

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Amendment No. 2
to
AS/NZS 3112:2000
Approval and test specification—Plugs and socket-outlets

REVISED TEXT

The 2000 edition of AS/NZS 3112 is amended as follows; the amendments should be inserted in the appropriate places.

SUMMARY: This Amendment applies to the Contents page and Clauses 1.3, 2.2.3, 2.2.4, 2.5.1, Table 2.2, Clauses 2.13.4, 2.13.7, 2.13.12, 2.13.13, 2.13.13.1, NOTES TO FIGURE 2.1, Clause 3.10, Figure 3.6 and Appendices C, D, I and J.

Published on 25 March 2003.

Approved for publication in New Zealand on behalf of the Standards Council of New Zealand on 12 November 2002.

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No. 2
MAR
2003

Page 4 CONTENTS

After APPENDIX H *add* the following:

- I VOID.....
- J EQUIPMENT WITH INTEGRAL PINS FOR INSERTION INTO
SOCKET-OUTLETS.....

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Page 6 Clause 1.3

After the reference document IEC 60068-2-30 *insert* the following:

60068-2-32 Basic environmental testing procedures, Part 2: Tests, Test Ed: Free fall

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Page 9 Clause 2.2.3

Delete the fourth paragraph and *replace* with the following:

The exposed portion of earthing pins and pins other than insulated pins shall be free from any non-metallic coverings or coatings.

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Page 9 Clause 2.2.4

After the fifth paragraph *add* the following:

The colour green or a combination of green and yellow shall not be used for the insulation of insulated pins.

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Page 10 Clause 2.5.1

Delete the first sentence of the second paragraph and *replace* with the following new sentence:

The cord anchorage shall comply with Clause 2.13.4.

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Page 15 Table 2.2

Delete Test No.9 and *insert* the following tests:

9	Securement of pins	2.13.9	
9a	Movement of pins	2.13.9.1	F ₁
9b	Fixing of pins	2.13.9.2	F ₂

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Page 15 Table 2.2

Following Test No.13d *add* the following test:

13c	Abrasion test	2.13.13.6	NQ
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Page 15 Table 2.2

In the section 'Total number of samples required:' *delete* the line

'All plugs 6' and *replace* with the following:

All plugs 7

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Page 16 Clause 2.13.4

After the Clause number and title *insert* the following new first and second paragraphs:

The cord anchorage and attachment of flexible cord and conductors of non-rewirable plugs shall be verified by application of the tests of Clause 2.13.12.

The cord anchorage test for rewirable plugs shall be carried out in accordance with the following test method.

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Page 17 Clause 2.13.7

After the first paragraph *insert* the following:

NOTE: The Tumbling barrel shown in Figure 18 of AS/NZS 3109.1 is the one described in Figure A1 in IEC 60068-2-32.

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Page 20 Clause 2.13.12

Delete the number and title of Clause 2.13.12 and *replace* with the following:

2.13.12 Tests on non-rewirable plug and flexible cord

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Page 22 Clause 2.13.13

Delete the number and title of Clause 2.13.13 and *replace* with the following:

2.13.13 Tests on the insulation material of insulated pin plugs

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Page 22 Clause 2.13.13.1

Delete the second paragraph and *replace* with the following:

Compliance shall be checked by the tests of Clauses 2.13.13.2 to 2.13.13.6.

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Page 24 NOTES to FIGURE 2.1

Delete NOTE 4 and *replace* with the following:

- 4 The less than 21.9 mm and greater than 27 mm dimensions have been specified to allow side-by-side use, without jamming, of plugs and equipment with integral pins in adjacent socket-outlets if both are less than 21.9 mm, and to prevent improper use, such as jamming, if one, or both, are greater than 27 mm. This is based on the minimum 44 mm centre-to-centre distance between adjacent socket-outlets as required by Clause 3.6.2.

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Page 37 Clause 3.10

In the first sentence *delete* the words 'mounted on a floor' and *replace* with the following:

'mounted in a floor'

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Page 47 Figure 3.6

Delete Figure 3.6 and *replace* with the following:

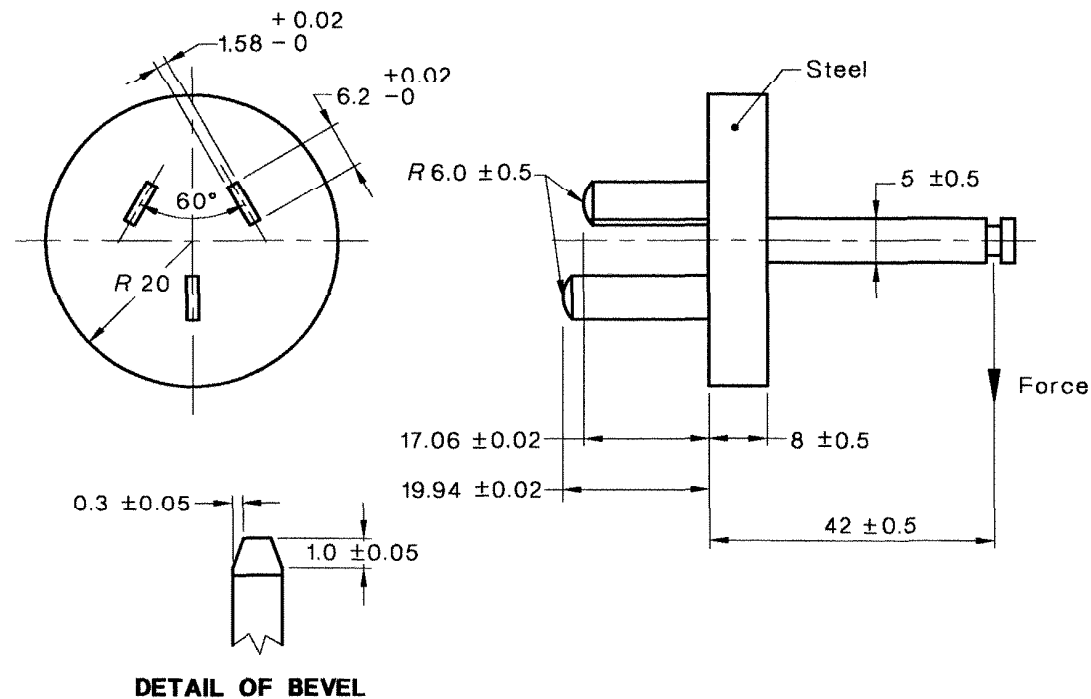
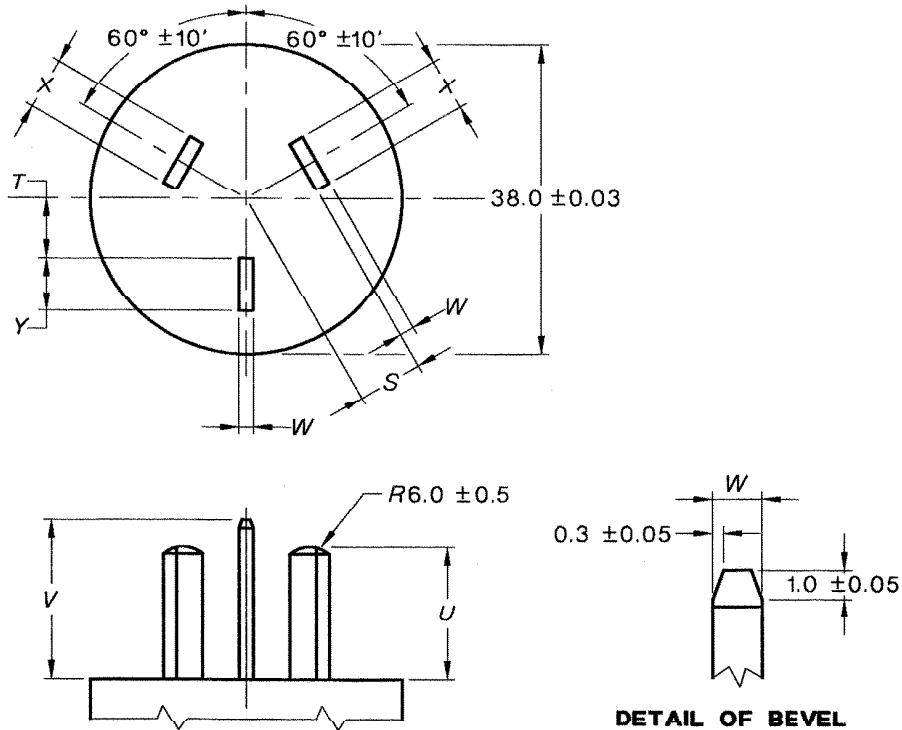


FIGURE 3.6 DEVICE FOR CHECKING THE RESISTANCE TO LATERAL STRAIN

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Delete Appendix C and replace with the following:



Dimension	10 A	15 A	20 A	Tolerance
S	7.05	7.05	6.26	±0.03
T	7.07	5.72	7.29	±0.03
U	17.46	17.46	17.46	±0.03
V	20.64	20.64	20.64	±0.03
W*	1.75	1.75	1.75	±0.03
X	6.50	6.50	9.19	±0.03
Y	6.50	9.19	9.19	±0.03

* Applies to all pins.

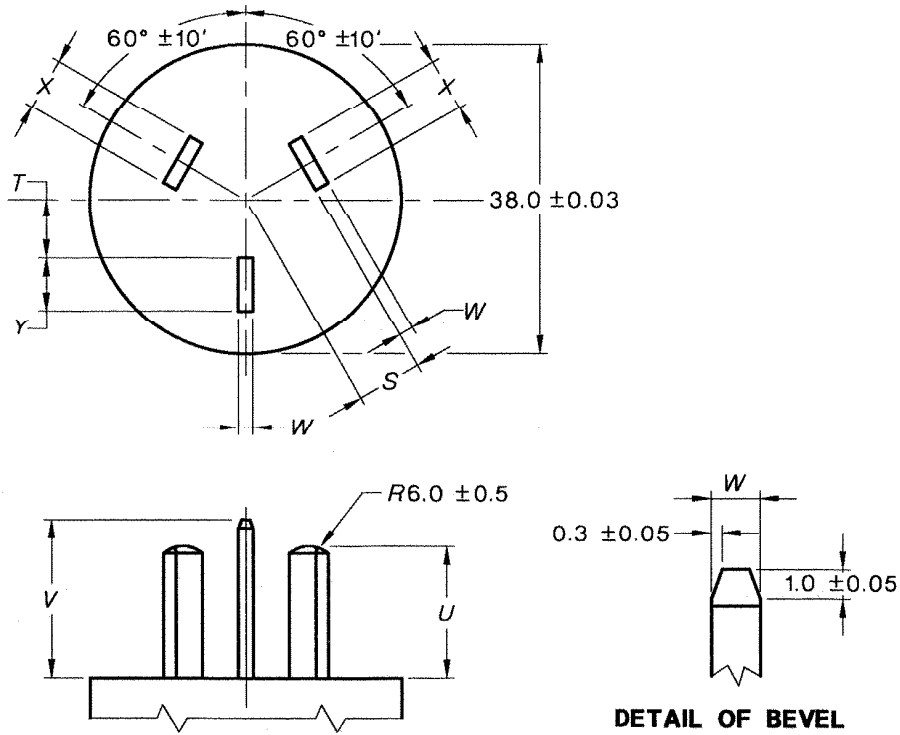
DIMENSIONS IN MILLIMETRES

FIGURE C1 THREE-PIN TEST PLUG FOR CHECKING THREE-PIN FLAT-PIN
250 V MAX SOCKET-OUTLETS AGAINST THE STANDARD TEST FINGER
IN ACCORDANCE WITH CLAUSES 3.3.4 AND 3.8.1

This Amendment forms part of the Standard on publication.

Page 51 APPENDIX D

Delete Appendix D and replace with the following:



Dimension	10 A	15 A	20 A	Tolerance
S	7.11	7.11	6.32	±0.03
T	7.14	5.78	7.35	±0.03
U	17.07	17.07	17.07	±0.03
V	19.84	19.84	19.84	±0.03
W*	1.63	1.63	1.63	±0.03
X	6.35	6.35	9.07	±0.03
Y	6.35	9.07	9.07	±0.03

* Applies to all pins.

DIMENSIONS IN MILLIMETRES

FIGURE D1 THREE-PIN TEST PLUG FOR CHECKING THREE-PIN FLAT-PIN 250 V MAX. SOCKET-OUTLETS AGAINST INCORRECT INSERTION OF PLUGS, IN ACCORDANCE WITH CLAUSE 3.8.2

This Amendment forms part of the Standard on publication.

Page 56 APPENDIX I

After APPENDIX H *add* the following:

APPENDIX I
(VOID)

This Amendment forms part of the Standard on publication.

Page 56 APPENDIX J

After APPENDIX I *add* the following:

APPENDIX J
EQUIPMENT WITH INTEGRAL PINS FOR INSERTION INTO
SOCKET-OUTLETS
(Normative)

J1 Scope

This Appendix applies to only the plug portion of equipment with integral pins and shall be read in conjunction with Section 2 contained in the body of this Standard. Where the term 'plug' is used in Section 2 it shall be taken to mean the plug portion of equipment with integral pins.

All live pins on equipment with integral pins except for those configurations shown in Figure 2.1(a2), (b) and (g) shall be of the insulated pin type from 3 April 2005.

This Appendix sets out the dimensional and constructional requirements, including the attachment of the integral pins of plug portions of equipment with integral pins. It does not however include requirements for electrical connections to the integral pins or other requirements, which are covered by the relevant product standard for the equipment with integral pins.

J2 Requirements for the plug portion

J2.1 Definition

J2.1.1 Plug portion

That portion of equipment with integral pins shown in Figure 2.1, including the plug pins, terminals of the plug pins and external dimensions of the 'maximum projection'.

J2.2 Requirements

The following provisions apply to the dimensional and constructional requirements of the plug portion of equipment with integral pins. It is not intended that this Appendix apply to equipment with integral pins which are covered by particular product standards however, where such devices have plug portions, these standards may refer to this Appendix, to supplement the requirements contained in those particular product standards.

J2.2.1 Plug pins of plug portions

The requirements of Clause 2.2 are applicable for plug pins.

J2.2.2 Ratings and dimensions for low voltage plug portions

The requirements of Clauses 2.8.1 and 2.8.4 are applicable for ratings and dimensions.

J2.2.3 Internal connections for plug portions

The requirements of Clause 2.9 are applicable for internal connections unless requirements are contained in the relevant product standard.

J2.2.4 *Arrangement of earthing connections for plug portions*

The requirements of Clause 2.10 are applicable for the arrangement of earthing connections.

J2.2.5 *Configuration of plug portions*

The requirements of Clause 2.12.6 are applicable to the configuration of the plug portion.

J2.2.6 *Tests*

J2.2.6.1 *General*

Plug portions of equipment with integral pins shall be subjected to the following tests and unless stated otherwise, shall comply with the requirements specified in Section 2 for each test. The number of test samples shall be in accordance with Table 2.2.

J2.2.6.2 *High voltage test*

The requirements of Clause 2.13.3 are applicable unless requirements are contained in the relevant product standard.

J2.2.6.3 *Tumbling barrel test*

The tumbling barrel test is applied to determine the mechanical strength of the plug pins.

Three samples which have not been subjected to any previous test are tested to the requirements of Clause 2.13.7 however, the test is modified for plug portions of equipment with integral pins as follows:

A sample of equipment with integral pins is dropped—

- (a) 500 times if the mass of the specimen does not exceed 250 g. The pins being straightened after 100 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, B1 or F1; and
- (b) 250 times if the mass of the specimen exceeds 250 g. The pins being straightened after 25 drops and at the completion of the test to pass through the appropriate gauge of Figure A1, B1 or F1.

Following each test the samples shall comply with item (e).

J2.2.6.4 *Temperature rise test*

The relevant requirements of Clause 2.13.8 are applicable for the temperature rise test, except that the test current shall be that specified in the relevant product Standard.

The temperature rise of the pins shall not exceed 45 K irrespective of the temperature rise of parts specified in end product standards.

J2.2.6.5 *Securement of pins of the plug portion*

The requirements of Clause 2.13.9 are applicable for the securement of pins.

J2.2.6.6 *Tests on the insulation material of insulated pin plug portions*

The requirements of Clause 2.13.13 are applicable for insulating material of insulated plug pins.

NOTE: Except for those plug pins described in Figure 2.1(a2), (b) and (g) all live pins on equipment with integral pins shall be of the insulated type from 3 April 2005.

J2.2.6.7 *Equipment with integral pins intended to be supported by the contacts of a socket-outlet*

Equipment with integral pins intended to be supported by the contacts of socket-outlets shall not impose undue strain on those socket-outlets.

Unless requirements are contained in the relevant product standard, compliance is checked by inserting the equipment with integral pins, as in normal use, into a flush-mounting combination switch socket-outlet complying with this Standard, the socket-outlet being pivoted about a horizontal axis through the centre-lines of the contact apertures at a distance of 8 mm behind the engagement face of the socket-outlet. (See Figure J1). The additional torque, which has to be applied to the socket-outlet to maintain the engagement face in the vertical plane, shall not exceed 0.25 N.m.

Where the equipment with integral pins is fitted with a flexible cord, the test is conducted with the centre-line of the axis of pivot of the socket-outlet located at a point 500 mm above a horizontal surface. The flexible cord is allowed to hang freely from the equipment with that flexible cord in excess of 500 mm resting on the horizontal surface during the test.

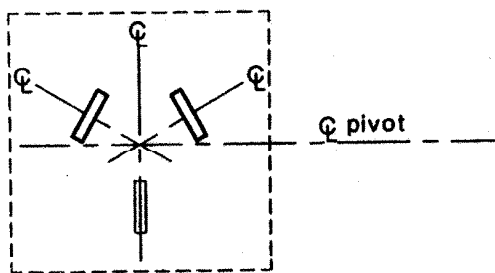


FIGURE J1 ARRANGEMENT FOR DETERMINATION OF PIVOT

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