

Australian Standard<sup>®</sup>

---

**Electrical installations—Marinas  
and pleasure craft at low voltage**

---

This Australian Standard was prepared by Committee EL/1, Wiring Rules. It was approved on behalf of the Council of Standards Australia on 19 April, 1993 and published on 14 June 1993.

---

The following interests are represented on Committee EL/1:

Association of Consulting Engineers, Australia  
Australian Chamber of Commerce and Industry  
Australian Consumers Association  
Australian Electrical and Electronic Manufacturers Association  
Department of Administrative Services  
Electrical Contractors Associations of Australia  
Electrical regulatory authorities  
Electrical Trades Union of Australia  
Electricity Supply Association of Australia  
Institute of Electrical Inspectors  
Institution of Engineers, Australia  
Insurance Council of Australia  
Telecom Australia

Additional interests participating in preparation of Standard:

Australasian Corrosion Association  
Maritime Services Board of N.S.W.

---

*Review of Australian Standards.* To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

---

AS 3004—1993

Australian Standard<sup>®</sup>

---

**Electrical installations—Marinas  
and pleasure craft at low voltage**

---

First published as AS 3004—1979.  
Second edition 1983.  
Third edition 1993.

PUBLISHED BY STANDARDS AUSTRALIA  
(STANDARDS ASSOCIATION OF AUSTRALIA)  
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 8247 2

## PREFACE

This Standard was prepared by the Standards Australia Committee on Wiring Rules to supersede AS 3004—1983, *Electrical installations—Marinas and pleasure craft at mains voltage*.

Major alterations to the previous edition are—

- (a) pleasure craft having an on-board generator are not covered by the scope; and
- (b) the use of limitation by circuit breaker to determine the maximum demand of mains and submains in a marina installation.

The superseded edition should continue to apply to existing installations (including refurbishment). This Standard should apply to all new installations, including additions to existing installations, from a date to be set by the regulatory authority.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

## CONTENTS

	<i>Page</i>
<b>SECTION 1 SCOPE AND GENERAL</b>	
1.1 SCOPE . . . . .	4
1.2 APPLICATION . . . . .	4
1.3 REFERENCED DOCUMENTS . . . . .	4
1.4 DEFINITIONS . . . . .	5
1.5 ENVIRONMENT . . . . .	5
<b>SECTION 2 SHORE INSTALLATIONS</b>	
2.1 METHOD OF SUPPLY . . . . .	6
2.2 MAXIMUM DEMAND . . . . .	7
2.3 VOLTAGE DROP . . . . .	8
2.4 DISTRIBUTION BOARDS . . . . .	8
2.5 SOCKET-OUTLETS PROVIDED FOR CONNECTING PLEASURE CRAFT . . . . .	8
2.6 ISOLATING TRANSFORMERS . . . . .	9
<b>SECTION 3 PLEASURE CRAFT INSTALLATION</b>	
3.1 MULTIPLE CONNECTIONS . . . . .	10
3.2 CONNECTING FACILITY ON A PLEASURE CRAFT . . . . .	10
3.3 CONTROL AND PROTECTION . . . . .	10
3.4 NUMBER OF POINTS . . . . .	11
3.5 WIRING . . . . .	11
3.6 EARTHING AND BONDING . . . . .	12
3.7 ACCESSORIES . . . . .	13
3.8 APPLIANCES . . . . .	13
3.9 EXTRA-LOW VOLTAGE TRANSFORMERS . . . . .	14
3.10 ISOLATION OF LOW VOLTAGE WIRING . . . . .	14
<b>SECTION 4 CONNECTION OF A PLEASURE CRAFT TO A SHORE INSTALLATION</b>	
4.1 CORD EXTENSION SET . . . . .	15
4.2 FLEXIBLE CORD OR CABLE . . . . .	15
4.3 PROTECTION . . . . .	16
<b>APPENDIX</b>	
A BERTHING INSTRUCTIONS FOR CONNECTION TO THE SHORE SUPPLY DIRECTLY OR THROUGH AN ON-BOARD ISOLATING TRANSFORMER . . . . .	17
B BERTHING INSTRUCTIONS FOR A SHORE-MOUNTED, TRANSFORMER-ISOLATED SUPPLY . . . . .	18
C TYPICAL METHODS OF OBTAINING LOW VOLTAGE SHORE SUPPLY . . . . .	19
D CONNECTION TERMINOLOGY . . . . .	21

## STANDARDS AUSTRALIA

## Australian Standard

**Electrical installations—  
Marinas and pleasure craft at low voltage**

## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE** This Standard sets out requirements for electrical installations in—

- (a) marinas which provide connections to pleasure craft at low voltage; and
- (b) pleasure craft supplied only from the on-shore power supply system.

NOTE: This Standard does not require specific instruction notices to be provided either on a pleasure craft or at a marina. However, it is recommended that the marina operator provide each pleasure craft operator, intending to connect a pleasure craft to the marina supply, with a copy of an instruction notice containing at least the information set out in Appendix A or Appendix B, as appropriate.

**1.2 APPLICATION** Electrical installations in marinas and pleasure craft shall be carried out in accordance with AS 3000, except as varied herein, and with the applicable additional requirements of this Standard.

Such installations are characterized by the risk of corrosion, movement of structures and mechanical damage.

The relevant regulatory authority may have additional requirements for the electrical installations of marinas and pleasure craft.

**1.3 REFERENCED DOCUMENTS.** The following documents are referred to in this Standard:

## STANDARDS

## AS

- |      |  |
|------|--|
| 1074 | Steel tubes and tubulars for ordinary service                                  |
| 1799 | Small Pleasure Boats Code  |
| 1939 | Degree of protection provided by enclosures for electrical equipment (IP Code) |
| 2053 | Non-metallic conduits and fittings   |
| 3000 | SAA Wiring Rules   |
| 3113 | Electrical installations—Wiring systems for specific applications              |

## APPROVAL AND TEST SPECIFICATIONS

## AS

- |        |  |
|--------|--|
| 3108   | Particular requirements for isolating transformers and safety isolating transformers |
| 3109   | Appliance couplers for household and similar general purposes                        |
| 3109.1 | Part 1: General requirements   |
| 3112   | Plugs and socket-outlets   |