

Australian/New Zealand Standard™

**Diesel engine systems for underground  
coal mines**

**Part 2: Explosion protected**



## **AS/NZS 3584.2:2008**

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 19 January 2007 and on behalf of the Council of Standards New Zealand on 2 February 2007.  
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The following are represented on Committee ME-018:

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Australian Chamber of Commerce and Industry  
Australian Coal Association  
Bureau of Steel Manufacturers of Australia  
Chamber of Minerals and Energy of Western Australia  
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# Australian/New Zealand Standard™

## **Diesel engine systems for underground coal mines**

### **Part 2: Explosion protected**

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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-018, Mining Equipment, to supersede AS/NZS 3584.2:2003.

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
- 3584.1 Part 1: Fire protected—Heavy duty
- 3584.2 Part 2: Explosion protected (this Standard)
- 3584.3 Part 3: Maintenance

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.

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

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**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.

**NOTES:**

- 1 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.
- 2 This Standard also addresses inadvertent short-term exposure to high methane levels and any consequent abnormal combustion.
- 3 Appendix A gives guidance for demonstrating compliance with this Standard.

**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 may be 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.