

# Draft Australian/New Zealand Standard

Public Comment is invited for:

**DR AS/NZS 60079.13:2019, Explosive atmospheres**

**Part 13: Equipment protection by pressurized room 'p' and  
artificially ventilated room 'v' (IEC 60079-13:2017 (ED 2.0), MOD)**

**(Revision of AS 1482—1985)**

Public comment period:

Start date: 12 February 2019

Close date: 16 April 2019

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During their development process, Australian Standards are available in draft form during the public consultation period to allow any interests concerned with the application of the proposed Standard to review the draft and submit their comments.

This draft is liable to alteration. It is not to be regarded as an Australian Standard® until finally published as such by Standards Australia.

Upon successful conclusion of the Public Comment period, it is proposed to publish this as AS/NZS 60079.13:201X.

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There are two submission options depending on the following:

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### 3. Submit

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## Conditions for comment

Comments are welcome on the technical content, wording and general arrangement of the draft. How the requirements of this draft coordinate with other Standards is of particular importance and you are invited to point out any areas where changes or additions to this draft may be necessary. Editorial matters (i.e. spelling, punctuation, grammar, etc.) will be corrected before final publication.

Please provide supporting reasons and suggested wording for each comment. Where you consider that specific content is too simplistic, too complex or too detailed please provide an alternative.

If the proposed document is acceptable without change, an acknowledgement to this effect would be appreciated.

Only comments submitted via the Standards Australia Standards Public Commenting site before midnight on the closing date will be reviewed by the committee. The site automatically submits comments to the committee. Any other communication will not be considered.

At the expiry of the comment period, the committee responsible for the document is obliged to give serious consideration to all comments received. However, normally no acknowledgement of comment is sent.

If you know of other persons or organizations that may wish to comment on the revision of this document, please advise them of its availability.

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Committee EL-014—Equipment for Explosive Atmospheres

**Draft for Public Comment**  
**Australian/New Zealand Standard**

DR AS/NZS 60079.13:2019, Explosive atmospheres

Part 13: Equipment protection by pressurized room 'p' and artificially ventilated room 'v' (IEC 60079-13:2017 (ED 2.0), MOD)

(Revision of AS 1482—1985)

This document is a draft Australian/New Zealand Standard only and is liable to alteration. It is not to be regarded as an Australian/New Zealand Standard until finally published as such by Standards Australia/Standards New Zealand.

Upon successful conclusion of the Public Comment period, it is proposed to publish this as AS/NZS 60079.13:201X.

## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Equipment for Explosive Atmospheres, to supersede AS 1482—1985, *Electrical equipment for explosive atmospheres—Protection by ventilation—Type of protection v*.

The objective of this Standard is to provide requirements for the design, construction, assessment, verification and marking of rooms used to protect internal equipment by pressurization or artificial ventilation or both as applicable when located in an explosive gas atmosphere or combustible dust atmosphere hazardous area with or without an internal source of a flammable gas or vapour, as a means of protection for installations associated with explosive atmospheres.

This Standard also includes requirements related to safety devices and controls necessary to ensure that artificial ventilation, purging and pressurization is established and maintained.

This Standard does not specify the methods that may be required to ensure adequate air quality for personnel with regard to toxicity and temperature within the room. National or other regulations and requirements may exist to ensure the safety of personnel in this regard.

Protection of rooms by using an inert gas or a flammable gas is outside of the scope of this Standard. It is recognized that such applications are special cases, which in part may be addressed using the principles from AS/NZS 60079.2, but in all probability will also be the subject of additional, stringent engineering standards, procedures and practices. Pressurized enclosures for equipment that are not intended to facilitate the entry of personnel are addressed in AS/NZS 60079.2, and are not in the scope of this Standard.

This Standard is an adoption with national modifications, and has been reproduced from, IEC 60079-13:2017 (ED. 2.0), *Explosive atmospheres — Part 13: Equipment protection by pressurized room 'p' and artificially ventilated room 'v'*. The modifications are additional requirements and are set out in Appendix ZZ which has been added at the end of the source text.

Appendix ZZ lists the variations to IEC 60079-13:2017 (ED. 2.0) for the application of this Standard in Australia and New Zealand.

As this document has been reproduced from an International Standard, the following applies:

- (a) In the source text 'this part of IEC 60079' should read 'this Australian/New Zealand Standard'.
- (b) A full point substitutes for a comma when referring to a decimal marker.

It is intended that both AS 1482 and AS 2380.4 will be withdrawn 3 years from the date of publication of AS/NZS 60079.13. AS 1482 and AS 2380.4 may be used, as relevant to the application, until they are withdrawn.

It is also intended that Appendix A from AS 1482 will be transferred into the next edition of AS/NZS 60079.10.1.

It is considered that the requirements for protection of rooms in Zone 2 only by ventilation in IEC 60079-13 are not sufficiently developed. On this basis, the AS/NZS adoption has removed this as an approach as part of the adoption of IEC 60079-13.

In such cases, the use of other Standards such as NFPA 496 and EN 50381 could be followed and may be accepted.

It is also noted that the application of protection by ventilation requires careful administration and understanding of other Standards, including AS/NZS 60079.10.1 and AS/NZS 60079.14.

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' are used in Standards to define the application of the appendices or annexes to which they apply. A 'normative' appendix or annex is an integral part of a Standard, whereas an 'informative' appendix or annex is only for information and guidance.

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FOREWORD

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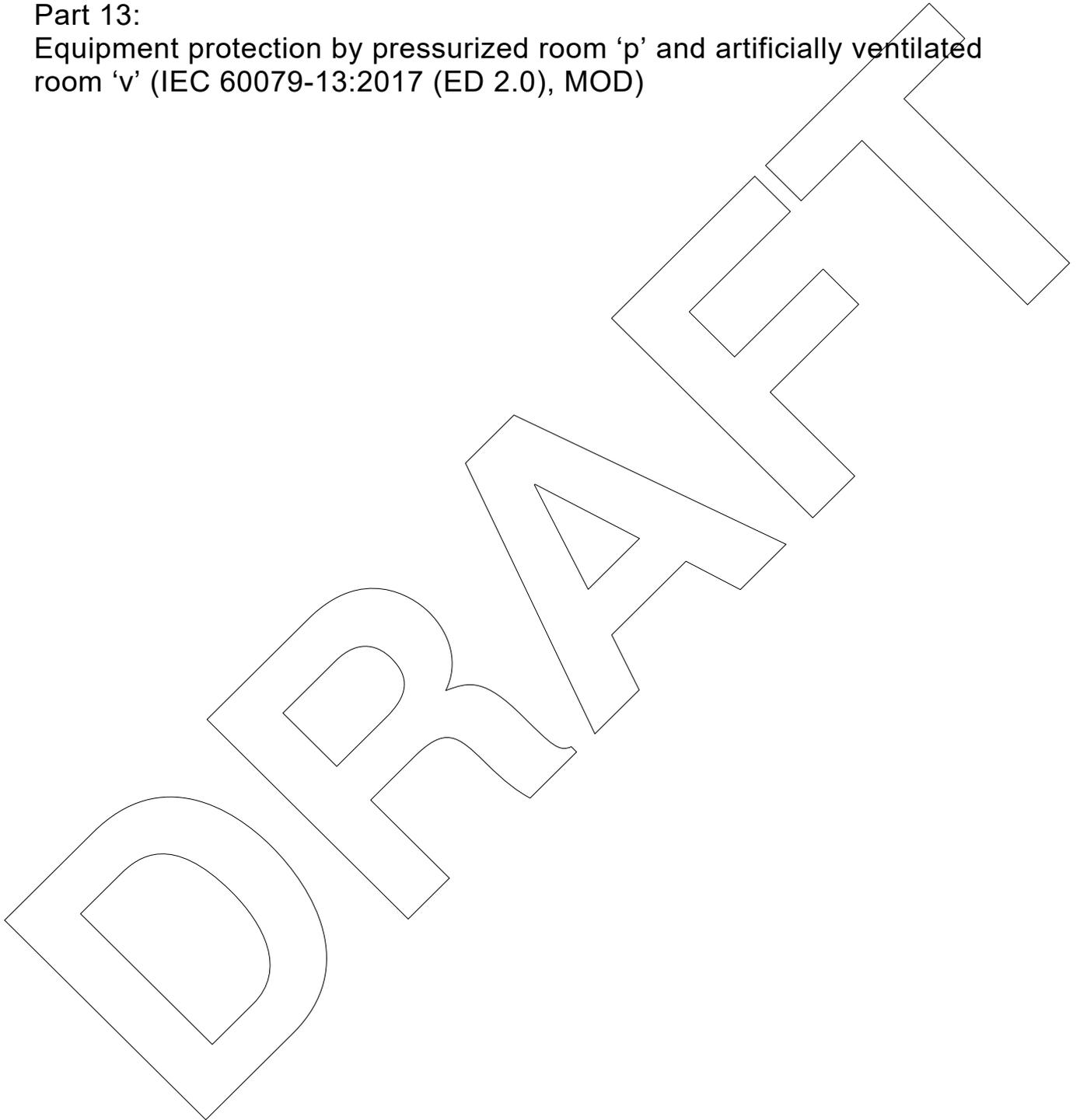
# INTRODUCTION

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**Explosive atmospheres**

Part 13:

Equipment protection by pressurized room 'p' and artificially ventilated room 'v' (IEC 60079-13:2017 (ED 2.0), MOD)



APPENDIX ZZ  
VARIATIONS TO IEC 60079-13:2017 (ED. 2.0)  
FOR AUSTRALIA AND NEW ZEALAND

(Normative)

**ZZ1 SCOPE**

This Appendix lists the normative variations to IEC 60079-13:2017 (ED. 2.0).

**ZZ2 VARIATIONS**

The following modifications are required for Australian and New Zealand conditions:

<b>Element</b>	<b>Instruction/New text</b>
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<b>Foreword</b>	After ‘A bilingual version of this publication may be issued at a later date.’, <i>add</i> : AS/NZS 60079.13 may be used in conjunction with other national, regional or international Standards including other parts of the AS/NZS 60079 series, and in particular AS/NZS 60079.14. Other Standards may also have requirements for particular applications, e.g. AS 1375 or AS/NZS 5601 for gas appliances.
<b>CI 1</b>	First paragraph, <i>delete</i> : – located in a Zone 2 explosive atmosphere (an area normally requiring EPL Gc) with or without an internal source of gas/vapour release and protected by artificial ventilation;
<b>CI 2</b>	<ol style="list-style-type: none"><li>1 After the first paragraph, <i>add</i> the following: The Australian/New Zealand Standards listed below are not equivalent to the IEC normative reference, however they are required for the application of this Standard. All references in the source text to the IEC normative reference shall be replaced by references to the corresponding Australian/New Zealand Standards. Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably.</li><li>2 <i>Delete</i> ‘IEC 60079-10-1, <i>Explosive atmospheres — Part 10-1: Classification of areas — Explosive gas atmospheres</i>’ and <i>replace</i> with the following: AS/NZS 60079.10.1, <i>Explosive atmospheres, Part 10.1: Classification of areas — Explosive gas atmospheres</i>.</li><li>3 <i>Delete</i> ‘IEC 60079-29 (all parts), <i>Explosive atmospheres — Gas detectors</i>’ and <i>replace</i> with the following: AS/NZS 60079.29 (all parts), <i>Explosive atmospheres — Gas detectors</i>.</li></ol>
<b>CI 4.2.2</b>	<i>Delete</i> the clause text and <i>replace</i> with the following: The artificial ventilated room maintains artificial ventilation to dilute a release of flammable substance to reduce a hazardous area inside such that the required EPL is reduced from either Gb or Gc to non-hazardous, or from Gb to Gc.  NOTE: This permits equipment with a lower EPL to be installed within the artificially ventilated room except for ventilation safety devices (see 7.3.1).

Rooms may be protected by either general or local artificial ventilation. General artificial ventilation applies to an entire room or a significant portion of a room and local artificial ventilation applies to restricted regions, for example an extraction hood

Standard pre-fabricated modular assemblies such as gas turbines, analyser houses, metering stations, quality laboratories or drill rig rooms designed by package manufacturer's for international use may be protected by artificial ventilation "vc" in accordance with this Standard. It is intended that such assemblies are rigorously validated as part of international trade requirements and are not one-off or prototype assemblies.

**CI 7.1.3.2** Second paragraph, *replace* with the following:

The diameters of the gas and liquid inlet and outlet piping should be sized to provide the maximum flow of fluid required by the process equipment and have adequate strength and pressure rating for the service.

**CI 7.1.4.4** *Delete* and *replace* with the following:

Unless there are exceptional conditions as indicated in Appendix B the ventilation system shall remain energized even when other electrical power to the ventilated area is de-energised.

**CI 7.3.4** First paragraph, *replace* with the following:

The type, quantity and placement of detectors installed shall be based upon an end-user process risk evaluation and the specific Standards for gas detection. The location of gas detectors will depend on the gas properties, particularly density (refer to AS/NZS 60079.29 (all parts)).

**Bibliography** After the last entry, *add* the following:

AS 1375, *Industrial fuel-fired appliances*

AS 1482, *Electrical equipment for explosive atmospheres—Protection by ventilation—Type of protection v*

AS 2380.4, *Electrical equipment for explosive atmospheres—Explosion-protection techniques, Part 4: Pressurized rooms or pressurized enclosures*

AS 3814, *Industrial and commercial gas-fired appliances*

AS 61508 (all parts), *Functional safety of electrical/electronic/programmable electronic safety-related systems*

AS IEC 61511 (all parts), *Functional safety — Safety instrumented systems for the process industry sector*

AS/NZS 5601 (all parts), *Gas Installations*

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\*\*\* END OF DRAFT \*\*\*

## Preparation of Australian/New Zealand Standards

Australian/New Zealand Standards are prepared by a consensus process involving representatives nominated by organizations in both countries drawn from all major interests associated with the subject. Australian/New Zealand Standards may be derived from existing industry Standards, from established international Standards and practices or may be developed within a Standards Australia, Standards New Zealand or joint technical committee.

The following interests are represented on the committee responsible for this Draft Australian/New Zealand Standard:

Auckland Regional Chamber of Commerce  
Australian Chamber of Commerce and Industry  
Australian Industry Group  
Australian Institute of Petroleum  
Australian Petroleum Production and Exploration Association  
Australian Pipelines and Gas Association  
Aviation and Marine Engineers Association  
Bureau of Steel Manufacturers of Australia  
Business New Zealand  
Communications, Electrical and Plumbing Union – Electrical Division  
Department of Natural Resources, Mines and Energy (QLD)  
Electrical Compliance Testing Association of Australia  
Electrical Contractors Association of New Zealand  
Electrical Regulatory Authorities Council  
Electrical Safety New Zealand  
Engineering New Zealand  
Engineers Australia  
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Institute of Instrumentation, Control and Automation Australia  
Mining Electrical and Mining Mechanical Engineering Society  
NSW Department of Industry, Skills and Regional Infrastructure Development  
SafeWork NSW  
University of Newcastle  
WorkSafe New Zealand

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### **Standards New Zealand**

The first national Standards organization was created in New Zealand in 1932. The New Zealand Standards Executive is established under the Standards and Accreditation Act 2015 and is the national body responsible for the production of Standards.

### **Australian/New Zealand Standards**

Under a Memorandum of Understanding between Standards Australia and Standards New Zealand, Australian/New Zealand Standards are prepared by committees of experts from industry, governments, consumers and other sectors. The requirements or recommendations contained in published Standards are a consensus of the views of representative interests and also take account of comments received from other sources. They reflect the latest scientific and industry experience. Australian/New Zealand Standards are kept under continuous review after publication and are updated regularly to take account of changing technology.

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Standards Australia and Standards New Zealand are responsible for ensuring that the Australian and New Zealand viewpoints are considered in the formulation of international Standards and that the latest international experience is incorporated in national and Joint Standards. This role is vital in assisting local industry to compete in international markets. Both organizations are the national members of ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission).

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