

Australian/New Zealand Standard™

**Electrical installations—Marinas and
boats**

Part 1: Marinas



AS/NZS 3004.1:2014

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-057, Boating and Boating Marinas Installations. It was approved on behalf of the Council of Standards Australia on 7 May 2014 and on behalf of the Council of Standards New Zealand on 6 June 2014. This Standard was published on 27 June 2014.

The following are represented on Committee EL-057:

Australian Corrosion Association
Australian Industry Group
Boating Industries Alliance of Australia
Electrical Contractors Association of New Zealand
Electrical Regulatory Authorities Council
Electrical Safety Organisation, New Zealand
Energy Networks Association
Marina Industries Association of Australia
Marine Queensland
New Zealand Marina Operators
New Zealand Motor Caravan Association

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 Standards may also be withdrawn.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 Web Shop at www.saiglobal.com.au or Standards New Zealand website 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 AS/NZS 3004.1.

Australian/New Zealand Standard™

Electrical installations—Marinas and boats

Part 1: Marinas

Originated in Australia as part of AS 3004—1979.
Originated in New Zealand as part of AS/NZS 3004:2002.
Previous edition AS/NZS 3004.1:2008.
Second edition 2014.

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).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-057, Boating and Boating Marinas Installations, to supersede AS/NZS 3004.1:2008, *Electrical installations—Marinas and recreational boats*, Part 1: Marinas.

Compliance with this Standard may be required by legislation, from a date to be set by the relevant regulating authority.

This Standard is part of a series, which includes the following:

- AS/NZS
- 3004 Electrical installations—Marinas and boats
- 3004.1 Part 1: Marinas (this Standard)
- 3004.2 Part 2: Boat installations

The objective of this Standard is to specify safety requirements for electrical installations associated with marinas.

It is not the intention of this Standard to limit the introduction and use of emerging technologies. However, designers are reminded that it is essential that the basic tenets of electrical and marine safety be addressed before any other equipment and installation design elements are considered.

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

‘In Australia.....’



‘In New Zealand.....’



The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

currently in preview, click buy full vers...

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	4
1.2 APPLICATION	4
1.3 REFERENCED DOCUMENTS.....	4
1.4 DEFINITIONS	5
1.5 ALTERATIONS, ADDITIONS AND REPAIRS.....	6
1.6 MARINE ENVIRONMENT ELECTRICAL SAFETY CONSIDERATIONS	6
1.7 MINIMIZATION OF GALVANIC CORROSION	6
1.8 ACCEPTABLE METHODS OF CONNECTION TO BOATS	7
1.9 BERTHING INSTRUCTIONS FOR CONNECTION TO THE MARINA LOW-VOLTAGE ELECTRICAL SUPPLY	7
SECTION 2 MARINA ELECTRICAL INSTALLATIONS	
2.1 WIRING DETAILS	8
2.2 MAXIMUM DEMAND OF MAINS AND SUBMAINS	9
2.3 ISOLATING TRANSFORMERS	9
2.4 SWITCHBOARDS PROVIDING LOW-VOLTAGE ELECTRICAL SUPPLY TO BOATS.....	9
2.5 OTHER SOCKET-OUTLETS	12
SECTION 3 CONNECTION OF BOATS TO A MARINA LOW-VOLTAGE ELECTRICAL INSTALLATION	
3.1 SUPPLY LEAD.....	13
3.2 INSTALLATION OF SUPPLY LEAD.....	13
3.3 EARTHING.....	14
SECTION 4 NEW INSTALLATIONS OR ADDITIONS	
4.1 GENERAL.....	15
4.2 PERIODIC VERIFICATION—AUSTRALIA.....	15
4.3 PERIODIC VERIFICATION—NEW ZEALAND.....	15
APPENDICES	
A BERTHING INSTRUCTIONS FOR CONNECTION TO THE MARINA LOW- VOLTAGE ELECTRICAL SUPPLY THROUGH A SHORE-MOUNTED ISOLATING TRANSFORMER	17
B BERTHING INSTRUCTIONS FOR CONNECTION TO THE MARINA LOW- VOLTAGE ELECTRICAL SUPPLY THROUGH AN ON-BOARD ISOLATING TRANSFORMER OR WITHOUT AN ISOLATING TRANSFORMER.....	18
C MARINA LOW-VOLTAGE ELECTRICAL SUPPLY CONFIGURATIONS	19
D CALCULATION OF MAXIMUM DEMAND	21
E SAMPLE CERTIFICATION OF VERIFICATION—NEW ZEALAND ONLY	23

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard
Electrical installations—Marinas and boats

Part 1: Marinas

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for electrical installations associated with marinas supplied by low-voltage a.c. supply systems (i.e. exceeding 50 V a.c. but not exceeding 1000 V a.c.).

The Standard includes requirements for electrical installations in marinas intended to supply electrical power to boats.

NOTE: The requirements for installations in boats are given in AS/NZS 3000.2.

This Standard includes requirements for the periodic inspection and testing of marinas.

1.2 APPLICATION

Electrical installations in marinas shall be carried out in accordance with AS/NZS 3000, except as varied herein, and with the applicable additional requirements of this Standard.

NOTE: The relevant electrical safety authority might choose to apply this Standard to other installations, e.g. mooring facilities for commercial fishing boats.

The relevant electricity distributor may have additional requirements.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
2832	Cathodic protection of metals (series)
60529	Degrees of protection provided by enclosures (IP Code)
AS/NZS	
3000	Electrical installations (known as the Australian/New Zealand Wiring Rules)
3004	Electrical installations—Marinas and boats
3004.1	Part 2: Boat installations
3112	Approval and test specification—Plugs and socket-outlets
3123	Approval and test specification—Plugs, socket-outlets and couplers for general industrial application
3760	In-service safety inspection and testing of electrical equipment
61009	Residual current operated circuit-breakers with integral overcurrent protection for household and similar uses (RCBOs)
61009.1	Part 1: General rules (IEC 61009-1, Ed. 3.0 (2010) MOD)