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

IEC 60079-17:2023-12 (en-fr)

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 29.260.20

ISBN 978-2-8322-7759-1

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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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.
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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:

		Type		
Changes	**Clause**	**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 IEV & 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			
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 A 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.

INTRODUCTION

Electrical installations in hazardous areas possess features specially designed to render them suitable for operations in such atmospheres. It is essential for reasons of safety in those areas that, throughout the life of such installations, the integrity of those special features is preserved. This document provides the details for initial inspection and on-going inspections as either:

a) regular periodic inspections thereafter, or,

b) continuous supervision

by Skilled Personnel.

Where necessary, maintenance might also be needed.

Correct functional operation of hazardous area installations does not mean, and is not to be interpreted as meaning, that the integrity of the special features referred to above are preserved.

EXPLOSIVE ATMOSPHERES –

Part 17: Electrical installations inspection and maintenance

1 Scope

This part of IEC 60079 applies to users and covers only those factors directly related to the inspection and maintenance of electrical installations specifically designed for hazardous areas, where the hazard is caused by explosive atmospheres.

It does not include:

- other fundamental installation and inspection requirements for electrical installations;
- the verification of electrical equipment;
- protection or ventilation of rooms;
- gas detection systems;
- the repair, overhaul and reclamation of explosion protected equipment (see IEC 60079-19).

While this document does not include inspection of safety devices such as used in ventilated rooms (see IEC 60079-13), it does include the requirements for inspection and maintenance of individual items of equipment that will be part of such systems, for example motors or sensors.

This document supplements the requirements for inspection and testing in non-hazardous areas in IEC 60364-6. This document is intended to be applied where there is a risk due to the potential presence of explosive gas or dust mixtures with air or combustible dust layers under normal atmospheric conditions. It does not apply to:

- underground mining areas,
- dusts of explosives,
- pyrophoric substances.

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 60079-10-1, *Explosive atmospheres – Part 10-1: Classification of areas – Explosive gas atmospheres*

IEC 60079-10-2, *Explosive atmospheres – Part 10-2: Classification of areas – Explosive dust atmospheres*

IEC 60079-14, *Explosive atmospheres – Part 14: Electrical installations design, selection and erection*

IEC 60079-15, *Explosive atmospheres – Part 15: Equipment protection by type of protection "n"*