

AS 3120

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APPROVAL AND TEST SPECIFICATION— CORD EXTENSION SOCKETS

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AMENDMENT No 1
to
AS 3120—1987
Approval and Test Specification—
CORD EXTENSION SOCKETS

REVISED TEXT

The 1987 edition of AS 3120 is amended as follows: the amendments should be inserted in the appropriate place.

SUMMARY: The following sections of this Standard are covered by this amendment: Clauses 21.2 and 22.2 and Table 3.

Published on 1 December 1987.

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No 1
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1987

Page 7. Clause 21.2.

Delete the existing paragraph and *insert* the following:

The marking required by Clause 21.1 shall be located on the external surface of the socket.

This amendment forms part of the specification on publication.

AMDT
No 1
DEC.
1987

Page 8. Table 3.

Delete existing Test No. 1 Description of test, and *insert* the following:

'Tumbling barrel test'

This amendment forms part of the specification 12 months after publication.

Page 7. Clause 22.2.

Delete the existing clause and *substitute* the following:

22.2 Tumbling barrel test. Three sockets not subjected to any previous tests, are tested in a tumbling barrel as shown in Figure 18 of AS 3109.1. Rewirable sockets are fitted with the flexible cord specified in Table 2 having the smallest cross-sectional area of the lightest type and a length of approximately 100 mm, measured from the outer end of the guard (if any) or the socket.

Terminal screws and assembly screws are tightened with a torque equal to two thirds of the torque specified in Clause 8.7 of AS 3100.

Non-rewirable sockets are tested with the flexible cord as delivered, the flexible cord being cut so that a free length of approximately 100 mm projects from the outer end of the guard (if any) or the socket.

The samples fall from a height of 500 mm onto a steel plate, 3 mm thick, the number of falls being 1000.

The barrel is turned at a rate of 5 r/min, ten falls per minute thus taking place. Only one sample is tested at a time.

After the test, the sample shall show no damage within the meaning of this specification. In particular—

- (i) live parts shall not have become exposed;
- (ii) for earth contacts, the resistance of the plug/socket circuit shall be such that compliance with Clause 22.10 is maintained;
- (iii) any other function affecting safety shall not be impaired; and
- (iv) no live part shall have become detached or loosened to the extent that a hazardous situation is created.

NOTES:

1. Special attention is paid to the connection of the flexible cord. Small pieces may be broken off without causing rejection, provided that the protection against electric shock is not affected.
2. Slight damage to the finish and small dents are neglected.
3. The specified free length of flexible cord of 100 mm may be reduced if the overall length of the socket and flexible cord approaches the width of the tumbling barrel test apparatus.
4. Tests to ascertain compliance with items (i), (ii) and (iii) above, are conducted only in case of doubt.

This amendment forms part of the specification 12 months after publication.

AMDT
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1987

STANDARDS AUSTRALIA

Amendment No 2
to
AS 3120—1987
Approval and test specification—Cord extension sockets

REVISED TEXT

The 1987 edition of AS 3120, 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 6.2, 20, 22.4, 22.11 and 22.14 and Table 3.

Published on 14 July 1989.

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No 2
JULY
1989

Page 4. Clause 6.2.

Delete the penultimate paragraph.

This Amendment forms part of the Specification on publication.

AMDT
No 2
JULY
1989

Page 6. Clause 20.

Replace Item (a) with the following:

- (a) Where manually operated, it shall be a Category 1 switch.

This Amendment forms part of the Specification on publication.

AMDT
No 2
JULY
1989

Page 8. Table 3.

After existing Test No 12 *add* a new test as follows:

13	Withdrawal force test	22.14
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This Amendment forms part of the Specification 12 months after publication.

AMDT
No 2
JULY
1989

Page 8. Clause 22.4.

Add a new concluding sentence to the final paragraph as follows:

The insulation resistance test of Clause 22.3 shall then be repeated and the socket shall comply with the relevant requirements thereof.

This Amendment forms part of the Specification on publication.

AMDT
No 2
JULY
1989

Page 10. Clause 22.11.

In the second sentence of the first paragraph, *delete* 'Except for non-rewirable sockets,' and *commence* the sentence as 'The test ...'

This Amendment forms part of the Specification on publication.

AMDT
No 2
JULY
1989

Page 10. Clause 22.14.

Add the following new clause:

22.14 Withdrawal force test. This test is applicable only to sockets rated at up to and including 10 A and intended for use with plugs of the type shown in Figure 2.1(a1) of AS 3112. The test is applied to three sockets not subjected to any previous tests of this Standard.

Plugs complying with AS 3112 and in accordance with Figure 2.1(a1), rated at 10 A, not subjected to any previous tests shall be used. A separate plug shall be used for each test.

By manual means, the plug shall be fully inserted into and withdrawn 10 times from the socket.

Manually align the plug in the socket to minimize the effects of misalignment between mating components and any other friction-increasing factors, so as to attain the best practical position for minimum resistance to withdrawal.

NOTE: When testing in other than the horizontal plane, the mass of the plug and socket requires to be considered in all measurements.

The plug is then fully reinserted and a withdrawal force gradually applied by any suitable means until the plug is withdrawn. The withdrawal force, during three subsequent and consecutive disengagements, shall be measured.

The withdrawal forces so measured shall be between 20 N and 50 N.

This Amendment forms part of the Specification 12 months after publication.

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 No 1 to AS 3120—1981
- Effect technical changes to Clauses 12.1, 14, 17, 18.2, 18.3, and 22.11
- Accommodate other editorial matters.

The basic technical changes are to Clauses 14 and 22.11. Clause 14 has been revised such that a supplementary means of cord anchorage now applies only to rewirable sockets and the text of Clause 22.11 aligns with the attachment of covers of plugs in AS 3112.

This specification supersedes AS 3120—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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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

APPROVAL AND TEST SPECIFICATION—
CORD EXTENSION SOCKETS

This specification shall be read in conjunction with AS 3100. (See also Clause 3 below.)

1 SCOPE AND REFERENCED DOCUMENTS.

1.1 Scope. This specification applies to cord extension sockets, as defined in Clause 2, intended for use at extra-low, low and medium voltages.

This specification does not apply to cord extension sockets which are enclosed within an appliance in such a way that they are not exposed to personal contact, or which are intended for use solely where they will be so enclosed.

1.2 Referenced documents. The following approval and test specifications are referred to in this standard:

- AS C109 Appliance Plugs and Appliance Inlet-sockets
 AS 3100 Definitions and General Requirements for Electrical Materials and Equipment
 AS 3109.1 Appliance Couplers for Household and Similar General Purposes Part 1—General Requirements
 AS 3112 Plugs and Socket-outlets
 AS 3121 Insulating Mouldings
 AS 3133 Air Break Switches

2 DEFINITION. For the purpose of this specification, the following definition applies:

Cord extension socket (hereinafter referred to as a 'socket')—a device arranged for attachment to a flexible cord and having contacts whereby a detachable connection may be made with pins of a plug.

3 COMPLIANCE WITH SPECIFICATIONS.

3.1 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 cord extension socket and the insulation and safeguarding of parts which normally carry current.

3.2 Specific requirements of this specification. A cord extension socket shall be deemed to comply with this specification only if it complies with all requirements of this specification and passes the tests specified herein.

4 EXEMPTIONS FOR EXTRA-LOW VOLTAGE SOCKETS. Extra-low voltage type sockets shall not be required to comply with Clauses 17, 18 and 22.2.

5 LIMITATION OF OUTLETS. Sockets shall accommodate one plug only.

6 TERMINALS AND INTERNAL CONNECTIONS.

6.1 Material. Terminals and internal connections intended primarily for carrying current shall be of suitable corrosion-resisting metal, of sufficient hardness and rigidity for the intended application.

6.2 Construction of terminals. The terminals shall be capable of accommodating the conductors of a flexible cord of current rating corresponding to the marked current rating of the socket.

Facilities shall be provided to prevent slipping or spreading of the conductors or conductor strands. Where the facilities are such that the conductor is to be located around the shank of the terminal screw and clamped under the screw head, the following requirements shall apply:

- When the terminal screw is screwed into the limit of its thread, the clearance between the head of the screw and the washer or means of retention of the conductor shall not exceed 0.4 mm.
- The terminal screw shall be of sufficient length to enable it to be backed off sufficiently from the washer or means of retention of the conductor so that the conductor may be located around the shank without difficulty.
- Where the means of retention of the conductor is not continuous, e.g. prongs, there shall be at least three points of retention and the maximum angle between any two points shall not exceed 150 degrees.
- Where the means of retention of the conductor is continuous, e.g. portion of the insulating moulding, the angle subtended by the arc of the means of retention shall be not less than 180 degrees.

The diameter of conductor hole in tunnel-type terminals shall not exceed—

- for sockets rated at 10 A or less ... 3.3 mm; or
- for sockets rated at 15 A 4 mm.

When the socket is correctly assembled, the terminals shall be held firmly in position.

7 CONTACTS.

7.1 Material. Contacts shall be of corrosion-resisting metal of sufficient rigidity and durability for the intended application.

7.2 Construction. The contacts shall be such that they make and maintain, under normal service conditions, satisfactory electrical and mechanical contact with the pins of the appropriate type of plug. For sockets intended to accommodate plugs with flat pins, contact shall be made with both sides of each pin.

The alignment and contact-making properties of contacts shall be independent of terminal screws.

The effectiveness of the contacts shall be independent of pressure from any thermoplastic or resilient moulding.

In sockets designed for use with plugs complying with Fig. 2.1 of AS 3112, the contacts shall be self-adjusting in pitch and contact-making.

*Portion deleted
see
Amend. 2.*