

Australian/New Zealand Standard™

Accessories for electric cables—Test requirements

Part 1: Power cables with extruded insulation for rated voltages from 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV



AS/NZS 4805.1:2007

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 5 September 2007 and on behalf of the Council of Standards New Zealand on 13 July 2007.

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The following are represented on Committee EL-003:

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Australian Electrical and Electronic Manufacturers Association
Australian Industry Group
Canterbury Manufacturers Association, New Zealand
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Electrical Contractors Association of New Zealand
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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 4805.1:2001.

The objective of this Standard is to specify the type test requirements on accessories for power cables with extruded insulation and with rated voltages from 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV.

This Standard is published in two parts. These are:

AS/NZS

4805 Accessories for electric cables—Test requirements

4805.1 Part 1: Power cables with extruded insulation for rated voltages from 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV (this Standard)

4805.2 Part 2: Impregnated paper-insulated metal-sheathed cables for rated voltages from 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV (excluding gas-pressure and oil-filled cables)

In the preparation of these Standards IEC 60502-4, *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 4: *Test requirements on accessories for cables with rated voltages from 6 kV ($U_m = 7,2$ kV) up to 30 kV ($U_m = 36$ kV)*, and IEC 60055-1, *Paper-insulated metal-sheathed cables for rated voltages up to 18/30 kV (with copper or aluminium conductors and excluding gas-pressure and oil-filled cables)* Part 1: *Tests on cables and their accessories* were considered.

The structure of these IEC Standards did not lend itself to straight adoption so the production of a two part Australian/New Zealand Standard was considered appropriate.

This first part of AS/NZS 4805 adopts the content of IEC 60502-4. The second part adopts only part of the content of IEC 60055-1 as this IEC Standard covers tests on cables as well as accessories.

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

- (a) References to transition joints have been removed.
- (b) Definitions have been provided for tracking, erosion and metallic housing.
- (c) A requirement for the identification of dimensions of phase-to-phase and phase-to-earth separations for testing of terminations has been included.
- (d) The range of approval has been revised.
- (e) Test sequences have been simplified by removing initial heating cycles.
- (f) Additional information has been provided for testing separable connectors with a metallic housing.
- (g) An examination has been added to all test sequences for information only.
- (h) A more detailed definition of substantial damage following the humidity and salt fog tests has been provided.
- (i) All test methods, except the hydraulic pressure test, have been referenced to IEC 61442.
- (j) Test sequences and requirements for loadbreak connectors have been deleted and their status has been designated 'under consideration'.

Separable connectors are also addressed in AS 2629, *Separable insulated connectors for power distribution systems above 1 kV*, but they were not considered during the preparation of this Standard. It is planned for AS 2629 to be revised and appropriately changed or assimilated into this Standard.

The term 'normative' has been used in this Standard to define the application of an appendix to which it applies. A normative appendix is an integral part of a Standard.

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

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the requirements for type testing of accessories for power cables with extruded insulation with rated voltages from 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV, complying with AS/NZS 1429.1 or IEC 60502-2.

The accessories covered by this Standard are listed below:

- (a) Indoor and outdoor terminations of all designs, including those designed for installation in terminal boxes.
- (b) Straight joints, branch joints and stop-ends of all designs, suitable for use underground or in air.
- (c) Screened or unscreened plug-in type or bolted-type separable connectors.

NOTE: Joints connecting cables with extruded insulation to paper-insulated cables are not included. The requirements for these accessories are dealt with in AS/NZS 4805.2.

Accessories for special applications, such as aerial cables, submarine or ship cables or hazardous situations (explosive environments, fire resistant cables or seismic conditions) are not included.

Approval to this Standard is obtained by satisfying the requirements of the appropriate tests as specified in Section 4.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

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|--------|---|
| 1429 | Electric cables—Polymeric insulated |
| 1429.1 | Part 1: For working voltages 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV |
| 4325 | Compression and mechanical connectors for power cables with copper or aluminium conductors |
| 4325.1 | Part 1: Test methods and requirements |
| 4805 | Accessories for electric cables—Test requirements |
| 4805.2 | Part 2: Impregnated paper-insulated metal-sheathed cables for rated voltages from 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV (excluding gas-pressure and oil-filled cables) |

IEC

- | | |
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| 60050 | International Electrotechnical Vocabulary (IEV) |
| 60050-461 | Chapter 461: Electric cables |
| 60183 | Guide to the selection of high-voltage cables |