REFERENCE COPY INFORMATION CENTRE STANDARDS AUSTRALIA

This where pages and weeks the full version online

SUPERSEDED BY:

AS/NZS 3800:1997

under neversion ser

AS 2290.2—1993

Australian Standard®

**Electrical equipment for coal** mines-Maintenance and overhaul

Part 2: Overhaul and repair of electrical equipment for hazardous areas

This Australian Standard was prepared by Committee EL/23, Electrical Equipment in Coal Mines. It was approved on behalf of the Council of Standards Australia on 9 August 1993 and published on 11 October 1993.

The following interests are represented on Committee EL/23:

Australian Chamber of Commerce and Industry

Australian Coal Association

Australian Electrical and Electronic Manufacturers Association

Department of Mineral Resources, N.S.W.

Department of Minerals and Energy, Qld

Institution of Mining Electrical and Mining Mechanical Engineers

Joint Coal Board

Ministry of Commerce, New Zealand

Regulatory authorities (Electrical)

WorkCover Authority of N.S.W.

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

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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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 2290.2—1993

## Australian Standard®

Electrical equipment for coal mines—Maintenance and overhaul

Part 2: Overhaul and repair of electrical equipment for hazardous areas

First published as AS 2290.2—1979. Second edition 1985. Third edition 1989. Fourth edition 1993.

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

2

## **PREFACE**

This Standard was prepared by the Standards Australia Committee on Electrical Equipment in Coal Mines, to supersede AS 2290.2—1989, Electrical equipment for coal mines—Maintenance and overhaul, Part 2: Overhaul of electrical equipment for hazardous areas. It is intended for the guidance of users and relevant regulatory authorities concerned with the maintenance of electrical equipment in coal mines and is part of a series of Standards on the maintenance and overhaul of electrical equipment used in association with underground mining machines.

This Standard is presented in Sections, each Section dealing 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. As the 1989 edition covered only flameproof enclosures, this edition has been expanded to include three new Sections as follows:

| Section | Title                         |
|---------|-------------------------------|
| 3       | Intrinsic Safety (Ex i)       |
| 4       | Increased Safety (Ex e)       |
| 5       | Pressurized Enclosures (Ex p) |

In addition, requirements for approved repair workshops and competent persons have been revised as well as the introduction of accredited assessing authorities for approval of equipment.

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.

## © 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**

|      | i                                   | Page |
|------|-------------------------------------|------|
| FORE | WORD                                | 5    |
| SECT | TION 1 SCOPE AND GENERAL            |      |
| 1.1  | SCOPE                               | . 6  |
| 1.2  | REFERENCED DOCUMENTS                | . 7  |
| 1.3  | DEFINITIONS                         | . 7  |
| SECT | ION 2 FLAMEPROOF ENCLOSURES (Ex d)  |      |
| 2.1  | GENERAL                             | 10   |
| 2.2  | EQUIPMENT OVERHAUL                  | . 11 |
| 2.3  | OVERHAUL FREQUENCY                  |      |
| 2.4  | APPROVALS                           |      |
| 2.5  | CATEGORIES OF WORK                  |      |
| 2.6  | STATIC PRESSURE TESTING             |      |
| 2.7  | OVERHAUL AND REPAIR PROCEDURES      |      |
|      |                                     |      |
|      | ION 3 INTRINSIC SAFETY (Ex i)       |      |
| 3.1  | GENERAL                             |      |
| 3.2  | EQUIPMENT                           |      |
| 3.3  | MODIFICATIONS                       |      |
| 3.4  | EQUIPMENT OVERHAUL                  |      |
| 3.5  | OVERHAUL FREQUENCY                  |      |
| 3.6  | APPROVALS                           |      |
| 3.7  | OVERHAUL AND REPAIR                 | 20   |
| 3.8  | OVERHAUL AND REPAIR PROCEDURES      | 21   |
| SECT | ION 4 INCREASED SAFETY (Ex e)       |      |
| 4.1  | GENERAL                             | 23   |
| 4.2  | EOUIPMENT                           |      |
| 4.3  | WINDINGS                            |      |
| 4.4  | MODIFICATIONS                       |      |
| 4.5  | EQUIPMENT OVERHAUL                  |      |
| 4.6  | OVERHAUL FREQUENCY                  |      |
| 4.7  | ·                                   |      |
| 4.8  |                                     |      |
| 4.9  | OVERHAUL PROCEDURES                 |      |
| 4.7  | OVERHAUL PROCEDURES                 | 21   |
|      | ION 5 PRESSURIZED ENCLOSURES (Ex p) |      |
| 5.1  | GENERAL                             |      |
| 5.2  | PRESSURIZATION                      |      |
| 5.3  | EQUIPMENT OVERHAUL                  |      |
| 5.4  | ENCLOSURES                          | 31   |
| 5.5  | TEMPERATURE RATING                  | 32   |
| 5.6  | OVERHAUL FREQUENCY                  | 32   |
| 57   | APPROVALS                           | 32   |



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

**Product Page** 

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