



SLOVENSKI STANDARD
SIST EN IEC 60079-17:2024

01-april-2024

**Eksplzivne atmosfere - 17. del: Pregledovanje in vzdrževanje električnih inštalacij
(IEC 60079-17:2023)**

Explosive atmospheres - Part 17: Electrical installations inspection and maintenance
(IEC 60079-17:2023)

Explosionsgefährdete Bereiche - Teil 17: Prüfung und Instandhaltung elektrischer
Anlagen (IEC 60079-17:2023)

Atmosphères explosives - Partie 17: Inspection et entretien des installations électriques
(IEC 60079-17:2023)

Ta slovenski standard je istoveten z: EN IEC 60079-17:2024

[SIST EN IEC 60079-17:2024](https://standards.iteh.com/catalog/standards/sist/60079-17/iec/60079-17/2024/sist-en-iec-60079-17-2024)

<https://standards.iteh.com/catalog/standards/sist/60079-17/iec/60079-17/2024/sist-en-iec-60079-17-2024>

ICS:

29.260.20	Električni aparati za eksplozivna ozračja	Electrical apparatus for explosive atmospheres
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST EN IEC 60079-17:2024

en,fr,de

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN IEC 60079-17:2024](https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024)

<https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 60079-17

January 2024

ICS 29.260.20

Supersedes EN 60079-17:2014

English Version

**Explosive atmospheres - Part 17: Electrical installations
inspection and maintenance
(IEC 60079-17:2023)**

Atmosphères explosives - Partie 17 : Inspection et
maintenance des installations électriques
(IEC 60079-17:2023)

Explosionsgefährdete Bereiche - Teil 17: Prüfung und
Instandhaltung elektrischer Anlagen
(IEC 60079-17:2023)

This European Standard was approved by CENELEC on 2024-01-05. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

[SIST EN IEC 60079-17:2024](https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024)

<https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024>



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

EN IEC 60079-17:2024 (E)**European foreword**

The text of document 31J/345/FDIS, future edition 6 of IEC 60079-17, prepared by SC 31J "Classification of hazardous areas and installation requirements" of IEC/TC 31 "Equipment for explosive atmospheres" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60079-17:2024.

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) 2024-10-05
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2027-01-05

This document supersedes EN 60079-17:2014 and all of its amendments and corrigenda (if any).

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 60079-17:2023 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 standard indicated:

IEC 60079-5	NOTE Approved as EN 60079-5
IEC 60079-6	NOTE Approved as EN 60079-6
IEC 60079-7:2015	NOTE Approved as EN 60079-7:2015 (not modified)
IEC 60079-11	NOTE Approved as EN 60079-11
IEC 60079-13	NOTE Approved as EN 60079-13
IEC 60079-18	NOTE Approved as EN 60079-18
IEC 60079-26	NOTE Approved as EN 60079-26
IEC 60079-28	NOTE Approved as EN 60079-28
IEC 60204-1	NOTE Approved as EN 60204-1

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.cencenelec.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	-
IEC 60079-10-1	-	Explosive atmospheres - Part 10-1: Classification of areas - Explosive gas atmospheres	EN IEC 60079-10-1	-
IEC 60079-10-2	-	Explosive atmospheres - Part 10-2: Classification of areas - Explosive dust atmospheres	EN 60079-10-2	-
IEC 60079-14	-	Explosive atmospheres - Part 14: Electrical installations design, selection and erection	EN 60079-14	-
IEC 60079-15	-	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"	EN IEC 60079-15	-
IEC 60079-19	-	Explosive atmospheres - Part 19: Equipment repair, overhaul and reclamation	EN IEC 60079-19	-
IEC 60364-6	-	Low voltage electrical installations - Part 6: Verification	HD 60364-6	-

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN IEC 60079-17:2024](https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024)

<https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024>



IEC 60079-17

Edition 6.0 2023-12

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Explosive atmospheres –
Part 17: Electrical installations inspection and maintenance**

**Atmosphères explosives –
Partie 17 : Inspection et maintenance des installations électriques**

Document Preview

[SIST EN IEC 60079-17:2024](https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024)

<https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.260.20

ISBN 978-2-8322-7759-1

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	9
1 Scope.....	10
2 Normative references	10
3 Terms and definitions	11
4 General requirements	12
4.1 Documentation.....	12
4.2 Competence of personnel	13
4.3 Integrated systems.....	13
4.4 Inspections	13
4.4.1 General	13
4.4.2 Grades of inspection.....	15
4.4.3 Types of inspection.....	15
4.5 Periodic inspections	16
4.5.1 Personnel	16
4.5.2 Fixed installations.....	16
4.5.3 Transportable, personal and portable equipment	17
4.6 Continuous supervision by Skilled Personnel	17
4.6.1 Concept.....	17
4.6.2 Objectives	17
4.6.3 Responsibilities	18
4.6.4 Frequency of inspection.....	18
4.6.5 Documents	19
4.6.6 Training	19
4.7 Maintenance requirements.....	19
4.7.1 Remedial measures and modifications to equipment.....	19
4.7.2 Maintenance of flexible cables.....	20
4.7.3 Withdrawal from service	20
4.7.4 Fastenings and tools	20
4.8 External influences	20
4.9 Isolation of equipment.....	21
4.9.1 Installations other than intrinsically safe circuits	21
4.9.2 Live maintenance on Intrinsically safe installations	22
4.10 Earthing and equipotential bonding.....	23
4.11 Specific Conditions of Use	23
4.12 Movable equipment and its connections.....	23
4.13 Inspection schedules	23
4.13.1 General	23
4.13.2 Equipment is appropriate to the EPL/Zone requirements of the location.....	23
4.13.3 Equipment group	24
4.13.4 Equipment maximum surface temperature	24
4.13.5 Equipment circuit identification	24
4.13.6 Ex Cable Glands.....	24
4.13.7 Type of cable.....	24
4.13.8 Sealing	24
4.13.9 Test and measuring equipment.....	24
4.13.10 Fault loop impedance or earthing resistance.....	24

4.13.11	Insulation resistance	25
4.13.12	Overload protection	25
4.13.13	Lamps and luminaires	25
5	Additional inspection schedule requirements	25
5.1	Type of Protection "d" – Flameproof enclosure	25
5.2	Type of Protection "e" – Increased safety	26
5.2.1	Level of Protection "eb"	26
5.2.2	Level of Protection "ec"	26
5.3	Type of Protection "i" – Intrinsic safety	26
5.3.1	General	26
5.3.2	Documentation	27
5.3.3	Labelling	27
5.3.4	Unauthorized modifications	27
5.3.5	Associated apparatus (safety interface) between intrinsically safe and non-intrinsically safe circuits	27
5.3.6	Cables	27
5.3.7	Cable screens	27
5.3.8	Point-to-point connections	27
5.3.9	Earth continuity of non-galvanically isolated circuits	28
5.3.10	Earth connections to maintain the integrity of the intrinsic safety	28
5.3.11	Intrinsically safe circuit earthing or insulation	28
5.3.12	Separation between intrinsically safe and non-intrinsically safe circuits	28
5.4	Type of Protection "p" and "pD" – Pressurized enclosure	28
5.5	Type of Protection "n"	29
5.5.1	General	29
5.5.2	Restricted breathing enclosures	29
5.6	Type of Protection "t" and "tD" – Protection by enclosure	29
5.7	Types of Protection "o" (liquid immersion)	29
5.8	Types of Protection "m" and "mD" (encapsulation), "op" (optical radiation) and "q" (powder-filling)	29
6	Inspection tables	29
	Annex A (informative) Typical inspection procedure for periodic inspections	36
	Annex B (normative) Knowledge, skills and competencies of Technical Persons with Executive Function and Skilled Personnel	37
B.1	General	37
B.2	Knowledge and skills	37
B.2.1	Technical Persons with Executive Function	37
B.2.2	Skilled Personnel (inspection and maintenance)	37
B.3	Competencies	38
B.3.1	General	38
B.3.2	Technical Persons with Executive Function	38
B.3.3	Skilled Personnel	38
B.4	Assessment	38
	Annex C (informative) Fitness-for-purpose assessment	39
C.1	Background	39
C.2	Need for a fitness-for-purpose assessment	39
C.3	Approach	39
C.4	Ignition sources	39
C.5	Contents of the fitness-for-purpose assessment	39

C.5.1	General	39
C.5.2	Scope of the assessment report.....	39
C.5.3	Equipment and its application	40
C.5.4	Description	40
C.5.5	Function of the product including the location	40
C.5.6	Specification	40
C.5.7	Standards compliance	40
C.5.8	Documents	41
C.5.9	Product sample.....	41
C.5.10	Equipment label.....	41
C.5.11	Training of personnel	41
C.5.12	Elements of the report	42
C.5.13	Assessor requirements	42
C.5.14	Typical assessment and test report.....	42
Annex D (informative)	Example of motor checks	44
Annex E (informative)	Adverse service conditions	45
Bibliography.....		46
Figure A.1 – Typical inspection procedure for periodic inspections.....		36
Table 1 – Inspection schedule for Ex "d", Ex "e", Ex "n" and Ex "t/tD" installations.....		30
Table 2 – Inspection schedule for Ex "i" installations.....		32
Table 3 – Inspection schedule for Ex "p" and "pD" installations.....		33
Table 4 – Inspection schedule for Ex "o" installations		34
Table C.1 – Title		43

[SIST EN IEC 60079-17:2024](https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024)

<https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

EXPLOSIVE ATMOSPHERES –

Part 17: Electrical installations inspection and maintenance

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60079-17 has been prepared by subcommittee 31J: Classification of hazardous areas and installation requirements, of IEC technical committee 31: Equipment for explosive atmospheres. It is an International Standard.

This sixth edition cancels and replaces the fifth edition published in 2013. This edition constitutes a technical revision.

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

Changes	Clause	Type		
		Minor and editorial changes	Extension	Major technical changes
Simplifying description of explosive gas and dust atmospheres in the Scope and uses of these terms throughout document	1	X		
Clarifies the exclusion of ventilated rooms in the Scope	1	X		
Aligns maintenance terms and definitions in 3.7 and 3.8 with IEC 60079.	3	X		
Introducing new clause 4.4.1.2. Manufacturer's documentation for cross referencing in text without repetition	4	X		
Further guidance added into Note 4 regarding factors contributing to the deterioration of Ex Equipment.	4.4.1.1.		X	
Clarifies the change in terminology from previously used Special Condition of Safe Use to current terminology Specific Conditions of Use .	4.11		X	
Further requirements added regarding Type of Protection "o".	5.7			C1
Clarification added regarding use of inspection tables	6		X	
Minor editorial changes and correction made to Tables 1 to 4 but with no change to item numbering or content	Tables 1 to 4	X		
Modified reference in this standard to align all types of inspection with Continuous Supervision terms for example; Skilled Personnel and Technical Persons with Executive Function.	Annex B			C2
A typical assessment and test report is shown in C.5.14.	Annex C	X		
Introducing new items in the Bibliography	Bibliography	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.				

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 from the previous standard.

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 an overhaul or repair of product to the preceding edition will not always be able to fulfil the requirements given in the later edition. For these changes additional information is provided in clause B) below.

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

B Information about the background of 'major technical changes'

- C1 Sub-clause 5.7 and Table 4 has been inserted based on text submitted by MT60079-6 *Explosive atmospheres – Part 6: Equipment protection by liquid immersion "o"*.
- C2 The previous reference to Responsible Person in Annex B usually reflects the roles and the responsibilities of a person rather than the technical knowledge, skills and competencies required to manage the activity of periodic inspection and maintenance of Ex equipment. The term used within the Continuous Supervision clauses of Technical Person With Executive Function provides clarity and harmonises the clauses within the document.

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

Draft	Report on voting
31J/345/FDIS	31J/351/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

This International Standard is intended to be used in conjunction with IEC 60364-6.

A list of all parts of the IEC 60079 series, under the general title *Explosive 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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[SIST EN IEC 60079-17:2024](https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024)

<https://standards.iteh.ai/catalog/standards/sist/093a6f89-f96c-4398-8060-737a6070455b/sist-en-iec-60079-17-2024>