

NZECP 3:2000

ISSN 0114-0663

NEW ZEALAND ELECTRICAL

CODE OF PRACTICE

for

ELECTRICAL SAFETY

of

FITTINGS AND ELECTRICAL APPLIANCES

NZIECP 3:2000

NEW ZEALAND ELECTRICAL CODE OF PRACTICE

for

ELECTRICAL SAFETY

of

FITTINGS AND ELECTRICAL APPLIANCES

Issued by:
Manager, Standards and Safety,
Energy Safety Service,
Ministry of Consumer Affairs,
Wellington, New Zealand

THE ELECTRICITY ACT 1992

Approval of the New Zealand Electrical Code of Practice for Electrical Safety of Fittings and Electrical Appliances 2000 (*NZECP 3:2000*) and the revocation of the New Zealand Electrical Code of Practice for Electrical Safety of Fittings and Electrical Appliances 1998 (*NZECP 3:1998*)

Pursuant to section 38 of the Electricity Act 1992, I, hereby approve the New Zealand Electrical Code of Practice for Safety of Fittings and Electrical Appliances 2000 (*NZECP 3:2000*), and the revocation of the New Zealand Electrical Code of Practice for Electrical Safety of Fittings and Electrical Appliances 1998 (*NZECP 3:1998*).

The New Zealand Electrical Code of Practice for Safety of Fittings and Electrical Appliances 2000 (*NZECP 3:2000*), and the Revocation of the New Zealand Electrical Code of Practice for Electrical Safety of Fittings and Electrical Appliances 1998 (*NZECP 3:1998*) were issued by the Manager, Standards and Safety acting under delegated authority (*pursuant to section 41 of the State Sector Act 1988*) from the Secretary of Commerce on the 15th day of May 2000.

Dated this 10th day of July 2000.

Minister of Energy

COMMITTEE REPRESENTATION

This Code of Practice was prepared by the Ministry of Consumer Affairs, Energy Safety Service in consultation with the following:

Electrical Consultants
Electrical Testing Laboratory

REVIEW

This Code of Practice will be revised as occasions arise. Suggestions for improvements of this Code are welcome. They should be sent to the Manager, Standards and Safety, Energy Safety Service, Ministry of Consumer Affairs, PO Box 1473, WELLINGTON.

WEBSITES

Websites for Standards Organisations whose publications are referenced within the First Schedule:

Standards Association of Australia-(AS), (www.standards.com.au);
American Society for Testing and Materials-(ASTM), (www.astm.org);
British Standards Institute-(BS), (www.bsi.org.uk);
International Electro Technology Commission-(IEC), (www.iec.ch); and
Standards Association of New Zealand-(NZS), (www.standards.co.nz).

CONTENTS

	Page
INTRODUCTION.....	1
SECTION 1	
SCOPE, REFERENCED DOCUMENTS, INTERPRETATION, GLOSSARY, NUMBERING, ELECTRICITY SUPPLY SYSTEM, MEANS OF CONNECTION AND PROHIBITED CLASS OF CONSTRUCTION OF ELECTRICAL APPLIANCES	
1.1 SCOPE.....	2
1.2 REFERENCE DOCUMENTS	2
1.3 INTERPRETATION	3
1.4 GLOSSARY OF ABBREVIATIONS USED IN THIS CODE	3
1.5 NUMBERING SYSTEM OF THIS CODE	4
1.6 ELECTRICITY SUPPLY SYSTEM	4
1.7 MEANS OF CONNECTION.....	4
1.8 PROHIBITED CLASS OF CONSTRUCTION OF ELECTRICAL APPLIANCES.....	5
SECTION 2	
ESSENTIAL SAFETY AND SPECIFIC REQUIREMENTS	
2.1 PROTECTION AGAINST HAZARDS DURING NORMAL USE	6
2.2 ABNORMAL OPERATION	7
2.3 PREVENTION OF ADVERSE EFFECTS ON THE SUPPLY SYSTEM.....	7
2.4 SHARP EDGES	8
2.5 IDENTIFICATION OF CONDUCTORS	8
2.6 MARKING.....	8
2.7 ELECTRICAL APPLIANCES AND PROTECTIVE FITTINGS	9
2.8 REQUIREMENTS FOR PARTICULAR ELECTRICAL APPLIANCES.....	10
SECTION 3	
COMPLIANCE WITH OFFICIAL ELECTRICAL SAFETY STANDARDS	
3.1 APPLICABLE OFFICIAL STANDARDS	11
FIRST SCHEDULE	
STANDARDS SET AND ENDORSED UNDER THIS CODE	
PART 1 GENERAL SPECIFICATION STANDARDS.....	13
PART 2 ELECTRICAL APPLIANCE INCLUDING LUMINAIRE STANDARDS.....	17
PART 3 FITTING STANDARDS.....	26
PART 4 CABLES, CONDUITS & WIRING FITTING STANDARDS	33
PART 5 SWITCHGEAR AND CONTROLGEAR STANDARDS	37
PART 6 ELECTRICITY DISTRIBUTION SAFETY STANDARDS	40
PART 7 HARMONIC AND VOLTAGE FLICKER STANDARDS.....	42
PART 8 COAL MINING ELECTRICAL SAFETY STANDARDS.....	43

SECOND SCHEDULE

ORGANISATIONS FROM WHICH TEST RESULTS FOR COMPLIANCE WITH THE STANDARDS LISTED IN THIS CODE ARE PRIMA FACIE ACCEPTABLE

NEW ZEALAND	45
AUSTRALIA	45
OTHER COUNTRIES	46

INTRODUCTION

This Code sets out the safety requirements for the design, construction, or manufacture of fittings and electrical appliances used in New Zealand.

ELECTRICAL SAFETY OF FITTINGS AND ELECTRICAL APPLIANCES

SECTION 1

SCOPE, REFERENCED DOCUMENTS, INTERPRETATION, GLOSSARY, NUMBERING, ELECTRICITY SUPPLY SYSTEM, MEANS OF CONNECTION AND PROHIBITED CLASS OF CONSTRUCTION OF ELECTRICAL APPLIANCES

1.1 SCOPE

This Code defines the requirements for the electrical safety of fittings and electrical appliances, that are intended to be connected to a low voltage electrical installation.

1.2 REFERENCE DOCUMENTS

- (a) Testing Laboratories Registration Act 1972.
- (b) The following Standards are referred to in the text of this Code:

AS 1939:1990	Degrees of Protection Provided by Enclosures for Electrical Equipment (<i>IP Code</i>).
AS/NZS 3100:1997	General Requirements for Electrical Equipment.
AS/NZS 3350.1:1994	Safety of Household and Similar Electrical Appliances Part 1: General Requirements.
AS/NZS 3350.2.98:1998	Safety of Household and Similar Electrical Appliances Part 2: Particular Requirements - Humidifiers.
AS/NZS 3820:1998	Essential Safety Requirements for Low Voltage Electrical Equipment.
AS/NZS 3112:2000	Approval and Test Specification - Plugs and Socket-Outlets.

1.3 INTERPRETATION

In this Code, unless the context otherwise requires:

- 1.3.1 Class 0 electrical appliance - means an electrical appliance in which protection against electric shock relies upon basic insulation.
- 1.3.2 Class 0I electrical appliance - means an electrical appliance having at least basic insulation throughout and incorporating an earthing terminal but with a supply cord without an earthing conductor and a plug without an earthing contact.
- 1.3.3 Class I electrical appliance - means an electrical appliance:
- (a) In respect of which protection against electric shock does not rely on basic insulation only; and
 - (b) That is designed so that exposed conductive parts are connected to the protective earthing conductor of the installation to which the appliance is connected, so that those exposed conductive parts do not become live in the event of the failure of the basic insulation.
- 1.3.4 Class II electrical appliance - means an electrical appliance in which protection against electric shock does not rely on basic insulation only but in which additional safety precautions, such as double insulation or reinforced insulation are provided.
- 1.3.5 Official electrical safety standard - means any of the standards listed in the First Schedule to this Code.
- 1.3.6 Reinforced insulation - means a single insulation system applied to live parts that provides the degree of protection against electric shock that is provided by the use of double insulation.

1.4 GLOSSARY OF ABBREVIATIONS USED IN THIS CODE

A	Amperes
a.c.	Alternating current
AS	Australian Standard
AS/NZS	Australian/New Zealand joint Standard
BS	British Standard
d.c.	Direct current
Hz	Hertz
IEC	International Electrotechnical Commission
kV	Kilo-volts
MEN	Multiple earthed neutral
NZS	New Zealand Standard
RCD	Residual current device
V	Volts

VA Volt-amperes

1.5 NUMBERING SYSTEM OF THIS CODE

- 1.5.1 Sections are numbered from 1 to 3.
- 1.5.2 Subsections are numbered by one full stop between two numbers (*e.g.* 1.4).
- 1.5.3 Clauses are numbered by two full stops between three numbers (*e.g.* 2.5.2).
- 1.5.4 Paragraphs contain numbering punctuated by one or more full stops together with a parenthesised letter.
- 1.5.5 Unless otherwise specified, references in this Code to sections, subsections, clauses, and paragraphs, are references to those of this Code.

1.6 ELECTRICITY SUPPLY SYSTEM

- 1.6.1 Electrical installations operating at standard low voltage shall have the electricity supplied by either a single-phase MEN system or a multiple-phase MEN system, a nominal voltage of 230 volts a.c. between phase and neutral.
- 1.6.2 Injection of frequencies for load control, other than the standard frequency of 50 Hz, shall be taken into account in the design of fittings and electrical appliances.

1.7 MEANS OF CONNECTION

- 1.7.1 Electrical appliances, other than those intended to be permanently connected to the fixed wiring, shall be provided with one of the following means of connection to the supply:
 - (a) A supply cord fitted with a plug;
 - (b) An appliance inlet;
 - (c) Pins for insertion into socket-outlets.

1.7.2 Supply cords for single-phase portable electrical appliances having a rating not exceeding 10 A shall be fitted with a plug complying with AS/NZS 3112.

1.8 PROHIBITED CLASS OF CONSTRUCTION OF ELECTRICAL APPLIANCES

Class 0 and Class 0I construction of electrical appliances are prohibited.

SECTION 2

ESSENTIAL SAFETY AND SPECIFIC REQUIREMENTS

2.1 PROTECTION AGAINST HAZARDS DURING NORMAL USE

2.1.1 Electrical appliances shall be designed and constructed so that in normal use they cause no danger from electric shock, heat, fire, or mechanical action.

2.1.2 Electrical appliances shall be designed and constructed so that, should careless use of the appliance occur in normal service, the dangers of electric shock or fire, and the risks of injury or damage from heat, or mechanical action, are minimised.

2.1.3 Electrical appliances shall be constructed and enclosed so that there is adequate protection against accidental contact with:

- (a) Live parts;
- (b) Basic insulation; and
- (c) Unearthed metal parts separated from live parts by only basic insulation.

2.1.4 The requirements of clause 2.1.2 apply for all positions of the user controls of an electrical appliance when connected to a supply of electricity and operated in normal conditions:

- (a) Whether or not lids and doors are open; and
- (b) Whether or not detachable parts have been removed, including those parts that the manufacturer advises may be removed by the user for maintenance purposes.

2.1.5 Circuits connected to the secondary side of a safety isolating transformer shall not be earthed.

- 2.1.6 Where fittings and electrical appliances employ protective impedances for protection against electric shock:
- (a) The protective impedance shall comprise at least two impedances connected in series; and
 - (b) Each impedance shall be rated to withstand the maximum voltage at which electricity will be supplied; and
 - (c) Parts separated by protective impedances shall be insulated from each other by double or reinforced insulation.

2.2 ABNORMAL OPERATION

- 2.2.1 Electrical appliances shall be designed so that -
- (a) The risk of fire; and
 - (b) The risk of mechanical damage impairing safety; and
 - (c) The risk of electric shock -
- as a result of abnormal or careless operation is minimised as far as is reasonably practicable.
- 2.2.2 Electrical appliances shall be designed so that, during abnormal operation, they do not trigger the operation of protective fittings used to protect the electrical installation to which the appliance is connected.

2.3 PREVENTION OF ADVERSE EFFECTS ON THE SUPPLY SYSTEM

Fittings and electrical appliances shall be constructed so that they do not cause harmful effects to fittings and other electrical appliances and so that they do not impair the supply of electricity to the electrical installation during normal service (*including switching operations*). Causes that may produce harmful effects or impairment to the supply of electricity are:

- inrush current;

- asymmetrical load;
- harmonics; and
- flicker.

2.4 SHARP EDGES

Electrical appliances shall be constructed so that there are no sharp edges which could cause injury to persons transporting the appliances, to persons installing the appliances, or to persons operating the appliances. This requirement does not apply to edges of an appliance that are designed for cutting as an operational part of the appliance.

2.5 IDENTIFICATION OF CONDUCTORS

2.5.1 The conductors of single phase flexible cords shall be identified throughout their length by the colour of the insulation of the conductors as follows:

Active conductor	brown
Neutral conductor	light blue
Earth-continuity conductor	the colours green and yellow in combination

2.5.2 Where the power supply cord of an electrical appliance is able to be replaced, other than by the manufacturer, then the appliance terminals shall be marked in accordance with an official electrical safety standard.

2.6 MARKING

2.6.1 Fittings and electrical appliances shall include the following marking:

- (a) The name or registered trade name or marking of the manufacturer or supplier;
- (b) Subject to clause 2.6.2, the rated voltage of the fitting or appliance;
- (c) The rated current, or rated power input, of the fitting or appliance;

- (d) Where the use of a fitting or appliance is limited by its own nature to a particular system of supply of electricity, it shall be marked with details of that system (*e.g. a.c., d.c., number of phases, frequency*);
- (e) Where applicable, the IP (*Ingress Protection*) Code designation for the required degree of protection against harmful ingress of moisture (*including any pressure, head, or time*), in accordance with AS 1939;
- (f) For class II appliances, the symbol for class II construction.

The marking shall be legible and indelible.

2.6.2 For the purpose of paragraph (b) of clause 2.6.1:

- (a) Low voltage single phase electrical appliances rated 200-250 V shall have a marking of 230 V or a range including 230 V; and
- (b) Low voltage fittings, a voltage of 230 V or greater shall be included.

2.7 ELECTRICAL APPLIANCES AND PROTECTIVE FITTINGS

2.7.1 Switches intended as the principal means of isolating an electrical appliance from a supply of electricity shall operate in the active conductor or conductors, and shall have the "**OFF**" position clearly marked when the switch is in the "off" position.

2.7.2 Any protective fitting (*fuse, thermal cutout or the like*) incorporated in a class I electrical appliance, which provides protection during the occurrence of earth faults within the appliance, shall operate in the active conductor or conductors.

2.8 REQUIREMENTS FOR PARTICULAR ELECTRICAL APPLIANCES

- 2.8.1 Electrical appliances for heating liquids shall be designed so that liquid entering into, or issuing from, the appliance is at earth potential.
- 2.8.2 Portable electrical appliances operating on the electrode boiler principle shall be used only where RCD protection is incorporated into the appliance, or into the plug or supply cord of the appliance.
- 2.8.3 Clause 2.8.2 does not apply to humidifiers that comply with AS/NZS 3350.2.98.
- 2.8.4 The rated voltage of any electric toy shall not exceed 24 volts a.c. or 32 volts d.c. The rating of any electric toy shall not exceed 200 VA. The input current of any electric toy shall not exceed 10 amps.
- 2.8.5 Electric toys shall be operated from a battery or from the secondary side of an isolating transformer. The isolating transformer shall comply with an official electrical safety standard relating to transformers for use with electrically operated toys.
- 2.8.6 Vaporisers shall comply with the requirements of AS/NZS 3100 and clause 22.11 of AS/NZS 3350.1.

SECTION 3

COMPLIANCE WITH OFFICIAL ELECTRICAL SAFETY STANDARDS

3.1 APPLICABLE OFFICIAL STANDARDS

3.1.1 The requirements of this Code are deemed to be complied with by fittings and electrical appliances that comply with:

- (a) The requirements of AS/NZS 3820; or
- (b) The relevant parts of the official electrical safety standards (*including amendments*) set out in the First Schedule to this Code, that are relevant and applicable to those fittings and electrical appliances, except to the extent that any part of those safety standards is inconsistent with sections 1 and 2 of this Code, in which case the relevant specific requirements contained in sections 1 and 2 of this Code shall be complied with.

3.1.2 Where any fitting or electrical appliance is tested for compliance with a relevant and applicable official electrical safety standard, the organisations from which the results of those tests will be prima facie acceptable are:

- (a) Those organisations located in New Zealand which are registered for the relevant tests and inspections pursuant to section 13(2) of the Testing Laboratory Registration Act 1972; and
- (b) Those organisations located outside New Zealand which are accredited pursuant to a national laboratory accreditation scheme, which at least meets the standard of the New Zealand national laboratory accreditation scheme.

3.1.3 A list of organisations that are known, at the time of making this Code, to meet the requirements of clause 3.1.2 is contained in the Second Schedule to this Code.

FIRST SCHEDULE

STANDARDS SET AND ENDORSED UNDER THIS CODE

PART 1: GENERAL SPECIFICATION STANDARDS

AS 1647.2c1992 Children's toys (Safety requirements)c
Constructional requirements.

Modification: Only the following clauses of this standard shall apply:

Clause 8: Electrical Requirements; and
Clause 9.2: Hazardous Sharp Areas; and
(including Amendments 1 (03-1995)).

AS 1795.1c1983 Sheets and boards for electrical purposesc
Classification and general requirements.

AS 1795.2c1983 Sheets and boards for electrical purposesc
Dimensions of switchboard panels.

AS 1939c1990 Degrees of protection provided by enclosures
for electrical equipment (IP Code).

AS 2286:1989 Space heating appliancescSecondary guards.

AS 2676.1:1992 Guide to the installation, maintenance, testing
and replacement of batteries in buildingscVented cells.

AS 2676.2:1992 Guide to the installation, maintenance, testing
and replacement of batteries in buildingscSealed cells.

AS 2768c1985 Electrical insulating materialscEvaluation and
classification based on thermal endurance.

AS 2790c1989 Electricity generating setscTransportable (up to
25 kW) (including Amendments 1 (12-1989)).

AS 3533.1c1997 Amusement rides and devicescDesign and
construction.

AS 3533.2c1997 Amusement rides and devicescOperation and
maintenance.

AS/NZS 2293.1:1998 Emergency evacuation lighting for
buildingscSystem design, installation and operation.

AS/NZS 2293.2:1995 Emergency evacuation lighting for buildings Inspection and maintenance (including Amendment 1 (05-1998)).

AS/NZS 2293.3:1995 Emergency evacuation lighting for buildings Emergency luminaires and exit signs (including Amendment 1 (05-1998)).

AS/NZS 3100:1997 Approval and test specification General requirements for electrical equipment (including Amendments 1 (01-1999), 2 (02-1999) and 3 (08-1999)).

AS/NZS 3760:2000 In-service safety inspection and testing of electrical equipment.

AS/NZS 3820:1998 Essential safety requirements for low voltage electrical equipment.

AS/NZS 4417.1:1996 Marking of electrical products to indicate compliance with regulations General rules for use of the mark (including Amendments 1 (11-1997), 2 (02-1998) 3 (06-1998) and 4 (12-1998)).

Notes:

- 1 AS/NZS 4417.1 provides general requirements for the use of a specific trade mark (Regulatory Compliance Mark) on electrical products to indicate compliance with regulations; and
- 2 AS/NZS 4417.1 covers the entitlement to use the mark and general requirements for its use.

AS/NZS 4417.2:1996 Marking of electrical products to indicate compliance with regulations Specific requirements for electrical safety regulatory applications (including Amendments 1 (11-1997) and 2 (12-1997)).

Notes:

- 1 AS/NZS 4417.2 provides general requirements for the use of the regulatory compliance mark to indicate that the product complies with the electrical safety regulations in Australia and New Zealand; and
- 2 AS/NZS 4417.2 includes appendices giving lists of electrical regulators, regulatory definitions and approvals procedures.

AS/NZS 4417.3:1996 Marking of electrical products to indicate compliance with regulations Specific requirements for electromagnetic compatibility regulatory requirements.

Note: AS/NZS 4417.3 provides general requirements for the use of the regulatory compliance mark to indicate that the product complies with the electromagnetic compatibility regulations in Australia and New Zealand.

AS/NZS 4417.4:1999 Marking of electrical products to indicate compliance with regulations Specific requirements for radio apparatus regulatory requirements.

BS 6351.1:1983 (1993) Electric surface heating Specification for electric surface heating systems.

BS 6351.2:1983 (1993) Electric surface heating Guide to the design of electric surface heating systems.

IEC 61010-1 (1990) Safety requirements for electrical equipment for measurement, control, and laboratory use General requirements (including Amendments 1 (09-1992) and 2 (1995)).

IEC 61010-2-010 (1992) Safety requirements for electrical equipment for measurement, control, and laboratory use Particular requirements for laboratory equipment for the heating of material (including Amendment 1 (1996)).

IEC 61010-2-020 (1992) Safety requirements for electrical equipment for measurement, control, and laboratory use Particular requirements for laboratory centrifuges (including Amendment 1 (1996)).

IEC 61010-2-031 (1993) Safety requirements for electrical equipment for measurement, control, and laboratory use Particular requirements for hand-held probe assemblies for electrical measurement and test.

IEC 61010-2-032 (1994) Safety requirements for electrical equipment for measurement, control, and laboratory use Particular requirements for hand-held current clamps for electrical measurement and test.

IEC 61010-2-41 (1995) Safety requirements for electrical equipment for measurement, control, and laboratory use
Particular requirements for autoclaves using steam for the treatment of medical materials, and for laboratory processes.

IEC 61010-2-42 (1997) Safety requirements for electrical equipment for measurement, control, and laboratory use
Particular requirements for autoclaves and sterilizers using toxic gas for the treatment of medical materials, and for laboratory processes.

IEC 61010-2-43 (1997) Safety requirements for electrical equipment for measurement, control, and laboratory use
Particular requirements for dry heat sterilizers using either hot air or hot inert gas for the treatment of medical materials, and for laboratory processes.

IEC 61010-2-51 (1995) Safety requirements for electrical equipment for measurement, control, and laboratory use
Particular requirements for laboratory equipment for mixing and stirring.

NZS 4515:1995 Fire sprinkler systems for residential occupancies (including private dwellings).

NZS 4541:1996 Automatic fire sprinkler systems (including Amendment 1 (1996)).

NZS 5807:1980 Code of Practice for industrial identification by colour, wording or other coding incorporating;

Part 1: Identification of signs, safety colours and fire extinguishers,

Part 2: Identification of contents of piping,

Part 3: Identification of industrial gas cylinders, (including Amendments 1 (1983) and 2 (1988)).

NZS 6104:1981 (1991) Specification for emergency electricity supply in buildings.

PART2: ELECTRICAL APPLIANCE INCLUDING LUMINAIRE STANDARDS

AS 3102:1983 Approval and test specification for electric duct heating (including Amendments 1 (03-1986), 2 (04-1997) and 3 (09-1997)).

AS 3136c1996/NZS 6232:1996 Approval and test specification cElectrical equipment for spa-baths and spa and swimming pools (including Amendments 1 (11-1996), 2 (03-1997), 3 (04-1997), 4 (09-1997) 5 (11-1997) and 6 (01-1999)).

AS 3137:1992 Approval and test specification cLuminaires (including Amendments 1 (10-1992) and 2 (01-1995)).

AS/NZS 3115:1996 Approval and test specification for motor operated appliances (including Amendments 1 (04-1997)).

AS/NZS 3118:1993 Approval and test specification cElectric inspection lamps (including Amendments 1 (08-1995)).

AS/NZS 3128:1998 Approval and test specification cPortable lamp standards and brackets (including Amendments 1 (11-1998)).

AS/NZS 3130:1995 Approval and test specification cBeauty therapy equipment.

AS/NZS 3150:1993 Approval and test specification cInsect electrocuters (including Amendments 1 (11-1993), 2 (08-1995) and 3 (04-1997)).

AS/NZS 3152:1992 Approval and test specification cDecorative lighting outfits (including Amendments 1 (06-1993) and 2 (03-1995)).

AS/NZS 3156:1995 Approval and test specification cElectric lawnmowers (including Amendments 1 (04-1997)).

AS/NZS 3160:1996 Approval and test specification cHand-held portable electric tools (including Amendments 1 (11-1996), 2 (01-1997) and 3 (04-1997)).

AS/NZS 3164:1994 Approval and test specification cSafety of electrically heated blankets, pads and similar flexible heating appliances for household use (including Amendments 1 (03-1995), 2 (08-1995), 3 (03-1996), 4 (08-1996), 5 (03-1997) and 6 (06-1997)).

AS/NZS 3172:1996 Approval and test specification cElectric cooking appliances for household use (including Amendments 1 (03-1997) and 2 (09-1997)).

AS/NZS 3182:1995 Approval and test specification cRefrigerated food cCommercial cabinets (including Amendments 1 (04-1997)).

AS/NZS 3195:1995 Approval and test specification cPortable machines for electric arc welding and allied processes (including Amendments 1 (08-1995), 2 (02-1996), 3 (04-1997) and 4 (09-1997)).

AS/NZS 3250:1995 Approval and test specification cMains-operated electronic and related equipment for household and similar use (including Amendments 1 (02-1996) and 2 (05-1996)).

AS/NZS 3260:1993 Approval and test specification cSafety of information technology equipment including electrical business equipment (incorporating Amendments (1, 2 and 3) and including Amendments 4 (06-1997)).

AS 3300c1996/NZS 6300:1996 Approval and test specification cGeneral requirements for household and similar electrical appliances (including Amendments 1 (03-1997), 2 (01-1998) and 3 (03-1998)).

AS 3312c1989 Approval and test specification cParticular requirements for garment or fabric steamers (including Amendments 1 (01-1991) and 2 (03-1992)).

AS/NZS 3350.1:1994 Approval and test specification cGeneral requirements (including Amendments 1 (03-1995), 2 (08-1995), 3 (03-1997), 4 (01-1998) and 5 (01-1999)).

AS/NZS 3350.2 Safety of household and similar electrical appliances
Particular requirements:

AS/NZS 3350.2.2:1995 Safety of household and similar electrical appliances
Particular requirements
Vacuum cleaners and water suction cleaning appliances (including Amendments 1 (01-1999)).

AS/NZS 3350.2.3:1995 Safety of household and similar electrical appliances
Particular requirements
Electric irons (including Amendments 1 (09-1997)).

AS/NZS 3350.2.4:1998 Safety of household and similar electrical appliances
Particular requirements
Spin extractors.

AS/NZS 3350.2.5:1995 Safety of household and similar electrical appliances
Particular requirements
Dishwashers (including Amendments 1 (09-1997)).

AS/NZS 3350.2.6:1998 Safety of household and similar electrical appliances
Particular requirements
Stationary cooking ranges, hobs, ovens and similar appliances.

AS/NZS 3350.2.7:1995 Safety of household and similar electrical appliances
Particular requirements
Washing machines (including Amendments 1 (09-1997)).

AS/NZS 3350.2.8:1995 Safety of household and similar electrical appliances
Particular requirements
Shavers, hair clippers and similar appliances (including Amendments 1 (12-1998)).

AS/NZS 3350.2.9:1999 Safety of household and similar electrical appliances
Particular requirements
Toasters, grills, roasters and similar electrical appliances.

AS/NZS 3350.2.10:1996 Safety of household and similar electrical appliances
Particular requirements
Floor treatment machines and wet scrubbing machines (including Amendments 1 (12-1998)).

AS/NZS 3350.2.11:1999 Safety of household and similar electrical appliances
Particular requirements
Tumbler-dryers.

AS/NZS 3350.2.12:1997 Safety of household and similar electrical appliancescParticular requirementscWarming plates and similar appliances (including Amendments 1 (12-1998)).

AS/NZS 3350.2.13:1997 Safety of household and similar electrical appliancescParticular requirements for deep fryers, frying pans and similar appliances (including Amendments 1 (12-1998)).

AS/NZS 3350.2.14:1995 Safety of household and similar electrical appliancescParticular requirementscKitchen machines (including Amendments 1 (12-1998)).

AS/NZS 3350.2.15:1997 Safety of household and similar electrical appliancescParticular requirementscAppliances for heating liquids (including Amendments 1 (09-1997) and 2 (05-1999)).

AS/NZS 3350.2.16:1996 Safety of household and similar electrical appliancescParticular requirementscFood waste disposers (including Amendments 1 (12-1998)).

AS/NZS 3350.2.21:1999 Safety of household and similar electrical appliancescParticular requirementscStorage water heaters.

AS/NZS 3350.2.23:1997 Safety of household and similar electrical appliancescParticular requirementscAppliances for skin or hair care (including Amendments 1 (01-1999)).

AS/NZS 3350.2.24:1998 Safety of household and similar electrical appliancescParticular requirementscRefrigerating appliances and ice-makers.

AS/NZS 3350.2.25:1997 Safety of household and similar electrical appliancescParticular requirementscMicro wave ovens (including Amendments 1 (12-1998)).

AS/NZS 3350.2.26:1996 Safety of household and similar electrical appliancescParticular requirementscClocks (including Amendments 1 (12-1998)).

AS/NZS 3350.2.27:1996 Safety of household and similar electrical appliances◊Particular requirements◊Appliances for skin exposure to ultraviolet and infrared radiation (including Amendments 1 (12-1998)).

AS/NZS 3350.2.28:1996 Safety of household and similar electrical appliances◊Particular requirements◊Sewing machines (including Amendments 1 (12-1998)).

AS/NZS 3350.2.29:1996 Safety of household and similar electrical appliances◊Particular requirements◊Battery chargers (including Amendments 1 (01-1997) and 2 (12-1998)).

AS/NZS 3350.2.30:1997 Safety of household and similar electrical appliances◊Particular requirements◊Room heaters (including Amendments 1 (01-1999)).

AS/NZS 3350.2.31:1997 Safety of household and similar electrical appliances◊Particular requirements◊Range hoods (including Amendments 1 (12-1998)).

AS/NZS 3350.2.32:1996 Safety of household and similar electrical appliances◊Particular requirements◊Massage appliances (including Amendments 1 (12-1998)).

AS/NZS 3350.2.34:1997 Safety of household and similar electrical appliances◊Particular requirements◊Motor compressors.

AS/NZS 3350.2.35:1999 Safety of household and similar electrical appliances◊Particular requirements◊Instantaneous water heaters.

AS/NZS 3350.2.40:1997 Safety of household and similar electrical appliances◊Particular requirements◊Electrical heat pumps, air conditioners and dehumidifiers (including Amendments 1 (12-1998)).

AS/NZS 3350.2.41:1997 Safety of household and similar electrical appliances◊Particular requirements◊Pumps for liquids having a temperature not exceeding 35 °C (including Amendments 1 (12-1998)).

AS/NZS 3350.2.43:1996 Safety of household and similar electrical appliances◊Particular requirements◊Clothes dryers and towel rails (including Amendments 1 (01-1997) and 2 (12-1998)).

AS/NZS 3350.2.44:1999 Safety of household and similar electrical appliances◊Particular requirements◊Ironers.

AS/NZS 3350.2.45:1997 Safety of household and similar electrical appliances◊Particular requirements◊Portable heating tools and similar appliances (including Amendments 1 (12-1998)).

AS/NZS 3350.2.51:1998 Safety of household and similar electrical appliances◊Particular requirements◊Stationary circulation pumps for heating and service water installations.

AS/NZS 3350.2.52:1996 Safety of household and similar electrical appliances◊Particular requirements◊Oral hygiene appliances (including Amendments 1 (12-1998)).

AS/NZS 3350.2.53:1998 Safety of household and similar electrical appliances◊Particular requirements◊Sauna heating appliances.

AS/NZS 3350.2.54:1997 Safety of household and similar electrical appliances◊Particular requirements◊Surface cleaning appliances employing liquids use (including Amendments 1 (12-1998)).

AS/NZS 3350.2.55:1998 Safety of household and similar electrical appliances◊Particular requirements◊Electrical appliances for use with aquariums and garden ponds.

AS/NZS 3350.2.56:1998 Safety of household and similar electrical appliances◊Particular requirements◊Projectors and similar appliances.

AS/NZS 3350.2.59:1999 Safety of household and similar electrical appliances◊Particular requirements◊Insect killers.

AS/NZS 3350.2.61:1995 Safety of household and similar electrical appliances◊Particular requirements◊Thermal storage room heaters (including Amendments 1 (12-1998)).

AS/NZS 3350.2.65:1997 Safety of household and similar electrical appliances◊Particular requirements◊Air-cleaning appliances (including Amendments 1 (12-1998)).

AS/NZS 3350.2.66:1997 Safety of household and similar electrical appliances◊Particular requirements◊Water-bed heaters (including Amendments 1 (01-1999)).

AS/NZS 3350.2.73:1996 Safety of household and similar electrical appliances◊Particular requirements◊Fixed immersion heaters (including Amendments 1 (12-1998)).

AS/NZS 3350.2.74:1996 Safety of household and similar electrical appliances◊Particular requirements◊Portable immersion heaters (including Amendments 1 (01-1997) and 2 (12-1998)).

AS/NZS 3350.2.75:1997 Safety of household and similar electrical appliances◊Particular requirements◊Commercial dispensing appliances and vending machines (including Amendments 1 (12-1998)).

AS/NZS 3350.2.76:1998 Safety of household and similar electrical appliances◊Particular requirements◊Electric fence energizers.

AS/NZS 3350.2.78:1996 Safety of household and similar electrical appliances◊Particular requirements◊Outdoor barbecues (including Amendments 1 (12-1998)).

AS/NZS 3350.2.79:1996 Safety of household and similar electrical appliances◊Particular requirements◊High pressure cleaners and steam cleaners for industrial and commercial use (including Amendments 1 (12-1998)).

AS/NZS 3350.2.80:1998 Safety of household and similar electrical appliances◊Particular requirements◊Electric fans (including Amendments 1 (08-1999)).

AS/NZS 3350.2.81:1998 Safety of household and similar electrical appliancescParticular requirementscFoot warmers and heating mats.

AS/NZS 3350.2.85:1998 Safety of household and similar electrical appliancescParticular requirementscFabric steamers.

AS/NZS 3350.2.98:1998 Safety of household and similar electrical appliancescParticular requirementscHumidifiers.

AS/NZS 60065:2000 Audio, video and similar electronic apparatuscSafety requirements.

AS/NZS 60598.1:1998 LuminairescGeneral requirements and tests.

AS/NZS 60598.2 LuminairescParticular requirements.

AS/NZS 60598.2.1:1998 LuminairescParticular requirementsc Fixed general purpose luminaires.

AS/NZS 60598.2.4:1998 LuminairescParticular requirementsc Portable general purpose luminaires.

AS/NZS 60598.2.6:1998 LuminairescParticular requirementsc Luminaires with built-in transformers or convertors for filament lamps.

AS/NZS 60598.2.8:1998 LuminairescParticular requirementsc Handlamps.

AS/NZS 60598.2.10:1998 LuminairescParticular requirements cPortable child-appealing luminaires.

AS/NZS 60598.2.18:1998 LuminairescParticular requirements cSwimming pools and similar applications.

AS/NZS 60598.2.20:1998 LuminairescParticular requirements cLighting chains (including Amendments 1 (02-1999)).

AS/NZS 60950:200 Safety of information technology equipment.

IEC 60598-2-2 (1997) LuminairescParticular requirements Section 2: Recessed luminaires.

IEC 60598-2-3 (1997) LuminairesCParticular requirements
Section 3: Luminaires for road and street lighting.

IEC 60598-2-5 (1998) LuminairesCParticular requirements
Section 5: Floodlights.

IEC 60598-2-7 (1982) LuminairesCParticular requirements
Section 7: Portable luminaires for garden use (including
Amendments 1 (01-1987) and 2 (08-1994)).

IEC 60598-2-9 (1987) LuminairesCParticular requirements
Section 9: Photo and film luminaires (non-professional)
(including Amendments 1 (06-1993)).

IEC 60598-2-17 (1984) LuminairesCParticular requirements
Section 17: Luminaires for stage lighting, television and film
studios (outdoor and indoor) (including Amendments 1 (1987)
and 2 (05-1990)).

IEC 60598-2-19 (1981) LuminairesCParticular requirements
Section 19: Air-handling luminaires (safety requirements
(including Amendments 1 (01-1987) and 2 (12-1997)).

IEC 60598-2-22 (1997) LuminairesCParticular requirements
Section 22: Luminaires for emergency lighting.

IEC 60598-2-23 (1996) LuminairesCParticular requirements
Section 23: Extra low voltage lighting systems for filament
lamps.

IEC 60598-2-24 (1997) LuminairesCParticular requirements
Section 24: Luminaires with limited surface temperatures.

IEC 60598-2-25 (1994) LuminairesCParticular requirements
Section 25: Luminaires for use in clinical areas of hospitals and
health care buildings.

PART 3: FITTING STANDARDS

AS 2005.1:1981 Low voltage fusescFuses with enclosed fuse-links (up to and including 100 V a.c. and 1500 V d.c.)c General requirements.

AS 2005.10:1988 Low voltage fusescFuses with enclosed fuse-links (up to and including 100 V a.c. and 1500 V d.c.)c General requirements (including Amendments 1 (04-1991)).

AS 2005.20:1990 Low voltage fusescFuses with enclosed fuse-linkscSupplementary requirements for fuses for use by authorised persons. Fuses mainly for industrial applicationsc Common requirements.

AS 2005.21.1:1990 Low voltage fusescFuses with enclosed fuse-linkscSupplementary requirements for fuses for use by authorised persons. Fuses mainly for industrial applicationc Standardised fuse systemscFuse-links with blade contacts.

AS 2005.21.2:1990 Low voltage fusescFuses with enclosed fuse-linkscSupplementary requirements for fuses mainly for industrial applicationc Standardised fuse systemscFuses with fuse-links for bolted connections.

AS 2005.29:1990 Low voltage fusescFuses with enclosed fuse-linkscSupplementary requirements for fuses for use by authorised persons. Fuses mainly for industrial applicationc Standardised fuses with compact dimensions.

AS 2005.30:1991 Low voltage fusescFuses with enclosed fuse-linkscSupplementary requirements for fuses for use by unskilled persons. Fuses mainly for household and similar applications.

AS 2005.40:1989 Low voltage fusescFuses with enclosed fuse-linkscSupplementary requirements for fuse-links for the protection of semi-conductor devices.

AS 3111:1994 Approval and test specification Miniature overcurrent circuit-breakers (including Amendments 1 (10-1996)).

AS 3113:1986 Approval and test specification Ceiling roses.

AS 3117:1994 Approval and test specification Bayonet lampholders.

AS 3124:1982 Approval and test specification Overhead line connector boxes (including Amendments 1 (04-1985)).

AS 3127:1987 Approval and test specification Cord-line switches (including Amendments 1 (12-1987) and 2 (11-1989)).

AS 3133:1989 Approval and test specification Air break switches (including Amendments 1 (10-1990)).

AS 3134:1992 Approval and test specification a.c. supplied electronic ballasts for tubular fluorescent lamps.

AS 3138:1993 Approval and test specification Starters for fluorescent lamps (including Amendments 1 (08-1994)).

AS 3140:1994 Approval and test specification Edison-type screw lampholders.

AS 3168:1991 Approval and test specification Fluorescent lamp ballasts (including Amendments 1 (09-1991)).

AS 3169:1989 Approval and test specification Flat, quick-connect terminations.

AS 3190:1994 Approval and test specification Residual current devices (current-operated earth-leakage devices).

AS/NZS 3105:1998 Approval and test specification Electric portable outlet devices.

AS/NZS 3108:1994 Approval and test specification Particular requirements for isolating transformers and safety isolating transformers (including Amendments 1 (04-1995), 2 (08-1995), 3 (03-1996), 4 (11-1996), 5 (03-1997) and 6 (05-1997)).

AS/NZS 3109.1:1996 Approval and test specification
Appliance couplers for household and similar general purposes
cGeneral requirements.

AS/NZS 3112:2000 Approval and test specification
Plugs and socket-outlets.

AS/NZS 3120:1993 Approval and test specification
Cord extension sockets (including Amendments 1 (04-1996)).

AS/NZS 3122:1993 Approval and test specification
Socket-outlet adaptors (including Amendments 1 (01-1995) and 2 (03-1996)).

AS/NZS 3123:1994 Approval and test specification
Plugs, socket-outlets and couplers for general industrial application (including Amendments 1 (11-1994)).

AS/NZS 3131:1995 Approval and test specification
Plugs and socket-outlets for use in installation wiring systems.

AS/NZS 3139.1:1995 Approval and test specification
Switches for appliances
cGeneral requirements.

AS/NZS 3161:1995 Approval and test specification
Thermostats and energy regulators.

AS/NZS 3194:1993 Approval and test specification
Electric shaver supply units (including Amendments 1 (01-1995)).

AS/NZS 3197:1993 Approval and test specification
Portable electrical control or conditioning devices (including Amendments 1 (01-1995)).

AS/NZS 3199:1982 Approval and test specification
Cord extension sets (including Amendments 1 (04-1985)).

AS/NZS 4898:1997 Approval and test specification
Circuit-breakers for overcurrent protection for household and similar installations.

AS/NZS 60922:1998 Auxiliaries for lamps c Ballasts for discharge lamps (excluding tubular fluorescent lamps) c General and safety requirements.

AS/NZS 60998.1:1998 Connecting devices for low voltage circuits for household and similar purposes c General requirements.

AS/NZS 60998.2.1:1998 Connecting devices for low voltage circuits for household and similar purposes c Particular requirements for connecting devices as separate entities with screw-type clamping units.

AS/NZS 60998.2.2:1998 Connecting devices for low voltage circuits for household and similar purposes c Particular requirements for connecting devices as separate entities with screwless-type clamping units.

AS/NZS 60998.2.3:1998 Connecting devices for low voltage circuits for household and similar purposes c Particular requirements for connecting devices as separate entities with insulation piercing clamping units.

AS/NZS 61050:1998 Transformers for tubular discharge lamps having no-load output voltage exceeding 1000 V generally called neon-transformers c General and safety requirements.

IEC 60127-1 (1988) Miniature fuses c Definitions for miniature fuses and general requirements for miniature fuse-links.

IEC 60127-2 (1989) Miniature fuses c Cartridge fuses (including Amendment 1 (08-1995)).

IEC 60127-3 (1988) Miniature fuses c Sub-miniature fuse-links (including Amendment 1 (12-1991)).

IEC 60127-4 (1996) Miniature fuses c Universal modular fuses (UMF).

IEC 60127-6 (1994) Miniature fuses c Fuse-holders for miniature cartridge fuse-links.

IEC 60238 (1996) Edison screw lampholders.

IEC 60269-1 (1986) Low-voltage fuses General requirements (including Amendments 1 (03-1994) and 2 (11-1995)).

IEC 60269-2 (1986) Low voltage fuses Supplementary requirements for fuses used by authorised persons (fuses mainly for industrial application) (including Amendment 1 (11-1995)).

IEC 60269-2-1 (1996) Low voltage fuses Supplementary requirements for fuses used by authorised persons Fuses with fuse-links with blade-contacts.

IEC 60269-2-2 (1996) Low voltage fuses Supplementary requirements for fuses used by authorised persons Fuses with fuse-links for bolted connections.

IEC 60269-2-3 (1996) Low voltage fuses Supplementary requirements for fuses used by authorised persons Fuses with fuse-links having cylindrical contacts.

IEC 60269-3 (1987) Low voltage fuses Supplementary requirements for fuses used by unskilled persons (fuses mainly for household and similar applications).

IEC 60269-3-1 (1994) Low voltage fuses Supplementary requirements for fuses used by authorised persons Sections I-IV.

IEC 60269-4 (1986) Low voltage fuses Supplementary requirements for fuse-links for the protection of semiconductor services (including Amendment 1 (12-1995)).

IEC 60320-1 (1994) Appliance couplers for household and similar general purposes General requirements (including Amendments 1 (10-1995) and 2 (10-1996)).

IEC 60320-2-1 (1984) Appliance couplers for household and similar general purposes Sewing machine couplers.

IEC 60320-2-2 (1998) Appliance couplers for household and similar general purposes
Interconnection couplers for household and similar equipment.

IEC 60432-1 (1993) Safety specification for incandescent lamps
Tungsten filament lamps for domestic and similar general lighting purposes (including Amendments 1 (10-1995) and 2 (06-1997)).

IEC 60570 (1995) Electrical supply track systems for luminaires (including Amendment 1 (01-1998)).

IEC 60570-2-1 (1994) Electrical supply track systems for luminaires
Mixed supply systems
Classes I and III.

IEC 60669-1 (1998) Switches for household and similar fixed electrical installations
General.

IEC 60669-2-1 (1996) Switches for household and similar fixed electrical installations
Particular requirements
Electronic switches (including Amendment 1 (06-1997)).

IEC 60669-2-2 (1996) Switches for household and similar fixed electrical installations
Particular requirements
Electromagnetic remote control switches (R.C.S.) (including Amendment 1 (06-1997)).

IEC 60669-2-3 (1984) Switches for household and similar fixed electrical installations
Particular requirements
Time delay switches (T.D.S.).

IEC 60920 (1990) Ballasts for florescent lamps
General and safety requirements (including Amendments 1 (01-1993) and 2 (10-1995)).

IEC 60924 (1990) D.C. supplied electronic ballasts for tubular fluorescent lamps
General safety requirements (including Amendment 1 (03-1993)).

IEC 60968 (1988) Self-ballasted lamps for general lighting services (Safety requirements) (including Amendment 1 (04-1991)).

IEC 61058-1 (1996) Switches for appliancesCGeneral requirements (including Amendment 1 (10-1997)).

IEC 61058-2-1 (1992) Switches for appliancesCParticular requirements for cord switches (including Amendment 1 (10-1995)).

IEC 61058-2-4 (1994) Switches for appliancesCParticular requirementsCIndependently mounted switches.

IEC 61058-2-5 (1994) Switches for appliancesCParticular requirements for changeover selectors.

IEC 61184 (1997) Bayonet lampholders.

PART 4: CABLES, CONDUITS & WIRING FITTING STANDARDS

AS 1125:1993 Conductors in insulated electric cables and flexible cords (including Amendments 1 (11-1993)).

AS 1977:1977 Flexible insulating sleeving for electrical purposes.

AS 3147:1992 Approval and test specification
Electric cables
Thermoplastic insulated
For working voltages up to and including 0.6/1 kV (including Amendments 1 (08-1993), 2 (10-1995) and 3 (07-1996)).

AS 3158:1994 Approval and test specification
Electric cables
Glass fibre insulated for working voltages up to and including 0.6/1 kV.

AS 3178:1991 Approval and test specification
Electric cables
Silicon rubber insulated
For working voltages up to and including 0.6/1 kV.

AS 3560:1991 Electric cables
XLPE insulated
Aerial bundled
For working voltages up to and including 0.6/1 kV (including Amendments 1 (07-1991) and 2 (08-1992)).

AS 3675:1993 Conductors
Covered overhead
For working voltages 6.35/11 kV up to and including 19/33 kV.

AS 3766:1990 Mechanical fittings for low voltage aerial bundled cables.

AS 4026:1992 Electric cables
For underground residential distribution systems.

AS/NZS 1995:1995 Welding cables.

AS/NZS 2053.1:1995 Conduits and fittings for electrical installations
General requirements (including Amendments 1 (05-1997)).

AS/NZS 2053.2:1995 Conduits and fittings for electrical installationscRigid plain conduits and fittings of insulating material (including Amendments 1 (12-1995) and 2 (08-1996)).

AS/NZS 2053.3:1995 Conduits and fittings for electrical installationscRigid plain conduits and fittings of fibre-reinforced concrete material.

AS/NZS 2053.4:1995 Conduits and fittings for electrical installationscFlexible plain conduits and fittings of insulating material.

AS/NZS 2053.5:1995 Conduits and fittings for electrical installationscCorrugated conduits and fittings of insulating material (including Amendments 1 (04-1996) and 2 (05-1997)).

AS/NZS 2053.6:1995 Conduits and fittings for electrical installationscProfile-wall, smooth-bore conduits and fittings of insulating material (including Amendments 1 (08-1996)).

AS/NZS 2053.7:1995 Conduits and fittings for electrical installationscRigid metal conduits and fittings (including Amendments 1 (04-1995)).

AS/NZS 2053.8:1995 Conduits and fittings for electrical installationscFlexible conduits and fittings of metal or composite material.

AS/NZS 2648.1:1995 Underground marking tapecNon-detectable tape.

AS/NZS 3085.1:1995 Telecommunication installationcAdministration of communication cabling systemscBasic requirements.

AS/NZS 3116:1996 Approval and test specificationcElectric cables cElastomer insulated cFor working voltages up to and including 0.6/1 kV.

AS/NZS 3155:1993 Approval and test specificationcElectric cables cNeutral screened cFor working voltages of 0.6/1 kV.

AS/NZS 3166:1995 Approval and test specification
Cables for high voltage luminous discharge tube installations.

AS/NZS 3187:1995 Approval and test specification
Mineral-insulated metal-sheathed cables (including Amendments 1 (07-1997)).

AS/NZS 3188:1995 Approval and test specification
Terminations and glands for mineral-insulated metal-sheathed cables.

AS/NZS 3191:1996 Approval and test specification for electric flexible cords (including Amendments 1 (04-1997) 2 (06-1998) and 3 (04-1999)).

AS/NZS 3198:1996 Approval and test specification
Electric cables
XLPE insulated
For working voltages up to and including 0.6/1 kV.

AS/NZS 3560.1:2000 Approval and test specification
Electric cables
Cross-linked polyethylene insulated
Aerial bundled
For working voltages up to and including 0.6/1 (1.2) kV
Aluminium conductors.

AS/NZS 4193.1:1994 Electrical cables for use in ships
Low voltage shipboard power cables
General construction and test requirements (including Amendments 1 (12-1994)).

AS/NZS 4193.2:1994 Electrical cables for use in ships
Insulating materials for shipboard power cables (including Amendments 1 (12-1994)).

AS/NZS 4193.3:1994 Electrical cables for use in ships
Sheathing materials for shipboard power, control and Telecommunication cables (including Amendments 1 (12-1994)).

AS/NZS 4193.4:1994 Electrical cables for use in ships
Single and multicore cables with extruded solid insulation for rated voltages 0.6/1 kV (including Amendments 1 (12-1994)).

AS/NZS 4193.5:1994 Electrical cables for use in shipsC
Shipboard multicore cables for control circuits (including
Amendments 1 (12-1994) and 2 (02-1997)).

AS/NZS 4296:1995 Cable trunking systems.

BS 6500:1994 Specification for insulated flexible cords and
cables.

NZS 2265:1969 Earthing clamps (including Amendments 5
(1991)).

NZS 6401:1973 (1991) PVC-insulated cables for electric power
and lighting.

PART 5: SWITCHGEAR AND CONTROLGEAR STANDARDS

AS 1023.1:1985 Low voltage switchgear and controlgear
Protection of electric motors
Built-in thermal detectors and associated control units.

AS 1023.3:1973 Low voltage switchgear and controlgear
Protection of electric motors
Inherent overheat protectors (metric units).

AS 2395:1980 Terminals for switchgear assemblies for alternating current voltages above 1 kV.

AS 3132:1991 Approval and test specification
Enclosures of insulation material for switchgear and controlgear (including Amendments 1 (02-1993)).

AS 3439.1:1993 Low voltage switchgear and controlgear assemblies
Type-tested and partially type tested assemblies (including Amendments 1 (06-1994)).

AS 3439.2:1994 Low-voltage switchgear and controlgear assemblies
Particular requirements for busbar trunking systems (busways).

AS 3439.3:1995 Low-voltage switchgear and controlgear assemblies
Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use
Distribution boards.

AS 3439.4:1995 Low-voltage switchgear and controlgear assemblies
Particular requirements for assemblies for construction sites (ACS) (including Amendments 1 (12-1996)).

AS/NZS 3947.1:1998 Low-voltage switchgear and controlgear
General rules.

AS 3947.2:1997 Low-voltage switchgear and controlgear
Circuit-breakers.

AS 3947.3c1994 Low-voltage switchgear and controlgear
Switches, disconnectors, switch-disconnectors and fuse-combination units (including Amendments 1 (03-1995)).

AS 3947.3 (Supplement 1c1995) Low-voltage switchgear and controlgear
Switches, disconnectors, switch-disconnectors and fuse-combination units (supplement to AS 3947.3c1994).

AS 3947.4.1c1995 Low-voltage switchgear and controlgear
Contactors and motor-starters
Electromechanical contactors and motor-starters (including Amendments 1 (11-1995)).

AS 3947.4.2c1997 Low-voltage switchgear and controlgear
Contactors and motor starters
A.C. semiconductor motor controllers and starters.

AS 3947.4.3c2000 Low-voltage switchgear and controlgear
Contactors and motor starters
A.C. semiconductor motor controllers and contactors for non-motor loads.

AS 3947.5.1:2000 Low-voltage switchgear and controlgear
Control circuit devices and switching elements
Electromechanical control circuit devices.

AS 3947.5.2c2000 Low-voltage switchgear and controlgear
Proximity switches.

AS 3947.5.3:2000 Low-voltage switchgear and controlgear
Control circuit devices and switching elements
Requirements for proximity devices with defined behaviour under fault conditions (PDF).

AS 3947.5.4:2000 Low-voltage switchgear and controlgear
Control circuit devices and switching elements
Methods of assessing the performance of low-energy contacts
Special tests.

AS 3947.5.5:2000 Low-voltage switchgear and controlgear
Control circuit devices and switching elements
Electrical emergency stop device with mechanical latching function.

AS 3947.5.6:2000 Low-voltage switchgear and controlgear
Control circuit devices and switching elements
D.C. interface for proximity sensors and switching amplifiers (NAMUR).

AS 3947.6.1:1996 Low-voltage switchgear and controlgear
Multi function equipment
Automatic transfer switching.

AS 3947.6.2:1996 Low-voltage switchgear and controlgear
Multifunction equipment
Control and protective switching devices for equipment (CPS).

AS 3947.7.1:1996 Low-voltage switchgear and controlgear
Ancillary equipment
Terminal blocks for copper conductors.

AS 3947.7.2:1996 Low-voltage switchgear and controlgear
Ancillary equipment
Protective conductor terminal blocks for copper conductors.

AS 4278:1995 A method of assessing the short-circuit withstand strength of partially type-tested assemblies (P.T.T.A).

AS 4388:1996 A method of temperature assessment by extrapolation for partially type-tested assemblies (P.T.T.A) of low voltage switchgear and controlgear.

PART 6: ELECTRICITY DISTRIBUTION SAFETY STANDARDS

AS 1028c1992 Power reactors and earthing transformers.

AS 2225c1994 Insulating gloves for electrical purposes (including Amendments 1 (05-1996)).

AS 2626c1983 Industrial safety belts and harnesses
Selection, use and maintenance.

AS 4202c1994 Insulating covers for electrical purposes.

AS/NZS 1891.1:1995 Industrial safety belts and harnesses (including Amendments 1 (03-1997), 2 (10-1997) and 3 (06-1998)).

AS/NZS 2978:1995 Insulating mats for electrical purposes.

ASTM D120:95 Standard specification for rubber insulating gloves.

ASTM F711c89 (1997) Standard specification for fiberglass-reinforced plastic (FRP) rod and tube used in live line tools.

ASTM F478c92 Standard specification for in-service care of insulating line hose and covers.

ASTM F496c97 Standard specification for in-service care of insulating covers and sleeves.

ASTM F696c97 Standard specification for protectors for rubber insulating gloves and mittens.

ASTM F712c88 Standard test methods for electrically insulating plastic guard equipment for protection.

ASTM F479c95 Standard specification for in-service care of insulating blankets.

ASTM D1049c98 Standard specification for rubber insulating covers.

ASTM D1050c90 Standard specification for rubber insulating line hose.

ASTM D1051c95 Standard specification for rubber insulating sleeves.

ASTM F1236-96e1 Standard guide for visual inspection of electrical protective rubber products.

IEC 60903 (1988) Specification for gloves and mitts of insulating material for live working.

NZS 3609:1978 Specification for timber ladders (including Amendments 1 (1984)).

PART 7: HARMONIC AND VOLTAGE FLICKER STANDARDS

AS 2279.2:1991 Disturbances in mains supply networks
Limitation of harmonics caused by industrial equipment.

AS/NZS 61000.3.2:1998 Electromagnetic compatibility (EMC)
Limits for harmonic current emissions (equipment input current less than or equal to 16 A per phase).

AS/NZS 61000.3.3:1998 Electromagnetic compatibility
Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current less than or equal to 16 A.

AS/NZS 61000.3.5:1998 Electromagnetic compatibility
Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current greater than 16 A.

AS/NZS 61000.4.3:1999 Electromagnetic compatibility (EMC)
Testing and measurement techniques—Radiated radio-frequency electromagnetic field immunity test.

AS/NZS 61000.4.5:1999 Electromagnetic compatibility (EMC)
Testing and measurement techniques—Surge immunity test.

AS/NZS 61000.4.6:1999 Electromagnetic compatibility (EMC)
Testing and measurement techniques—Immunity to conducted disturbances, induced by radio-frequency fields.

AS/NZS 61000.4.7:1999 Electromagnetic compatibility (EMC)
Testing and measurement techniques—General guide on harmonics and instrumentation, for power supply systems and equipment connected thereto.

PART 8: COAL MINING ELECTRICAL SAFETY STANDARDS

AS 1039c1986 Electrical equipment for coal minescExplosion-protected distribution and control boxes for voltages up to 3300 V a.c..

AS 1147.1c1989 Electrical equipment in coal minescInsulating materialscMaterials for insulating power conducting components.

AS 1299c1993 Electrical equipment in coal minescFlame-proof restrained plugs and receptacles.

AS 1300c1989 Electrical equipment in coal minescBolted flame-proof cable coupling devices.

AS 1740c1990 Electrical equipment in coal mines
cTransformer substations for use underground.

AS 1747c1993 Reeling, trailing and feeder cables used for miningcRepair and testing.

AS 1828c1984 Electrical equipment in explosive atmospheres
cCable glands (including Amendments A1 (11-1985)).

AS 1972:1996 Electric cables
cUnderground coal mines
cOther than reeling and trailing cables.

AS 2081.1c1988 Electrical equipment for coal and shale mines
cElectrical protection devices
cGeneral requirements.

AS 2081.2c1988 Electrical equipment for coal and shale mines
cElectrical protection devices
cEarth-continuity monitoring devices.

AS 2081.3c1988 Electrical equipment for coal and shale mines
cElectrical protection devices
cEarth-leakage protection devices for use on systems incorporating earth fault current limiters.

AS 2081.4c1988 Electrical equipment for coal and shale mines
cElectrical protection devices
cLockout earth-fault protection devices.

AS 2380.2c1990 Electrical equipment for explosive atmospherescExplosion protection techniquescFlameproof enclosures d.

AS 2595.1c1992 Electrical equipment for coal minescElectrical requirements for underground mining machines and accessoriescEquipment for use in hazardous areas.

AS 2802:1992 Electric cables cReeling and trailing cFor mining and general use (other than underground coal mining).

AS 2989c1992 Electrical equipment for coal mines cSpecific requirements for high voltage circuit-breakers and disconnectors.

AS/NZS 1802c1995 Electric cables cReeling and trailing cFor underground coal mining purposes.

SECOND SCHEDULE

ORGANISATIONS FROM WHICH TEST RESULTS FOR COMPLIANCE WITH THE STANDARDS LISTED IN THIS CODE ARE PRIMA FACIE ACCEPTABLE

NEW ZEALAND

Laboratory:	Wakefield Laboratories Limited	Auckland Testing Laboratories Ltd
NLAO:	IANZ 69	IANZ 374
Address:	54 Tarndale Grove PO Box 330 Albany AUCKLAND 1331	10/32 Moselle Avenue Henderson AUCKLAND

Laboratory:	Parkside Laboratories Ltd
NLAO:	IANZ 363
Address:	14 Hazeldean Road CHRISTCHURCH 2

AUSTRALIA

Laboratory:	TCA	S G S Australia Pty Ltd Appliance Testing Laboratory
NLAO:	NATA 62	NATA 3637
Address:	Testing & Certification Australia PO Box 841 Artarmon NSW 2064	73 Williams Road BLACKBURN VIC 3130

Laboratory:	ENERGEX	Australian Electrical Testing Centre
NLAO:	NATA 74	NATA 1848
Address:	South East Queensland Electricity Board Approvals Laboratory Building 4 Blinzinger Road BANYO Queensland 4014	Warrendi Road The Levels POORAKA SA 5098

OTHER COUNTRIES

AUSTRIA

Laboratory:	BFVA/ETI	PVEW
NCB:	ÖVE	ÖVE
Address:	Elektrotechnische Institut der Prüf-und Versuchanstalt im Arsenal Arsenal, Faradaygasse 3 A-1030 WIEN	Prüf- und Versuchanstalt der Elektrizitätswerke Österreichs Obere Augartenstrasse 14 a A-1020 WIEN
Laboratory:	TGM/VA/E	TGM/VA/R
NCB:	ÖVE	ÖVE
Address:	Versuchanstalt für Elektro- technik am Technologischen Gewerbermuseum Wexstrasse 19-23 A-1200 WIEN	Versuchanstalt für Radio- technik am Technologischen Gewerbermuseum Wexstrasse 19-23 A-1200 WIEN
Laboratory:	CTI	TÜV Österreich
NCB:	ÖVE	ÖVE
Address:	Cooperative Testing Institute for Electrotechnical Products Ltd - Gesellschaft zur Prüfung Elektro-technischer Industrieprodukte G.m.b.H Geinergasse 30, Postfach 3 A-1195 WIEN	Prüfstelle des TÜV Österreich Deutschstrasse 10 A-12030 WIEN

BELGIUM

Laboratory:	Laboratoire d'Electricite	LCE-CLE
NCB:		CEBEC
Address:	c/o LABORELEC rue de Rhode, 125 B-1630 LINKEBEEK	Laboratoire Central d'Electricite (L.C.E.) Central Laboratorium voor Elektriciteit (C.L.E.) Avenue F. van Kalken 9 A B-1070 Brussels

BRITAIN

Laboratory:	BSI	ERA
NCB:	BEAB	ASTA
Address:	BSI Testing Marylands Avenue Hemel Hempstead HERTS HP2 4SQ	Electrical Engineering Centre Test and Assessment Department Cleeve Road Leatherhead SURREY KT22 7SA

CANADA

Laboratory:	CSA
NCB:	CSA
Address:	Canadian Standards Association 178 Rexdale Boulevard Rexdale (Toronto) ONTARIO M9W 1R3

CZECH REBUBLIC

EZU
EZU
Elektrotechnicky zkusebni ustav Pod lisem 129 CS-171 02 PRAHA 8 TROJA

CHINA

Laboratory:	BTIHEA
NCB:	CCEE
Address:	Beijing Testing and Inspection Station for Household Electric Appliances (BTIHEA) 29 Xia Xie Jie, Xuan Wu District 100053 BEIJING

GTIEP
CCEE
Guangzhou Testing and Inspection Station for Electric Products (GTIEP) 1 Dongguan Zhuang Road 510610 GUANGZHOU

Laboratory:	GTIES
NCB:	CCEE
Address:	Guangzhou Testing and Inspection Station for Electrical Safety (GTIES) 3 Taishanmiaoquian, Nancun Henan 510220 GUANGZHOU

GTIHEA
CCEE
Guangzhou Testing and Inspection Station for Household Electric Appliances (GTIHEA) 204 Xingang West Road GUANGZHOU

Laboratory:	STIEP
NCB:	CCEE
Address:	Shanghai Testing and Inspection Station for Electronic Products (STIEP) 627 Yong Ja lu 20031 SHANGHAI

TICW
CCEE
Testing and Inspection Station for Cable and Wire (TICW) 1000 Yun Gong Road 200093 SHANGHAI

CHINA

Laboratory:	TIET	TILVA
NCB:	CCEE	CCEE
Address:	Testing and Inspection Station for Electric Tools (TIET) 10 Bao Qing Road 200031 SHANGHAI	Testing and Inspection Station for Low-Voltage Apparatus (TILVA) 505 Wu Ning Road 200063 SHANGHAI
Laboratory:	TIRT	BTIEP
NCB:	CCEE	CCEE
Address:	Testing and Inspection Station for Radio and Television Products (TIRT) Da Shanzi Dong Zhi Men Wai 100015 BEIJING	Beijing Testing and Inspection Station for Electronic Products (BTIEP) Post Box 1101 10007 BEIJING

DENMARK

Laboratory: DEMKO
NCB: DEMKO
Address: Lyskaar 8
Post Box 514
DK-2730 HERLEV

FINLAND

FIMKO
Särkiniementie 3
P.O.Box 31
FIN-00211 HELSINKI

FRANCE

Laboratory:	LCIE	LNE
NCB:	UTE	
Address:	Laboratoire Cental des Industries Electriques(LCIE) 33, avenue du General Leclerc F-92260 FONTENAY-AUX- ROSES (Seine)	Laboratoire National D'Essais 1, rue Gaston Boissier 75015 PARIS

GERMANY

Laboratory:	VDE-PZI	TÜV Product Service
NCB:	VDE-PZI	TÜV Product Servic
Address:	VDE, Prüf- und Zertifizierungs- institut Merianstrasse 28 D-63069 OFFENBACH (MAIN)	Ridlerstrasse 31 D-8000 MÜNCHEN 2

GERMANY

Laboratory:	TÜV	TÜV
NCB:	TÜV	TÜV
Address:	TÜV Rheinland/TSU GmbH Postfach D-51101 KÖLN	TÜV Rheinland Sicherheit und Umweltschutz GmbH Am Grauen Stein D-51105 COLOGNE

Laboratory:	LGA
NCB:	VDE-PZI
Address:	LGA Bayern Tillystrasse 2 D-90431 NÜRNBERG

GREECE

Laboratory:	ELOT
NCB:	ELOT
Address:	Elot Testing Laboratory 12-14 Kolonou Street GR-10437 ATHENS

HOLLAND

Laboratory:	KEMA
NCB:	KEMA
Address:	Kema Nederland B.V Utrechtseweg 310 P.O. Box 9035 NL-6800 ET ARNHEM

HUNGARY

Laboratory:	MEEI
NCB:	MEEI
Address:	Hungarian Institute for Testing and Certification of Electrical Equipment Vaci ut 48/a-b Pf 441 H-1395 BUDAPEST XIII

INDIA

Laboratory:	CPRI	CPRI
NCB:	BIS	BIS
Address:	Central Power Research Institute Switchgear Testing & Development Station PO Govindpura BHOPAL - 461023	Central Power Research Institute Cables & Capacitors Laboratory PO Govindpura BHOPAL - 461023

INDIA

Laboratory:	CPRI	ERDA
NCB:	BIS	BIS
Address:	Central Power Research Institute Prof. Sir. C.V. Raman Road PO Box No 9401 BANGALORE - 560094	Electrical Research & Development Association PO Box No 760 Makarpura Industrial Estate Makarpura Road VADODARA - 390010

Laboratory:	ERTL(W)	ERTL(E)
NCB:	BIS	BIS
Address:	Electronics Regional Test Laboratory (West) Midc. Area Plot Nos. 7 & 8 Andheri (East) BOMBAY	Electronics Regional Test Laboratory (East) DN Block Bidhannager Sector V Salt Lake City CALCUTTA - 700 091

Laboratory:	ERTL(N)
NCB:	BIS
Address:	Electronics Regional Test Laboratory (North) Okhia Ind. Area Phase II NEW DELHI - 110 020

IRELAND

Laboratory:	EOLAS
NCB:	NSAI
Address:	The Irish Science and Technology Agency Glasnevin IE-DUBLIN 9

ITALY

IMQ
IMQ
Instituto Italiano del Marchio di Qualitata Via Quintiliano 43 1-20138 MILANO

ISRAEL

Laboratory:	SII
NCB:	SII
Address:	The Standards Institute of Israel 42 Chaim Levanon Str. IL-TEL-AVIV 69977

JAPAN

Laboratory: JQA
 NCB: IECEE-JP
 Address: Japan Quality Assurance
 Organization
 9-15 Akasaka
 1 Chome
 Minato-ku
 TOKYO 107

JET
 IECEE-JP
 Japan Electrical Testing Laboratory
 5-14-12 Yoyogi, Shibuya-Ku
 TOKYO, 151

Laboratory: JCII
 NCB: IECEE-JP
 Address: Japan Camera and Optical
 Instruments Inspection and
 Testing Institute
 25 Ichiban-cho Chiyoda-Ku
 TOKYO 102

KOREA

Laboratory: KAITECH
 NCB: IECEE-KR
 Address: Korea Academy of Industrial
 Technology
 222-13 Guro Dong Guro-ku
 152-650 SEOUL

NORWAY

NEMKO
 NEMKO
 Norges Elektriske Materiellkontroll
 Gaustadelleen No.30
 PO Box 73 Blindern
 N-0314 OSLO

POLAND

Laboratory: PCBC
 NCB: PCBC
 Address: CBJW Central Office for Quality
 of Products Electrical Laboratory
 ul. Swietojerska 5/7
 PL-00-236 WARSZAWA

BBJ-SEP
 PCBC
 Association of Polish
 Electrical Engineers
 Quality Testing Office
 ul. Pozarskyiego 28 Building 10A
 PL-04-703 WARSZAWA

SINGAPORE

Laboratory: PSB
 NCB: PSB
 Address: Singapore Productivity and
 Standards Board
 No 1 Science Park Drive
 SINGAPORE 0511

SLOVENIA

Slovenian Institute of Quality
 and Metrology Testing Division
 Trzaskn 2
 61000 LJUBLJANA

SOUTH AFRICA

Laboratory: South African Bureau of
Standards
Address: 1 Dr Lategan Road
GROENKLOOF

SPAIN

ASINEL
ctra. de Vjllaviciosa de Oden
u Mostoles Km 1.6
E-Mostoles
MADRID

SWEDEN

Laboratory: SEMKO
NCB: SEMKO
Address: Torshamnsgatan 43 Kista
Box 1103
S-164 22 KISTA STOCKHOLM

SWITZERLAND

SEV
SEV
Schweizerischer
Elektrotechnischer Verein
Division Testing and Certification
Luppmannstrasse 1
CH-8320 FEHRALTORF

YUGOSLAVIA

Laboratory: The Federal Institute for
Standardization
Quality Assurance and
Certification Department
Address: Slobodena Penezica-Krcuna 35
Pb. 933
YU-11001 BEOGRAD