AS 3766—1990

Australian Standard®

Mechanical fittings for low voltage aerial bundled cables

This Australian Standard was prepared by Committee EL/10, Overhead Lines. It was approved on behalf of the Council of Standards Australia on 21 March 1990 and published on 16 July 1990.

The following interests are represented on Committee EL/10:

Australian Electrical and Electronic Manufacturers Association

Australian Porcelain Insulators Association

Confederation of Australian Industry

Electrical and Radio Federation of Victoria

Electricity Supply Association of Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee on Overhead Lines with the close cooperation of representatives from the Electricity Supply Association of Australia and Australian manufacturers of overhead power line fittings.

The Standard sets out performance and general requirements for fittings designed specifically for use with the insulated aerial cables, manufactured to AS 3560, *Electric cables — Aerial bundled — Voltages up to and including 0.6/1 kV*. The particular fittings covered by this Standard are as follows:

(a) Strain clamps.

(b) Tension joints.

(c) Suspension clamps.

(d) Pole fittings.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE. This Standard sets out performance and general requirements for mechanical fittings and dedicated pole fittings to support low voltage aerial bundled cables manufactured in accordance with AS 3560.

This Standard allows specified components to fail under external mechanical overloads. The design philosophy for this controlled failure mechanism is defined in Appendix A.

NOTE: Appendix B contains the information which should be supplied by the purchaser at the time of enquiry and order.

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

AS
1110 ISO metric hexagon precision bolts and screws

1111 ISO metric hexagon commercial bolts and screws

1112 ISO metric hexagon nuts, including thin nuts, slotted nuts and castle nuts

1154 Insulator and conductor fittings for overhead power lines
1154.1 Part 1: Performance and general requirements

1214 Hot-dip galvanized coatings on threaded fasteners (ISO metric course thread series)

1390 Metric cup head bolts

1442 Carbon steels and carbon-manganese steels — Hot-rolled bars and semi-finished products

1650 Hot-dipped galvanized coatings on ferrous articles

1660 Methods of test for electric cables, cords and conductors
1660.2 Part 2: Insulation, extruded semi-conductive screens and non-metallic sheaths

3100 Approval and test specification — Definitions and general requirements for electrical materials and equipment

3560 Electric cables — Aerial bundled voltages up to and including 0.6/1 kV.

3902 Quality systems for production and installation

1.3 DEFINITIONS. For the purpose of this Standard the definitions given in AS 3560 and the following apply.

1.3.1 Aerial bundled cable (ABC) — a cable manufactured in accordance with AS 3560.

1.3.2 Cable — complete laid-up assembly of the required number of cores.

1.3.3 Component — individual item forming part of a fitting.

1.3.4 Conductor — assembly of stranded, laid-up wires without insulation.

1.3.5 Controlled failure fitting — any fitting for which both minimum and maximum failing loads are specified (see Appendix A).

1.3.6 Core (of a cable) — conductor with its insulation.

1.3.7 Fitting — complete assembly which can be applied to secure an aerial bundled cable.

1.3.8 Mains — the supply authority's electrical circuit, formed in this case by one or more aerial bundled cables.

1.3.9 Maximum failing load (MaxFL) — the highest value of mechanical load under which a fitting or component may fail.

1.3.10 Minimum breaking load (MBL) — the lowest value of mechanical load at which the core, or cable as appropriate, may break.

1.3.11 Minimum failing load (MinFL) — the lowest value of mechanical load under which a fitting or component may fail.

1.3.12 Nominated cable tension (NCT) — the value of tension in an aerial bundled cable given in Table 1.1.

1.3.13 Secondary damage — damage to the cable after a mechanical fitting failure.