

Australian/New Zealand Standard™

**Electrical installations—Transportable
structures and vehicles including their
site supplies**



AS/NZS 3001:2008

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-001, Wiring Rules. It was approved on behalf of the Council of Standards Australia on 24 April 2008 and on behalf of the Council of Standards New Zealand on 13 November 2008.

This Standard was published on 5 December 2008.

The following are represented on Committee EL-001:

Australian Building Codes Board
Australian Industry Group
Canterbury Manufacturers Association New Zealand
Communications, Electrical and Plumbing Union
Consumers' Federation of Australia
Electrical Contractors Association of New Zealand
Electrical Regulatory Authorities Council
Electrical Safety Organisation (New Zealand)
Electrical and Communications Association (Queensland)
ElectroComms and Energy Utilities Industries Skills Council
Energy Networks Association
Engineers Australia
Institute of Electrical Inspectors
Ministry of Economic Development (New Zealand)
National Electrical and Communications Association
New Zealand Council of Elders
New Zealand Electrical Institute
New Zealand Motor Caravan Association
Telstra Corporation Limited

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Australia Web Site at www.standards.org.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 06654.

Australian/New Zealand Standard™

**Electrical installations—Transportable
structures and vehicles including their
site supplies**

Originated as AS 3001—1959 and AS 3005—1982.
Previous edition AS 3001—2001.
Eighth edition 2008.
Reissued incorporating Amendment No. 1 (June 2012).

COPYRIGHT

© Standards Australia Limited/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-001, Wiring Rules, to supersede AS/NZS 3001:2001.

This Standard incorporates Amendment No. 1 (May 2012). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This edition was prepared to update the requirements for electrical installations associated with transportable structures and vehicles (formerly known as relocatable premises) and their site supplies following the issue of AS/NZS 3000:2007. It includes provisions for the connection of electric power to various types of transportable structures and vehicles, including caravans and various temporary structures such as tents used for domestic and commercial purposes.

This Standard differs from AS/NZS 3001:2001 in several respects including the following:

- (a) The text 'relocatable premises' has been changed to 'transportable structures and vehicles' and this edition covers a larger range of installations.
- (b) The underground wiring requirements for caravan parks have been updated.
- (c) Diagrams showing the recommended method of connecting a transportable structure to a generator set/inverter have been added.
- (d) Appendix C covering verification requirements for connectable installations in New Zealand has been added.

The application of this Standard may be required by legislation from a date to be set by the relevant regulating authority. If work on an installation was commenced before publication of this edition, the relevant regulatory authority or electricity distributor may grant permission for the installation to be completed under AS/NZS 3001:2001 as applicable.

The following background regarding differences between requirements in Australia and New Zealand is provided as general information for the reader.

In New Zealand, many caravans are fitted with a neutral-earth connection. This precludes providing RCD protection to the caravan by the installation of RCDs on the supply side of the neutral-earth connection. In Australia, such a connection is traditionally not fitted.

As this Standard applies to new site installations and new transportable structures and vehicle installations, the decision has been made that there will be no neutral-earth connection within the transportable structures and vehicles and all site supplies will have RCD protection.

In many parks there will be a mixture of new service pillars with RCD protection and old service pillars without. In New Zealand, the location of transportable structures and vehicles with a neutral-earth connection becomes a site management issue.

In the case of caravan parks which only have pillars with RCD protection, transportable structures and vehicles with a neutral earth connection will not be permitted to connect to a power outlet.

In New Zealand, it is typical for the plug on the supply lead to transportable structures and vehicles and hence for all socket-outlets intended to provide electrical power to such transportable structures and vehicles to comply with IEC 60309. In Australia, 15A, 3 pin, flat-pin plugs complying with AS/NZS 3112 are the norm. This Standard reflects changes in New Zealand allowing the provision of socket-outlets complying with AS/NZS 3112 to be installed in New Zealand caravan parks.

In Australia, the use of round-pin plugs and socket-outlets complying with AS/NZS 3123 is allowed but flat-pin type connections are the type most commonly used for single-phase supply to transportable structures and vehicles.

A1 | In Australia it is required that all circuit-breakers and switches in the wiring of transportable structures and vehicles connected by means of a detachable connection operate in all live (active and neutral) conductors. This is not required in New Zealand.

Appendices A and B are included to provide additional supportive or background information and advice. These appendices do not form an integral part of this Standard and are identified as 'informative'.

The word 'shall' introduces a requirement that is to be followed strictly in order to comply with the Standard. The word 'should' introduces a suggestion or recommendation only.

A1 | A New Zealand-only amendment was issued in May 2009 to cover the removal of the neutral to earth link in New Zealand caravans built before 1993. This was necessary to allow the introduction of RCD protection to service pillars in caravan parks that was brought about by the issue of AS/NZS 3001:2008. This removal of the link was also required for caravans located adjacent to and supplied from a domestic residence that had socket outlets protected by RCDs in accordance with AS/NZS 3000. The New Zealand amendment was incorporated into the Standard by Amendment No. 1 (2012).

A new requirement introduced by Amendment No. 1 (2012) as Clause 3.10.3 highlights the additional inspection required for the periodic testing required for a re-issue of a New Zealand Warrant of Electrical Fitness. A further requirement in Appendix C clarifies the electrical supply arrangements used for the re-issue of a New Zealand Warrant of Electrical Fitness.

CONTENTS

	<i>Page</i>
FOREWORD.....	6
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	7
1.2 APPLICATION	8
1.3 REFERENCED DOCUMENTS.....	8
1.4 DEFINITIONS.....	9
1.5 ALTERATIONS, ADDITIONS AND REPAIRS.....	10
SECTION 2 SUPPLY ARRANGEMENTS FOR TRANSPORTABLE STRUCTURES	
2.1 SUPPLY ARRANGEMENTS	11
2.2 SUPPLY ARRANGEMENTS TO TRANSPORTABLE STRUCTURES FROM SOCKET-OUTLETS IN CARAVAN PARKS ONLY (EXCLUDING PORTABLE GENERATORS OR INVERTERS).....	11
2.3 SUPPLY ARRANGEMENTS TO TRANSPORTABLE STRUCTURES FROM SOCKET-OUTLETS AT ALL OTHER LOCATIONS (EXCLUDING CARAVAN PARKS AND PORTABLE GENERATORS OR INVERTERS)	15
2.4 SUPPLY ARRANGEMENTS TO TRANSPORTABLE STRUCTURES FROM A PORTABLE GENERATOR SET OR INVERTER	17
2.5 MULTIPLE TRANSPORTABLE STRUCTURES OCCUPYING ONE SITE	18
2.6 SITES FOR LOW-CONSUMPTION TRANSPORTABLE STRUCTURES	18
2.7 VERIFICATION (INSPECTION AND TESTING).....	18
SECTION 3 PERMANENT ELECTRICAL INSTALLATIONS IN TRANSPORTABLE STRUCTURES	
3.1 SCOPE.....	21
3.2 PROVISION FOR CONNECTION TO SITE SUPPLY.....	21
3.3 CONTROL AND PROTECTION	22
3.4 WIRING SYSTEM	24
3.5 EARTHING.....	28
3.6 ACCESSORIES	29
3.7 PERMANENTLY CONNECTED APPLIANCES	30
3.8 EXTRA-LOW-VOLTAGE TRANSFORMERS	30
3.9 ELECTRICAL INSTALLATIONS IN DAMP AREAS.....	30
3.10 VERIFICATION (INSPECTION AND TESTING).....	30
SECTION 4 ELECTRICAL INSTALLATIONS IN TENTS AND NON-RIGID ANNEXES	
4.1 GENERAL.....	31
4.2 SUPPLY TO ELECTRICAL EQUIPMENT	31
4.3 CONNECTION OF SUPPLY	31
4.4 OUTLET BOX	33
4.5 LIGHTING	34
SECTION 5 CONNECTIONS TO THE SITE SUPPLY	
5.1 SUPPLY LEAD	35
5.2 INSTALLATION OF SUPPLY LEAD.....	36

APPENDICES

A	CALCULATION OF MAXIMUM DEMAND	37
B	PROVISION OF CONNECTION INSTRUCTIONS FOR CARAVAN PARKS PATRONS	39
C	NEW ZEALAND ONLY VERIFICATION OF TRANSPORTABLE STRUCTURES AND SITE SUPPLY ARRANGEMENTS	40

FOREWORD

Special Requirements

Any requirements that may be applicable in Australia only or New Zealand only are indicated in the text and by a symbol in the right margin as follows:

‘In Australia...’

A

‘In New Zealand...’

NZ

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
**Electrical installations—Transportable structures and vehicles
including their site supplies**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPEA1 | **1.1.1 General**

This Standard sets out the requirements for electrical installations associated with transportable structures and vehicles that are intended for connection to low-voltage a.c. supply systems (i.e. exceeding 50 V a.c. but not exceeding 1 000 V a.c.).

For the purposes of this Standard the term ‘transportable structure’ includes both vehicles and structures with or without wheels that can readily be moved from one site to another either under their own motive power or by some other means.

A1 | This Standard includes additional requirements to those detailed in AS/NZS 3000 for the electrical wiring of transportable structures and for any electrical installations intended to provide a low voltage supply for transportable structures by a supply lead or detachable connection that can be connected by unskilled persons. Such installations include those in caravan parks and camping areas with powered sites but exclude those in fairgrounds and temporary camping sites, which are subject to the requirements of AS/NZS 3002, and those in construction and demolition sites, which are subject to the requirements of AS/NZS 3012.

A1 | **1.1.2 Inclusions**

Transportable structures include the following:

- (a) Vehicles offering accommodation, including caravans, camper vans, motor homes, camper trailers and livestock or car transporters with accommodation included.
- (b) Vehicles such as food and drink vending vans and trailers, walk-through educational display caravans and trailers, mobile classrooms and television outside broadcast vans.
- (c) Transportable structures such as relocatable homes, transportable huts, tents for accommodation, and rigid and non-rigid annexes to vehicles referred to in (a) and (b).
- (d) Temporary site offices, cloakrooms, meeting offices, dormitories, canteens, toilets or other facilities provided on construction and demolition sites.

NOTE: Specific construction or demolition activities are subject to the requirements of AS/NZS 3012.

- (e) Display units not intended for occupation, e.g. mobile electronic score boards and advertising signs, mobile traffic information signs.
- (f) In New Zealand, mobile medical connectable installations complying with the requirements of this Standard. NZ

NOTE: Further requirements for mobile medical connectable installations can be found in NZS 6115.