Australian/New Zealand Standard™

Diesel engine systems for underground coal mines

Part 2: Explosion protected

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME-018, Mining Equipment. It was approved on behalf of the Council of Standards Australia on 23 May 2003 and on behalf of the Council of Standards New Zealand on 22 May 2003. It was published on 15 July 2003.

The following are represented on Committee ME-018:

Australasian Institute of Mining and Metallurgy
Australian Chamber of Commerce and Industry
Australian Coal Association
Bureau of Steel Manufacturers of Australia
Chamber of Minerals and Energy of Western Australia
Department of Infrastructure, Energy and Resources (Tasmania)
Department of Labour, New Zealand
Department of Mineral Resources, N.S.W.
Department of Minerals and Energy, W.A.
Department of Mines and Energy (Qld)
Department of Natural Resources and Environment, Vic.
Institution of Mining Engineers, Australia
Minerals Council of Australia
South Australian Chamber of Mines and Energy

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 Standards may also be withdrawn.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 Australia web site 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 International or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 02101.

Australian/New Zealand Standard™

Diesel engine systems for underground coal mines

Part 2: Explosion protected

Originated as AS 3584—1988.
Previous edition AS 3584—1991.
Jointly revised and redesignated as AS/NZS 3584.2:2003.

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

ISBN 0 7337 5315 9

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-018, Mining Equipment, to supersede AS 3584—1991, *Diesel engine systems for underground coal mines.*

The objective of this Standard is to promote the safety of explosion-protected diesel engine systems that are used underground in coal mines.

This Standard is one of the following series of Standards:

AS/NZS
3584 Diesel engine systems for underground coal mines
Part 1: Fire protected (being developed)
3584.2 Part 2: Explosion protected (this Standard)
Part 3: Maintenance (being developed)

This edition allows for the implementation of new technology in diesel engine systems, including the use of dry exhaust systems, limiting the emission of diesel aerosol particulates and generally reducing the emission of pollutants. New measures have been included to provide a greater assurance of safety by preventing the propagation of an internal explosion. Its emphasis is to facilitate the implementation of new technology resulting in the increased operational safety of diesel engine systems.

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.

CONTENTS

Page

Page

APPENDICES

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Diesel engine systems for underground coal mines

Part 2: Explosion protected

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies safety requirements for diesel engine systems that are explosion-protected for use in underground coal mines, including use in explosion-risk zones.

NOTE: Compliance to this Standard implies a limited time safe operation in atmospheres containing up to 1% methane, including—

(a) the control of surface temperature, to avert ignition of coal dust that could settle on a hot surface;

(b) containment or elimination of flames and sparks that could ignite flammable gases and dust that may be present (such as in underground coal mines); and

(c) control of diesel emissions.

1.2 APPLICATION

This Standard is intended for the guidance of manufacturers, users, regulatory authorities, testing authorities and associated interests. It has no legal authority in its own right, but it may acquire legal standing in one or more of the following ways:

(a) Adoption by a regulatory authority.

(b) Reference to compliance with the Standard as a contract requirement.

(c) Claim by a manufacturer or manufacturer's agent of compliance with the Standard.

This Standard nominates the means by which identified hazards may be managed. Alternative technologies or innovations may also provide solutions to the management of these hazards. An alternative technology or innovation may be adopted, provided the alternative meets or exceeds the applicable requirements of this Standard. A formal risk assessment, meeting applicable Standards, shall be required to provide evidence of such compliance.

In addition to the requirements of this Standard, there maybe other requirements set by the regulatory authority. Users of this Standard should, therefore, make themselves aware of any such requirements where the diesel engine system will be used.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1019	Internal combustion engines—Spark emission control devices
1722	Pipe threads of Whitworth form
1722.1	Part 1: Sealing pipe threads
2784	Endless wedge belt and V-belt drives