

Superseded by
AS 3109.1-1987

Dup.

Amendment 1 - Oct 1985

To supersede AS C109-1964
on 4 Nov 1985 - date changed
see note after para 1 in Preface.

AS 3109-1983
UDC 621.31:621.316.541

→ Ran concurrently with AS C109-1964 until superseded. AS C109
to be superseded by AS 3109.1-1987 on 1 Jan. 1988 (see
Preface AS 3109.1-1987)

Australian Standard

3109-1983

APPROVAL AND TEST SPECIFICATION FOR APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES

[Title Allocated by Defence Cataloguing Authority:
CONNECTOR SETS, CABLE AND CORD ASSEMBLIES, ELECTRICAL
(Appliances, Household and Similar Purposes)]



STANDARDS ASSOCIATION OF AUSTRALIA
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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 21 July 1983 and published on 4 November 1983.

The following interests are represented on Committee EL/4:

Association of Consulting Engineers Australia
Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industries
Department of Defence Support
Department of Housing and Construction
Department of Public Works, N.S.W.
Electrical Contractors Associations of Australia
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This standard was issued in draft form for comment as DR 82140.

STANDARDS ASSOCIATION OF AUSTRALIA
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AMENDMENT No 1
to
AS 3109—1983
APPROVAL AND TEST SPECIFICATION FOR
APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES

REVISED TEXT

SUMMARY: The following section of this standard is covered by this amendment: Preface.

Published on 4 October 1985.

Page 2. Preface.

Add a new Note to the first paragraph as follows:

NOTE: At the request of the Regulatory Authorities (Electrical), AS C109—1964 will not be withdrawn on 4 November 1985. Currently, AS 3109 is being comprehensively revised with an anticipated publication date of mid 1986. In this revised edition, further information will be provided on the actual withdrawal date of AS C109—1964. Until AS C109 is withdrawn, it is expected that Regulatory Authorities will approve accessories to either standard.

This amendment forms part of the specification on publication.

8 OCT 1985

AMDT
No 1
OCT.
1985

AUSTRALIAN STANDARD

**APPROVAL AND TEST SPECIFICATION
FOR
APPLIANCE COUPLERS FOR
HOUSEHOLD AND SIMILAR
GENERAL PURPOSES**

AS 3109—1983

First published (as AS C109)	1937
Second edition	1941
Third edition	1955
Fourth edition	1964
AS 3109 first published	1983



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

ISBN 0 7262 3189 4

8 NOV 1983

PREFACE

This standard was prepared by the Association's Committee on Electrical Accessories and will supersede AS C109—1964 two years after the date of publication. During this 2-year period, it is expected that regulatory authorities will approve equipment to either standard.

~~NOTE: SEE AMENDMENTS No 1~~
This standard follows closely IEC 320, Appliance Couplers for Household and Similar General Purposes, and contains requirements for design, construction and testing of appliance couplers and covers only safety matters and conditions closely allied thereto.

Some of the requirements of IEC 320 have been varied to take account of local conditions. Where this standard deviates technically by way of additional or different requirements, the deviation is indicated by a rule in the margin against the clause, or the part thereof, affected. An annex to the standard lists the variations from IEC 320.

Appliance couplers in the standard have been separated into three classifications; Group 1, 2 and 3. Requirements for Group 1 are included in the main body of the standard while additional requirements for Groups 2 and 3 are included in Appendix A.

Group 1 includes all the IEC appliance couplers except the Class 0 type. Some Group 1 connectors have been recommended as 'not preferred'. This was done in an attempt to rationalize the number of types which are expected to be in common use (see Note 1 to Clause 8.1(a)).

Group 2 refers to those appliance couplers known as Type C in AS C109—1964 and covers all appliance couplers that do not fit within Groups 1 or 3. This classification is generally intended for special purpose applications.

Group 3 refers to those appliance couplers known as Types A and B in AS C109—1964. Since these are in common use in Australia, it is expected that for many years Types A and B connections will be manufactured for replacement purposes but that their associated appliance inlets will be gradually phased out.

In this standard the requirements proper appear in 'normal' type and the test requirements appear in 'italic' type. Explanatory matters are contained in notes to the clauses, in a small size 'normal' type.

This specification requires reference to the following Australian standards:

AS 1100 Part 2	Drawing Practice, Abbreviations and Symbols
AS 1654	Limits and Fits for Engineering
AS 1931	High Voltage Testing Techniques
AS 1939	Classification of Degrees of Protection Provided by Enclosures for Electrical Equipment
AS 2420	Fire Test Methods for Solid Insulating Materials and Non-metallic Enclosures Used in Electrical Equipment

and the following Australian standard approval and test specifications

AS 3100	Definitions and General Requirements for Electrical Materials and Equipment
AS 3112	Plugs and Plug Sockets
AS 3120	Cord Extension Sockets
AS 3133	Air Break Switches
AS 3161	Thermostats and Energy Regulators
AS 3191	Electric Flexible Cords
AS 3300	General Requirements for Household and Similar Electrical Appliances.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

APPLIANCE COUPLERS FOR HOUSEHOLD AND SIMILAR GENERAL PURPOSES

1 SCOPE. This specification applies to the following:

- (a) Single-phase multi-pole appliance couplers for a.c. only, with a rated voltage not exceeding 250 V and a rated current not exceeding 16 A for household and similar purposes and intended for the connection of a supply flexible cord to electrical appliances or other electric equipment for 50 Hz supply.
- (b) Cord sets incorporating connectors of such appliance couplers.

NOTES:

1. Appliance inlets incorporated in or fixed to appliances or other equipment are within the scope of this specification. The dimensional and general requirements of this specification apply to such inlets, but certain tests may not be relevant.
2. The requirements for connectors are based on the assumption that the temperature of the pins of the corresponding appliance inlets does not exceed the following temperatures:
 - (a) For connectors for cold conditions 65°C
 - (b) For connectors for hot conditions 120°C
 - (c) For connectors for very hot conditions 155°C
3. Appliance couplers complying with this specification are suitable for use at ambient temperatures not normally exceeding 25°C, but occasionally reaching 35°C.
4. Appliance couplers complying with the standard sheets in this specification are intended for the connection of equipment having no special protection against moisture; for the connection of other equipment and of equipment which is subject to spillage of liquid in normal use, additional requirements are necessary.
5. Special constructions may be required—
 - (a) in locations where special conditions prevail, e.g. ships, vehicles; or
 - (b) in hazardous locations, e.g. where explosions are liable to occur.
6. Appendix A specifies additional requirements for Group 2 and Group 3 appliance couplers, which in AS C109—1964 are known as Type C (Group 2) and Types A and B (Group 3).

2 DEFINITIONS.

2.1 General. Where the terms voltage and current are used, they imply the r.m.s. values, unless otherwise specified.

2.2 Specific definitions. For the purpose of this specification the following definitions apply:

2.2.1 Appliance coupler denotes a means enabling the connection and disconnection at will, of a flexible cord to an appliance or other equipment. It consists of two parts—

- (a) a connector, which is the part integral with, or intended to be attached to, the flexible cord connected to the supply; and
- (b) an appliance inlet, which is the part incorporated in or fixed to the equipment, or intended to be fixed to it.

2.2.2 Rewirable connector denotes an accessory so constructed that the flexible cord can be replaced.

2.2.3 Non-rewirable connector or non-rewirable plug denotes an accessory so constructed that it forms a constructional unit with the flexible cord which is assembled by the manufacturer. This unit shall be such that:

- (a) the flexible cord cannot be separated from the accessory without making the accessory permanently useless; and
- (b) the accessory cannot be opened by hand or by using a general purpose tool.

NOTE: An accessory is considered to be permanently useless when for re-assembling the accessory, parts or materials other than the original are to be used.

2.2.4 Cord set denotes an assembly consisting of a flexible cord complete with a plug and a connector.

2.2.5 Rated voltage denotes the voltage assigned to the connector or the appliance inlet by the manufacturer.

2.2.6 Rated current denotes the current assigned to the connector or the appliance inlet by the manufacturer.

2.2.7 Terminal denotes the part to which a conductor is attached, providing a re-usable connection.

2.2.8 Termination denotes the part to which a conductor is permanently attached.

2.2.9 VOID.

2.2.10 VOID.

2.2.11 VOID.

2.2.12 VOID.

2.2.13 VOID.

2.2.14 VOID.

2.2.101 Plug denotes a plug conforming to Fig. 2.1 (a) or (c) of AS 3112.

2.3 Use of the term 'accessory'. The term 'accessory' is used as a general term covering connectors and/or appliance inlets (and, in some cases, plugs as well).

3 GENERAL REQUIREMENTS. Appliance couplers shall be so designed and constructed that in normal use their performance is reliable and without danger to user or surroundings.

In general, compliance is checked by carrying out all the tests specified.

4 GENERAL NOTES ON TESTS.

4.1 Type of tests. Tests according to this specification are type tests.

4.2 Sampling. Unless otherwise specified, the samples are tested as delivered and under normal conditions of use, at an ambient temperature of $20 \pm 5^\circ\text{C}$; they are tested with a.c. at 50 Hz.

Non-rewirable connectors, other than those forming part of a cord set, must be submitted with a flexible cord at least 1 m long.

4.3 Order of tests. Unless otherwise specified, the tests are carried out in the order of the clauses in this specification.