

SUPERSEDED BY

AS 3250-1990^{Dup}

Amendment 1 - June 1988
" 2 - August 1988

AS 3250-1985

UDC 621.31:[621.396.62 + 621.397.62]:614.825

see also AS 3159-1980. To
run concurrently with AS 3250.
AS 3159 to be withdrawn -
(see Preface)

Australian Standard® 3250-1985

(Closely follows IEC 65,
4th ed., Amend 2 incl.)

APPROVAL AND TEST SPECIFICATION— MAINS OPERATED ELECTRONIC AND RELATED EQUIPMENT FOR HOUSEHOLD AND SIMILAR GENERAL USE



STANDARDS ASSOCIATION OF AUSTRALIA

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This Australian standard was prepared by Committee TE/1, Safety of Electronic Equipment. It was approved on behalf of the Council of the Standards Association of Australia on 1 August 1985 and published on 4 October 1985.

The following interests were represented on the committee responsible for the preparation of this standard:

Australian Broadcasting Corporation
Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industry
Consumer Electronics Suppliers Association
Department of Communications
Department of Defence
Electrical Regulatory Authorities
Federation of Australian Commercial Television Stations
Federation of Australian Radio Broadcasters
Independent Testing Organizations
Institution of Radio and Electronics Engineers Australia
Telecom Australia

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~~This standard was issued in draft form for comment as DR 80202.~~

Dup

AS 3250/Amdt 1/1988-06-17

STANDARDS ASSOCIATION OF AUSTRALIA
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AMENDMENT No 1

to

AS 3250—1985

**APPROVAL AND TEST SPECIFICATION—
MAINS OPERATED ELECTRONIC AND RELATED
EQUIPMENT FOR HOUSEHOLD AND SIMILAR GENERAL USE**

REVISED TEXT

The 1985 edition of AS 3250 is amended as follows; this Amendment should be inserted in the appropriate place.

SUMMARY: The following sections of the Standard are covered by this Amendment: Clauses 5.2 and 21.0.

Published on 17 June 1988.

AMDT
No 1
JUNE
1988

Page 10. Clause 5.2.

Move the text of Note 1 to become Clause 5.2(c):

Add a marginal bar to the new 5.2(c).

Change 'NOTES' to 'NOTE'.

Delete '2' from NOTE 2.

This Amendment forms part of the Specification on publication.

AMDT
No 1
JUNE
1988

Page 31. Clause 21.

Add the following new clause:

21.0. If sufficient evidence can be produced of preselected material tests, as specified in Clauses 20.1 and 20.2 of this Standard, of the materials actually used in the equipment under test, the tests of Clause 21 may be waived at the discretion of the Approvals Authority.

This Amendment forms part of the Specification on publication.

AUSTRALIAN STANDARD

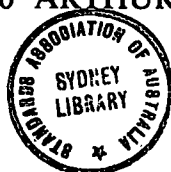
**APPROVAL AND TEST SPECIFICATION—
MAINS OPERATED
ELECTRONIC AND RELATED
EQUIPMENT FOR HOUSEHOLD
AND SIMILAR GENERAL USE**

AS 3250—1985

First published	1982
Second edition	1985

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

ISBN 0 7262 3891 0



PREFACE

This edition of this specification was prepared by the Association's Committee on Safety of Electronic Equipment and it will supersede AS 3250—1982 on the date of its publication and is intended to supersede AS 3159—1980 two years after the date of its publication. During this two-year period—

- (a) it will exist concurrently with AS 3159* (which refers to AS 3100†); and
- (b) it is expected that regulatory authorities will approve equipment to either AS 3159 or this edition of this specification.

NOTE: Initially, AS 3159 was to be withdrawn in 1984 (two years after the publication of the first edition of this specification). However, at the request of the Electrical Regulatory Authorities, it is not being withdrawn until two years after the date of publication of this specification.

The intent of this specification is to prevent injury to persons and damage to property by establishing essential requirements and minimum safety standards for the design and construction of mains operated electronic and related equipment.

This specification is one of a series of approval and test specifications issued by the Association and covers only safety matters and related conditions.

It follows closely IEC 65 (Fourth Edition incorporating Amendment No 2), Safety Requirements for Mains Operated Electronic and Related Apparatus for Household and Similar General Use, and provides the basic requirements for the approval of electronic equipment of all kinds pending the publication of specific standards directed to the testing of particular kinds of equipment.

Some of the requirements of IEC 65 have been varied to take account of local conditions. Where this specification deviates technically from IEC 65 by way of additional or different requirements, the deviation is indicated by a rule in the margin against the clause or part thereof affected. A list of variations between this specification and IEC 65 is given in the Annex.

This edition is identical with the 1982 edition in all respects except as follows:

- (i) Certain clauses or parts thereof are enclosed by a border to indicate that they are not required for approvals purposes. These clauses are in addition to the essential safety requirements specified in the AS 3100 series of specification. In addition, inserted in each appropriate clause or part thereof, is a note indicating this. The clauses so affected are also listed in the Annex as variations from IEC 65.
- (ii) Amendments Nos 1 and 2 to the 1982 edition are incorporated.
- (iii) Fire requirements have been added (see Clause 21).

In this specification 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 references to the following Australian and IEC standards:

- AS 1099 Basic Environmental Testing Procedures for Electrotechnology
- AS 1102 Graphical Symbols for Electrotechnology
- AS 1368 Method for the Determination of the Vicat Softening Point of Thermoplastic Materials (Bending Test)
- AS 1522 Metal-clad Base Materials for Printed Circuit Boards
- AS 1660 Methods of Test for Electric Cables and Flexible Cords (Including Conductors, Insulation and Sheath)
- 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
- AS 2768 Electrical Insulating Materials—Evaluation and Classification Based on Thermal Endurance
- AS C73 Magnet Winding Wire
- IEC 127 Cartridge Fuse-links for Miniature Fuses
- AS 3112 Plugs and Plug Sockets
- AS 3191 Electric Flexible Cords
- AS 3300 General Requirements for Household and Similar Electrical Appliances

and to the following Australian standard approval and test specifications:

- AS 3108 *Isolating transformers and safety isolating transformers*
- AS 3112 Plugs and Plug Sockets
- AS 3191 Electric Flexible Cords
- AS 3300 General Requirements for Household and Similar Electrical Appliances

SEE AMENDMENT 2

* AS 3159 Approval and Test Specification for Electronic Sound and Vision Equipment.

† AS 3100 Approval and Test Specification for Definitions and General Requirements for Electrical Materials and Equipment.

Dup

STANDARDS ASSOCIATION OF AUSTRALIA
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AMENDMENT No 2

to
AS 3250—1985

**APPROVAL AND TEST SPECIFICATION—
MAINS OPERATED ELECTRONIC AND RELATED EQUIPMENT FOR HOUSEHOLD AND
SIMILAR GENERAL USE**

REVISED TEXT

The 1985 edition of AS 3250 which was amended in June 1988, is further amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This following sections of the Standard are covered by this Amendment: Preface, Clauses 11.1 and 11.2.

Published on 8 August 1988.

AMDT
No 2
AUG.
1988

Page 2. Preface.

Add the following Standard to the Referenced Documents clause, above AS 3112:

AS 3108 Isolating transformers and safety isolating transformers

This Amendment forms part of the Specification on publication.

AMDT
No 2
AUG.
1988

Page 18. Clause 11.1.

Add the following after the clause heading '**Shock Hazard**':

If the separating transformer, within an appliance, meets the requirements of Clause 14 of AS 3108, Approval and test specification—Isolating transformers and safety isolating transformers, and any associated components bridging the insulation provided by this transformer meets the requirements for those specific components connected in that manner, the parts and circuits connected to the output side of the transformer are deemed to meet the requirements of this Clause.

This Amendment forms part of the Specification on publication.

AMDT
No 2
AUG.
1988

Page 18. Clause 11.2.

Add the following after the clause heading '**Heating**':

If the complete equipment complies with the requirements of Clause 21 of this Standard, the fault tests to assess the fire hazards of Clause 11.2 are not necessary.

This Amendment forms part of the Specification on publication.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
APPROVAL AND TEST SPECIFICATION
FOR
MAINS OPERATED ELECTRONIC AND RELATED EQUIPMENT FOR HOUSEHOLD
AND SIMILAR GENERAL USE

1 SCOPE AND APPLICATION.

1.1 Scope. This standard applies to electronic equipment that is to be connected to the mains, either directly or indirectly, which is intended for domestic and similar general indoor use and not normally subjected to dripping or splashing such as that listed below:

- (a) Radio receivers for sound or vision; radio transceivers.
- (b) Amplifiers; tuners and tuner/amplifiers.
- (c) Independent load or source transducers.
- (d) Motor-driven equipment which comprises one or more of the abovementioned equipments or which is used only in combination with one or more of them, such as record players, tape recorders, tape decks, and other audio-visual equipment.
- (e) Other apparatus provided to be used in combination with the abovementioned equipment such as aerial amplifiers, power supplies and cable-connected remote control devices.
- (f) Musical equipment or domestic equipment operated out-of-doors or in public places.

NOTES:

- 1. Supplementary requirements for enclosures of electronic equipment intended to be used outdoors are given in AS 1939.
- 2. In the absence of an appropriate standard for professional equipment likely to be used by laymen, this standard will be used in so far as it is applicable.

1.2 Application. This standard applies to equipment for use at altitudes up to 2000 m.

NOTE: For equipment to be used in tropical climates, different requirements, as mentioned in the relevant clauses, are applicable.

This standard applies to equipment designed for a rated supply voltage not exceeding—

- (a) 433 V r.m.s. between phases in the case of equipment for three-phase supply;
- (b) 250 V r.m.s. in all other cases.

This standard is concerned with safety only and not with the other properties of the equipment (see Clause 3).

This standard applies to equipment constructed so as to ensure adequate protection against electric shock by the provision of either earthing or special insulation methods, e.g. double insulation.

2 DEFINITIONS. For the purpose of this standard, the following definitions apply:

2.1 Type test (of a product)—the complete series of tests to be carried out on a number of specimens

representative of the type, with the object of determining whether a particular manufacturer can be considered to be able to produce products complying with the standard.

2.2 By hand—denotes that the operation does not require the use of a tool, coin or any other object.

2.3 Accessible part—a part which can be touched by the standard test finger (see Clause 9.1.1).

NOTE: Any accessible area of a non-conducting part is considered as being covered with a conductive layer (see Clause 4.3.1).

2.4 Live part—a part contact with which may cause a significant electric shock (see Clause 9.1.1).

2.5 Creepage distance in air—the shortest distance measured in air over the surface of insulation between conductive parts.

2.6 Clearance—the shortest distance measured in air between conductive parts.

2.7 Supply mains—any power source with an operating voltage of more than 34 V (peak) which is not used solely to supply the equipment specified.

2.8 Rated supply voltage—the mains voltage (for three-phase supply, the line-to-line voltage) for which the manufacturer has designed the equipment.

2.9 Part directly connected to the supply mains—a part of equipment which is electrically connected to the supply mains in such a way that connection between the part and either pole of the supply mains causes in that connection a current equal to or greater than 9 A.

NOTES:

- 1. A current of 9 A is chosen as the minimum rupturing current of a 6 A fuse.
- 2. In tests to determine which parts are directly connected to the supply mains, fuses in the equipment are not short-circuited.

2.10 Part conductively connected to the supply mains—a part of equipment which is electrically connected to the supply mains in such a way that a connection through a resistance of 2000 Ω between the part and either pole of the supply mains causes in that resistance a current greater than 0.7 mA (peak), the equipment not being connected to earth.

2.11 Supply equipment—equipment which takes energy from the mains and from which other equipment may be fed.

2.12 Battery eliminator—a supply equipment which may be used instead of the battery supply of electronic equipment.