

AS/NZS 60079.1:2005
IEC 60079-1, Ed.5.0 (2003)

AS/NZS 60079.1:2005

Australian/New Zealand Standard™

Electrical apparatus for explosive gas atmospheres

Part 1: Flameproof enclosures ‘d’



AS/NZS 60079.1:2005

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-014, Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 8 April 2005 and on behalf of the Council of Standards New Zealand on 15 April 2005.
This Standard was published on 28 April 2005.

The following are represented on Committee EL-014:

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
Certification Interests (Australia)
Department of Natural Resources and Mines (Qld)
Department of Primary Industries, Mine Safety (NSW)
Electrical Regulatory Authorities Council
Energy Networks Association
Engineers Australia
Institute of Electrical Inspectors
Institute of Instrumentation, Control and Automation Australia
Ministry of Economic Development (New Zealand)
National Electrical and Communications Association
New Zealand Association of Marine, Aviation and Power Engineers
New Zealand Employers and Manufacturers Association
New Zealand Hazardous Areas Electrical Coordinating Committee
The Australian Gas Association
WorkCover New South Wales

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 Standards may also be withdrawn.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 Web Shop at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. 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 either Standards Australia or Standards New Zealand at the address shown on the back cover.

AS/NZS 60079.1:2005

Australian/New Zealand Standard™

Electrical apparatus for explosive gas atmospheres

Part 1: Flameproof enclosures ‘d’

Originated as AS/NZS 60079.1:2002.
Second edition 2005.

COPYRIGHT

© Standards Australia/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Jointly published by Standards Australia, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 6643 9

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-014, Electrical Equipment in Hazardous Areas, to supersede AS/NZS 60079.1:2002.

This Standard is identical with, and has been reproduced from IEC 60079-1, Ed.5.0(2003), *Electrical apparatus for explosive gas atmospheres – Part 1: Flameproof enclosures “d”*.

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

This Standard is to be read in conjunction with AS/NZS 60079.0, the requirements of which apply to electrical apparatus with flameproof enclosures.

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

- (a) Revisions to Clause 5 regarding the use of corrosion inhibiting grease, and regarding electroplating of joint surfaces.
- (b) Revisions to Clause 5 regarding gaps whose dimensions are less than required in the tables, and regarding taper threaded joints.
- (c) Revisions to Clause 13 regarding entries for flameproof enclosures.
- (d) Revisions to Clause 13 regarding cable glands and conduit entries.
- (e) Revisions to Clause 14 regarding test voltage for motors.
- (f) Revisions to Clause 15 regarding type tests for apparatus used at an ambient temperature below -20°C , or at an ambient temperature above 60°C .
- (g) Revisions to Clause 16 regarding routine tests for apparatus used at an ambient temperature below -20°C .
- (h) Revisions to Clause 19 regarding non-metallic enclosures.
- (i) Revisions to Annex C regarding Ex blanking elements and thread adapters.
- (j) Addition of a new normative Annex D regarding empty flameproof enclosures as Ex components.
- (k) Addition of a new normative Annex E regarding cells and batteries.

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

- (i) Its number appears on the cover and title page while the international standard number appears only on the cover.
- (ii) In the source text ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.
- (iii) A full point substitutes 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.

CONTENTS

| | <i>Page</i> |
|--|-------------|
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 2 |
| 4 Apparatus grouping and temperature classification | 4 |
| 5 Flameproof joints | 4 |
| 5.1 General requirements | 4 |
| 5.2 Non-threaded joints | 5 |
| 5.3 Threaded joints | 11 |
| 5.4 Gaskets (including O-rings) | 12 |
| 5.5 Apparatus using capillaries | 14 |
| 6 Cemented joints | 14 |
| 6.1 General | 14 |
| 6.2 Mechanical strength | 14 |
| 6.3 Width of cemented joints | 14 |
| 7 Operating rods | 14 |
| 8 Supplementary requirements for shafts and bearings | 14 |
| 8.1 Joints of shafts | 14 |
| 8.2 Bearings | 17 |
| 9 Light-transmitting parts | 17 |
| 10 Breathing and draining devices which form part of a flameproof enclosure | 18 |
| 10.1 Openings for breathing or draining | 18 |
| 10.2 Composition limits | 18 |
| 10.3 Dimensions | 18 |
| 10.4 Elements with measurable paths | 18 |
| 10.5 Elements with non-measurable paths | 18 |
| 10.6 Removable devices | 19 |
| 10.7 Mounting arrangements of the elements | 19 |
| 10.8 Mechanical strength | 19 |
| 10.9 Breathing devices and draining devices when used as Ex components | 19 |
| 11 Fasteners, associated holes and closing devices | 22 |
| 12 Materials and mechanical strength of enclosures – Materials inside the enclosures | 24 |
| 13 Entries for flameproof enclosures | 25 |
| 13.1 Cable glands | 25 |
| 13.2 Conduit sealing devices | 26 |
| 13.3 Plugs and sockets and cable couplers | 26 |
| 13.4 Bushings | 27 |
| 14 Verification and tests | 27 |

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-