

AS/NZS 3100:2022



Australian/New Zealand Standard™

Approval and test specification – General requirements for electrical equipment



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AS/NZS 3100:2022

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- Association of Accredited Certification Bodies
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- Australian Retailers Association
- Better Regulation Division (Fair Trading, Safework NSW, TestSafe)
- Business New Zealand
- Consumer Electronic Suppliers Association, Australia
- Consumers' Federation of Australia
- Electrical Regulatory Authorities Council, Australia
- Electrical consultants
- Engineers Australia
- JAS-ANZ
- New Zealand Electric Fence Energizer Manufacturers' Standards Group
- Testing Interests New Zealand
- WorkSafe, New Zealand

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002 - Safety of Household and Similar Electrical Appliances and Small Power Transformers to supersede AS/NZS 3100:2017 and its amendments from the date of publication.

This Standard is one of a series of Approval and test specifications issued by Standards Australia and Standards New Zealand, whose objective is to provide manufacturers and regulatory bodies with minimum safety requirements for equipment not covered by other standards. This standard is designed to give the user protection against hazards that might occur during normal operation and abnormal operation of the equipment, and which may be used as the basis for approval for sale or for connection to supply in Australia and New Zealand.

This Standard contains general requirements for electrical equipment and can be applied to equipment for which no particular Approval and test specification exists. It also forms the basis of general requirements where an Approval and test specification exists for a piece of equipment. Only safety matters and related conditions are covered.

This Standard was revised to introduce editorial changes and the following technical change:

- (a) Editorial corrections have been to Clause 1.3 "IEC", Clause 8.15.9 and Annex B;
- (b) Clause 6.1 and Annex A have been corrected and updated to align with each other and to delete reference to the 1994 edition of AS/NZS 3100.
- (c) Clause 8.8 has been corrected and updated to use the IEC impact hammer;

For appliances, where conflict or uncertainty arises between the requirements detailed in this Standard and those detailed in AS/NZS 60335.1, those in AS/NZS 60335.1 shall take precedence. Where an interpretation of the requirements in AS/NZS 3100 is needed, the interpretation made shall be based upon the requirements detailed in AS/NZS 60335.1.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the Annex to which they apply. A 'normative' Annex is an integral part of a Standard, whereas an 'informative' Annex is only for information and guidance

Standards Australia/Standards New Zealand

Approval and test specification – General requirements for electrical equipment

SECTION 1: SCOPE, APPLICATION AND REFERENCED DOCUMENTS

1.1 Scope

This Standard specifies the general safety requirements for, or with respect to, equipment (including fittings, accessories, appliances and apparatus) of classes and types that are used in, or intended for use in, or in connection with, electrical installations in buildings, structures, and premises. It is not applicable to an appliance within the scope of AS/NZS 60335.1 or a part 2 of this Standard, except where an approval and test specification makes reference to this Standard.

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 Annex D. Users of this Standard may find it helpful to study Annex D before reading the main body of this Standard.

1.2 Application

As and when an individual Standard 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 Standard that are specifically dealt with in those individual Standards.

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

NOTE Where an individual Standard makes reference to the appropriate clauses of this Standard, it is taken to mean that Clauses 3, 4, 5, 6.1, 6.2, 6.3, 7 and 8.15.8 of this Standard are applicable to the individual Standard. The remaining tests of Clause 8 are only applicable if referred to by Clauses 3, 4, 5, 6.1, 6.2, 6.3 or 7 of this Standard or if directly referred to in the individual Standard.

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

Where the words 'National Wiring Rules' have been used throughout the text of this Standard, it shall be taken to mean AS/NZS 3000.

1.3 Referenced documents

The following documents are referred to in this Standard:

NOTE Where no relevant joint Australia/New Zealand Standard is listed, the referenced Australian Standard is deemed to be appropriate for the purpose of this Standard. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards

AS

1834.1 Material for soldering – Solder alloys

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1834.2	Material for soldering – Flux-cored solders
60529	Degrees of protection provided by enclosures (IP Code)
AS/NZS	
1020	The control of undesirable static electricity
1125	Conductors in insulated electric cables and flexible cords
3000	Electrical installations (known as the Australian/New Zealand Wiring Rules)
60065	Audio, video and similar electronic apparatus – Safety requirements
60335.1	Household and similar electrical appliances – Safety – Part 1: General requirements
60950.1:2015	Information technology equipment – Safety – Part 1: General requirements
60990	Methods of measurement of touch current and protective conductor current
61558 (all parts)	Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V
62368.1:2017	Audio/video, information and communication technology equipment – Part 1: Safety requirements
IEC	
60068-2-1:2007	Environmental testing - Part 2-1: Tests - Test A: Cold
60068-2-2:2007	Environmental testing - Part 2-2: Tests - Test B: Dry heat
60068-2-75	Environmental testing: Tests – Test Eh: Hammer tests
60068-2-78:2012	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state
60086-2	Primary batteries - Part 2: Physical and electrical specifications
60112	Method for the determination of the proof and the comparative tracking indices of solid insulating materials
60252-1	A.C. motor capacitors – Part 1: General – Performance testing and rating – Safety requirements – Guidance for installation and operation
60384-14:2013 A1: 2016	Fixed capacitors for use in electronic equipment – Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains
60695-2-10	Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure

60695-2-11	Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products (GWEPT)
60695-11-5	Fire hazard testing – Part 11.5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance
60695-11-10	Fire hazard testing - Part 11-10: Test flames - 50 W horizontal and vertical flame test methods
61051-1:2007	Varistors for use in electronic equipment - Part 1: Generic specification
61051-2	Varistors for use in electronic equipment - Part 2: Sectional specification for surge suppression varistors
61180	High-voltage test techniques for low-voltage equipment - Definitions, test and procedure requirements, test equipment
UL	
746C	Polymeric materials – Use in Electrical Equipment Evaluations

Approval and test specifications

AS

3158	Electric cables – Glass fibre insulated for working voltages up to and including 0.6/1 kV
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AS/NZS

3112	Approval and test specification - Plugs and socket-outlets
3122	Approval and test specification - Socket-outlet adaptors
3133	Approval and test specification - Air break switches
3191	Electric flexible cords

SECTION 2: DEFINITIONS

2.1 General

For the purpose of this Standard, the definitions below apply.

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

2.1.1

Accessory

any device such as a switch, fuse, plug, socket-outlet, lampholder, fitting, adaptor, or ceiling rose, which is associated with wiring, luminaires, switchboards or appliances; but not including the lamps, luminaires, appliances or switchboards themselves.