BS EN IEC 60079-7:2015+A1:2018
Incorporating corrigendum July 2019

BSI Standards Publication

# Explosive atmospheres

Part 7: Equipment protection by increased safety "e"

# National foreword

This British Standard is the UK implementation of EN IEC 60079-7:2015+A1:2018. It is identical to IEC 60079-7:2015, incorporating amendment 1:2017. It supersedes BS EN 60079-7:2015, which is withdrawn. It partially supersedes BS EN 60079-15:2010, specifically the requirements for Type of Protection "nA".

The significance of the changes between this standard and BS EN 60079-7:2007 (for "ec"), and between this standard and BS EN 60079-15:2010 (for "nA") are listed in a table in the IEC foreword.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee EXL/31, Equipment for explosive atmospheres.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.


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**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2015.

**Amendments/corrigenda issued since publication**

| Date | Text affected |
|---|---|
| 31 January 2017 | Implementation of IEC Interpretation sheet September 2016 in National Annex NA |
| 30 June 2018 | Implementation of IEC amendment 1:2017 with CENELEC endorsement A1:2018 |
| 31 July 2019 | Table 5 corrected |

**National Annex NA**
(Informative)

**IEC 60079-7**
**Edition 5.0 2015-06**

# EXPLOSIVE ATMOSPHERES –

## Part 7: Equipment protection by increased safety 'e'

## INTERPRETATION SHEET 1

This interpretation sheet has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

The text of this interpretation sheet is based on the following documents:

| ISH | Report on voting |
|---|---|
| 31/1258/ISH | 31/1272/RVD |

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

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**IEC 60079-7:2015 Edition 5.0, *Explosive atmospheres – Part 7: Equipment protection by increased safety "e"***

**Question:**

Do the requirements given in 5.2.3 prohibit the use of a terminal box opened to the interior of a motor rated 1 kV or greater, provided the interior of the machine has an ingress protection of IP54 or greater?

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**5.2.3 Degrees of protection provided by electrical machines, Level of Protection "ec"**

The requirements of 4.10 apply, except that terminal boxes attached to electrical machines operating at voltages up to 1 kV, may be opened to the interior of the machine, only when the degree of protection of the electrical machine is at least IP44. Covers and entries of the terminal box shall provide at least degree of protection IP54.

**Answer:**

No. As long as the interior of the machine has an ingress protection of IP54 or greater, determined in accordance with IEC 60079-0, there is no limitation to less than 1 kV. If the interior of the machine has an ingress rating of IP44 or lower, the use of a terminal box open to the interior of a motor rated 1 kV or greater is not permitted.

NOTE Many manufacturers opt to declare IP44 for the machine for certification purposes, whilst claiming a rating of IP54 or higher, by assessment, for contractual purposes in order to avoid the difficult testing required for certification of the IP of larger machines. As such, this additional IP rating need only comply with IEC 60529 or IEC 60034-5 as applicable, and not with any of the testing detailed in IEC 60079-0.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN IEC 60079-7:2015 +A1

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English Version

# Explosive atmospheres — Part 7: Equipment protection by increased safety "e" (IEC 60079-7:2015)

Atmosphères explosives — Partie 7: Protection de l'équipement par sécurité augmentée "e" (IEC 60079-7:2015)

Explosionsfähige Atmosphäre — Teil 7: Geräteschutz durch erhöhte Sicherheit "e" (IEC 60079-7:2015)

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



Ref. No. EN IEC 60079-7:2015+A1:2018: E

# European foreword

The text of document 31/1182/FDIS, future edition 5 of IEC 60079-7, prepared by IEC/TC 31 "Equipment for explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60079-7:2015.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-06-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-07-31

This document supersedes EN 60079-7:2007.

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.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

**Endorsement notice**

The text of the International Standard IEC 60079-7:2015 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

| | | |
|---|---|---|
| IEC/TS 60034-17 | NOTE | Harmonized as CLC/TS 60034-17. |
| IEC 60034-18-41 | NOTE | Harmonized as EN 60034-18-41. |
| IEC/TS 60034-25 | NOTE | Harmonized as CLC/TS 60034-25. |
| IEC 60079-14 | NOTE | Harmonized as EN 60079-14. |
| IEC 60079-17 | NOTE | Harmonized as EN 60079-17. |
| IEC 60079-18 | NOTE | Harmonized as EN 60079-18. |
| IEC 60079-20-1 | NOTE | Harmonized as EN 60079-20-1. |
| IEC 60079-28 | NOTE | Harmonized as EN 60079-28. |
| IEC 60079-29-2 | NOTE | Harmonized as EN 60079-29-2. |
| IEC 60079-30-2 | NOTE | Harmonized as EN 60079-30-2. |
| IEC 60079-35-1 | NOTE | Harmonized as EN 60079-35-1. |
| IEC 60086-1 | NOTE | Harmonized as EN 60086-1. |
| IEC 60095-1 | NOTE | Harmonized as EN 60095-1. |

| | | |
|---|---|---|
| IEC 60364-5-55 | NOTE | Harmonized in EN 60364-5-55 series. |
| IEC 60622 | NOTE | Harmonized as EN 60622. |
| IEC 60623 | NOTE | Harmonized as EN 60623. |
| IEC 60664-3 | NOTE | Harmonized as EN 60664-3. |
| IEC 60927 | NOTE | Harmonized as EN 60927. |
| IEC 61008-1 | NOTE | Harmonized as EN 61008-1. |
| IEC 61056-1 | NOTE | Harmonized as EN 61056-1. |
| IEC 61347-2-1 | NOTE | Harmonized as EN 61347-2-1. |
| IEC 61347-2-4 | NOTE | Harmonized as EN 61347-2-4. |
| IEC 61347-2-7 | NOTE | Harmonized as EN 61347-2-7. |
| IEC 61347-2-8 | NOTE | Harmonized as EN 61347-2-8. |
| IEC 61347-2-9 | NOTE | Harmonized as EN 61347-2-9. |
| IEC 61347-2-13 | NOTE | Harmonized as EN 61347-2-13. |
| IEC 61951-1 | NOTE | Harmonized as EN 61951-1. |
| IEC 62013-1 | NOTE | Harmonized as EN 62013-1. |
| ISO 13849-1 | NOTE | Harmonized as EN ISO 13849-1. |

## Foreword to amendment A1

The text of document 31/1301/CDV, future IEC 60079-7:2015/A1, prepared by IEC/TC 31 "Explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60079-7:2015/A1:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-07-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-01-19

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

**Endorsement notice**

The text of the International Standard IEC 60079-7:2015/A1:2017 was approved by CENELEC as a European Standard without any modification.

# Annex ZA
(normative)

# Normative references to international publications with their corresponding European publications

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 60034-1 | — | Rotating electrical machines — Part 1: Rating and performance | EN 60034-1 | — |
| IEC 60044-6 | — | Instrument transformers — Part 6: Requirements for protective current transformers for transient performance | EN 60044-6 | — |
| IEC 60061-1 | — | Lamp caps and holders together with gauges for the control of interchangeability and safety — Part 1: Lamp caps | EN 60061-1 | — |
| IEC 60061-2 | — | Lamp caps and holders together with gauges for the control of interchangeability and safety — Part 2: Lampholders | EN 60061-2 | — |
| IEC 60064 | — | Tungsten filament lamps for domestic and similar general lighting purposes - Performance requirements | EN 60064 | — |
| IEC 60068-2-6 | — | Environmental testing — Part 2-6: Tests - Test Fc: Vibration (sinusoidal) | EN 60068-2-6 | — |
| IEC 60068-2-27 | 2008 | Environmental testing — Part 2-27: Tests - Test Ea and guidance: Shock | EN 60068-2-27 | 2009 |
| IEC 60068-2-42 | — | Environmental testing — Part 2-42: Tests - Test Kc: Sulphur dioxide test for contacts and connections | EN 60068-2-42 | — |
| IEC 60079-0 | — | Explosive atmospheres — Part 0: Equipment - General requirements | EN 60079-0 | — |
| IEC 60079-1 | — | Explosive atmospheres — Part 1: Equipment protection by flameproof enclosures "d" | EN 60079-1 | — |
| IEC 60079-11 | — | Explosive atmospheres — Part 11: Equipment protection by intrinsic safety "i" | EN 60079-11 | — |
| IEC 60079-30-1 | — | Explosive atmospheres — Part 30-1: Electrical resistance trace heating - General and testing requirements | EN 60079-30-1 | — |

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 60085 | — | Electrical insulation - Thermal evaluation and designation | EN 60085 | — |
| IEC 60112 | — | Method for the determination of the proof and the comparative tracking indices of solid insulating materials | EN 60112 | — |
| IEC 60216-1 | — | Electrical insulating materials - Thermal endurance properties — Part 1: Ageing procedures and evaluation of test results | EN 60216-1 | — |
| IEC 60216-2 | — | Electrical insulating materials - Thermal endurance properties — Part 2: Determination of thermal endurance properties of electrical insulating materials - Choice of test criteria | EN 60216-2 | — |
| IEC 60228 | — | Conductors of insulated cables | EN 60228 | — |
| IEC 60238 | — | Edison screw lampholders | EN 60238 | — |
| IEC 60317-3 | 2004 | Specifications for particular types of | — | — |
| +A1 | 2010 | winding wires — Part 3: Polyester enamelled round copper wire, class 155 | | |
| IEC 60317-8 | — | Specifications for particular types of winding wires — Part 8: Polyesterimide enamelled round copper wire, class 180 | EN 60317-8 | — |
| IEC 60317-13 | — | Specifications for particular types of winding wires — Part 13: Polyester or polyesterimide overcoated with polyamide-imide enamelled round copper wire, class 200 | EN 60317-13 | — |
| IEC 60317-46 | — | Specifications for particular types of winding wires — Part 46: Aromatic polyimide enamelled round copper wire, class 240 | EN 60317-46 | — |
| IEC 60400 | — | Lampholders for tubular fluorescent lamps and starterholders | EN 60400 | — |
| IEC 60432-1 | — | Incandescent lamps - Safety specifications — Part 1: Tungsten filament lamps for domestic and similar general lighting purposes | EN 60432-1 | — |
| IEC 60432-2 | — | Incandescent lamps - Safety specifications — Part 2: Tungsten halogen lamps for domestic and similar general lighting purposes | EN 60432-2 | — |
| IEC 60432-3 | — | Incandescent lamps - Safety specifications - Part 3: Tungsten halogen lamps (non-vehicle) | EN 60432-3 | — |
| IEC 60529 | — | Degrees of protection provided by enclosures (IP Code) | — | — |
| IEC 60598-1 | — | Luminaires — Part 1: General requirements and tests | EN 60598-1 | — |
| IEC 60664-1 | — | Insulation coordination for equipment within low-voltage systems — Part 1: Principles, requirements and tests | EN 60664-1 | — |