AS/NZS 1747:2022

Australian/New Zealand Standard™

Reeling, trailing and feeder cables used for mining — Repair, testing and fitting of accessories

AS/NZS 1747:2022

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee EL-023, EL-023 Electrical Equipment in Mines and Quarries. It was approved on behalf of the Council of Standards Australia on 07 January 2022 and by the New Zealand Standards Approval Board on 01 December 2021.

This Standard was published on 28 January 2022.

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
Better Regulation Division (Fair Trading, Safework NSW, TestSafe)
Construction Forestry Miners and Energy Union
Department of Mines, Industry Regulation and Safety WA
Department of Regional NSW
Engineering New Zealand
Engineers Australia
Engineers Australia / Mining Electrical and Mining Mechanical Engineering Society
Minerals Council of Australia
National Association of Testing Authorities Australia
Resources Safety & Health Queensland
University of Newcastle
WorkSafe New Zealand

This Standard was issued in draft form for comment as DR AS/NZS 1747:2021.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

www.standards.govt.nz

ISBN 978 1 76113 642 9

Australian/New Zealand Standard™

Reeling, trailing and feeder cables used for mining — Repair, testing and fitting of accessories

Originated as AS 1747—1975.
Fourth edition 1993.
Jointly revised and designated as AS/NZS 1747:2003.
Second edition 2022.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-023-03, Cables, Couplers and Receptacles, to supersede AS/NZS 1747:2003, *Reeling, trailing and feeder cables used for mining—Repair and testing*.

The objective of this document is to provide standard procedures for the repair and testing of reeling, trailing and feeder cables used in mining applications, and to establish requirements for the repair of cables which will ensure that the repaired cable is returned to a condition as near as possible to the original design. It also sets out requirements for the fitting of accessories to these cables.

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

(a) Reference to AS/NZS 60079 standards has been included.

(b) Definitions for Competent Person, Responsible Person, Insulation Earth Screens, Insulation Stress Relief Screens and Twist Test have been included.

(c) The reference to Spark test has been changed to Sheath Test throughout this standard.

(d) *Details of cable to be recorded*, AS/NZS 1747:2003 section 2.3, has been deleted.

(e) A new Clause 2.5, *Inspection of cable accessories*, has been included.

(f) A new Clause 3.7, *Joining pilot conductors and control conductors other than reeling cables*, has been included.

(g) A new Clause 3.11, *Joining of PILSWA and XPLE armoured cables*, has been included.

(h) A new Clause 3.19, *Replacement of outer rubber sheath only*, has been included.

(i) A new Clause 3.20, *Replacement/repair of PVC outer sheath*, has been included.

(j) Plug inspections have been divided into Clauses 4.2, *Plug inspection external*, 4.3, *Plug inspection internal*, 4.4, *Flamepath inspection*, and 4.5, *Tail inspection*.

(k) The phase rotation of power conductors in plugs has been defined.

(l) Flameproofing has been changed to explosion protection.

(m) A new Clause 5.2, *HV Connections*, has been included.

(n) The high voltage proof test voltage for 1.1kV cables has been increased from 3.5kV DC to 5kV DC.

(o) A new Clause 5.3, *Discharge times*, has been included.

(p) The application of fault location pulses has been changed.

(q) A test time has been included to the High voltage proof test table.

(r) A new Table 5.8 *Test voltages for high voltage proof test on PILSWA and XLPE cable*, has been included.

(s) New connection diagrams have been included for insulation tests and proof testing.

(t) The minimum insulation resistance value for 1.1kV cables has been increased to 250 mΩ.

(u) Testing of pilot conductors now includes control cores.

(v) Test times have been included to the minimum insulation resistance table.

(w) The practicability of symmetrical load and Partial break testing has been included.

(x) New marking codes for outer sheath repair, single ferrule and long hand splice have been included in section 6.

(y) AS/NZS 1747:2003 section 7, *Temporary sheath repairs*, has been deleted.

(z) A new Section 7, *Responsible person*, has been included.

(aa) Appendix A has been expanded and a rating matrix has been included in Appendix G.

(bb) Appendix F has been amended.

(cc) Discharge stick and earth bridging leads have been included in Appendices H and I.

(dd) AS/NZS 1747:2003 Appendix J, *Combined resistance of earth conductors*, has been deleted.

(ee) New Appendix J has been included for measuring equipment.

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.

Contents