

Australian/New Zealand Standard™

**Electrical equipment for mines and  
quarries**

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



### **AS/NZS 4871.6:2013**

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 21 August 2013 and on behalf of the Council of Standards New Zealand on 26 June 2013.

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The following are represented on Committee EL-023:

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Australian Coal Association  
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Aviation and Marine Engineers Association  
Consult Australia  
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*This Standard was issued in draft form for comment as DR AS/NZS 4871.6.*

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

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## PREFACE

This Standard was prepared by Joint Standards Australia/Standards New Zealand Committee EL-023, Electrical Equipment in Mines, to supersede AS/NZS 4871.6:2007, *Electrical equipment for coal mines, for use underground, Part 6: Diesel powered machinery and ancillary equipment*.

The objective of this Standard 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 AS/NZS 4871 series, *Electrical equipment for mines and quarries*, which 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)

The principal differences between this and the previous edition are as follows:

- (a) The scope and application have been clarified and extended to include diesel powered plant used in quarrying and both above and below ground mining.
- (b) General restructure of sections separating general requirements from specific requirements for fire-protected and explosion-protected plant used in underground coal mines.
- (c) Updated requirements recognizing new and current technologies.
- (d) This edition incorporates requirements from AS 4242—1994, *Earth-moving machinery and ancillary equipment for use in mines—Electrical wiring systems at extra-low voltage* (which is to be withdrawn).
- (e) Added requirements for above ground mine and quarry applications.
- (f) Clearer requirements for cabling and electrical protection, isolation, and safety systems.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

## CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	4
1.2 APPLICATION .....	4
1.3 EXISTING PLANT .....	5
1.4 REFERENCED DOCUMENTS.....	5
1.5 DEFINITIONS.....	6
SECTION 2 COMMON REQUIREMENTS	
2.1 GENERAL.....	8
2.2 GENERAL ARRANGEMENT, CONTROL AND PROTECTION .....	9
2.3 ELECTRICAL PROTECTION.....	11
2.4 CONTROL SYSTEMS.....	13
2.5 BATTERY SYSTEMS .....	14
2.6 ISOLATORS .....	15
2.7 ALTERNATORS.....	16
2.8 LIGHTING .....	16
2.9 SAFETY SYSTEMS .....	17
SECTION 3 MARKING AND LABELLING	
3.1 CIRCUIT IDENTIFICATION .....	19
3.2 CABLE AND CABLE HARNESS MARKING .....	19
3.3 COMPONENT IDENTIFICATION.....	19
3.4 ISOLATORS .....	19
3.5 JUMP-START RECEPTACLE.....	19
3.6 WARNING LABELS .....	19
3.7 PLANT IDENTIFICATION PLATE .....	19
SECTION 4 DOCUMENTATION	
4.1 MANUALS.....	20
4.2 CIRCUIT DIAGRAMS.....	20
4.3 SAFETY FILE.....	20
SECTION 5 UNDERGROUND COAL MINES—SPECIFIC REQUIREMENTS FOR FIRE- PROTECTED PLANT	
5.1 GENERAL.....	21
5.2 GENERAL ARRANGEMENT, CONTROL AND PROTECTION .....	21
5.3 ENGINE SHUT-DOWN SYSTEM.....	22
5.4 METHANE MONITORING SYSTEM.....	22
5.5 ZONE SAFETY CONTROL SYSTEM .....	23
SECTION 6 UNDERGROUND COAL MINES—SPECIFIC REQUIREMENTS FOR EXPLOSION-PROTECTED PLANT	
6.1 GENERAL.....	24
6.2 GENERAL ARRANGEMENT, CONTROL AND PROTECTION .....	24
6.3 ENGINE SHUT-DOWN SYSTEMS .....	25
6.4 METHANE MONITORING SYSTEM.....	25
APPENDIX A DOCUMENTATION OF METHANE LEVELS .....	27

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**Electrical equipment for mines and quarries**

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

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## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Standard specifies general requirements for the design, construction and testing of the electrical systems for diesel powered mobile or transportable plant intended for mining and quarrying activities. It also sets out specific requirements for fire-protected and explosion-protected plant.

## NOTES:

- 1 These requirements are in addition to those in AS 60204.1, which cover electrical safety of machinery.
- 2 This Standard may be considered for plant powered by other types of fuel.

**1.2 APPLICATION**

This Standard is intended for use by designers, manufacturers, suppliers and repairers of diesel powered plant, mining regulatory authorities, mine operators, contractors, machinery hire and/or service organizations and other persons concerned with the safe use of plant at mines and quarries.

All diesel powered plant, as detailed below, shall also comply with the requirements of AS/NZS 4871, Parts 1 to 5, where applicable.

This Standard applies to the following:

- (a) Mobile or transportable plant used in the process of mining, e.g. plant that is used to dig (e.g. load haul dump equipment) and/or transport the extracted product to a transfer point (e.g. haul trucks).
- (b) Mobile or transportable plant used in the processing of mine product (e.g. trailer mounted crushing plant).
- (c) Plant used to transport products or waste produced by mining operations.
- (d) All diesel powered plant used in underground mines.
- (e) Plant used to directly support the process of mining (e.g. pumps, drilling plant, roadway maintenance equipment).
- (f) Other plant determined applicable by mine site risk assessment.

This Standard does not apply to any part of plant that operates above extra-low voltage (ELV), such as generators or circuits fed via a diesel powered generator. This Standard also does not apply to vehicles entering the mine site for transport or other non-mining activities. Reference should be made to the relevant parts of AS/NZS 4871, AS/NZS 3000, AS 3007 and/or AS 2067, as appropriate.

NOTE: The requirements of this Standard may be read in conjunction with, but do not take precedence over, regulations of a regulatory authority that may apply in a specific area.