

AS 2380.9—1991

Australian Standard®

Electrical equipment for explosive atmospheres — Explosion-protection techniques

**Part 9: Type of protection n—
Non-sparking**

This Australian Standard was prepared by Committee EL/14 - Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 12 April 1991 and published on 10 June 1991.

The following interests are represented on Committee EL/14:

Australian Coal Association
Australian Electrical and Electronic Manufacturers Association
Australian Institute of Petroleum
Confederation of Australian Industry
Department of Industrial Relations and Employment, N.S.W.
Department of Minerals and Energy, N.S.W.
Department of Mines, Qld
Electrical Contractors Association of Australia
Electricity Supply Association of Australia
Institute of Instrumentation and Control
Insurance Council of Australia
Regulatory authorities (electrical)
Testing interests

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto. Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.*

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

AS 2380.9—1991

Australian Standard®

Electrical equipment for explosive atmospheres — Explosion-protection techniques

**Part 9: Type of protection n—
Non-sparking**

First published as AS 2238—1979.
Second edition 1982.
Revised and redesignated AS 2380.9—1991

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 6909 3

PREFACE

This Standard was prepared by the Standards Australia Committee on Electrical Equipment in Hazardous Areas to supersede AS 2238—1982, *Electrical equipment for explosive atmospheres - Non-sparking apparatus - Type of protection n*. This Standard is intended for the guidance of manufacturers, users, statutory authorities and associated interests. It is Part 9 of a series of Standards dealing with the explosion-protection of electrical equipment intended for use in potentially explosive atmospheres.

In its terminology, definitions and general treatment of the subject, this Standard is similar to IEC 79-15, *Electrical apparatus for explosive gas atmospheres, Part 15: Electrical apparatus with type of protection 'n'*, issued by the International Electrotechnical Commission.

Acknowledgment is made of the assistance received from this source.

Attention is drawn to the issue of impact test for which this Standard and IEC 79-15 specify differing impact energy levels.

The major changes in this edition are as follows:

- (a) New requirements have been introduced for the rating of enclosed-break devices and non-incendive components.
- (b) Reference is made to AS 2380.7 for the assessment of energy-limited equipment and circuits.
- (c) Tests in compliance with AS C100 have been deleted.
- (d) Permitting the application to both Group I and Group II equipment.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

Page

SECTION 1 SCOPE AND GENERAL

1.1	SCOPE	4
1.2	REFERENCED DOCUMENTS	4
1.3	DEFINITIONS	4
1.4	GROUPING OF EQUIPMENT	5
1.5	MARKING	5

SECTION 2 REQUIREMENTS FOR THE CONSTRUCTION OF ALL ELECTRICAL EQUIPMENT

2.1	SCOPE OF SECTION	6
2.2	POTENTIAL IGNITION SOURCES	6
2.3	ENCLOSURES	6
2.4	CONNECTION FACILITIES	6
2.5	CLEARANCES, SEPARATIONS AND CREEPAGE DISTANCES	7
2.6	WINDINGS	7

SECTION 3 SUPPLEMENTARY REQUIREMENTS FOR NON-SPARKING EQUIPMENT

3.1	ROTATING MACHINES	8
3.2	FUSES AND FUSE ASSEMBLIES	8
3.3	PLUGS AND SOCKET-OUTLETS AND SIMILAR CONNECTORS	8
3.4	LUMINAIRES DESIGNED FOR MAINS SUPPLY	9
3.5	INSTRUMENTS AND LOW POWER EQUIPMENT	9

SECTION 4 SUPPLEMENTARY REQUIREMENTS FOR EQUIPMENT PRODUCING
OPERATIONAL ARCS, SPARKS OR HOT SURFACES

4.1	GENERAL	10
4.2	ENCLOSED-BREAK DEVICES AND NON-INCENDIVE COMPONENTS	10
4.3	HERMETICALLY-SEALED DEVICES	10
4.4	SEALED DEVICES	10
4.5	ENERGY-LIMITED EQUIPMENT AND CIRCUITS	10
4.6	RESTRICTED-BREATHING ENCLOSURES	11

SECTION 5 VERIFICATION AND TESTS

5.1	TYPE VERIFICATION AND TESTS	12
5.2	DIELECTRIC STRENGTH TEST	12
5.3	TESTS FOR ENCLOSED-BREAK DEVICES AND NON-INCENDIVE COMPONENTS	12
5.4	TEST FOR SEALED DEVICES	12
5.5	TEST FOR ENERGY-LIMITED EQUIPMENT AND CIRCUITS	13
5.6	TESTS FOR RESTRICTED-BREATHING ENCLOSURES	13
5.7	GASKET AND SEAL TEST	14

APPENDIX A	RESTRICTED-BREATHING ENCLOSURES	15
------------	---------------------------------------	----

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](#)
-