

<b>STN</b>	<b>Výbušné atmosféry</b> <b>Časť 15: Ochrana zariadení druhom ochrany "n"</b>	<b>STN</b> <b>EN IEC 60079-15</b>  33 2320
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Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 07/19

Obsahuje: EN IEC 60079-15:2019, IEC 60079-15:2017

Oznámením tejto normy sa od 19.04.2022 ruší  
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EUROPEAN STANDARD

**EN IEC 60079-15**

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2019

ICS 29.260.20

Supersedes EN 60079-15:2010

English Version

**Explosive atmospheres - Part 15: Equipment protection by type  
of protection "n"  
(IEC 60079-15:2017)**

Atmosphères explosives - Partie 15: Protection du matériel  
par mode de protection "n"  
(IEC 60079-15:2017)

Explosionsfähige Atmosphäre - Teil 15: Geräteschutz durch  
Zündschutzart "n"  
(IEC 60079-15:2017)

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Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN IEC 60079-15:2019 (E)****European foreword**

The text of document (31/1339/FDIS), future edition 5 of IEC 60079-15, prepared by IEC/TC 31 "Equipment for explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60079-15:2019.

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) 2019-10-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-04-19

This document supersedes EN 60079-15:2010.

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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 60079-15:2017 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 60079-1	NOTE	Harmonized as EN 60079-1.
IEC 60079-2	NOTE	Harmonized as EN 60079-2.
IEC 60079-11	NOTE	Harmonized as EN 60079-11.
IEC 60079-17	NOTE	Harmonized as EN 60079-17.
IEC 60079-18	NOTE	Harmonized as EN 60079-18.
IEC 60297 (series)	NOTE	Harmonized in EN 60297 series.
IEC 61347-2-1	NOTE	Harmonized as EN 61347-2-1.

**Annex ZA**  
(normative)**Normative references to international publications  
with their corresponding European publications**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

NOTE 1 Where 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60079-0	-	Explosive atmospheres - Part 0: Equipment - General requirements	EN IEC 60079-0	2018
IEC 60079-7	-	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"	EN 60079-7	2015

**EN IEC 60079-15:2019 (E)****Annex ZZ**  
(informative)**Relationship between this European standard and the essential requirements of 2014/34/EU [2014 OJ L96] aimed to be covered**

This European standard has been prepared under a Commission's standardisation request M/BC/CEN/92/46 to provide one voluntary means of conforming to essential requirements of 2014/34/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast).

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZ.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

**Table ZZ.1 – Correspondence between this European standard and Annex II of Directive 2014/34/EU [2014 OJ L96]**

<i>Essential Requirements of 2014/34/EU</i>	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
1.0.1.	Entire Standard	Second indent only
1.0.2.	3.7 and note	In addition to EN 60079-0
1.0.3.		Reference to EN 60079-0
1.0.4.		Reference to EN 60079-0
1.0.5.		And reference to EN 60079-0
1.0.6.		Reference to EN 60079-0
1.1.		Reference to EN 60079-0
1.2.1.		Reference to EN 60079-0
1.2.2.		Reference to EN 60079-0
1.2.3.		Not applicable. Release of flammable material is not foreseen
1.2.4.		Not applicable. Dust atmospheres and deposits are out of scope
1.2.5.		Reference to EN 60079-0
1.2.6.		Warning label deemed adequate for Category 3 Equipment
1.2.7.		Reference to EN 60079-0 and relevant standards for normal industrial applications
1.2.8.		Not specifically applied to Category 3 Equipment but covered in general for normal conditions by the installation requirements in EN 60079-14
1.2.9.		Not applicable
1.3.1.		Reference to EN 60079-0, plus the principle of Ex n protection throughout standard
1.3.2.		Reference to EN 60079-0
1.3.3.		Reference to EN 60079-0
1.3.4.		Not applicable
1.3.5.		Not applicable
1.4.		Reference to EN 60079-0
1.5.		Not applicable

1.6.1. to 1.6.3		Not applicable
1.6.4.		Reference to EN 60079-0
1.6.5.		Not applicable
2.0. 2.1 and 2.2		Not applicable. Out of scope
2.3.1.	Entire standard	And reference to EN 60079-0
2.3.2.		Not applicable. Out of scope
3.		Not applicable. Out of scope

**WARNING 1:** Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

**WARNING 2:** Other Union legislation may be applicable to the product(s) falling within the scope of this standard.



IEC 60079-15

Edition 5.0 2017-12

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Explosive atmospheres –  
Part 15: Equipment protection by type of protection "n"**

**Atmosphères explosives –  
Partie 15: Protection du matériel par mode de protection «n»**



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IEC 60079-15

Edition 5.0 2017-12

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Explosive atmospheres –  
Part 15: Equipment protection by type of protection "n"**

**Atmosphères explosives –  
Partie 15: Protection du matériel par mode de protection «n»**

INTERNATIONAL  
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## CONTENTS

FOREWORD .....	4
1 Scope .....	9
2 Normative references .....	15
3 Terms and definitions .....	16
4 General .....	17
4.1 Equipment grouping and temperature classification .....	17
4.2 Potential ignition sources .....	17
4.3 Equipment requirements .....	17
5 Maximum surface temperatures .....	17
6 Requirements for electrical equipment .....	18
6.1 General .....	18
6.2 Electric strength insulation from earth or frame .....	18
7 Requirements for non-incendive components .....	18
7.1 Type testing .....	18
7.2 Circuit limitations .....	18
8 Requirements for hermetically sealed devices .....	18
9 Requirements for sealed devices .....	19
9.1 Non-metallic materials .....	19
9.2 Opening .....	19
9.3 Internal spaces .....	19
9.4 Handling .....	19
9.5 Gasket and seals .....	19
9.6 Type tests .....	19
10 Requirements for restricted-breathing enclosures .....	19
10.1 General .....	19
10.2 Constructional requirements .....	20
10.2.1 Type of equipment .....	20
10.2.2 Cells and batteries .....	20
10.2.3 Cable glands and conduit entries .....	20
10.2.4 Operating rods, spindles and shafts .....	21
10.2.5 Windows .....	21
10.2.6 Gasket and seal requirements .....	21
10.2.7 Non-resilient seals .....	21
10.2.8 Test port .....	22
10.2.9 Internal fans .....	23
10.3 Temperature limitation .....	23
10.4 Additional requirements for restricted-breathing luminaires .....	23
10.4.1 Mounting arrangement .....	23
10.4.2 Reflectors .....	23
10.4.3 Surface temperatures of restricted-breathing luminaires .....	23
11 Type Tests .....	24
11.1 Tests for non incendive components .....	24
11.1.1 Preparation of non-incendive component samples .....	24
11.1.2 Test conditions for non-incendive components .....	24
11.2 Tests for sealed devices .....	25

11.2.1	Conditioning .....	25
11.2.2	Voltage test .....	25
11.2.3	Leakage tests on sealed devices .....	25
11.3	Type test requirements for restricted-breathing enclosures .....	26
11.3.1	General .....	26
11.3.2	Equipment where the volume of the enclosure will be unchanged due to pressure .....	26
11.3.3	Alternative type test for equipment where the volume of the enclosure changes due to pressure .....	26
12	Routine verifications and tests .....	27
12.1	Electric strength test .....	27
12.2	Routine test requirements for restricted-breathing enclosures .....	27
12.2.1	General .....	27
12.2.2	Test procedure .....	27
12.3	Routine temperature rise test .....	28
12.4	Temperature calculation .....	28
13	Marking .....	29
13.1	General .....	29
13.2	Examples of marking .....	29
13.3	Warning markings .....	29
14	Documentation .....	29
15	Instructions .....	30
	Bibliography .....	31
	Table 1 – Relationship of IEC 60079-15 to IEC 60079-0 .....	9
	Table 2 – Text of warning markings .....	29

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**EXPLOSIVE ATMOSPHERES –****Part 15: Equipment protection by type of protection "n"**

## FOREWORD

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International Standard IEC 60079-15 has been prepared by IEC technical committee 31: Equipment for explosive atmospheres.

This fifth edition cancels and replaces the fourth edition, published in 2010, and constitutes a technical revision.

This edition includes the following significant changes with respect to the previous edition:

The text of this International Standard is based on the following documents:

FDIS	Report on voting
31/1339/FDIS	31/1355/RVD

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

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

This International Standard is to be read in conjunction with IEC 60079-0.

A list of all parts of the IEC 60079 series, under the general title: *Explosives atmospheres*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Requirements for enclosed break devices have been removed	-			C1
Requirements for type of protection "nA" has been removed	-			C2
Scope has been updated to allow equipment with internal working voltages over 15 kV such as starters for HID luminaires	1		X	
Definition for cable sealing box removed	3	X		
Definitions for creepage distance and clearance removed as they are now in 60079-0	3	X		
Definition of non-sparking device "nA" removed, as the concept has been transferred to 60079-7	3			C2
Definition of duty cycle removed	3	X		
Definition of enclosed break device moved as the concept has been transferred to 60079-1	3			C1
Definition of hermetically sealed device revised	3	A1		
Definition for normally sparking device added	3.2	X		
Small component temperature clause removed, part of moving type of protection "nA" to 60079-7	5			C2
Minimum degree of protection requirements; clearance, creepage and separation requirements; determination of working voltage; conformal coating; CTI requirement; Insulation between conductive parts and measurement of creepage and clearance requirements have been removed.	6			C2
Connection facilities and terminal compartment requirements have been removed	-			C2
Supplementary requirements for non-sparking electrical rotating machines have been removed	-			C2
Supplementary requirements for non-sparking fuses and fuse assemblies have been removed	-			C2
Supplementary requirements for non-sparking plugs and sockets have been removed	-			C2
Supplementary requirements for non-sparking luminaires have been removed	-			C2
Supplementary requirements for equipment incorporating non-sparking cells and batteries have been removed	-			C2
Supplementary requirements for non-sparking low power equipment have been removed	-			C2
Supplementary requirements for non-sparking current transformers have been removed	-			C2
Requirements for other non-sparking electrical equipment have been removed	-			C2
General supplementary requirements for equipment producing arcs, sparks or hot surfaces have been removed	-			C2
Requirements for enclosed break devices have been removed	-			C1
Voltage and current limitations added for non-incendive components.	7.2			C6

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
The requirements for sealed devices have been extended to require more documentation,	9.1		X	
The +20K requirement for luminaire materials has been removed	9.5			C2
Notes 1-3 have been removed, as this information is covered elsewhere	10.1	X		
Entry device requirements added	10.1		X	
Industrial standard compliance and battery requirements added	10.2.1.2		X	
The exemption for manually operated sparking devices moved to here, creepage and clearance requirements in industrial standards added for switching devices, and cell and battery requirements added	10.2.1.2		X	
Requirements for cable glands and conduit entries have been clarified	10.2.3	X		
Requirements for gasketed windows expanded to allow a removable window mounted in a frame.	10.2.5.2		X	
Requirement to include documentation on the thermal stability of gaskets or seals added	10.2.6			C4
Requirements reworded for clarity	10.2.7	X		
Requirements for "nR" enclosures fitted with fans added.	10.2.9			C5
Type test requirements for enclosed break "nC" and "nA" equipment removed	-			C1, C2
The dielectric test after the leakage test for sealed devices has been eliminated unless the results of the leakage test are uncertain.	11.2.2		X	
Tests for sealed devices, screw lampholders, starters, lamps, ignitors, and ignitor pulses for luminaires have been removed	-			C2
All testing for batteries has been removed.	-			C2
All testing for electrical machines removed	-			C2
Routine test requirements re-written for sealed components, non-incendive components and restricted breathing equipment to take out the testing for enclosed break and nA equipment	12			C1, C2
Preparation of non-incendive component samples	11.1.1			C3
Marking requirements modified to remove labelling requirements for enclosed break components, nA equipment, and batteries.	-			C1, C2
Documentation requirements modified to remove to remove labelling requirements for enclosed break components, nA equipment, and batteries.	14			C1, C2
The instruction section has been expanded to include new requirements	15		X	
Annex A has been removed.	-			C2

NOTE The technical changes referred to include the significance of technical changes in the revised IEC Standard, but they do not form an exhaustive list of all modifications from the previous version.

**Explanation of the types of changes:**

## A) Definitions

1) **Minor and editorial changes:**

- Clarification
- Decrease of technical requirements
- Minor technical change
- Editorial corrections

These are changes which modify requirements in an editorial or a minor technical way. They include changes of the wording to clarify technical requirements without any technical change, or a reduction in level of existing requirement.

2) **Extension:** Addition of technical options

These are changes which add new or modify existing technical requirements, in a way that new options are given, but without increasing requirements for equipment that was fully compliant with the previous standard. Therefore, these will not have to be considered for products in conformity with the preceding edition.

3) **Major technical changes:**

- addition of technical requirements
- increase of technical requirements

These are changes to technical requirements (addition, increase of the level or removal) made in a way that a product in conformity with the preceding edition will not always be able to fulfil the requirements given in the later edition. These changes have to be considered for products in conformity with the preceding edition. For these changes additional information is provided in Clause B below.

NOTE These changes represent current technological knowledge. However, these changes should not normally have an influence on equipment already placed on the market.

## B) Information about the background of changes

- A1 – It was determined that this was already covered by the sealed device definition
- C1 – Enclosed break devices “nC” are now designated as “dc” and the requirements are located in IEC 60079-1:2014.
- C2 – Type of protection “nA” is now designated as type of protection “ec” and the requirements for “ec” equipment are located in IEC 60079-7:2015.
- C3 – Test time for the preparation of non-incendive component samples has been specified.
- C4 – Additional documentation requirements for seals and gaskets.
- C5 – As the pressure inside an enclosure fitted with fans can be affected by the operation of the fan, it is now specified that the restricted breathing test is conducted with fans operating and stationary.
- C6 – The limitations from IEC 60079-15 Ed 3 were added.



## EXPLOSIVE ATMOSPHERES –

### Part 15: Equipment protection by type of protection "n"

#### 1 Scope

This part of IEC 60079 specifies requirements for the construction, testing and marking for Group II electrical equipment with type of protection "n" which includes; sealed devices "nC", hermetically sealed devices "nC", non-incendive components "nC" and restricted breathing enclosures "nR" intended for use in explosive gas atmospheres. This part of IEC 60079 applies to electrical equipment where the rated input voltage does not exceed 15 kV r.m.s. AC or DC including where the internal working voltages of the Ex product exceeds 15 kV, for example starters for HID luminaires.

This part of IEC 60079 supplements and modifies the general requirements of IEC 60079-0, except as indicated in Table 1. Where a requirement of this part of IEC 60079 conflicts with a requirement of IEC 60079-0, the requirement of this part of IEC 60079 takes precedence.

**Table 1 – Relationship of IEC 60079-15 to IEC 60079-0**

Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-15	
Ed. 6.0 (2011) (informative)	Ed. 7.01 (future edition) (informative)	Clause / Subclause title (normative)	Protected sparking "nC"	Restricted breathing "nR"
3	3	Definitions	Applies	Applies
4	4	Equipment grouping		
4.1	4.1	Group I	Excluded	Excluded
4.2	4.2	Group II	Applies	Applies
4.3	4.3	Group III	Excluded	Excluded
4.4	4.4	Equipment for a particular explosive atmosphere	Applies	Applies
5	5	Temperatures		
5.1	5.1	Environmental influences	Applies	Applies
5.2	5.2	Service temperature	Applies	Applies
5.3	5.3	Maximum surface temperature		
5.3.1	5.3.1	Determination of maximum surface temperature	Applies	Applies
5.3.2	5.3.2	Limitation of maximum surface temperature		
5.3.2.1	5.3.2.1	Group I equipment	Excluded	Excluded
5.3.2.2	5.3.2.2	Group II equipment	Applies	Applies
5.3.2.3	5.3.2.3	Group III equipment	Excluded	Excluded

<sup>1</sup> Under preparation. Stage at the time of publication: IEC/FDIS 60079-0:2017.

Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-15	
Ed. 6.0 (2011) (informative)	Ed. 7.01 (future edition) (informative)	Clause / Subclause title (normative)	Protected sparking "nC"	Restricted breathing "nR"
5.3.3	5.3.3	Small component temperature for Group I and Group II equipment	Applies	Excluded
-	5.3.4	Component temperature of smooth surfaces for Group I or Group II equipment (Applies for smaller than 10 000 mm <sup>2</sup> only)	Applies	Excluded
6	6	Requirements for all electrical apparatus		
6.1	6.1	General	Applies	Applies
6.2	6.2	Mechanical strength	Applies	Applies
6.3	6.3	Opening times	Excluded	Applies
6.4	6.4	Circulating currents	Applies	Applies
6.5	6.5	Gasket retention	Applies	Applies
6.6	6.6	Electromagnetic and ultrasonic radiating equipment	Applies	Applies
7	7	Non-metallic enclosures and non-metallic parts of enclosures		
7.1	7.1	General		
7.1.1	7.1.1	Applicability	Applies	Applies
7.1.2	7.1.2	Specification of materials	Applies	Applies
7.2	7.2	Thermal endurance		
7.2.1	7.2.1	Tests for thermal resistance	Applies	Applies
7.2.2	-	Material selection	Modified	Modified
-	7.2.2	Material selection	Applies	Applies
7.2.3	7.2.3	Alternative qualification for elastomeric sealing O-rings	Applies	Applies
7.3	7.3	Resistance to ultraviolet light	Applies	Applies
7.4	7.4	Electrostatic charges on external non-metallic materials		
7.4.1	7.4.1	Applicability	Applies	Applies
7.4.2	7.4.2	Avoidance of build-up of electrostatic charge on Group I or Group II electrical equipment	Applies	Applies
7.4.3	7.4.3	Avoidance of build-up of electrostatic charge on equipment for Group III	Excluded	Excluded

Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-15	
Ed. 6.0 (2011) (informative)	Ed. 7.01 (future edition) (informative)	Clause / Subclause title (normative)	Protected sparking “nC”	Restricted breathing “nR”
7.5	7.5	External conductive parts	Applies	Applies
8	8	Metallic enclosures and metallic parts of enclosures		
8.1	8.1	Material composition	Applies	Applies
8.2	8.2	Group I	Excluded	Excluded
8.3	8.3	Group II	Applies	Applies
8.4	8.4	Group III	Excluded	Excluded
NR	8.5	Copper alloys	Applies	Applies
9	9	Fasteners		
9.1	9.1	General	Applies	Applies
9.2	9.2	Special fasteners	Excluded	Excluded
9.3	9.3	Holes for special fasteners	Excluded	Excluded
9.3.3	-	Hexagon socket set screws	Excluded	Excluded
-	9.4	Hexagon socket set screws	Excluded	Excluded
10	10	Interlocking devices	Excluded	Excluded
11	11	Bushings	Applies	Applies
12	-	Materials used for cementing	Modified	Modified
-	12	Reserved for future use.	Excluded	Excluded
13	13	Ex components	Applies	Applies
14	14	Connection facilities	Applies	Applies
15	15	Connection facilities for earthing and bonding conductors	Applies	Applies
16	16	Entries into enclosures	Applies	Applies
17	17	Supplementary requirements for electric machines	Excluded	Excluded
18	18	Supplementary requirements for switchgear	Excluded	
18.1	18.1	Flammable dielectric	Excluded	Applies
18.2	18.2	Disconnectors	Excluded	Applies
18.3	18.3	Group I – Provisions for locking	Excluded	Excluded
18.4	18.4	Doors and covers	Excluded	Applies
19	-	Supplementary requirements for fuses	Excluded	Excluded
-	19	Reserved for future use.	Excluded	Excluded
20	20	Supplementary requirements for plugs and sockets		

Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-15	
Ed. 6.0 (2011) (informative)	Ed. 7.01 (future edition) (informative)	Clause / Subclause title (normative)	Protected sparking "nC"	Restricted breathing "nR"
20.1	20.1	General	Applies	Applies
20.2	20.2	Explosive gas atmospheres	Excluded	Excluded
20.3	20.3	Explosive dust atmospheres	Excluded	Excluded
20.4	20.4	Energized plugs	Applies	Applies
21	21	Supplementary requirements for luminaires		
21.1	21.1	General	Applies	Applies
21.2	21.2	Covers for luminaires of EPL Mb, EPL Gb or EPL Db	Excluded	Excluded
21.3	21.3	Covers for luminaires of EPL Gc or EPL Dc	Applies	Applies
21.4	21.4	Sodium lamps	Applies	Applies
22	22	Supplementary requirements for caplights and handlights		
22.1	22.1	Group I caplights	Excluded	Excluded
22.2	22.2	Group II and Group III caplights and handlights	Excluded	Applies
23	23	Equipment incorporating cells and batteries	Applies	Applies
23.12	23.12	Replacement battery pack	Applies	Applies
24	24	Documentation	Modified	Modified
25	25	Compliance of prototype or sample with documents	Applies	Applies
26	26	Type tests	Applies	Applies
26.4	26.4	Tests of enclosures		
26.4.1	26.4.1	Order of tests		
26.4.1.1	26.4.1.1	Metallic enclosures, metallic parts of enclosures and glass or ceramic parts of enclosures	Applies	Applies
26.4.1.2	26.4.1.2	Non-metallic enclosures or non-metallic parts of enclosures		
26.4.1.2.1	26.4.1.2.1	General	Applies	Applies
26.4.1.2.2	26.4.1.2.2	Group I electrical equipment	Excluded	Excluded
26.4.1.2.3	-	Group II and Group III electrical equipment	Modified	Modified
-	26.4.1.2.3	Group II and Group III electrical equipment	Applies	Applies
26.4.2	26.4.2	Resistance to impact	Applies	Applies

Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-15	
Ed. 6.0 (2011) (informative)	Ed. 7.01 (future edition) (informative)	Clause / Subclause title (normative)	Protected sparking “nC”	Restricted breathing “nR”
26.4.3	26.4.3	Drop test	Applies	Applies
26.4.4	26.4.4	Acceptance criteria	Applies	Applies
26.4.5	26.4.5	Degree of protection by enclosure	Applies	Applies
26.5	26.5	Thermal tests		
26.5.1	26.5.1	Temperature measurement	Applies	Applies
26.5.1.1	26.5.1.1	General	Applies	Applies
26.5.1.2	26.5.1.2	Service Temperature	Applies	Applies
26.5.2	26.5.2	Thermal shock test	Applies	Applies
26.5.3	26.5.3	Small component ignition test (Group I and Group II)	Applies	Excluded
26.6	26.6	Torque test for bushings	Applies	Applies
26.7	26.7	Non-metallic enclosures or non-metallic parts of enclosures		
26.7.1	26.7.1	General	Applies	Applies
26.7.2	-	Test temperatures	Modified	Modified
-	26.7.2	Test temperatures	Applies	Applies
26.8	-	Thermal endurance to heat	Modified	Modified
-	26.8	Thermal endurance to heat	Applies	Applies
26.9	26.9	Thermal endurance to cold	Applies	Applies
26.10	26.10	Resistance to light		
26.10.1	26.10.1	General	Applies	Applies
26.10.2	26.10.2	Light exposure	Applies	Applies
26.10.3	26.10.3	Acceptance criteria	Applies	Applies
26.11	26.11	Resistance to chemical agents for Group I electrical equipment	Excluded	Excluded
26.12	26.12	Earth continuity	Applies	Applies
26.13	26.13	Surface resistance test of parts of enclosures of non-metallic materials	Applies	Applies
26.14	26.14	Measurement of capacitance		
26.14.1	26.14.1	General	Applies	Applies
26.14.2	26.14.2	Test procedure	Applies	Applies
26.15	26.15	Verification of ratings of ventilating fans	Excluded	Excluded
26.16	26.16	Alternative qualification of elastomeric sealing O-rings	Applies	Applies

Clause of IEC 60079-0			IEC 60079-0 clause application to IEC 60079-15	
Ed. 6.0 (2011) (informative)	Ed. 7.01 (future edition) (informative)	Clause / Subclause title (normative)	Protected sparking "nC"	Restricted breathing "nR"
-	26.17	Transferred charge test	Applies	Applies
27	27	Routine tests	Applies	Applies
28	28	Manufacturers responsibility	Applies	Applies
29	29	Marking		
29.1	29.1	Applicability	Applies	Applies
29.2	29.2	Location	Applies	Applies
29.3	29.3	General	Applies	Applies
29.4	29.4	Ex marking for explosive gas atmospheres	Applies	Applies
29.5	29.5	Ex marking for explosive dust atmospheres	Excluded	Excluded
29.6	29.6	Combined types (or levels) of protection	Applies	Applies
29.7	29.7	Multiple types of protection	Applies	Applies
29.8	29.8	Ga equipment using two independent Gb types (or levels) of protection	Excluded	Excluded
-	29.9	Boundary wall	Excluded	Excluded
29.9	29.10	Ex Components	Applies	Applies
29.10	29.11	Small Ex Equipment and small Ex Components	Applies	Applies
29.11	29.12	Extremely small equipment and extremely small Ex Components	Applies	Applies
29.12	29.13	Warning markings	Applies	Applies
29.13	-	Alternate marking of equipment protection levels (EPLs)	Applies	Applies
29.13.1	-	Alternate marking of type of protection for explosive gas atmospheres	Applies	Applies
29.13.2	-	Alternate marking of type of protection for explosive dust atmospheres	Excluded	Excluded
29.14	29.14	Cells and batteries	Applies	Applies
29.15	29.15	Electrical machines operated with a converter	Applies	Applies
29.16	29.16	Examples of marking	Examples only	Examples only
30	30	Instructions		
30.1	30.1	General	Applies	Applies
30.2	30.2	Cells and batteries	Applies	Applies
30.3	30.3	Electric machines	Excluded	Excluded

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Ed. 6.0 (2011) (informative)	Ed. 7.01 (future edition) (informative)	Clause / Subclause title (normative)	Protected sparking “nC”	Restricted breathing “nR”
30.4	30.4	Ventilating fans	Excluded	Excluded
-	30.5	Cable glands	Applies	Applies
Annex A	Annex A	Supplementary requirements for Ex cable glands	Applies	Applies
Annex B	Annex B	Requirements for Ex components	Applies	Applies
Annex C	Annex C	Example of rig for resistance to impact test	Informative Annex	Informative Annex
Annex D	Annex D	Motors supplied by converters	Informative Annex	Informative Annex
Annex E	Annex E	Temperature evaluation of electric machines	Informative Annex	Informative Annex
Annex F	Annex F	Guideline flowchart for tests of non-metallic enclosures or non-metallic parts of enclosures (26.4)	Informative Annex	Informative Annex
-	Annex G	Guidance flowchart for tests of cable glands	Informative Annex	Informative Annex
-	Annex H	Shaft voltages resulting in motor bearing or shaft brush sparking. Discharge energy calculation	Informative Annex	Informative Annex
Applies – This requirement of IEC 60079-0 is applied without change.				
Excluded – This requirement of IEC 60079-0 does not apply.				
Modified – This requirement of IEC 60079-0 is modified as detailed in this standard.				
<p>NOTE 1 The clause number in the above table is shown for information only. The applicable requirements of IEC 60079-0 are identified by the clause title which is normative. This document was written against the specific requirements of IEC 60079-0 (ed. 7.0). The clause numbers for the previous edition are shown for information only. This is to enable the general requirements of IEC 60079-0 (ed. 6.0) to be used where necessary with this part of IEC 60079. Where there is a conflict between requirements, the later edition requirements take precedence.</p> <p>NOTE 2 A shaded row in the above table indicates that this is a clause heading. In cases where the applicability is the same for all of the sub-clauses the 'Applies' or 'Excluded' is listed in the heading row and the sub-clauses are not expanded. Where the application of the individual sub-clauses may be different, these are expanded in the above table and the applicability for each is listed.</p> <p>NOTE 3 A non-incendive component is limited in use to the particular circuit for which it has been shown to be non-ignition capable and, therefore, cannot be separately assessed as complying with this standard.</p>				

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60079-0, *Explosive atmospheres – Part 0: Equipment – General requirements*

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

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**