SLOVENSKI STANDARD
SIST EN IEC 60079-0:2018

01-oktober-2018

Nadomešča:
SIST EN 60079-0:2012/A11:2014

Eksplozivne atmosfere - 0. del: Oprema - Splošne zahteve

Explosive atmospheres - Part 0: Equipment - General requirements

Explosionsgefährdete Bereiche - Teil 0: Betriebsmittel - Allgemeine Anforderungen

Atmosphères explosives - Partie 0: Matériel - Exigences générales

Ta slovenski standard je istoveten z: **EN IEC 60079-0:2018**

ICS:

29.260.20	Električni aparati za eksplozivna ozračja	Electrical apparatus for explosive atmospheres

SIST EN IEC 60079-0:2018 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 60079-0

July 2018

ICS 29.260.20

Supersedes EN 60079-0:2012

English Version

Explosive atmospheres - Part 0: Equipment - General requirements (IEC 60079-0:2017)

Atmosphères explosives - Partie 0: Matériel - Exigences générales (IEC 60079-0:2017)

Explosionsgefährdete Bereiche - Teil 0: Betriebsmittel - Allgemeine Anforderungen (IEC 60079-0:2017)

This European Standard was approved by CENELEC on 2017-12-04. 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.

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 European Standard 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.

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

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

Ref. No. EN IEC 60079-0:2018 E

European foreword

The text of document (31/1345/FDIS), future edition 7 of IEC 60079-0, prepared by IEC/TC 31 "Equipment for explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60079-0:2018.

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)	2019-01-06
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2021-07-06

This document supersedes EN 60079-0:2012.

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 60079-0:2017 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/TS 60034-25	NOTE	Harmonized as CLC/TS 60034-25.
IEC 60034-29	NOTE	Harmonized as EN 60034-29.
IEC 60079-2	NOTE	Harmonized as EN 60079-2.
IEC 60079-5	NOTE	Harmonized as EN 60079-5.
IEC 60079-6	NOTE	Harmonized as EN 60079-6.
IEC 60079-7	NOTE	Harmonized as EN 60079-7.
IEC 60079-10-1	NOTE	Harmonized as EN 60079-10-1.
IEC 60079-10-2	NOTE	Harmonized as EN 60079-10-2.
IEC 60079-11	NOTE	Harmonized as EN 60079-11.
IEC 60079-13	NOTE	Harmonized as EN 60079-13.
IEC 60079-14	NOTE	Harmonized as EN 60079-14.
IEC 60079-15	NOTE	Harmonized as EN 60079-15.
IEC 60079-17	NOTE	Harmonized as EN 60079-17.
IEC 60079-18	NOTE	Harmonized as EN 60079-18.
IEC 60079-19	NOTE	Harmonized as EN 60079-19.
IEC 60079-25	NOTE	Harmonized as EN 60079-25.
IEC 60079-28	NOTE	Harmonized as EN 60079-28.
IEC 60079-29-1	NOTE	Harmonized as EN 60079-29-1.

IEC 60079-29-4	NOTE	Harmonized as EN 60079-29-4.
IEC/IEEE 60079-30-1	NOTE	Harmonized as EN 60079-30-1.
IEC 60079-31	NOTE	Harmonized as EN 60079-31.
IEC/TS 60079-32-1	NOTE	Harmonized as CLC/TR 60079-32-1.
IEC/TS 60079-39	NOTE	Harmonized as CLC/TS 60079-39 [1]).
IEC 60254 (series)	NOTE	Harmonized in EN 60254 series.
IEC 60623	NOTE	Harmonized as EN 60623.
IEC 60896-11	NOTE	Harmonized as EN 60896-11.
IEC 60896-21	NOTE	Harmonized as EN 60896-21.
IEC 60952 (series)	NOTE	Harmonized in EN 60952 series.
IEC 61056-1	NOTE	Harmonized in EN 61056-1.
IEC 61427 (series)	NOTE	Harmonized in EN 61427 series.
IEC 61951-1	NOTE	Harmonized as EN 61951-1.
IEC 61951-2	NOTE	Harmonized as EN 61951-2.
IEC 61960 (series)	NOTE	Harmonized in EN 61960 series.
ISO/IEC 80079-20-2	NOTE	Harmonized as EN ISO/IEC 80079-20-2.
ISO/IEC 80079-34	NOTE	Harmonized as EN ISO/IEC 80079-34.
ISO/IEC 80079-36	NOTE	Harmonized as EN ISO/IEC 80079-36.
ISO/IEC 17000	NOTE	Harmonized as EN ISO/IEC 17000.

[1]) Under preparation. Stage at the time of publication: CLC/FprTS 60079-39:2017.

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.

Publication	Year	Title	EN/HD	Year
IEC 60034-1	-	Rotating electrical machines - Part 1: Rating and performance	EN 60034-1 [2])	-
IEC 60034-5	-	Rotating electrical machines - Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - Classification	EN 60034-5	2001
IEC 60079-1	-	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"	EN 60079-1	2014
IEC 60079-20-1	-	Explosive atmospheres - Part 20-1: Material characteristics for gas and vapour classification - Test methods and data	EN 60079-20-1	2010
IEC 60079-26	-	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga	EN 60079-26	2015
IEC 60079-35-1	-	Explosive atmospheres - Part 35-1: Caplights for use in mines susceptible to firedamp - General requirements - Construction and testing in relation to the risk of explosion	EN 60079-35-1	2011
			+AC	2011
IEC 60086-1	-	Primary batteries - Part 1: General	EN 60086-1	2015
IEC 60192	-	Low pressure sodium vapour lamps - Performance specifications	EN 60192	2001
IEC 60216-1	-	Electrical insulating materials - Thermal endurance properties - Part 1: Ageing procedures and evaluation of test results	EN 60216-1	2013
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	2005
IEC 60243-1	-	Electric strength of insulating materials - Test methods - Part 1: Tests at power frequencies	EN 60243-1	2013
IEC 60423	-	Conduit systems for cable management - Outside diameters of conduits for electrical installations and threads for conduits and fittings	EN 60423	2007
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
			+EN 60529:1991/corrigendum May 1993	1993

[2]) Under preparation. Stage at the time of publication: FprEN 60034-1:2017.

IEC 60662 (mod)	-	High pressure sodium vapour lamps - Performance specifications	EN 60662 +prAA	2012 2017
IEC 60664-1	-	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007
IEC 60947-1	-	Low-voltage switchgear and controlgear - Part 1: General rules	EN 60947-1	2007
IEC 62626-1	-	Low-voltage switchgear and controlgear enclosed equipment - Part 1: Enclosed switch outside the scope of IEC 60947-3 for various applications, to provide isolation of electrical equipment during repair and maintenance work	EN 62626-1	2014
ISO 48	-	Rubber, vulcanized or thermoplastic_- Determination of hardness (hardness between 10 IRHD and 100 IRHD)	-	-
ISO 178	-	Plastics - Determination of flexural properties	EN ISO 178	2010
ISO 179	series	Plastics - Determination of Charpy impact properties	EN ISO 179	series
ISO 262	-	ISO general purpose metric screw threads- Selected sizes for screws, bolts and nuts	-	-
ISO 273	-	Fasteners - Clearance holes for bolts and screws	EN 20273	1991
ISO 527-2	-	Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics	EN ISO 527-2	2012
ISO 965-1	-	ISO general purpose metric screw threads - Tolerances – Part 1: Principles and basic data	-	-
ISO 965-3	-	ISO general purpose metric screw threads- Tolerances – Part 3: Deviations for constructional screw threads	-	-
ISO 3601-1	-	Fluid power systems - O-rings – Part 1: Inside diameters, cross-sections, tolerances and designation codes	-	-
ISO 3601-2	-	Fluid power systems - O-rings - Part 2: Housing dimensions for general applications	-	-
ISO 4014	-	Hexagon head bolts - Product grades A and B	EN ISO 4014	2011
ISO 4017	-	Fasteners - Hexagon head screws - Product grades A and B	EN ISO 4017	2014
ISO 4026	-	Hexagon socket set screws with flat point	EN ISO 4026	2003
ISO 4027	-	Hexagon socket set screws with cone point	EN ISO 4027	2003
ISO 4028	-	Hexagon socket set screws with dog point	EN ISO 4028	2003
ISO 4029	-	Hexagon socket set screws with cup point	EN ISO 4029	2003
ISO 4032	-	Hexagon regular nuts (style 1) - Product grades A and B	EN ISO 4032	2012
ISO 4762	-	Hexagon socket head cap screws	EN ISO 4762	2004
ISO 4892-2	-	Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps	EN ISO 4892-2	2013
ISO 7380	-	Hexagon socket button head screws	EN ISO 7380	2011
ISO 14583	-	Hexalobular socket pan head screws	EN ISO 14583	2011
ANSI/UL 746B	-	Polymeric Materials - Long-Term Property Evaluations	-	-
ANSI/UL 746C	-	Standard for Polymeric Materials - Use in Electrical Equipment Evaluations	-	-
ASTM D 5964	-	Standard Practice for Rubber IRM 901, IRM 902, and IRM 903 Replacement Oils for ASTM No. 1, ASTM No. 2, ASTM No. 3 Oils, and IRM 905 formerly ASTM No. 5 Oil	-	-

Annex ZY
(informative)

Additional Information relating to the European ATEX Directive 2014/34/EU

ZY.1 Equipment Groups and Categories

In all cases Equipment Protection Levels (EPL) as defined by EN IEC 60079-0 are related to the corresponding Equipment Groups and Equipment Categories according to table ZY.1. The same applies if a standard makes reference to the intended use of equipment in Zones according to the definitions in EN 60079-10-1 and EN 60079-10-2.

Table ZY.1

EN IEC 60079-0		*Directive 2014/34/EU*		*EN 60079-10-X*
EPL	***Group***	***Equipment Group***	***Equipment Category***	***Zones***
Ma	*I*	*I*	*M1*	*Not Applicable*
Mb			*M2*	
Ga	*II*	*II*	*1G*	*0*
Gb			*2G*	*1*
Gc			*3G*	*2*
Da	*III*		*1D*	*20*
Db			*2D*	*21*
Dc			*3D*	*22*

ZY.2 Instructions

The manufacturer or his authorized representative in the Community is to draw up the instructions for use in the required Community languages.

In clause 30.1 under: “instructions for safety addressing the following areas – installation and erection;”

“Information other than the general requirements given in IEC 60079-14”

Is replaced by

“Information other than the general requirements given in EN 60079-14 and EN 50628”

NOTE EN 50628 - Erection of electrical installations in underground mines

ZY.3 Marking

ZY.3.1

The marking according to this standard is to be supplemented by the marking according to Directive 2014/34/EU. Examples are given below.

European marking examples

Directive part	**Standard part**	**Equipment example**
Ⓔx **I M2**	**Ex db I Mb**	Mining equipment,

		Type of Protection flameproof enclosure “d”
Ⓔx II 2G	**Ex eb IIB T4 Gb**	Gas explosion protected equipment Type of Protection increased safety “e”
Ⓔx II 1D	**Ex ma IIIC 120°C Da**	Dust explosion protected equipment, Type of Protection encapsulation “m”

NOTE 1 Attention is drawn to the requirement in 29.3 f):

“The Ex marking for explosive gas atmospheres and explosive dust atmospheres shall be separate and not combined;”

Ⓔx **II 1 G** **Ex ia IIB T4 Ga**

Ⓔx **II 1 D** **Ex ia IIIC T120°C Da**

Alternatively, the directive part of the marking may be combined and the standard part of the marking kept separate, as follows:

Ⓔx **II 1 GD** **Ex ia IIB T4 Ga**
Ex ia IIIC T120°C Da

NOTE 2 For Ex Equipment intended to be put on the market in the EEA, CE marking is applicable. For Ex Components intended to be put on the market in the EEA, CE marking is not applicable.

ZY.3.2

Contrary to 29.3 a) the marking is to always include the manufacturer’s name (not trademark) and address. The address is to be sufficient to identify the physical location of the manufacturer. An address used for postal purposes, without identifying the physical location, is not sufficient.

ZY.4 Fans

Clause 17.2.5 “Room ventilating fans” is to be supplemented by the requirements given in EN 14986 “Design of fans working in potentially explosive atmospheres”

ZY.5 Significant changes between this European Standard and EN 60079-0:2012+A11:2013

This European Standard supersedes EN 60079-0:2012+A11:2013.

Table ZY.2 – Significant changes with respect to EN 60079-0:2012+A11:

		Type		
Explanation of the significance of the changes	**Clause**	**Minor and editorial changes**	**Extension**	**Major technical changes**
Throughout document, “electrical equipment” replaced by “equipment” where appropriate.	Multiple	X		
Scope List of “Type of “Protection” and “Product” standards combined into one list.	1	X		
Definitions used in multiple sub-parts added. Definitions harmonized across sub-parts and added to 60079-0 where appropriate. Battery definitions updated	3	X		

Explanation of the significance of the changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Clarification of the way that information on process temperature influences can be expressed.	5.1.2	X		
Clarification regarding the determination of service temperatures when dust layers are present	5.2	X		
Clarification on the need to provide service temperature information for Ex Components in the Schedule of Limitations	5.2	X		
Relocation of EPL Da dust layer requirements from IEC 60079-18 & IEC 60079-31	5.3.2.3.1	A1		
Clarified that for EPL Db, a maximum specified dust layer of greater than 200 mm is not permitted as thicker layers have no additional effect on maximum surface temperature.	b)	X		
Added for EPL Db, a dust layer in a specified orientation, marked as T_L	c)		X	
Clarified that for EPL Dc, no dust layer tests are required.	5.3.2.3.3	X		
Clarified that the "temperature" is the temperature of the air surrounding the component	5.3.3	X		
Subdivided section dealing with higher permitted surface temperatures for "smooth" surfaces. Corrected area from 1 000 mm^2 to 10 000 mm^2.	5.3.4	X		
Clarified that the "Ex" requirements of IEC 60079 supplement those of the relevant industrial standards.	6.1	X		
Added requirement that where an adhesive is used to secure a gasket, it shall be used within its COT and shall comply with the requirements for cements.	6.5			C1
Requirements relocated to IEC 60079-28	former 6.6.2	A2		
Ultrasonic requirements updated based on latest research work	6.6.3		X	
Added reference to IEC 60079-28	6.6.4	A2		
Material identification parameters have been revised to reflect reasonably obtainable information	7.1.2.2	X		
"RTI-mechanical" has been clarified to include "RTI-mechanical strength" and "RTI-mechanical impact"	7.1.2.2	X		
Material identification parameters have been revised to reflect reasonably obtainable information	7.1.2.3	X		
Relocated information on "cements" from Clause 12.	7.1.2.4	X		
"RTI-mechanical" has been clarified to include "RTI-mechanical strength" and "RTI-mechanical	7.2.2	X		

		Type		
Explanation of the significance of the changes	**Clause**	**Minor and editorial changes**	**Extension**	**Major technical changes**
impact". Requirements for cements aligned with the requirements for elastomers.				
Relocation of 10 K margin for EPL Gc or Dc from IEC 60079-15, IEC 60079-18 & IEC 60079-31	7.2.2	A3		
Added clarification with respect to gaskets and seals where only the outer edge is potentially exposed to light.	7.3	X		
Clarification added that one or more of the described techniques may be used	7.4.2	X		
Added additional relaxation for the case where a surface is in contact with an earthed surface on only two of four sides.	7.4.2 b)		X	
Added reference to IEC 60243-1 and IEC 60243-2 for test method to require a 4 kV DC test.	7.4.2.c)			C2
Additional guidance added with respect to the possible Specific Conditions of Use	7.4.2 e)	X		
New option added for portable, mains-powered equipment with earth-connected guard	7.4.2 f)		X	
Added option for determination of maximum transferred charge.	7.4.2 g) Table 10		X	
Added missing limits (same as 7.4.2)	7.4.3 a)	X		
Clarified that it is a dc test that is conducted	7.4.3 b)	X		
Clarified that this requirement is not applied to personal or portable equipment	7.5	X		
Clarified Group I limits	8.2	X		
Clarified Group II, EPL Ga limits	8.3	X		
Added limitation for external surfaces of >65% copper	8.5			C3
Added clarification as to what is considered a tool	9.1	X		
Clarified that the tolerance class of the set screw is not critical, only that it not protrude from the threaded hole after tightening.	9.4	X		
Information on cements transferred to Clause 7	12	X		
Required that Ex Component Certificates require a Schedule of Limitations in all cases	13.5		X	
Revised to clarified that all connection facilities may not be a "Compartment".	14	X		
Sub-clause split to separate the requirements for protective earthing and equipotential bonding into separate sections	15.3 15.4	X		
Section split to separate secureness of electrical connections from the internal earth continuity plate.	15.6 15.7	X		
Non-threaded Group I cable glands are no longer required to be Ex Components.	16.3		X	
Non-threaded Group I blanking elements are no	16.4		X	

		Type		
Explanation of the significance of the changes	**Clause**	**Minor and editorial changes**	**Extension**	**Major technical changes**
longer required to be Ex Components.				
Scope of Clause 17 clarified to define applicability	17	X		
Additional guidance notes added to address bearings	17.3	X		
Clarified applicability to disconnectors, interlocks, and maintenance switches.	18.2	X		
Fuse requirements deleted as they are addressed in the individual sub-parts	19	X		
Added requirements for EPL Gc and Dc	20.1			C4
The test circuit requirements for a flameproof connection have been removed as they are more completely specified in IEC 60079-1.	20.2	X		
The impact test requirements for luminaires are relocated to Table 15	21.1 Table 15	X		
Clarified interlock switch operation for flameproof luminaires	21.2	X		
Clarified that some Types of Protection permit connection of cells in parallel	23.2	X		
New cell types and data added based on latest available data	Table 13		X	
New cell types and data added based on latest available data	Table 14			C5
Clarification of what documentation is to be prepared regarding the explosion safety aspects of the equipment	24	X		
Clarification that the type tests are to take into consideration the installation instructions	26.2	X		
Clarification that the “glass” requirements also apply to “ceramic” parts	26.4.1.1	X		
Added a permission to interchange the order of tests at the “lower test temperature” and the “upper test temperature”.	26.4.1.2.2 26.4.1.2.3	X		
Clarified the construction of the impact test fixture	26.4.2	X		
Clarified the impact tests for glass parts	26.4.2	X		
Added clarification to deal with the new IPX9 ratings	26.4.5.1		X	
Clarified the test voltage for maximum surface temperature	26.5.1.3	X		
Relocation of EPL Da dust layer requirements from IEC 60079-18 & IEC 60079-31	26.5.1.3	A1		
Relocation of EPL Db specified dust layer requirements from IEC 60079-31	26.5.1.3	A4		
Added for EPL Db, a dust layer in a specified orientation, marked as T_L	26.5.1.3		B1	

		Type		
Explanation of the significance of the changes	**Clause**	**Minor and editorial changes**	**Extension**	**Major technical changes**
Clarified that for EPL Dc, the testing is conducted without a dust layer.	26.5.1.3	X		
Relocation of thermal endurance to heat 10K relaxation for Gc equipment from IEC 60079-15, IEC 60079-18, & IEC 60079-31	Table 17	X		
Clarification of a consistent way to address elastomeric materials exposed to ultraviolet light	26.10	X		
Replacement of “oil No. 2” with the revised designation of “oil IRM 902”.	26.11	X		
Option added for testing at lower voltages when low resistance materials are encountered	26.13		X	
Transferred charge test added based on IEC TS 60079-32-2	26.17		X	
The reference to a specific instruction document instead of an “X” condition relocated to e) instead of a note giving a permission	29.3 e)	X		
Updated to reflect the additional levels of protection already shown in the sub-parts: “da”, “dc”, “eb”, “ec”, “oc”, “op is”, “op pr”, “op sh”, “pxb”, “pyb”, “pzc”, “qb”, “sa”, “sb”, and “sc”.	29.4 b)	X		
Text added to address marking of “Ex associated equipment”	29.4		X	
Updated to reflect the additional levels of protection already shown in the sub-parts: “ic”, “op is”, “op pr”, “op sh”, “pxb”, “pyb”, “pzc”, “sa”, “sb”, and “sc”.	29.5 b)	X		
Clarified marking of EPL Da, EPL Db with no dust layer, EPL Db with a specified dust layer, and EPL Dc.	29.5 d)	X		
Introduced marking for EPL Db with a dust layer in a specified orientation	29.5 d)		X	
Text added to address marking of “Ex associated equipment”	29.5		X	
Text added to address marking of equipment intended to be installed in a boundary wall.	29.9		X	
The marking of Ex Component enclosure was aligned with the marking requirements of IEC 60079-1 and IEC 60079-7	29.10	X		
The alternate marking of EPL has been deleted.	former 29.13			C6
Marking for electric machines operated with a converter clarified	29.15	X		
Instruction material guidance clarified	30.1	X		
Additional instruction material for electric machines added	30.3			C7
Additional instruction material for cable glands added	30.5 A.5			C8

		Type		
Explanation of the significance of the changes	**Clause**	**Minor and editorial changes**	**Extension**	**Major technical changes**
Allow ISO 10807 hose assemblies to be used with cable glands.	A.1		X	
Clarify testing with stainless steel mandrels	A.3	X		
Reduction of the time / slippage permitted	A.3.1.1		X	
Clarify impact testing of cable glands	A.3.3 Figure A.3	X		
Clarified the order of tests	A.3.4	X		
Clarified remarks	Annex B	X		
Aligned Figure with text	Figure C.1	X		
Clarified operation of electric machines from converters	Annex D (informative)	X		
Clarified temperature testing of electric machines	Annex E (informative)	X		
Flowchart for Cable Gland testing	Annex G (informative)	X		
Guidance of electric machine shaft voltages	Annex H (informative)	X		

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. More guidance may be found by referring to the Redline Version of the standard.

Explanations:

A) Definitions

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.

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.

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 The dust layer requirements for EPL Da are unchanged from what previously existed in IEC 60079-18, Ed 4 and IEC 60079-31, Ed 2, but have been relocated to IEC 60079-0 to allow consistent application in all Types of Protection.

A2 IEC 60079-28 now includes all requirements for optical radiation for all EPLs.

A3 The COT requirements for EPL Gc or Dc are unchanged from what previously existed in IEC 60079-15, Ed 4, IEC 60079-18, Ed 4, and IEC 60079-31, Ed 2, but have been relocated to IEC 60079-0 to allow consistent application in all Types of Protection.

A4 The dust layer requirements for EPL Db with a specified dust layer depth are unchanged from what previously existed in IEC 60079-31, Ed 2, but have been relocated to IEC 60079-0 to allow consistent application in all Types of Protection.

B1 Dust layer requirements for EPL Db with a dust layer in a specified orientation have been added.

C1 It is recognized that the new requirements were, in many cases, already applied. The change is to ensure that they are uniformly and consistently applied.

C2 Require that the test be conducted at 4 kV DC.

C3 The limitation applies to external surfaces of other than cable glands, blanking elements, thread adapters and bushings.

C4 The added requirements for tool securing and marking are consistent with the approach in IEC 60079-15

C5 Voltage values were changed following additional research due to the complicated assessment and sometimes unspecified construction of Li/Ion-cells. It was found that some voltage values previously stated were too low.

C6 The now required EPL marking may be other than that permitted by the Level of Protection to account for limiting restrictions of material or plastic material surface area.

C7 Additional instruction material for electric machines required to facilitate selection, installation, and maintenance.

C8 Additional instruction material for cable glands required to facilitate selection and installation.