

Australian/New Zealand Standard™

**Electric cables—Underground coal  
mines—Other than reeling and trailing**

## **AS/NZS 1972:2002**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-003, Electric Wires and Cables. It was approved on behalf of the Council of Standards Australia on 27 August 2002 and on behalf of the Council of Standards New Zealand on 20 August 2002. It was published on 25 September 2002.

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# Australian/New Zealand Standard™

## **Electric cables—Underground coal mines—Other than reeling and trailing**

Originated as AS C412—1970.  
Previous edition AS/NZS 1972:1996.  
Fourth edition 2002.

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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-003, Electric Wires and Cables, to supersede AS/NZS 1972:1996.

The objective of this Standard is to specify the construction, dimensions and tests for cables used below ground in coal mines, excluding reeling and trailing cables.

The Standard applies to cables and flexible cables intended for use below ground in coal mines, but does not apply to reeling and trailing cables, which are covered by AS/NZS 1802, *Electric cables—Reeling and trailing—For underground coal mining purposes*. This Standard includes requirements for cables intended for fixed apparatus (e.g. power, lighting and control circuitry); impregnated paper insulated and polymeric insulated power cables for use at working voltages of 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV; feeder cables for connecting equipment to substations; cables for both the internal and external wiring on machines and mine shaft winder cables. These cables may be used in other applications where a risk assessment has been carried out to establish their suitability.

In each case, the requirements are supplementary to those in other Australian/New Zealand Standards for cables and flexible cords. These extra requirements are necessary to meet the more onerous conditions existing for cables used below ground in coal mines.

This Standard is required to be used in conjunction with the requirements of the regulatory authorities administering regulations for the use of electricity in underground coal mines.

The need for new or modified cables will be addressed when the situation arises.

This Standard differs from the 1996 edition as follows:

- (a) A range of Type 9 machine cables has been introduced into Section 5 covering ELV, screened, paired cables for data, signal and control applications.
- (b) More detailed information has been provided on application and installation of the various cable types.
- (c) Insulating and sheathing materials have been referenced to AS/NZS 3808 where applicable.
- (d) Informative tables of dimensions for machine cables have been provided.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix 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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## STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

**Australian/New Zealand Standard****Electric cables—Underground coal mines—Other than reeling and trailing**

## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Standard specifies the construction of cables used below ground in coal mines.

This Standard does not cover reeling and trailing cables, which are covered by AS/NZS 1802.

NOTE: Guidelines on information that should be supplied with enquiries or orders are provided in Appendix A.

**1.2 APPLICATION**

The cables shall comply with the requirements of regulatory authorities and with the following sections, as appropriate:

0.6/1 (1.2) kV cables for fixed apparatus	Section 2
Armoured cables for use at working voltages of 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV	Section 3
Feeder cables	Section 4
Machine cables	Section 5
Mine shaft winder cables	Section 6

In addition to the requirements of the particular section of this Standard, cables shall comply with the relevant requirements of the following Standards, as appropriate for the types of cables specified.

Section 2	AS/NZS 5000.1 or AS 3178
Section 3	AS 1026 or AS/NZS 1429.1
Section 4	AS/NZS 5000.1
Section 5	Type 1 AS/NZS 5000.1
	Type 2, 2S AS/NZS 5000.1
	Type 3, 3S AS 3178
	Type 7, 7S AS/NZS 5000.1
	Type 8 AS/NZS 5000.1
	Type 9 AS/NZS 5000.1 and AS 2380.2
Section 6	AS 1979