

Australian/New Zealand Standard™

**Approval and test specification—Plugs
and socket-outlets**



AS/NZS 3112:2017

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-004, Electrical Accessories. It was approved on behalf of the Council of Standards Australia on 21 July 2017 and by the New Zealand Standards Approval Board on 2 August 2017.

This Standard was published on 24 August 2017.

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This Standard was issued in draft form for comment as DR AS/NZS 3112:2017.

Australian/New Zealand Standard™

Approval and test specification—Plugs and socket-outlets

Originated in Australia as C112—1937.
Originated in New Zealand as part of NZS 1898—1939.
Previous edition AS/NZS 3112:2011.
Eighth edition 2017.

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Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, PO Box 1473, Wellington 6140.

ISBN 978 1 76035 872 3

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-004, Electrical Accessories to supersede AS/NZS 3112:2011.

Regulatory Authorities have accepted a transition period of 18 months for the requirements of particular clauses. In Clause 3.1.2, new requirements have been added. In Paragraphs J2.3, J4.3.1 and J4.8.2 through to J4.8.4.1 of Appendix J, new and pre-existing requirements are included. During the transition period the new requirements as detailed above may be applied in lieu of the pre-existing requirements. All other parts of this Standard take effect from the date of publication. The 'new requirement' date of application (DOA) and the 'pre-existing' date of withdrawal (DOW), where relevant, are indicated by the marginal bar against the part affected.

The objective of this Standard is to provide the Australian and New Zealand electrical industry, including manufacturers, test laboratories and regulators, with requirements and test methods for plugs and socket-outlets.

This Standard is one of a series of approval and test specifications to be read in conjunction with AS/NZS 3100, *Approval and test specification—General requirements for electrical equipment*. The purpose of this series is to outline conditions which need to be met to secure approval for the sale and use of electrical equipment. Only safety matters and related conditions are covered.

The essential safety requirements in AS/NZS 3820, *Essential safety requirements for electrical equipment*, which could be applicable to plugs and socket-outlets, are covered by this Standard, taken in conjunction with any other relevant requirements affecting safety.

Major changes in this edition are in the following:

- (a) Clause 1.1 Scope. Updated and clarified.
- (b) Clause 2.8.1 Ratings and dimensions.
- (c) Clause 2.8.4 Dimensions of Figure 2.1.
- (d) Clause 2.13.3 High voltage test.
- (e) Clause 3.1.2 Construction of terminals.
- (f) Clause 3.10 Floor socket-outlets.
- (g) Clause 3.12 Shuttered socket-outlets.
- (h) Clause 3.14.1 Tests for socket-outlets.
- (i) Clause 3.14.3 High voltage test.
- (j) Figure 2.1.
- (k) Figure 2.11.
- (l) Figure 3.10.
- (m) Appendix J. Change the title and include integral or detachable plug portions of equipment for insertion into socket outlets requirements.

This Standard was revised to introduce the following technical and editorial changes:

- (i) Update referenced documents.
- (ii) Update and clarify the scope of the Standard.
- (iii) Update diagrams for clarity.
- (iv) Add new definition for insulation piercing terminal or connecting device.
- (v) Add a new Appendix K, Non-detachable parts test (normative).

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

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

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Australian/New Zealand Standard**Approval and test specification—Plugs and socket-outlets**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies essential safety requirements for plugs and socket-outlets, as defined in Clause 1.4, intended for use at a rated voltage not exceeding 500 V and a rated current not exceeding 32 A for household or similar purposes. Requirements for extra low voltage plugs and socket-outlets are set out in Appendix E.

Plug and socket configurations listed in IEC 60083 other than Australian and New Zealand are excluded from this Standard, with the exception of travel adaptors covered in AS/NZS 3122 Appendix A.

This Standard does not provide requirements on the following:

- (a) Appliance couplers (see AS/NZS 60320.1).
- (b) Installation couplers (see AS/NZS 3131 or AS/NZS 61535).
- (c) Plugs, socket-outlets and couplers for general industrial applications (see AS/NZS 3123).
- (d) Plugs and socket-outlets for stationary appliances (see AS/NZS 3131).

1.2 APPLICATION**1.2.1 General requirements of AS/NZS 3100**

This Standard shall be read in conjunction with AS/NZS 3100. The relevant provisions of AS/NZS 3100 shall apply to the construction of a plug or socket-outlet and the insulation and safeguarding of parts that primarily carry current.

1.2.2 Specific requirements of this Standard

A plug or socket-outlet, including a special purpose plug or socket-outlet, shall be deemed to comply with this Standard only if it satisfies all the applicable requirements and passes the applicable tests specified in this Standard.

For special purpose plugs and socket-outlets small deviations from the dimensions as specified in Figure 2.1, which give the impression of a standardized plug and socket-outlet and lead to confusion with standardized plugs and socket-outlets, are not allowed.

For protective dummy plugs, refer to Appendix I.

For integral or detachable plug portions of equipment for insertion into socket-outlets, refer to Appendix J.

1.2.3 Transitional arrangements

New requirements have been added to Clause 3.1.2 and, in Paragraphs J2.3, J4.3.1, J4.8.2 through to J4.8.4.1 of Appendix J, new and pre-existing requirements are included which will run concurrently for a period of 18 months. Following this period, the pre-existing requirements are withdrawn. The pre-existing requirements are set in text boxes below the relevant new version of the Clauses. All affected text is indicated by bars in the margin. The pre-existing requirements remain unchanged from the previous edition of this Standard. Either set of requirements may be applied from the date of publication. From 24/02/2019 the new requirements only shall apply.

NOTE: See Preface for additional information.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard.

AS

- 1722 Pipe threads of Whitworth form
- 1722.2 Part 2: Fastening pipe threads
- 60068 Environmental testing
- 60068.2.30 Part 2.30: Tests—Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)
- 60068.2.32 Part 2.32: Tests—Test Ed: Free fall
- 60529 Degrees of protection provided by enclosures (IP Code)

AS/NZS

- 3000 Electrical installations (known as the Australian/New Zealand Wiring Rules)
- 3100 Approval and test specification—General requirements for electrical equipment
- 3105 Approval and test specification—Electrical portable outlet devices
- 3120 Approval and test specification—Cord extension sockets
- 3121 Approval and test specification—Insulating mouldings
- 3123 Approval and test specification—Plugs, socket-outlets and couplers for general industrial application
- 3131 Approval and test specification—Plugs and socket-outlets for stationary appliances
- 3133 Approval and test specification—Air-break switches
- 60320 Appliance couplers for household and similar general purposes
- 60320.1 Part 1: General requirements (IEC 60320-1, Ed. 2.1 (2007) MOD)
- 60320.2.2 Part 2.2: Interconnection couplers for household and similar equipment (IEC 60320-2-2, Ed. 2.0 (1998) MOD)
- 61535 Installation couplers intended for permanent connection in fixed installations (IEC 61535, Ed. 1.0 (2009) MOD)

AS/NZS IEC

- 60670 Boxes and enclosures for electrical accessories for household and similar fixed electrical installations
- 60670.23 Part 23: Particular requirements for floor boxes and enclosures
- 60998 Connecting devices for low-voltage circuits for household and similar purposes
- 60998.2.3 Part 2.3: Particular requirements for connecting devices as separate entities with insulation-piercing clamping units