

Australian Standard[®]

**APPROVAL AND TEST
SPECIFICATION FOR OVERHEAD
LINE CONNECTOR BOXES**

[Title allocated by Defence Cataloguing Authority: CIRCUIT-
BREAKER BOX; FUSE BOX; TERMINAL BOX (Overhead Line)]

The following scientific, industrial and governmental organizations and departments were officially represented on the committee entrusted with the preparation of this standard.

- Association of Consulting Engineers Australia
- Australian Electrical and Electronic Manufacturers Association
- Confederation of Australian Industries
- Department of Housing and Construction
- Department of Industry and Commerce
- Department of Public Works, N.S.W.
- Electrical Contractors Associations of Australia
- Electrical regulatory authorities
- Electricity Supply Association of Australia
- Plastics Institute of Australia Incorporated
- Railways of Australia Committee
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First published (as AS C124)	1939
Second edition	June 1958
AS 3124 first published	1982
Incorporating:	
Amdt 1—1985	

This standard was issued in draft form for comment as DR 80265.

PREFACE

This specification, prepared by the Association's Committee on Electrical Accessories, was approved on behalf of the Council of the Standards Association of Australia on 17 December 1982 and was published on 5 April 1982.

It is one of a series of approval and test specifications issued by the Association. These specifications are accompanied by a general specification AS 3100, Definitions and General Requirements for Electrical Materials and Equipment. The purpose of these specifications is to outline conditions which must be met to secure approval for the sale and use of electrical equipment in Australia. Only safety matters and related conditions are covered.

This edition includes requirements for the use of protective devices, i.e. circuit-breakers and fuses in the connector boxes, and for terminals for aluminium conductors.

This specification supersedes AS C124—1958 from the date of publication.

This specification requires reference to the following Australian Standard Approval and Test Specifications:

AS 3100 Definitions and General Requirements for Electrical Materials and Equipment

AS 3111 Miniature Overcurrent Circuit-breakers

AS 3300 General Requirements for Household and Similar Electrical Appliances

and to the following Australian standards:

AS 1856 Electroplated Coatings of Silver for Engineering Applications

AS 1939 Classification of Degrees of Protection Provided by Enclosures for Electrical Equipment

AS 2005 Fuses with Enclosed Fuse-Links (Up to and Including 1000 V a.c. and 1500 V d.c.)

AS 2052 Metallic Conduits and Fittings

AS 2420 Fire Test Methods for Solid Insulating Materials and Non-metallic Enclosures Used in Electrical Equipment

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
APPROVAL AND TEST SPECIFICATION
FOR
OVERHEAD LINE CONNECTOR BOXES

This specification should be read in conjunction with AS 3100. (See also Clause 3, below)

1 SCOPE. This specification applies to fixed devices for connecting low or medium voltage overhead lines to —

- (a) fixed wiring; and
- (b) overhead lines.

Such devices include those fitted with fuses or circuit-breakers.

2 DEFINITIONS. For the purpose of this specification, the following definitions apply:

2.1 Overhead line connector box — an electrical accessory intended for the connection of conductors as detailed under Clause 1 and hereinafter referred to as a 'connector box'.

2.2 Terminal — a connecting device, other than a fuse-contact, which is fitted or incorporated in a connector box for the purpose of effecting a connection between conductors.

3 COMPLIANCE WITH SPECIFICATIONS.

3.1 General Requirements of AS 3100. This specification shall be read in conjunction with AS 3100 and the appropriate provisions of AS 3100 shall apply to the construction of the connector box and the insulation and/or safeguarding of parts which normally carry current.

3.2 Specific Requirements of This Specification. A connector box shall be deemed to comply with this specification only if it complies with all the requirements of this specification and passes the relevant tests specified herein.

3.3 Requirements of Other Specifications. Components incorporated in a connector box which are depended upon for safety shall comply with the appropriate requirements of any relevant approval and test specification unless such requirements are varied herein.

4 DESIGN AND CONSTRUCTION.

4.1 Electrical Insulating Material. Terminals shall be mounted so that double insulation is provided between any terminal and external metal including mounting facilities.

4.2 Mounting. A connector box shall be provided with means for securely attaching the connector box in position.

4.3 Housing. The connector box shall provide adequate space and suitable entry for the proper connection of the marked range of cable types and sizes.

Any connector box designed specifically for use with single-core aerial conductors shall in addition provide a separate entry for each such conductor.

Any entry through which a cable may pass shall be shaped to prevent undue abrasion of the insulation, braiding or sheathing of a cable.

Any screwed conduit entry shall have a threadform in accordance with AS 2052.

The enclosure of the connector box shall provide the degree of protection IP23 in accordance with AS 1939 when the connector box is assembled as indicated in Clause 8.2.

NOTE: Some purchasers may require any fuse or circuit-breaker within the enclosure to be mounted in such a position that the fuse carrier can be replaced or the circuit-breaker can be reset from below by means of an operating handle.

4.4 Metal Parts. Any metal part, including springs, shall either be inherently resistant to corrosion or be suitably treated to resist corrosion.

5 CONNECTING FACILITIES.

5.1 Material. Untinned copper alloy shall not be used for neutral terminals or terminals intended for aluminium conductors.

Terminals intended for copper conductors shall not be of aluminium.

Terminals intended for use with both copper and aluminium conductors shall be galvanically compatible with both copper and aluminium.

NOTE: Attention is drawn to the requirements of AS 3000 which specifies a minimum of 16 mm² for aluminium aerial conductors.

5.2 Construction. The terminals, pressure plates, pads and other metal parts, shall be of such form and dimensions that the electrical conductivity of a properly completed junction of the conductors is at least equal to that of the largest cable which may be accommodated.

5.3 Terminal Facilities. The terminals shall provide for the separate clamping of incoming and outgoing conductors independently of each other.

Pressure pads, plates or the like shall be held captive or effectively retained in position.

Tunnel-type terminals intended for aluminium conductors shall not allow the conductors to be clamped directly by screws other than those designed to evenly distribute stress and break the oxide film on the conductors.

5.4 Terminal Dimensions. All threaded fastenings used for the connection of conductors shall pass the test of Clause 8.5.

Clamping screws in tunnel type terminals shall be arranged in one of the following ways: