

Australian/New Zealand Standard™

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

**Part 5: Battery powered electrical
mobile machines**



Standards Australia



STANDARDS
NEW ZEALAND
Pūrongo Aotearoa

AS/NZS 4871.5:2002

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The following interests 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 Mineral Resources N.S.W.
Department of Natural Resources and Mines (QLD)
Electrical Apparatus Service Association
Mining Electrical and Mining Mechanical Engineers Society
New Zealand Hazardous Areas Electrical Coordinating Committee
Regulatory authorities (electrical)
Regulatory interests, New Zealand
University of Newcastle
WorkCover New South Wales

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Australian/New Zealand Standard™

Electrical equipment for coal mines, for use underground

Part 5: Battery powered electrical mobile machines

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PREFACE

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

The objective is to set out the minimum requirements for the design, construction and testing of battery powered mobile machines for use in underground coal mines.

This Standard is Part 5 of the series AS/NZS 4871 *Electrical equipment for coal mines, for use underground*, prepared to supersede AS 1039, AS 1740, AS 2595.1 and AS 2989 (in part). The Australian Standards will remain available superseded until all relevant regulations have been updated.

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 (this Part)

In recognition of changes made to this Standard, existing equipment should be assessed for risk and interim control measures should be implemented.

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.

Enquiries concerning approval in Australia should be made to the following organizations

- (a) Department of Mineral Resources N.S.W.
- (b) Department of Natural Resources and Mines QLD.
- (c) Department of Mineral and Petroleum Resources, W.A.
- (d) Department of Mines and Energy S.A.
- (e) Department of Industry, Technology and Resources, Vic.

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard

Electrical equipment for coal mines, for use underground

Part 5: Battery powered electrical mobile machines

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the design, construction and testing of battery powered mobile machines.

This Standard shall be read in conjunction with AS/NZS 4871.1 and Section 2 of AS/NZS 4871.4.

NOTES:

- 1 Battery powered machines may require approval by the relevant regulatory authority.
- 2 Some regulatory authorities may require audible and visual warning when a predetermined gas level is reached.

1.2 APPLICATION

All battery powered mobile machines shall comply with the requirements of Part 1 of this Standard and the following requirements.

1.3 REFERENCED DOCUMENTS

AS

- | | |
|---------|--|
| 1334 | Methods of testing conveyor and elevator belting |
| 1334.9 | Part 9: Determination of electrical resistance of conveyor belting |
| 1334.10 | Part 10: Determination of ignitability and flame propagation characteristics of conveyor belting |
| 1939 | Degrees of protection provided by enclosures for electrical equipment (IP Code) |
| 2402 | Traction batteries—Lead-acid |

AS/NZS

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| 4871 | Electrical equipment for coal mines for use underground |
| 4871.1 | Part 1: General requirements |
| 4871.4 | Part 4: Mains powered electrical mobile machines |