

Australian/New Zealand Standard™

**Electrical equipment for coal mines, for
use underground**

**Part 6: Diesel powered machinery and
ancillary equipment**



AS/NZS 4871.6:2007

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-023, Electrical Equipment in Mines. It was approved on behalf of the Council of Standards Australia on 30 March 2007 and on behalf of the Council of Standards New Zealand on 13 April 2007.

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The following are represented on Committee EL-023:

Australian Chamber of Commerce and Industry
Australian Coal Association
Australian Electrical and Electronic Manufacturers Association
Australian Industry Group
Department of Mines and Energy (Qld)
Department of Primary Industries, Mine Safety (NSW)
Electrical Apparatus Service Association
Electrical Regulatory Authorities Council
Mining Electrical and Mining Mechanical Engineering Society
Ministry of Economic Development (New Zealand)
National Association of Testing Authorities Australia
New Zealand Association of Marine, Aviation and Power Engineers
New Zealand Hazardous Areas Electrical Coordinating Committee
Simtars (Natural Resources, Mines and Water)
Solid Energy
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PREFACE

This Standard was prepared by Joint Standards Australia/Standards New Zealand Committee EL-023, Electrical Equipment in Mines.

The objective is to set out requirements for the design, construction and testing of electrical systems associated with diesel powered mobile machines for use in underground coal mines.

This Standard is Part 6 of the series AS/NZS 4871, *Electrical equipment for coal mines, for use underground*.

The AS/NZS 4871 series comprises the following parts:

- Part 1: General requirements
- Part 2: Distribution, control and auxiliary equipment
- Part 3: Substations
- Part 4: Mains powered electrical mobile machines
- Part 5: Battery powered electrical mobile machines
- Part 6: Diesel powered machinery and ancillary equipment (this Standard)

Current installed equipment should be updated to conform to this Standard. Compliance improvements should be made within a time frame that takes into consideration the cost of upgrading and the associated risk levels.

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Australian/New Zealand Standard**Electrical equipment for coal mines, for use underground****Part 6: Diesel powered machinery and ancillary equipment**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies minimum requirements for the design, installation, maintenance and servicing of electrical systems of diesel powered machinery for use in underground coal mines. It relates to electrical systems operated at extra-low voltage.

The Standard generally applies to machinery and ancillary equipment incorporating internal combustion engines for motive power or other purposes. Where intended for use in hazardous areas, additional requirements are specified.

1.2 APPLICATION

This Standard is intended for use by designers, suppliers and repairers of diesel powered machinery and ancillary equipment, mining regulatory authorities, mine operators, contractors, machinery hire and/or service organizations and other persons concerned with the safe use of the equipment at underground coal mine sites.

NOTE: Reference should be made to AS/NZS 3584 and Coal Mining Safety and Health Act 1999 (Qld), Recognised Standards – 03 and – 04.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

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- | | |
|-------|--|
| 1102 | Graphical symbols for electrotechnical documentation (all Parts) |
| 2660 | Hose and hose assemblies—Air/water—For underground coal mines |
| 4024 | Safety of machinery (all Parts) |
| 61508 | Functional safety of electrical/electronic/programmable electronic safety-related systems (all Parts) |
| 62061 | Safety of machinery—Functional safety of safety-related electrical, electronic and programmable electronic control systems |

AS/NZS

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|--------|--|
| 1102 | Graphical symbols for electrotechnical documentation (all Parts) |
| 1972 | Electric cables—Underground coal mines—Other than reeling and trailing |
| 3584 | Diesel engine systems for underground coal mines (all Parts) |
| 4360 | Risk management |
| 4383 | Preparation of documents used in electrotechnology (all Parts) |
| 4871 | Electrical equipment for coal mines, for use underground |
| 4871.1 | Part 1: General requirements |