

3112

Amendments 1 - December 1987.
" 2 - July 1989

Draft amendment/revision see DR 87228

AS 3112-1987
UDC 621.31:621.316.541.1

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(NZS 6216:1989 based on this)

Australian Standard® 3112-1987

APPROVAL AND TEST SPECIFICATION— PLUGS AND SOCKET-OUTLETS

[Title allocated by Defence Cataloguing Authority:
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RECEPTACLE, ELECTRICAL (Approval and Test Specification)]



**PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.**

Incorporated by Royal Charter



E

This Australian standard was prepared by Committee EL/4, Electrical Accessories. It was approved on behalf of the Council of the Standards Association of Australia on 10 December 1986 and published on 2 March 1987.

The following interests are represented on Committee EL/4:

Association of Consulting Engineers Australia
Australian Electrical and Electronic Manufacturers Association Ltd
Confederation of Australian Industry
Department of Defence
Department of Housing and Construction
Department of Public Works, N.S.W.
Electrical Contractors Association of Australia
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Suggestions for improvements to Australian standards, addressed to the head office of the Association, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian standard should be made without delay in order that the matter may be investigated and appropriate action taken.

For history block see attached sheets.

First published (as AS C112)	1937
Revised	1940
Revised	1952
Revised	1958
Revised	1964
AS 3112 first published	1981
Second edition	1987

HISTORY BLOCK AS 3112

First published as AS C112 - 1937P.

~~Amended and redated 1938.~~

~~Amended and redated 1939.~~

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~~Amended and redated 1947.~~

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Third edition 1951.

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TECHNICAL STANDARD

No. C. 112-1937. P.

S. 1940.

DECEMBER

1937

INCORPORATING
AUSTRALIAN COMMONWEALTH ENGINEERING STANDARDS ASSOCIATION, FOUNDED 1922
AUSTRALIAN COMMONWEALTH ASSOCIATION OF SIMPLIFIED PRACTICE, FOUNDED 1927
AMALGAMATED 1928

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AND SIMPLIFIED PRACTICE



S. A. A.

Provisional Approval and Test Specification

for

Plugs and Plug Sockets

PRICE SIXPENCE - - - POSTAGE TWOPENCE

Amended and redated 1938

STANDARDS ASSOCIATION OF AUSTRALIA

Amendments to
Provisional Approval and Test Specification

No. C. 112—1937. P. PLUGS AND PLUG SOCKETS.

The attached amendments were approved in July, 1938, and should be affixed to the original publication, which is thereby redated July, 1938.

The redating slip should be affixed to the top of the cover page, and the amendments should be inserted at the appropriate clauses.

TECHNICAL STANDARD

No. C. 112—1938. P.

JULY
1938

No. C. 112—1938. P.

July, 1938.

TITLE. To be:

"PLUGS AND PLUG SOCKETS—TYPE A"

Amended and redated 1939

STANDARDS ASSOCIATION OF AUSTRALIA

Amendment to
APPROVAL AND TEST SPECIFICATION No. C. 112—1938. P:
PLUGS AND PLUG SOCKETS.

The attached amendment was approved on 24th February, 1939, and should be affixed to the original publication, which is thereby redated February, 1939.

The redating slip should be affixed to the top of the cover page and the amendment should be inserted at the appropriate clause.

TECHNICAL STANDARD

No. C. 112—1939. P.

FEBRUARY
1939

No. C. 112—1939. P.

February, 1939.

Clause II. TESTS.

(d) Clearance Test. Delete the word "direct" from item (ii) and add the following sentence after the sentence ending "exceed 15 amperes":

"Direct current shall be used where the testing current does not exceed 15 amperes, and alternating current where it does exceed 15 amperes."

Second edition 1940

No. C. 112—1940. Ap.

STANDARDS ASSOCIATION OF AUSTRALIA

APPROVAL AND TEST SPECIFICATION FOR PLUGS AND PLUG-SOCKETS

(Type A. Plugs with Male Contacts, Sockets with Female Contacts)

This Specification shall be read in conjunction with S.A.A. Approval and Test Specification No. C. 100, Definitions and General Requirements for Electrical Materials and Equipment. (See also Clause 3, below.)

SCOPE AND DEFINITION.

1. **SCOPE.** This specification shall apply to plugs and plug-sockets as herein defined intended for use in alternating or direct current circuits at low or medium voltages.

2. **DEFINITIONS.** For the purpose of this specification, the following terms shall have the meaning given to them in this clause, namely:

Plug-Socket. The term "plug-socket" shall mean a device for fixing at a point at which the fixed wiring of an electrical installation terminates and having contacts intended for making a detachable connection with the pins of a plug.

Plug. The term "plug" shall mean a device having pins and intended by their insertion in a plug-socket to make a detachable connection between the contacts of such socket and the conductors of a flexible cord or cable.

Spring Contacts. The term "spring contacts" shall mean the metallic contacts in the plug-socket, which engage with the pins of the plug.

APPLICATION.

3. COMPLIANCE WITH SPECIFICATIONS.

(a) **General Requirements of Specification No. C. 100.** This specification shall be read in conjunction with S.A.A. Approval and Test Specification No. C. 100, Definitions and General Requirements for Electrical Materials and Equipment, and the appropriate provisions of Specification No. C. 100 shall apply to the construction of the plug

Amended and redated 1946

STANDARDS ASSOCIATION OF AUSTRALIA

AMENDMENT No. 1

to
S.A.A. Approval and Test Specification
for
PLUGS AND PLUG-SOCKETS
(No. C. 112—1940, Ap.)

First Issued	December, 1937
Amended and Redated	July, 1938
" " " "	February, 1939
Revised and Redated	December, 1940
Amended and Redated	September, 1946

The S.A.A. Approval and Test Specification for Plugs and Plug-Sockets (No. C. 112—1940, Ap.) has been amended as indicated hereunder, and is therefore redated as No. C. 112—1946, Ap.

The redating slip should be affixed to the top of the cover page, and the amendment should be inserted at the appropriate page.

This specification, prepared by the Electrical Approvals Standards Committee, was approved on behalf of Council on 27th November, 1940.

The specification is one of a series of Approval and Test Specifications now being issued by the Association under Part II of the S.A.A. Wiring Rules. These specifications are accompanied by a general specification, No. C. 100, covering "Definitions and General Requirements for Electrical Materials and Equipment."

The purpose of these specifications is to outline conditions which must be met to secure approval for the sale and use of electrical equipment in Australia. Only safety matters, and conditions closely allied thereto, are covered.

The first edition of this specification has been published for almost three years, and in that time it has been applied by approvals authorities in the examination and testing of prescribed electrical articles. As a result of the experience so gained, a number of additions and alterations have been made in preparing this revised edition.

In the preparation of this specification close touch has been maintained with interested manufacturers and industrial associations, who have been given an opportunity of reviewing the various drafts and of putting their views before the Committee.

In order to keep abreast of progress in the industries concerned, the publications of the Standards Association of Australia are subject to periodical revision. Suggestions for improvement, addressed to the Headquarters of the Association, will be welcomed at all times.

The Association desires to call attention to the fact that this specification does not purport to include all the necessary provisions of a contract.

Amended and redated 1947

STANDARDS ASSOCIATION OF AUSTRALIA

AMENDMENT No. 2

to

S.A.A. Approval and Test Specification

for

PLUGS AND PLUG-SOCKETS

(No. C. 112—1947. Ap.)

Revised Edition July, 1940

Amended and Redated, September, 1946; July, 1947

The S.A.A. Approval and Test Specification for Plugs and Plug-Sockets (No. C. 112—1940. Ap., as amended September, 1946) has been further amended as indicated hereunder, and is therefore redated as No. C. 112—1947. Ap.

The redating slip should be affixed to the top of the cover page, and the amendment should be inserted at the appropriate page.

and the amendment should be inserted at the appropriate page.

Amended and redated 1948

STANDARDS ASSOCIATION OF AUSTRALIA

AMENDMENT No. 3

to

S.A.A. Approval and Test Specification

for

PLUGS AND PLUG-SOCKETS

(No. C. 112—1947. Ap.)

Revised Edition July, 1940

Amended and Redated September, 1946, July, 1947,
December, 1948.

The S.A.A. Approval and Test Specification for Plugs and Plug-Sockets (No. C. 112—1940. Ap., as amended September, 1946 and July 1947) has been further amended as indicated hereunder, and is therefore redated as No. C. 112—1948. Ap.

The redating slip should be affixed to the top of the cover page, and the amendment should be inserted at the appropriate page.

Third edition 1951

No. C. 112—1951. Ap.

1

STANDARDS ASSOCIATION OF AUSTRALIA
APPROVAL AND TEST SPECIFICATION FOR
PLUGS AND PLUG-SOCKETS
(Type A. Plugs with Male Contacts, Sockets with
Female Contacts)

This specification shall be read in conjunction with SAA Approval and Test Specification No. C. 100, Definitions and General Requirements for Electrical Materials and Equipment. (See also Clause 3, below.)

Terms defined in C. 100 or in Clause 2 below are printed in italicised type.

SCOPE AND DEFINITIONS

1. **SCOPE.** This specification shall apply to *plugs* and *plug-sockets* as herein defined intended for use in alternating or direct current circuits at *low* or *medium* voltages.

2. **DEFINITIONS.** For the purpose of this specification, the following terms shall have the meaning given to them in this clause, namely :

- (a) **Plug-socket.** The term *plug-socket* shall mean a device for fixing at a point at which the fixed wiring of an electrical installation terminates and having contacts intended for making a detachable connection with the pins of a *plug*.
- (b) **Plug.** The term *plug* shall mean a device having pins and intended by their insertion in a *plug-socket* to make a detachable connection between the contacts of such *plug-socket* and the conductors of a *flexible cord* or *cable*.
- (c) **Spring Contacts.** The term *spring contacts* shall mean the metallic contacts in the *plug-socket*, which engage with the pins of the *plug*.

APPLICATION

3. **COMPLIANCE WITH SPECIFICATIONS.**

(a) **General Requirements of Specification No. C. 100.** This specification shall be read in conjunction with SAA Approval and Test Specification No. C. 100, Definitions and General Requirements for Electrical Materials and Equipment, and the appropriate provisions of Specification No. C. 100 shall apply to the construction of the *plug* and *plug-socket* and the insulation and safeguarding of parts which normally carry current.

(b) **Specific Requirements of this Specification.** A *plug* or *plug-socket* shall be deemed to comply with this specification only

Amended and redated 1955

Doc. 305

Amendment No. 1
To A.S. No. C. 112—1951 Ap.
PLUGS AND PLUG SOCKETS

First issued	December 1937
Revised Edition	July 1940
2nd Revised Edition	October 1951
Emergency Amendment	January 1952
Reprinted	September 1952
Amended and Redated	June 1955

The above specification has been amended as follows, and is redated as A.S. No. C. 112—1955 Ap.

The redating slip replaces the present A.S. No. and date on the cover page, and the amendments should be inserted at the appropriate places.

Fourth edition 1958

C 112

d. d. d.

1 - July 1959.
" 2 - Dec. 1960.

No. C.112-1958 Ap.

3 Sept 1961
" 4 May 1962
" 6 March 1968

Superseded by 1964

SAA
Approval and Test Specification
for
PLUGS AND PLUG SOCKETS



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Fifth edition 1964

C/E
Electrical

Superseded by Reprints ^{25/2}

AS C112 - 1964 Ap.

(UDC 621.312:621.316.541.1)

(Incorporating Amendments Nos. 1 to 5)

" 6 - April, 1968
" 7 - Nov, 1969
" 8 - Oct 1970

SAA
Approval and Test Specification
for
PLUGS AND PLUG SOCKETS

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AS 3112/Amdt 1/1987-12-01

STANDARDS ASSOCIATION OF AUSTRALIA
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AMENDMENT No 1

to

AS 3112—1987

Approval and Test Specification—
PLUGS AND SOCKET-OUTLETS

REVISED TEXT



The 1987 edition of AS 3112 is amended as follows: the amendments should be inserted in the appropriate place.

SUMMARY: This following sections of this Standard are covered by this amendment: Clauses 2.8.1, 2.14.2, 2.14.6.1, 3.7, 3.9.1, 3.9.2, 3.16.2, 3.16.10 and Tables 2.2 and 3.2.

Published on 1 December 1987.

STANDARDS AUSTRALIA

Amendment No 2

to

AS 3112—1987

Approval and test specification—Plugs and socket-outlets

REVISED TEXT

The 1987 edition of AS 3112, which was amended in December 1987, is further amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clauses 1.1, 1.2.2, 1.4.2, 2.2.2, 2.14.4, 2.14.6.2, 2.14.7, 2.14.8.4, 3.3.3, 3.7, 3.8, 3.12, 3.13, 3.16.3, and 3.16.10.

Published on 14 July 1989.

PREFACE

This edition of this standard was prepared by the Association's Committee EL/4, Electrical Accessories.

It is one of a series of approval and test specifications issued by the Association. These specifications are accompanied by a general specification AS 3100, containing definitions and general requirements for electrical materials and equipment. The purpose of these specifications is to outline conditions which must be met to secure approval for the sale and use of electrical equipment in Australia. Only safety matters and related conditions are covered.

This edition was published to:

- Incorporate Amendment Nos 1 and 2 to AS 3112—1981
- Effect technical changes to Clauses 2.8.1, 2.9, 2.14.6, 2.14.7, 2.14.8.1, 3.12 and 3.16.5
- Introduce the terminology of 'socket-outlet' in lieu of 'plug-socket'
- Accommodate other editorial matters, including renumbering of existing clauses.

Some technical changes are:

- Inclusion of requirements limiting protrusions on the front face of the plug
- Making the requirements of Clauses 2.14.6 and 2.14.7 applicable to all appropriate plugs rather than just resilient and non-rewirable types
- Inclusion of additional requirements for interlocked socket-outlets and switched socket-outlets.

This specification supersedes AS 3112—1981 from date of publication.

The Association desires to call attention to the fact that this specification does not purport to include all the necessary provisions of a contract.



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AMDT
No 2
JULY
1989

Page 5. Clause 1.1.

1. *Delete* Item (a) of the second paragraph and *reitemize* existing Items (b) to (d) as (a) to (c).
2. In existing Item (d) of the second paragraph, *delete* 'AS 31YY' and *insert* 'AS 3123'.

This Amendment forms part of the Specification on publication.

AMDT
No 2
JULY
1989

Page 5. Clause 1.2.2.

Delete 'AS 31YY' and *insert* 'AS 3123', *delete* the * at the end of the Specification title and *delete* 'AS C109 Appliance Plugs and Appliance Inlet-sockets'.

This Amendment forms part of the Specification on publication.

AMDT
No 2
JULY
1989

Page 5. Clause 1.4.2.

Add the following new Note:

NOTE: Plugs, socket-outlets and connectors incorporating retaining means of the type, or similar to those, specified in AS 3123, need not comply with all general dimensional requirements of this Specification, so long as the safe functioning of accessories in a particular system is not impaired. Where appropriate, dimensions relevant to specified pin configurations are applied.

This Amendment forms part of the Specification on publication.

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

APPROVAL AND TEST SPECIFICATION—
PLUGS AND SOCKET-OUTLETSSECTION 1. SCOPE, REFERENCED DOCUMENTS,
DEFINITIONS AND GENERAL

This specification shall be read in conjunction with AS 3100. (See also Clause 1.4 below.)

1.1 SCOPE. This specification applies to plugs and socket-outlets, as defined in Clause 1.3, intended for use at extra-low, low or medium voltages, for household or similar purposes. (For extra-low voltage plugs and socket-outlets, see Appendix E).

This specification does not apply to the following:

~~(a) Appliance-plugs and appliance-inlet-sockets within the scope of AS C109.~~

(a) (b) Appliance couplers for household and similar general purposes within the scope of AS 3109.

(b) (c) Plugs and socket-outlets for installation wiring (see AS 31XX).

(c) (d) Plugs, socket-outlets and couplers for general industrial application (see AS 31YY).

1.2 REFERENCED DOCUMENTS. The following documents are referred to in this standard.

1.2.1 Standards.

AS 1939	Classification of Degrees of Protection Provided by Enclosures for Electrical Equipment
AS 2005	Fuses with Enclosed Fuse-links (up to and including 1000 V a.c. and 1500 V d.c.) Part 1—General Requirements Part 3—Fuses for Household and Similar Applications
AS 2420	Fire Test Methods for Solid Insulating Materials and Non-metallic Enclosures Used in Electrical Equipment
AS 3000	SAA Wiring Rules
BS 646	Cartridge Fuse-links (rated at up to 5 amperes) for A.C. and D.C. Service

1.2.2 Approval and test specifications.

AS 3100	Definitions and General Requirements for Electrical Materials and Equipment
AS 3109	Appliance Couplers for Household and Similar General Purposes
AS 3121	Insulating Mouldings
AS 3133	Air Break Switches
AS 3145	Radio Interference Suppression Devices

AS 31XX Plugs and Socket-Outlets for Installation Wiring*

AS ~~31YY~~³¹²³ Plugs, Socket-Outlets and Couplers for General Industrial Application*

~~AS C109—Appliance Plugs and Appliance Inlet-sockets. SEE AMENDMENT 2~~

1.3 DEFINITIONS. For the purpose of this specification, the definitions of AS 3100 and the following apply:

1.3.1 Plug—an accessory having pins designed to engage with the contacts of a socket-outlet and incorporating means for the electrical connection and mechanical retention of flexible cables or cords.

1.3.2 Socket-outlet—an accessory having socket-contacts designed to engage with the pins of a plug and having terminals for the connection of cables or cords.

1.3.3 Rewirable plug—a plug constructed so that the flexible cable or cord can be replaced.

1.3.4 Non-rewirable plug—a plug constructed so that it forms an integral unit with its flexible cable or cord such that—

(a) the flexible cable or cord cannot be detached from the accessory without making it permanently useless; or

(b) the flexible cable or cord cannot be replaced by hand or by using a general purpose tool.

1.4—COMPLIANCE WITH SPECIFICATIONS.

1.4.1 General requirements of AS 3100. This specification shall be read in conjunction with AS 3100 and the appropriate provisions of AS 3100 shall apply to the construction of a plug or socket-outlet and the insulation and safeguarding of parts which normally carry current.

1.4.2 Specific requirements of the specification. A plug or socket-outlet shall be deemed to comply with this specification only if it complies with all the appropriate requirements of this specification and passes the relevant tests specified herein.

NOTE: ~~SEE AMENDMENT 2~~

* In the course of preparation.