

Australian/New Zealand Standard™

Electric cables—Polymer-insulated

**Part 1: For working voltages up to and
including 0.6/1 (1/2) kV**



AS/NZS 5000.1:2005

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 28 October 2005 and on behalf of the Council of Standards New Zealand on 4 November 2005.

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Australian Electrical and Electronic Manufacturers Association
Australian Industry Group
Canterbury Manufacturers Association New Zealand
Department of Primary Industries, Mine Safety (NSW)
Electrical Contractors Association of New Zealand
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This Standard was issued in draft form for comment as DR 05061.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF

AS/NZS 5000.1:2005

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Part 1: For working voltages up to and including 0.6/1 (1.2) kV

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Technical Committee EL-003 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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NOTES

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Australian/New Zealand Standard[™]

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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 5000.1:2003.

This Standard incorporates Amendment No. 1 (December 2006). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to provide manufacturers and suppliers with construction details, dimensions and tests for cables and flexible cables insulated with thermoplastic, elastomer or XLPE materials intended for use in electrical installations at working voltages up to and including 0.6/1 (1.2) kV.

This Standard differs from the 2003 edition as follows:

- (a) The method of specifying the thickness of insulation, separation layer, metallic sheath and oversheath has been aligned with IEC 60502-1.
- (b) A 1.0 mm² earth core conductor size has been included.
- (c) Optional aluminium wire armour has been included.
- (d) The conductor resistance test has been specified as being carried out on completed cable to align with AS/NZS 1660.3.
- (e) A legibility of marking test has been included.
- (f) Requirements for qualification testing have been included.

In the preparation of this Standard, consideration was given to IEC 60502-1, *Power cables with extruded insulation and their accessories for rated voltages from 1 kV ($U_m = 1,2$ kV) up to 30 kV ($U_m = 36$ kV)*, Part 1: *Cables for rated voltages of 1 kV ($U_m = 1,2$ kV) and 3 kV ($U_m = 3,6$ kV)* and acknowledgment is made of the assistance received from that source.

The nominal cross-sectional areas of the conductors specified in this Standard are based on the values recommended in IEC 60228, *Conductors of insulated cables*.

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.

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

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STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

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1 SCOPE

This Standard specifies construction, dimensions and tests for single- and multicore cables insulated with polymeric materials intended for use in electrical installations at working voltages up to and including 0.6/1 (1.2) kV.

It does not apply to polymeric insulated cables for special installations and service conditions or for which there are separate Australian/New Zealand Standard, e.g. neutral screened cables, welding cables, flexible cords and aerial bundled cables.

NOTES:

- 1 Purchasing guidelines are contained in Appendix A.
- 2 AS/NZS 3008.1 should be referenced to assist correct cable size selection for the intended application and installation.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard.

AS

2706 Numerical values—Rounding and interpretation of limiting values

AS/NZS

1125 Conductors in insulated electric cables and flexible cords

1660 Test methods for electric cables, cords and conductors

1660.1 Method 1: Conductor 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

1660.2.3 Method 2.3: Insulation, extruded semi-conductive screens and non-metallic sheaths—Methods specific to PVC and halogen free thermoplastic materials

1660.3 Method 3: Electrical tests

1660.5.6 Method 5.6: Fire tests—Test for vertical flame propagation for a single insulated wire or cable

2293 Electric cables—Lead and lead alloy sheaths—Composition

3000 Electrical installations

3008 Electrical installations—Selection of cables

3008.1 Part 1: Cables for alternating voltages up to and including 0.6/1 kV

3560 Electric cables—Cross-linked polyethylene insulated—Aerial bundled—For working voltages up to and including 0.6/1(1.2) kV (both Parts)

3808 Insulating and sheathing materials for electric cables