

Australian/New Zealand Standard™

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

Part 3: Substations



Standards Australia



STANDARDS
NEW ZEALAND
Pūrongo Aotearoa

AS/NZS 4871.3:2002

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-023, Electrical Equipment in Coal Mines. It was approved on behalf of the Council of Standards Australia on 14 January 2002 and on behalf of the Council of Standards New Zealand on 19 February 2002. It was published on 2 March 2002.

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
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Australian/New Zealand Standard™

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Part 3: Substations

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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 requirements for the design, construction and testing of substations for underground coal mines.

This Standard is Part 3 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 The Australian Standards will remain available superseded until all relevant regulations have been updated.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 (this Part)
- Part 4: Mains powered electrical mobile machines
- Part 5: Battery powered electrical mobile machines

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.

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.

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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Part 3: Substations

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the design, construction and testing of substations. This Standard shall be read in conjunction with AS/NZS 4871.1.

1.2 APPLICATION

All substations shall comply with the requirements of Part 1 of this Standard and the following requirements.

NOTE: Arrangements of protection are given in Appendix A.

1.3 REFERENCED DOCUMENTS

AS

- 2374 Power transformers
- 2374.5 Part 5: Ability to withstand short-circuit
- 2380 Electrical equipment for explosive atmospheres—Explosion-protection techniques

AS/NZS

- 4695 Fire hazard testing of electrotechnical products
- 4695.112 Part 112: Method for determining the comparative and the proof tracking devices of solid insulating materials under moist conditions
- 4871 Electrical equipment for coal mines, for use underground
- 4871.1 Part 1: General requirements