

AS/NZS 3800:1997

Australian/New Zealand Standard®

**Electrical equipment for explosive
atmospheres—Overhaul and repair**

AS/NZS 3800:1997

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committees, EL/23, Electrical Equipment in Coal Mines and EL/14, Electrical Equipment in Hazardous Areas. It was approved on behalf of the Council of Standards Australia on 29 October 1997 and on behalf of the Council of Standards New Zealand on 17 October 1997. It was published on 5 December 1997.

The following interests are represented on Committees EL/23 and/or EL/14:

Auckland Regional Chamber of Commerce, New Zealand
Australian Association of Certification Bodies
Australian Chamber of Commerce and Industry
Australian Coal Association
Australian Electrical and Electronic Manufacturers Association
Australian Gas Association
Australian Institute of Petroleum
Australian Institute of Refrigeration, Air conditioning and Heating
Department of Mineral Resources, N.S.W.
Department of Mines and Energy, Queensland
Electrical Apparatus Service Association, Australia
Electrical Supply Association of Australia
Institute of Electrical Inspectors
Institute of Instrumentation and Control, Australia
The Institution of Mining Engineers, Australia
Metal Trades Industry Association of Australia
Ministry of Commerce, New Zealand
New Zealand Association of Marine, Aviation and Power Engineers
New Zealand Employers & Manufacturers Association
Regulatory authorities (electrical)
Regulatory interests, New Zealand
University of Newcastle, Australia
WorkCover N.S.W.

Review of Standards. To keep abreast of progress in industry, Joint Australian/New Zealand 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 Joint Standards and related publications will be found in the Standards Australia and Standards New Zealand Catalogue of Publications; this information is supplemented each month by the magazines 'The Australian Standard' and 'Standards New Zealand', which subscribing members receive, and which give details of new publications, new editions and amendments, and of withdrawn Standards.

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

AS/NZS 3800:1997

Australian/New Zealand Standard®

Electrical equipment for explosive atmospheres—Overhaul and repair

Originated in Australia as AS 2290.2—1979.
Final Australian edition AS 2290.2—1993.
Originated in New Zealand as NZS 6112:1989.
AS 2290.2—1993 and NZS 6112:1989 jointly revised,
amalgamated and designated AS/NZS 3800:1997.

PUBLISHED JOINTLY BY:

STANDARDS AUSTRALIA
1 The Crescent,
Homebush NSW 2140 Australia

STANDARDS NEW ZEALAND
Level 10, Radio New Zealand House,
155 The Terrace,
Wellington 6001 New Zealand

ISBN 0 7337 1658 X

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committees, EL/23, Electrical Equipment in Coal Mines, and EL/14, Electrical Equipment in Hazardous Areas, to supersede AS 2290.2—1993, *Electrical equipment for coal mines—Maintenance and overhaul*, Part 2: *Overhaul and repair of electrical equipment for hazardous areas* and NZS 6112:1989, *Code of practice for the repair of electrical apparatus for use in potentially explosive atmospheres*.

This Standard covers Group I and Group II electrical equipment for use in Class I areas and also includes Class II equipment to be used in the presence of combustible dusts.

The objective of this Standard is to provide users and relevant regulatory authorities concerned with the repair and maintenance of electrical equipment in hazardous areas with guidance to ensure safety and compliance with the relevant existing Standards.

Each section of this Standard deals with the overhaul requirements appropriate to one of the types of explosion-protection which may be used to achieve electrical safety or with basic requirements and considerations which are fundamental to the safe use of electrical equipment in hazardous areas.

Major changes to AS 2290.2—1993 and NZS 6112:1989 are as follows:

- (a) Requirements for the repair and overhaul of equipment used in coal mines and other non-coal mining hazardous areas are now combined into one document.
- (b) Requirements for repair of equipment not covered by approval or certification and for repair and overhaul workshops have been clarified.
- (c) New Sections have been included covering—
 - (i) Ex n equipment;
 - (ii) DIP equipment; and
 - (iii) user information.

The other parts of the AS 2290 series, Part 1: *Maintenance of electrical equipment for hazardous areas* and Part 3: *Maintenance of gas detecting and monitoring equipment*, cover electrical equipment in coal mines (Group I) only.

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

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

CONTENTS

	<i>Page</i>
FOREWORD	6
 SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	7
1.2 APPLICATION	7
1.3 REFERENCED DOCUMENTS	7
1.4 DEFINITIONS	8
1.5 DOCUMENTATION/INFORMATION	11
1.6 MIXED EXPLOSION-PROTECTION TECHNIQUES	12
1.7 GROUPING OF EXPLOSION-PROTECTED ELECTRICAL EQUIPMENT ..	12
1.8 RESPONSIBILITIES OF COMPETENT PERSONS	13
 SECTION 2 FLAMEPROOF ENCLOSURE (Ex d)	
2.1 GENERAL	14
2.2 CERTIFICATION	14
2.3 CATEGORIES OF WORK	15
2.4 OVER-PRESSURE TESTING	16
2.5 OVERHAUL AND REPAIR PROCEDURES	16
 SECTION 3 INTRINSIC SAFETY (Ex i)	
3.1 GENERAL	21
3.2 EQUIPMENT	21
3.3 MODIFICATIONS	23
3.4 OVERHAUL AND REPAIR PROCEDURES	23
 SECTION 4 INCREASED SAFETY (Ex e)	
4.1 GENERAL	25
4.2 EQUIPMENT	25
4.3 MODIFICATIONS	26
4.4 CERTIFICATION	27
4.5 OVERHAUL AND REPAIR PROCEDURES	27
 SECTION 5 PRESSURIZED ENCLOSURES (Ex p)	
5.1 GENERAL	32
5.2 PRESSURIZATION	32
5.3 ENCLOSURES	32
5.4 TEMPERATURE RATING	33
5.5 OVERHAUL AND REPAIR PROCEDURES	33
 SECTION 6 NON-SPARKING (Ex n)	
6.1 GENERAL	35
6.2 EQUIPMENT	35
6.3 MODIFICATIONS	37
6.4 CERTIFICATION	37
6.5 OVERHAUL AND REPAIR PROCEDURES	37

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
-