



**Standards  
Association of  
Australia**



# **Australian Standard<sup>®</sup> 3560—1988**

## **ELECTRIC CABLES— AERIAL BUNDLED— VOLTAGES UP TO AND INCLUDING 0.6/1 kV**

[Title allocated by Defence Cataloguing Authority: CABLE, POWER, ELECTRICAL  
(Aerial, for Voltages up to and including 0.6/1 kV) NSC 6145]



This Australian Standard was prepared by Committee EL/3, Electric Wires and Cables. It was approved on behalf of the Council of the Standards Association of Australia on 4 March 1988 and published on 5 April 1988.

---

The following interests are represented on Committee EL/3:

Australian Electrical and Electronic Manufacturers Association Ltd  
Confederation of Australian Industry  
Department of Defence  
Department of Industrial Relations and Employment, New South Wales  
Department of Transport and Communications  
Electrical Contractors Associations of Australia  
Electrical Regulatory Authorities  
Electricity Supply Association of Australia  
Electrical testing laboratories  
Railways of Australia Committee

Additional interests participating in preparation of Standard:

Australian Porcelain Insulators Association  
Electrical and Radio Federation of Victoria

---

*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 SAA publications will be found in the Catalogue of SAA Publications; this information is supplemented each month by SAA's journal '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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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 the Association, 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.

---

This Standard was issued in draft form for comment as DR 87261.

**AUSTRALIAN STANDARD**

**ELECTRIC CABLES—  
AERIAL BUNDLED—  
VOLTAGES UP TO AND  
INCLUDING 0.6/1kV**

**AS 3560—1988**

First published as AS 3560—1988/

**PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA  
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.**

**ISBN 0 7262 4959 9**

## PREFACE

This Standard was prepared by the Association's Committee on Electric Wires and Cables and is based on a draft Standard prepared by representatives from the Electricity Supply Association of Australia and Australian cable manufacturers.

The Standard applies to aerial bundled cables (ABC) intended for power distribution and electric lines operating at voltages up to and including 0.6/1 kV.

Construction, dimensions and test requirements are specified for cables of two, three and four cores, each being of equal size and type in conductor sizes of 25, 35, 50, 70, 95, 120 and 150 mm<sup>2</sup>.

A guide to the selection of cables for specific applications is given in Appendix D.

## CONTENTS

	<i>Page</i>
<b>SECTION 1. SCOPE AND GENERAL</b>	
1.1 SCOPE	3
1.2 REFERENCED DOCUMENTS	3
1.3 DEFINITIONS	3
<b>SECTION 2. CONSTRUCTION</b>	
2.1 CONDUCTORS	4
2.2 INSULATION	4
2.3 IDENTIFICATION OF CORES	4
2.4 LAYING UP OF CORES	4
2.5 MANUFACTURER'S IDENTIFICATION	4
2.6 DRUMS	4
2.7 DRUMMING AND SEALING	4
2.8 MARKING OF DRUMS	6
<b>SECTION 3. TESTS</b>	
3.1 ROUTINE TESTS	8
3.2 SPECIAL TESTS	8
3.3 TYPE TESTS	8
<b>APPENDICES</b>	
A TEST FOR CONDUCTOR BREAKING LOAD	10
B MEASUREMENT OF RIB DIMENSIONS	11
C TEST FOR ADHESION OF INSULATION TO THE CONDUCTOR	13
D A GUIDE TO CABLE SELECTION	15

© Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1988

Users of Standards are reminded that copyright subsists in all SAA publications. Except where the Copyright Act otherwise allows, no part of this publication may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing of the Standards Association of Australia. Requests for permission should be directed to the Head Office of the Association. Where such requests relate to the reproduction of the whole or a substantial part of any Standard, permission may be conditional on an appropriate royalty payment.

## STANDARDS ASSOCIATION OF AUSTRALIA

## Australian Standard

## ELECTRIC CABLES—AERIAL BUNDLED—VOLTAGES UP TO AND INCLUDING 0.6/1 kV

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This Standard specifies the construction, dimensions, and test requirements for aerial bundled cables (ABC), cross linked polyethylene (XLPE) insulated, of two, three or four core construction, having conductors of equal size and type in sizes of 25, 35, 50, 70, 95, 120 and 150 mm<sup>2</sup> and having a voltage rating of 0.6/1 kV.

A guide to the selection of cables is provided in Appendix D.

Preferred sizes are 25, 50 and 95 mm<sup>2</sup>.

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

- AS  
 1049 Telecommunication cables—Insulation and sheath—Polyethylene  
 1125 Conductors in insulated electric cables, and flexible cords  
 1531 Aluminium conductors for overhead power transmission purposes  
 Part 1: All-aluminium conductors (AAC) (AS 1531.1)  
 1660 Methods of test for electric cables, cords and conductors  
 Part 1: Conductors and metallic components (AS 1660.1)  
 Part 2: Insulation, extruded semi-conductive screens and non-metallic sheaths (AS 1660.2)  
 Part 3: Electrical tests (AS 1660.3)  
 2193 Methods for calibration and grading of force-measuring system of testing machines  
 2857 Timber drums for insulated electric cables and bare conductors  
 3000 The electrical installations of buildings, structures and premises (SAA Wiring Rules)  
 3008 Electrical installations—Selection of cables  
 Part 1: Cables for alternating voltages up to and including 0.6/1 kV (AS 3008.1)

**1.3 DEFINITIONS.** For the purpose of this Standard, the definitions given in the referenced Standards and those below apply:

**1.3.1 Core (of a cable)**—the conductor with its insulation.

**1.3.2 Voltage designation**—for cables for a.c. systems, the rated voltages  $U_0$  and  $U$  expressed in the form  $U_0/U$ ; or of cables for d.c. systems, the rated voltage  $U_0$ :

where—

$U_0$  is the r.m.s. power frequency voltage to earth of the supply system or d.c. voltage of the supply system for which the cable is designed; and

$U$  is the r.m.s. power frequency voltage between phases of the supply system and for which the cable is designed.

**1.3.3 Direction of lay of cores**—the slope of the helically laid up cores, when the cable is held vertically.

It is right hand when the slope is in the direction of the central part of the letter Z, and left hand when the slope is in the direction of the central part of the letter S.

**1.3.4 Length of lay**—the axial distance between successive turns of the helix formed, as appropriate, e.g. by a core of a multicore cable, wire of a stranded conductor.

**1.3.5 Approximate value**—a value which is neither guaranteed nor checked; it is used, for example, for the calculation of other dimensional values.

**1.3.6 Routine tests**—tests made by the manufacturer on all cores and all production lengths of finished cable to demonstrate the integrity of the cable.

**1.3.7 Special tests**—tests made by the manufacturer on samples of completed cables or components taken from completed cables, at a specified frequency so as to verify that the finished product meets the design specification.

NOTE: These tests are only made if requested by the purchaser at the time of ordering.

**1.3.8 Type tests**—tests required to be made by a manufacturer before supplying on a general commercial basis a type of cable covered by this Standard, in order to demonstrate satisfactory performance characteristics to meet the intended application. These tests are of such a nature that, after they have been made, they need not be repeated, unless changes are made in the cable materials or design which might change the performance characteristics.