AS/NZS 60079.1:2007
IEC 60079-1, Ed. 6.0 (2007)
(Incorporating Amendment No. 1)

AS/NZS 60079.1:2007

Australian/New Zealand Standard™

Explosive atmospheres

Part 1: Equipment protection by flameproof enclosures ‘d’

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 28 June 2007 and on behalf of the Council of Standards New Zealand on 22 June 2007.
This Standard was published on 11 September 2007.

The following are represented on Committee EL-014:

Association of Consulting Engineers Australia
Auckland Regional Chamber of Commerce
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Industry Group
Australian Institute of Petroleum Ltd
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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 either Standards Australia or Standards New Zealand at the address shown on the back cover.

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Explosive atmospheres

Part 1: Equipment protection by flameproof enclosures ‘d’

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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 60079.1:2005.

This Standard incorporates Amendment No. 1 (August 2008). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

A1 The objective of this Standard is to set out the requirements for the construction and testing of electrical apparatus with type of protection flameproof enclosure 'd', intended for use in explosive gas atmospheres.

This Standard is identical with, and has been reproduced from IEC 60079-1, Ed. 6.0 (2007), *Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures 'd'*.

This Standard is to be read in conjunction with AS/NZS 60079.0, *Electrical apparatus for explosive gas atmospheres*, Part 0: *General requirements*.

This edition contains the following significant technical changes with regard to the previous edition:

(a) Revisions to Clause 5 regarding markings and conditions of safe use when a dimension of a flameproof joint is other than the relevant minimum or maximum.

(b) Revisions to Table 1 regarding maximum gap for flanged, cylindrical or spigot joints.

(c) Revisions to Table 4 regarding requirements for taper threaded joints.

(d) Revisions to Clause 10 regarding volume restrictions and test conditions associated with breathing and draining devices.

(e) Revisions to Clause 11 regarding requirements for fasteners, associated holes and blanking elements.

(f) Revisions to Clause 12 regarding material restrictions associated with zinc and zinc alloys.

(g) Revisions to Table 5 regarding conditions for the determination of maximum surface temperatures.

(h) Revisions to Clause 15 regarding the determination of explosion pressure (reference pressure).

(i) Revisions to Table 6 regarding the reduction in length of a threaded joint for non-transmission testing.

(j) Revisions to Table 7 regarding the test factors to increase pressure or test gap (i_E).

(k) Revisions to Table 8 regarding the minimum distance of obstructions from flange openings.

(l) Revisions to Clause 19 regarding tests for flameproofness.

(m) Revisions to Clause 20 regarding a tabulated collection of marking requirements.

(n) Revisions to Annex C regarding additional requirements for flameproof entry devices.

(o) Revisions to Annex D regarding empty flameproof enclosures as Ex components.

(p) Addition of a new Annex F regarding mechanical properties for screws and nuts.

(q) Addition of a new Annex G regarding equipment protection levels for Ex equipment.

As this Standard is reproduced from an International Standard a full point should be substituted for a comma when referring to a decimal marker.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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1 Scope

This part of IEC 60079 contains specific requirements for the construction and testing of electrical equipment with the type of protection flameproof enclosure “d”, intended for use in explosive gas atmospheres.

This standard supplements and modifies the general requirements of IEC 60079-0. Where a requirement of this standard conflicts with a requirement of IEC 60079-0, the requirement of this standard will take precedence.

2 Normative references

The following referenced documents are indispensable for the application 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.

by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces References to international standards that are struck through in this clause are replaced by references to Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified is identified as such.

IEC 60061 (all parts), *Lamp caps and holders together with gauges for the control of interchangeability and safety*

~~IEC 60079-0:2004, *Electrical apparatus for explosive gas atmospheres – Part 0: General requirements*~~

AS/NZS 60079.0:2005, *Electrical apparatus for explosive gas atmospheres*, Part 0: *General requirements* (identical to IEC 60079-0:2004)

~~IEC 60079-1-1, *Electrical apparatus for explosive gas atmospheres – Part 1-1: Flameproof enclosures “d” – Method of test for ascertainment of maximum experimental safe gap*~~

AS/NZS 60079.1.1, *Electrical apparatus for explosive gas atmospheres*, Part 1.1: *Flameproof enclosures 'd'—Method of test for ascertainment of maximum experimental safe gap* (identical to IEC 60079-1-1)

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

AS/NZS 60079.7, *Explosive atmospheres*, Part 7: *Equipment protection by increased safety 'e'* (identical to IEC 60079-7)

~~IEC 60079-11, *Explosive atmospheres – Part 11: Equipment protection by intrinsic safety “i”*~~

AS/NZS 60079.11, *Explosive atmospheres*, Part 11: *Equipment protection by intrinsic safety 'i’* (identical to IEC 60079-11)