

**AS 3000 Supplement 1—1991**

---

**Electrical installations— Buildings,  
structures and premises—Cable and  
conductor tables (imperial units)**

**(Supplement to AS 3000—1991)**

---



This Supplement was prepared by Committee EL/1, Wiring Rules. It was approved on behalf of the Council of Standards Australia on 16 September 1991 and published on 9 December 1991.

---

The following interests are represented on Committee EL/1:

Association of Consulting Engineers, Australia  
Australian Consumers Association  
Australian Electrical and Electronic Manufacturers Association  
Confederation of Australian Industry  
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  
Institute of Engineers, Australia  
Insurance Council of Australia  
Telecom Australia

Additional interests participating in preparation of Standard:

Major users  
State Government departments and instrumentalities  
State professional associations  
State trade associations

---

*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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.*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.*

For history before 1976 see Preface.  
AS 3000.1 Supplement 1 first published 1976.  
Revised and redesignated AS 3000  
Supplement 1—1981.  
Second edition 1986.  
Third edition 1991.

## PREFACE

This Supplement was prepared by the Standards Australia Committee on Wiring Rules to supersede Supplement 1 (1986) to AS 3000—1986.

However, the information contained herein is the same as in Supplement 1 to AS 3000—1986.

Previous editions of AS 3000 in 1976 and 1981 have had this supplement bound together in one volume. In this edition it has been published as a separate booklet as it is now over 15 years since metric cables came into common use and therefore the need for data on imperial cables is reduced.

Before 1976 the tables were published as an appendix to the Wiring Rules and date back to AS CC1 of 1931.

© 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.

## LIST OF TABLES

1S	DIMENSIONS, WEIGHT, AND RESISTANCE OF SOLID AND STRANDED CIRCULAR SOFT-DRAWN COPPER CONDUCTORS	6
2S	VOLTAGE DROP TABLE—SINGLE-, TWO- AND THREE-CORE CABLES IN CONDUIT OR OTHERWISE ENCLOSED	7
3S	CURRENT RATINGS FOR SINGLE-CORE CABLES IN CONDUIT OR SIMILAR TYPES OF ENCLOSURES	8
4S	CURRENT RATINGS FOR SINGLE-CORE 250 V AND 660 V INSULATED AND SHEATHED CABLES WITH COPPER CONDUCTORS	9
5S	CURRENT RATINGS FOR TWO-CORE 250 V AND 660 V INSULATED AND SHEATHED CABLES WITH COPPER CONDUCTORS WITH OR WITHOUT ARMOUR AND/OR SERVING	10
6S	CURRENT RATINGS FOR THREE-CORE AND FOUR-CORE 250 V AND 660 V INSULATED AND SHEATHED ARMoured AND UNARMoured CABLES WITH COPPER CONDUCTORS	11
7S	CABLES IN AIR—CORRECTION FACTORS FOR CABLES 7/036 INCH AND LARGER	11
8S	CABLES IN AIR—CORRECTION FACTORS FOR CABLES SMALLER THAN 7/036 INCH	12
9S	CABLES BURIED DIRECT IN GROUND OR IN UNDERGROUND DUCTS—CORRECTION FACTORS	12
10S	CURRENT RATING OF FLEXIBLE CORDS	12
11S	CURRENT RATING OF FLEXIBLE CABLES	13
12S	AERIAL CONDUCTORS—COVERED OR INSULATED—CURRENT RATING	14
13S	AERIAL CONDUCTORS—BARE HARD-DRAWN—CURRENT RATING	14
14S	SINGLE-CORE IMPREGNATED PAPER INSULATED LEAD SHEATHED CABLES (UNARMoured) IN PIPES OR DUCTS IN THE GROUND—CURRENT RATING	15
15S	TWO-CORE AND MULTICORE IMPREGNATED PAPER INSULATED LEAD SHEATHED CABLES (ARMoured OR UNARMoured, AND SERVED) IN PIPES OR DUCTS IN THE GROUND—CURRENT RATING	16
16S	SINGLE-CORE IMPREGNATED PAPER INSULATED LEAD SHEATHED CABLES (ARMoured OR UNARMoured, AND SERVED) BURIED DIRECT IN THE GROUND—CURRENT RATING	17
17S	TWO-CORE AND MULTICORE IMPREGNATED PAPER INSULATED LEAD SHEATHED ARMoured AND SERVED CABLES BURIED DIRECT IN THE GROUND—CURRENT RATING	17

## STANDARDS AUSTRALIA

## Australian Standard

Electrical installations—Buildings, structures and premises—  
Cable and conductor tables (imperial units)

(Supplement 1 to AS 3000—1991)

**1 SCOPE.** This Supplement to AS 3000 contains cable and conductor tables in imperial units intended for use during the period when both imperial and metric cables are available. The ratings are also intended for use when alterations and additions are made to existing installations having imperial cables.

**NOTES:**

- 1 The information contained in the tables is essentially the same as in Appendix B of the 1969 edition of AS 3000 (AS CC1, Part 1—1969), Supplement 1 of the 1976 edition, Supplement 1 of the 1981 edition and Supplement 1 to the 1986 edition.
- 2 For cables and methods of installation not included in the tables, reference should be made to Report T 183, issued by ERA Technology Limited, United Kingdom.

**2 TYPES OF CONDUCTOR.** The following tables, unless stated otherwise, refer to conductors of high-conductivity copper.

**3 CURRENT RATINGS FOR ALUMINIUM CONDUCTORS.** The current carrying capacity of aluminium conductors shall be taken as 80 percent of that given in the following tables for copper conductors of equivalent cross-sectional area except where specific values are included for aluminium conductors.

**4 METRIC CONVERSION FACTORS.** The dimensions given in the following tables are in imperial units. The following conversion factors may assist where measurements have been made in metric units:

Mass	1.0 lb	= 0.454 kg
Length	1.0 in	= 25.4 mm
	1.0 ft	= 0.305 m
	1.0 yd	= 0.914 m
Area	1.0 sq in	= 645 mm <sup>2</sup>
Voltage drop	1.0 volt	
	per ampere	
	per 100 ft route length	= 32.8 mV/A.m

**5 EFFECT OF BULK THERMAL INSULATION.** The requirements concerning the effect of thermal insulation contained in Clause 2.2.2.2 shall be applied to imperial cables having a size of 7/0.036 or larger.