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Superseded by AS 3100-1994

Amendment 1 - October 1990
" 2 - January 1991
" 3 - March 1992
AS 3100—1990
" 4 - October 1992
" 5 - September 1993

Australian Standard®

**Approval and test specification—
General requirements for electrical
equipment**



This Australian Standard was prepared by Committee EL/2, Electrical Approvals Standards. It was approved on behalf of the Council of Standards Australia on 19 March 1990 and published on 16 July 1990.

The following interests are represented on Committee EL/2:

Australian Consumers Association
Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industry
Consumer Electronics Suppliers Association
Electrical Apparatus Approvals Authorities
Electrical Supply Association of Australia
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AS 3100/Amendment 6/1994-07-18

STANDARDS AUSTRALIA

Amendment No. 6

to

AS 3100—1990

**Approval and test specification—General requirements
for electrical equipment**

REVISED TEXT

The 1990 edition of AS 3100 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Contents, Table 5.7, Section 6, Table 8.15.9 and Appendix B.

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AS 3100: Amdt 4

STANDARDS AUSTRALIA

Amendment No 4

AS 3100—1990

Approval and test specification—General requirements for electrical equipment

REVISED TEXT

The 1990 edition of AS 3100 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clauses 3.1; 3.8.5, 3.10.1 and 8.12.

Published on 12 October 1992

STANDARDS AUSTRALIA

Amendment No 1
to
AS 3100—1990
Approval and test specification—
General requirements for electrical equipment

REVISED TEXT

The 1990 edition of AS 3100 is amended as follows. The amendment(s) should be inserted in the appropriate place.

SUMMARY: This Amendment applies to clauses 3.10, 6.1.1.3, 6.1.2 and 7.1.

Published on 15 October 1990.

STANDARDS AUSTRALIA

Amendment No. 5

to

AS 3100—1990

**Approval and test specification—
General requirements for electrical equipment**

CORRECTION

The 1990 edition of AS 3100 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clauses 4.5.5, 5.4.9 and 8.4.5.

Published on 13 September 1993.

STANDARDS AUSTRALIA

Amendment No. 3

to

AS 3100—1990

Approval and test specification—General requirements for electrical equipment

REVISED TEXT

The 1990 edition of AS 3100 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Clauses 2.10A, 2.16, 2.31, 2.34A, 2.36, 4.1.3, 4.3.9, 5.8, 7.4, 8.3.2, 8.10, 8.12, 8.15.1, 8.15.5 and 8.15.7 and Table 5.8.

Published on 16 March 1992.

AS 3100/Amdt 2/1991-01-25

STANDARDS AUSTRALIA

Amendment No 2

to

AS 3100—1990

Approval and test specification—General requirements for electrical equipment

REVISED TEXT

The 1990 edition of AS 3100, which was amended in October 1990, is further amended as follows; the amendment(s) should be inserted in the appropriate place.

SUMMARY: This Amendment applies to clause 2.53.

Published on 25 January 1991.

Australian Standard®

**Approval and test specification—
General requirements for electrical
equipment**

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PREFACE

This Specification was prepared by Standards Australia Committee on Electrical Approvals Standards to supersede AS 3100—1985 from the date of publication.

This general Specification is the parent Specification of a series of Approval and Test Specifications. As outlined in the Foreword, these Specifications are intended to prescribe the essential safety requirements for materials and equipment to be used in electrical installations complying with AS 3000.

This edition was published to incorporate into the Specification Amendments No 1 to 7 to AS 3100—1985 and to effect changes to the following:

- a. **GENERAL.** Title changed. The word 'equipment' has been used throughout the Specification where the requirements apply to all devices. The terms 'basic' and 'supplementary' are now used in regard to insulation.
- b. **SECTION 0.** This Section has been removed but all the information contained therein has been included in a new Foreword or Section 1.
- c. **SECTION 2.** A number of definitions have been added. Also some unused terms have been deleted.
- d. Table 5.7 replaced.
- e. Clause 7.5. Dimensions for Class II symbol added.
- f. Clause 8.3.2 replaced.
- g. Clause 8.5 replaced.
- h. Clause 8.8 added.
- i. Clause 8.15 added.
- j. Appendix B replaced.
- k. Appendix C replaced.

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

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AMDT
No. 6
JULY
1994

Page 4 Contents

Delete existing SECTION 6 and substitute the following:

SECTION 6 RESISTANCE TO HEAT, FIRE AND TRACKING

6.1 RESISTANCE TO HEAT	34
6.2 RESISTANCE TO FIRE	34
6.3 RESISTANCE TO TRACKING	34

This Amendment forms part of the Specification 2 years from publication.

AMDT
No. 6
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1994

Page 5 Contents

Delete existing Appendix B and substitute the following:

B TEST OF RESISTANCE TO HEAT, FIRE AND TRACKING	59
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This Amendment forms part of the Specification 2 years from publication.

FOREWORD

1 HISTORICAL DEVELOPMENT. In the first edition of the SAA Wiring Rules, published in 1931, safety requirements concerning the design and construction of electrical materials and equipment were included among rules dealing with wiring methods. In the first revised edition, published in 1934, the rules were grouped in two parts, Part I (later Part 1) containing requirements concerning wiring methods, and Part II (later Part 2) containing requirements concerning materials and equipment. In the 1940 revision, this subdivision was carried a stage further, Part I being published as one complete book and Part II taking the form of a collection of specifications.

The purpose of the Specifications which constituted Part 2 of the SAA Wiring Rules was to outline conditions which electrical equipment had to meet to be used in electrical installations in Australia. These Specifications were prepared, up until the early 1970s, by the Association's Electrical Approvals Standards Committee. However, owing to the rapid expansion in the number and complexity of these specifications, this system has been abandoned and a number of committees now prepare Approval and Test Specifications and other Specifications containing safety requirements.

In the 1981 edition of AS 3000, the concept of Parts 1 and 2 to the SAA Wiring Rules was abandoned, with the former Part 1 now being titled 'SAA Wiring Rules' and all applicable Approval and Test Specifications and other applicable Standards being called up by means of Clause 1.3.1 of AS 3000.

2 TYPES OF SPECIFICATIONS. There are two different types of Approval and Test Specifications, as follows:

(a) *General Specifications.*

- (i) AS 3100, Approval and Test Specification for General Requirements for Electrical Equipment.
- (ii) AS 3200, Approval and Test Specification for Electromedical Equipment—General Requirements.
- (iii) AS 3300, Approval and Test Specification for General Requirements for Household and Similar Electrical Appliances.

(b) *Particular Specifications.* These are particular Specifications that are related to AS 3100, AS 3200 or AS 3300.

AS 3100 includes general requirements applicable to all electrical equipment and the related particular Specifications contain additional requirements for particular types of equipment. AS 3100 may be satisfactorily used as a Specification for equipment which is not covered by a related particular Specification.

AS 3200, which is to be read in conjunction with AS 3100, includes general requirements applicable to all electromedical equipment, and the related particular specifications contain additional requirements for particular types of equipment. AS 3200 may be satisfactorily used as a Specification for equipment which is not covered by a related particular Specification.

AS 3300 contains a wide range of requirements, all of which may not necessarily be applicable to a particular appliance. A particular Specification converts AS 3300 into the Specification for the type of appliance being considered; it does this by indicating, clause by clause, whether or not the requirements and test methods are applicable in whole or in part, or whether they should be replaced, modified or supplemented. Whereas AS 3100 may be satisfactorily used as a Specification for equipment for which there is no particular Specification related to AS 3100, it is not practicable to use AS 3300 in a similar manner; it may, however, be used as a guide by taking into account particular Specifications related to AS 3300 for a similar appliance.

3 RATIONALE. Approval and Test Specifications are intended to prevent injury to persons and damage to property by establishing essential requirements and safety Standards for materials and for the design and construction of equipment used in or in connection with or intended for use in or in connection with any electrical installation.

STANDARDS AUSTRALIA

Australian Standard

Approval and test specification—

General requirements for electrical equipment

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Specification specifies the general safety requirements for, or with respect to, equipment (including fittings, accessories, appliances and apparatus) of classes and types which are used, or intended for use in, or in connection with electrical installations in buildings, structures, and premises.

Guidelines covering design and testing of electrical equipment to ensure safety and protection against electric shock including the principles and application of double insulation are contained in Appendix C. Guidelines covering fire hazard testing of electrical equipment are contained in Appendix B. Users may find it helpful to study these appendices before reading the main body of this Specification.

1.2 APPLICATION. As and when an individual Approval and Test Specification dealing with specific features of the design and construction and the testing of any particular class or type of equipment is issued, it shall supersede those general requirements of this Specification which are specifically dealt with in such individual Specification.

Any material, fitting, cable, accessory, appliance or apparatus used in or in connection with an electrical installation shall comply with the appropriate particular Approval and Test Specification or with the appropriate Australian Standard. In the absence of any such Specification or Standard, the appropriate provisions of this Specification shall apply.

Should any requirement of an individual Specification differ from any of the general requirements of this Specification, the requirement of the individual Specification shall prevail.

1.3 REFERENCED DOCUMENTS. A list with titles of the documents referred to in this Specification is given in Appendix E.

1.4 ACCEPTANCE.

1.4.1 Declared type or class. In every State and Territory of Australia, legislation has been enacted which requires that electrical equipment of a declared type or class shall not be marketed unless approved by the relevant Regulatory Authority in that State or Territory. In accordance with reciprocal arrangements, an approval given in any one State or Territory is automatically accepted by the remaining States or Territories. The submission for approval is made in the 'home' State or Territory, i.e. the State or Territory of manufacture, or of import for overseas equipment. In general, the basis of approval for the purposes of the legislation is the series of Approval and Test Specifications listed in Paragraph A2 of AS 3000.

The certificate issued by the Regulatory Authority is known as a 'Certificate of Approval'.

1.4.2 Non-declared type or class. Equipment of a type or class which is not declared in any State or Territory may be submitted voluntarily to a Regulatory Authority for an opinion as to its compliance with the applicable Approval and Test Specification or the appropriate safety requirements of an Australian standard.

The certificate issued by the Regulatory Authority is known as a 'Certificate of Suitability'.

1.4.3 In terms of AS 3000. In terms of Clause 1.3.2 of AS 3000, the Inspecting Authority may require proof that any material or equipment, before it is used in or in connection with an electrical installation, has been accepted as complying with the relevant requirements of the appropriate Approval and Test Specification or other appropriate Australian Standard.

NOTE: See Clause 1.3 and Appendix A of AS 3000 for further details.

1.4.4 Enquiries. Enquiries concerning approval of equipment may be made to the following regulatory authorities:

Australian Capital Territory Electricity & Water Authority
 Department of Minerals and Energy, New South Wales
 Electricity Trust of South Australia
 Hydro-Electric Commission of Tasmania
 Queensland Electricity Commission
 State Electricity Commission of Victoria
 State Energy Commission of Western Australia