AS/NZS 5368:2025

Australian/New Zealand Standard™

Electrical equipment in mines and quarries

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This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee EL-023, Electrical Equipment in Mines and Quarries. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 24 April 2025 and by the New Zealand Standards Approval Board on 07 May 2025.

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The following are represented on Committee EL-023:

Australian Cablemakers Association
Australian Industry Group
Aviation and Marine Engineers Association
Construction Forestry Miners and Energy Union
Department of Energy, Mines, Industry Regulation and Safety, Western Australia
Department of Primary Industries and Regional Development (NSW)
Engineering New Zealand
Engineers Australia
Engineers Australia/Mining Electrical and Mining Mechanical Engineering Society
Minerals Council of Australia
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Jointly revised, amalgamated and redesignated as AS/NZS 5368:2025.

How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-023, Electrical Equipment for Mines and Quarries, to supersede AS/NZS 3007:2013 and all parts of the AS/NZS 4871 series.

The objective of this document is to set out requirements and recommendations for the design, installation, operation and maintenance of electrical equipment in mines and quarries to ensure the safety of persons, livestock and property, and the proper functioning of plant.

Mining operations typically involve most aspects of electrical engineering, ranging from such areas as high voltage transmission to the control of undesirable static electricity. A substantial number of standards therefore apply to such work. This document consolidates updated requirements relating to these areas of application together into the one document.

The terms “normative” and “informative” are used in Standards (and other publications) to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a standard, whereas an “informative” appendix is only for information and guidance.

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Section 1 Scope and general

1.1 Scope

This document sets out requirements and recommendations for the design, installation, operation and maintenance of electrical plant and equipment located at mining and quarrying operations. It includes specific requirements and recommendations for the following:

(a) Fixed plant and installations.

(b) Transportable and mobile plant and equipment.

(c) Electrical equipment in hazardous areas.

NOTE This document does not provide guidance on hand-held and portable equipment.

1.2 Application

1.2.1 General

Mining operations typically involve most aspects of electrical engineering, ranging from high voltage transmission to the control of undesirable static electricity. This document consolidates requirements that apply to such work. The requirements for particular electrical installation applications are as specified in Clauses 1.2.2 to 1.2.5.

1.2.2 General requirements

Section 1 provides general requirements that apply to the design, installation and maintenance of electrical plant and equipment located at mining and quarrying operations.

Issues commonly associated with the use of this type of equipment are as follows:

(a) The movement of the equipment around the site.

(b) The verification of the installation after relocation.

(c) The control of touch voltages.

(d) The control of transfer voltages due to earth potential rise.

(e) Lightning protection.

(f) The operation of switchgear in a confined area.

(g) The change of operating location and the resulting impact on system characteristics including verification of the electrical protection devices settings under the new conditions and location within the network.

(h) Potential variability in the voltage at the point of connection and/or in the equipment being supplied.

(i) The emergency removal of power.

(j) Access to high voltage equipment.

(k) Proximity to shot firing operations with respect to direct damage from overpressure waves, fly rock and excessive vibration.