AS/NZS 60079.17:2017

Australian/New Zealand Standard™

Explosive atmospheres

Part 17: Electrical installations inspection and maintenance (IEC 60079-17:2013 (ED.5.0) MOD)

STANDARDS Australia

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This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, Equipment for Explosive Atmospheres. It was approved on behalf of the Council of Standards Australia on 16 October 2017 and by the New Zealand Standards Approval Board on 1 November 2017.
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The following are represented on Committee EL-014:

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Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Institute of Petroleum
Australian Petroleum Production and Exploration Association
Australian Pipelines and Gas Association
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Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia Web Site at www.standards.org.au or Standards New Zealand web site at www.standards.govt.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 60079.17:2016.

Australian/New Zealand Standard™

Explosive atmospheres

Part 17: Electrical installations inspection and maintenance (IEC 60079-17:2013 (ED.5.0) MOD)

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Equipment for Explosive Atmospheres, to supersede AS/NZS 60079.17:2009, *Explosive atmospheres*, Part 17: *Electrical installations inspection and maintenance (IEC 60079-17, Ed. 4.0 (2007) MOD)*.

The objective of this Standard is to set out the requirements for ongoing inspections of electrical installations and maintenance of electrical equipment in explosive atmospheres.

This Standard is an adoption with national modifications; it has been reproduced from IEC 60079-17:2013 (ED.5.0), *Explosive atmospheres*, Part 17: *Electrical installations inspection and maintenance*, and has been varied as indicated to take account of Australian/New Zealand conditions.

This Standard is structured as follows:

(a) Preface.

(b) IEC 60079-17:2013 (ED.5.0) (unedited from the contents page to the final clause of the source document).

(c) Appendix ZZ—Australian/New Zealand variations to the source document.

The variations listed in Appendix ZZ address issues including the following:

(i) Identification of relevant AS or AS/NZS Standards as normative references.

(ii) Reference to competency of personnel rather than qualifications, and deletion of Annex B and in its place reference to AS/NZS 4761.1, *Competencies for working with electrical equipment for hazardous areas (EEHA)* Part 1: *Competency Standards*.

(iii) Modification of normal inspection periods from 3 years to 4 years for established practice in Australia and New Zealand.

(iv) Reduction and clarification of some inspection details to meet accepted practice in Australia and New Zealand.

(v) Addition of inspection details for 'Ex'v' and type of protection 'p' for rooms to Australian Standards.

As this Standard is reproduced from an International Standard, the following applies:

(A) In the source text 'this part of the IEC 60079 series' should read 'this Australian/New Zealand Standard'.

(B) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific standards.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex or appendix to which they apply. A 'normative' annex or appendix is an integral part of a Standard, whereas an 'informative' annex or appendix is only for information and guidance.

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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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International Standard 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.

This fifth edition cancels and replaces the fourth edition published in 2007 and constitutes a technical revision.

The significant technical changes with respect to the previous edition are as follows:

- Equipment specific inspection tables for luminaires, heating systems and motors have been added into Annex A to supplement the general protection concept tables.
- Document has been updated to complement the changes made to IEC 60079-14 for initial inspection.

The text of this standard is based on the following documents:

FDIS	Report on voting
31J/224/FDIS	31J/229/RVD

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

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

This International Standard is 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 publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

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 standard provides the details for initial inspection and on-going inspections as either;

a) regular periodic inspections thereafter, or,

b) continuous supervision by skilled personnel.

When necessary, maintenance may also be needed.

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

Inspections are carried out in accordance with this standard, however for older installations the details for the equipment and installations requirements should be referenced to the standards applied at the date of the installation.

NOTE Standards applied at the date of installation may not have been IEC standards.

AUSTRALIAN/NEW ZEALAND STANDARD

Explosive atmospheres

Part 17: Electrical installations inspection and maintenance (IEC 60079-17:2013 (ED.5.0), MOD)

1 Scope

This part of the IEC 60079 series applies to users and covers factors directly related to the inspection and maintenance of electrical installations within hazardous areas only, where the hazard may be caused by flammable gases, vapours, mists, dusts, fibres or flyings.

It does not include:

- other fundamental installation and inspection requirements for electrical installations;
- the verification of electrical equipment;
- the repair and reclamation of explosion protected equipment (see IEC 60079-19).

This standard supplements the requirements of IEC 60364-6.

In the case of dusts, fibres or flyings the level of housekeeping may influence the inspection and maintenance requirements.

This standard is intended to be applied where there can be a risk due to the 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 that do not require atmospheric oxygen for combustion,
- pyrophoric substances.

2 Normative references

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.

IEC 60079-0, *Explosive atmospheres - Part 0: Equipment - General* requirements

IEC 60079-1, *Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"*

IEC 60079-2, *Explosive atmospheres – Part 2: Equipment protection by pressurized enclosures "p"*

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

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 – Combustible dust atmospheres*