AS/NZS 1802:2018

Australian/New Zealand Standard™

# Electric cables—Reeling and trailing—For underground coal mining



STANDARDS Australia

STANDARDS NEW ZEALAND PAEREWA AOTEAROA

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-023, Electric Equipment for Mines and Quarries. It was approved on behalf of the Council of Standards Australia on 5 March 2018 and by the New Zealand Standards Approval Board on 3 April 2018.
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The following are represented on Committee EL-023:

Australian Cablemakers Association
Australian Chamber of Commerce and Industry
Australian Industry Group
Aviation and Marine Engineers Association
Construction Forestry Miners and Energy Union
Department of Mines, Industry Regulation and Safety (WA)
Department of Natural Resources, Mines and Energy (QLD)
Engineers Australia
National Association of Testing Authorities Australia
NSW Department of Industry , Skills and Regional Development
SafeWork NSW
University of Newcastle
Worksafe New Zealand

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Australian/New Zealand Standard™

# Electric cables—Reeling and trailing—For underground coal mining

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# PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-023, Electric Equipment for Mines and Quarries to supersede AS/NZS 1802:2003, *Electric cables—Reeling and trailing—For underground coal mining*.

This Standard aligns with AS/NZS 2802, *Electric cables—Reeling and trailing—For mining and general use (other than underground coal mining)* for cables that have been developed to meet the special requirements of the Australian surface mining industry.

The objective of this Standard is to specify construction and tests of reeling and trailing cables specifically designed for use in underground coal mines.

Where the method of testing differs from, or has not yet been included in AS/NZS 1660, the test method has been included in Clause 25 and appendices to this Standard.

While the requirements of underground coal mining continue to determine the cables to be incorporated in this Standard, it is recognized that many of these cables will be equally applicable to other installations, for example, underground metalliferous mines, ship loaders, travelling cranes, reclaimers at loading stations and other materials handling plants. Other requirements may apply in these applications.

Appropriate requirements for new types and sizes will be included in this Standard as the need arises.

This Standard differs from the previous edition in the following significant ways:

(a) Introduction of an earth fault screen.

(b) Introduction of tests under Clause 25 to test the newly introduced earth fault screen.

(c) Definition of the maximum volume resistivity for the insulation earth screens.

(d) Due to increasing cable sizes and this experience with larger cables, the maximum sheath thickness for all cables is limited to no more than 9.0 mm.

The terms ‘normative’ and ‘informative’ are used in a Standard to define the application of the appendices or annexes to which they apply. A ‘normative’ appendix or annex is an integral part of a Standard, whereas an ‘informative’ appendix or annex is only for information and guidance.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

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## 1 SCOPE

This Standard specifies elastomer-insulated, elastomer-sheathed reeling and trailing electric cables for use in underground coal mines. An essential feature of this Standard is the requirement that cables used for alternating current supply be electrically symmetrical.

This Standard is intended to apply only to cables of the types provided for in Table 1 of this Standard.

This Standard also provides the basis of requirements for other sizes of cable not specified in this Standard.

NOTE: Purchasing guidelines are provided in Appendix A.

## 2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
1931 High voltage test techniques (all parts)

AS/NZS
1125 Conductors in insulated electric cables and flexible cords

1660 Test methods for electric cables, cords and conductors
1660.1 Method 1: Conductors and metallic components
1660.2.1 Method 2.1: Insulation, extruded semi-conductive screens and non-metallic sheaths—Methods for general application
1660.2.2 Method 2.2: Insulation, extruded semi-conductive screens and non-metallic sheaths—Methods specific to elastomeric, XLPE and XLPVC materials
1660.2.5 Method 2.5: Insulation, extruded semi-conductive screens and non-metallic sheaths—Methods specific to cables above 1 kV
1660.3 Method 3: Electrical tests
1660.5.6 Method 5.6: Test for vertical flame propagation for a single insulated wire or cable

2802 Electric cables—Reeling and trailing—For mining and general use (other than underground coal mining)

3808 Insulating and sheathing materials for electric cables

3865 Galvanized mild steel wire for armouring of cables

5000 Electric cables—Polymeric insulated
5000.1 Part 1: For working voltages up to and including 0.6/1 (1.2) kV

ISO
1139 Textiles—Designation of yarns