with respect to the previous edition are listed below:

- corrections of misprints in Table 51 based on Table 321 derived from the old Part 3;
- introduction of a new Clause 516 dealing with measures for mitigation of protective conductor currents;
- introduction of an informative Annex B extracted from IEC 61140 in Annex E of this standard. Annex B of IEC 61140 deals with protective conductor currents.

The text of this standard is based on the following documents:

| FDIS         | Report on voting |
|--------------|------------------|
| 64/1438/FDIS | 64/1460/RVD      |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 60364 consists of the following parts, under the general title *Electrical installations of buildings*:

Part 1: Fundamental principles, assessment of general characteristics, definitions

Part 2: Void

Part 3: Void

Part 4: Protection for safety

Part 5: Selection and erection of electrical equipment

Part 6: Verification

Part 7: Requirements for special installations or locations

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## INSTALLATIONS ÉLECTRIQUES DES BÂTIMENTS –

### Partie 5-51: Choix et mise en œuvre des matériels électriques – Règles communes

#### 510 Introduction

##### 510.1 Domaine d'application

La présente partie de la CEI 60364 traite du choix du matériel et de sa mise en œuvre. Il doit permettre de satisfaire aux mesures de protection pour assurer la sécurité, aux exigences pour assurer un fonctionnement satisfaisant de l'installation pour l'utilisation prévue, et aux exigences appropriées aux conditions d'influences externes prévisibles.

##### 510.2 Références normatives

Les documents de référence suivants sont indispensables pour l'application du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

CEI 60068-2-11:1981, *Essais d'environnement – Deuxième partie: Essais. Essai Ka: Brouillard salin*

CEI 60073:1996, *Principes fondamentaux et de sécurité pour l'interface homme-machine, le marquage et l'identification – Principes de codage pour les dispositifs indicateurs et les organes de commande*

CEI 60079 (toutes les parties), *Matériel électrique pour atmosphères explosives gazeuses*

CEI 60255-22-1:1988, *Relais électriques – Partie 22: Essais d'influence électrique concernant les relais de mesure et dispositifs de protection – Section 1: Essais à l'onde oscillatoire amortie à 1 MHz*

CEI 60364-1:2001, *Installations électriques des bâtiments – Partie 1: Principes fondamentaux*

CEI 60364-4-41:2001, *Installations électriques des bâtiments – Partie 4-41: Protection pour assurer la sécurité – Protection contre les chocs électriques*

CEI 60364-4-42:2001, *Installations électriques des bâtiments – Partie 4-42: Protection pour assurer la sécurité – Protection contre les effets thermiques*

CEI 60364-4-44:2001, *Installations électriques des bâtiments – Partie 4-44: Protection pour assurer la sécurité – Protection contre les perturbations de tension et électromagnétiques*

CEI 60364-5-52:2001, *Installations électriques des bâtiments – Partie 5-52: Choix et mise en œuvre des matériels électriques – Canalisations*

CEI 60364-5-54, *Installations électriques des bâtiments – Partie 5-54: Choix et mise en œuvre des matériels électriques – Mise à la terre, conducteurs de protection et conducteurs d'équipotentialité de protection*

CEI 60446:1999, *Principes fondamentaux et de sécurité pour les interfaces homme-machines, le marquage et l'identification – Identification des conducteurs par des couleurs ou par des repères numériques*

CEI 60447:1993, *Interface homme-machine (IHM) – Principes de manœuvre*

## ELECTRICAL INSTALLATIONS OF BUILDINGS –

### Part 5-51: Selection and erection of electrical equipment – Common rules

#### 510 Introduction

##### 510.1 Scope

This part of IEC 60364 deals with the selection of equipment and its erection. It provides common rules for compliance with measures of protection for safety, requirements for proper functioning for intended use of the installation, and requirements appropriate to the external influences foreseen.

##### 510.2 Normative references

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

IEC 60068-2-11:1981, *Environmental testing – Part 2: Tests. Test Ka: Salt mist*

IEC 60073:1996, *Basic and safety principles for man-machine interface, marking and identification – Coding principles for indication devices and actuators*

IEC 60079 (all parts), *Electrical apparatus for explosive gas atmospheres*

IEC 60255-22-1:1988, *Electrical relays – Part 22: Electrical disturbance tests for measuring relays and protection equipment – Section 1: 1 MHz burst disturbance tests*

IEC 60364-1:2001, *Electrical installations of buildings – Part 1: Fundamental principles*

IEC 60364-4-41:2001, *Electrical installations of buildings – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60364-4-42:2001, *Electrical installations of buildings – Part 4-42: Protection for safety – Protection against thermal effects*

IEC 60364-4-44:2001, *Electrical installations of buildings – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances*

IEC 60364-5-52:2001, *Electrical installations of buildings – Part 5-52: Selection and erection of electrical equipment – Wiring systems*

IEC 60364-5-54, *Electrical installations of buildings – Part 5-54: Selection and erection of electrical equipment – Earthing arrangements and protective conductors and protective bonding conductors*

IEC 60446:1999, *Basic and safety principles for man-machine interface, marking and identification – Identification of conductors by colours or numerals*

IEC 60447:1993, *Man-machine interface (MMI) – Actuating principles*

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