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Incorporating Amendment 1

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Australian Standard 1972-1976

CABLES FOR USE BELOW GROUND IN COAL MINES (OTHER THAN TRAILING CABLES)

[Title allocated by Defence Cataloguing Authority: CABLES,
POWER, ELECTRICAL & WIRE, ELECTRICAL
(Other than Trailing Cables) For Use Below Ground in Coal Mines]



STANDARDS ASSOCIATION OF AUSTRALIA

Incorporated by Royal Charter



THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia
Australian Electrical Manufacturers Association
Collieries
Defence Standardization Committee
Department of Transport
Departments of Mines
Electrical Contractors Associations of Australia
Electrical Testing Laboratories
Electricity Supply Association of Australia
Joint Coal Board
Metal Industry Organizations
Metalliferous Mining Companies
Railways of Australia Committee
Statutory Electricity Authorities
Telecom Australia

This standard, prepared by Committee EL/3, Electric Wires and Cables, was approved on behalf of the Council of the Standards Association of Australia on 30 August 1976 and was published on 1 January 1977.

The specification is intended to include the technical provisions necessary for the supply of the material herein referred to, but does not purport to comprise all the necessary provisions of a contract.

In order to keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvement to published standards, addressed to the head office of the Association, are welcomed.

This standard was issued in draft form for public review as DR 75052.

AUSTRALIAN STANDARD SPECIFICATION

CABLES FOR USE BELOW GROUND IN COAL MINES (OTHER THAN TRAILING CABLES)

AS 1972 — 1976

First published (as AS C412).....	1970
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PREFACE

This standard was prepared by a sub-committee of the Association's Committee on Electric Wires and Cables as a metric version of AS C412—1973. It will exist concurrently with AS C412 until that standard is withdrawn during 1977.

The cables herein are proposed metric replacements for the imperial unit cables currently specified in AS C412. The cable industry intends that cables complying with the new standard should be available by early 1977.

The nominal cross-sectional areas of the conductors specified herein are taken from AS 1125, Conductors in Insulated Electric Cables and Flexible Cords and are identical with the values recommended in IEC Publication 228, Nominal Cross-sectional Areas and Composition of Conductors of Insulated Cables. The range of insulant and sheath materials previously specified in AS C412 has been rationalized.

The requirement for machine cables, Types 1 to 5, to be electrically symmetrical now applies only to those rated in excess of 20 A per circuit.

The standard applies to cables for use below ground in coal mines, but does not apply to trailing cables, which are covered by AS 1802, Trailing Cables for Mining Purposes, nor to flexible cords for miners' cap lamps, which are covered by AS C309, Flexible Cords for Miners' Cap Lamps. It includes requirements for cables intended for fixed apparatus (e.g. power, lighting, and control circuitry); impregnated paper insulated power cables; feeder cables for connecting equipment to substations; and cables for both the internal and external wiring on machines.

In each case the requirements herein are supplementary to those in other existing standards for cables and flexible cords. These extra requirements are brought about by the more onerous conditions existing for cables used below ground in coal mines compared with cables for other applications. In this respect the differences, when compared with metalliferous mines, open-cut mines and quarries, are emphasized and special attention is drawn to the fact that cables complying with existing standards are suitable for use in those locations. However, since the requirements herein are supplementary to those in existing standards it therefore follows that cables complying with this standard are also suitable for use in metalliferous mines.

The Association desires to point out that this standard is required to be used in conjunction with the requirements of the Statutory Authorities administering regulations for the use of electricity in mines.

In the preparation of this specification, reference has been made to IEC Publication 228, and acknowledgement is made of the assistance received therefrom.

This standard may require reference to the following standards:

- AS 1026 Impregnated Paper Insulated Cables for Electricity Supply at Working Voltages up to and including 33 kV (Metric Units)**
- AS 1125 Conductors in Insulated Electric Cables and Flexible Cords (Metric Units)**
- AS 1660 Methods of Test for Electric Cables and Flexible Cords (including Conductors, Insulation and Sheath)**
 - Part 1 Test Methods for Conductors**
 - Part 2 Test Methods for Insulation, Sheath and Braid**
 - Part 3 Test Methods for Complete Cable**
 - Part 4 Test Methods for Complete Flexible Cords**
- AS 1802 Trailing Cables for Mining Purposes (including Underground Coal Mines, Metalliferous Mines, Open-cut Mines, Quarries and Dredges)**
- AS 3116 Elastomer Insulated Electric Cables and Flexible Cables for Working Voltages of 0.6/1 kV (Metric Units)**
- AS 3147 PVC Insulated Electric Cables and Flexible Cables for Working Voltages of 0.6/1 kV (Metric Units)**
- AS 3158 Fibrous Insulated Electric Cables and Flexible Cables for Working Voltages of 0.6/1 kV**
- AS 3178 Silicone Rubber Insulated Electric Cables and Flexible Cables for Working Voltages of 0.6/1 kV**
- AS 3191 Electric Flexible Cords (Metric Units)**

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