

Australian Standard[®]

**Insulator and conductor fittings for
overhead power lines**

**Part 3: Performance and general
requirements for helical fittings**



This Australian Standard® was prepared by Committee EL-010, Overhead Lines. It was approved on behalf of the Council of Standards Australia on 4 November 2008. This Standard was published on 12 February 2009.

The following are represented on Committee EL-010:

- Australasian Railway Association
 - Australian Chamber of Commerce and Industry
 - Australian Electrical and Electronic Manufacturers Association
 - Australian Porcelain Insulators Association
 - Electricity Engineers Association, New Zealand
 - Energy Networks Association
-

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overhead power lines**

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-010, Overhead Lines, to supersede AS 1154.3—1985.

This Standard is one of a two-part series covering insulator and conductor fittings for overhead lines as follows:

Part 1: Performance, material, general requirements and dimensions, which combines the former Part 1 and Part 2.

Part 3: Performance and general requirements for helical fittings (this Standard).

The nature of helical fittings is such that they may be used for applications other than those for which they were specifically designed. In this Standard, only the primary function is considered and tests appropriate to that function are stipulated.

The use of fittings for purposes other than those for which they were designed is a matter for negotiation between the purchaser and supplier.

For the purpose of this Standard, helical fittings are separated into two main groups, those for bare conductors and those for insulated conductors. Helical fittings for bare conductors are further subdivided into three classes as follows:

- (a) Fittings that act as anchors to attach conductors under tension to structures and fittings used for joining two conductors that will be used under tension.
- (b) Fittings that grip a conductor and resist longitudinal slip and attach the conductor to an insulator set or other support device.
- (c) Fittings intended to protect a conductor from the electrical and/or mechanical stresses to which it may be subjected in service. This class also includes fittings intended for the repair of damaged conductors, to restore full electrical and mechanical integrity.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	4
1.2 REFERENCED AND RELATED DOCUMENTS	4
1.3 DEFINITIONS	5
1.4 GENERAL REQUIREMENTS	6
1.5 GENERAL REQUIREMENTS FOR TESTS.....	6
1.6 VERIFICATION OF DIMENSIONS	7
1.7 COLOUR CODES FOR HELICAL FITTINGS.....	7
SECTION 2 ANCHOR AND TENSION FITTINGS	
2.1 ITEMS TO BE SPECIFIED BY THE PURCHASER OR DECLARED BY THE MANUFACTURER	9
2.2 TYPE TEST FOR GLUE.....	10
2.3 MECHANICAL STRENGTH TYPE TESTS	10
2.4 ELECTRICAL TYPE TESTS	12
2.5 BATCH TESTS.....	14
SECTION 3 SUSPENSION AND SUPPORT FITTINGS	
3.1 SPECIFICATION DETAILS—ITEMS TO BE SPECIFIED BY THE PURCHASER OR DECLARED BY THE MANUFACTURER.....	15
3.2 MECHANICAL STRENGTH TYPE TESTS	16
3.3 MECHANICAL STRENGTH AND OPTICAL TYPE TESTS FOR FITTINGS FOR OPGW CABLES	20
3.4 ELECTRICAL TYPE TEST—SHORT-TIME CURRENT TEST	20
3.5 BATCH TESTS	21
SECTION 4 REPAIR AND PROTECTIVE FITTINGS	
4.1 ITEMS TO BE SPECIFIED BY THE PURCHASER OR DECLARED BY THE MANUFACTURER	22
4.2 REPAIR FITTINGS	23
4.3 PROTECTIVE FITTINGS.....	23
4.4 BATCH TESTS	24

STANDARDS AUSTRALIA

Australian Standard

Insulator and conductor fittings for overhead power lines

Part 3: Performance and general requirements for helical fittings

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies performance and general requirements for helical fittings for use on overhead electric power lines.

Helical fittings for overhead lines, including OPGW and ADSS and stays, consist of sets of rods, each of which has been formed into an open helix having normally the same direction of lay as the outer strands of the conductor to which it is applied. In installation, the rods are wrapped in accordance with the manufacturer's recommendations around a conductor, cable or stay having a diameter somewhat greater than the internal diameter of the fitting.

1.2 REFERENCED AND RELATED DOCUMENTS**1.2.1 Referenced documents**

The following documents are referred to in this Standard:

AS

- | | |
|--------|---|
| 1154 | Insulator and conductor fittings for overhead power lines |
| 1154.1 | Part 1: Performance, material, general requirements and dimensions |
| 1214 | Hot-dip galvanized coatings on threaded fasteners (ISO metric coarse thread series) |
| 1852 | International electrotechnical vocabulary |
- AS/NZS
- | | |
|--------|---|
| 2947 | Insulators—Porcelain and glass for overhead power lines—Voltages greater than 1000 V a.c. |
| 2947.1 | Part 1: Test methods—Insulator units |
| 4534 | Zinc and zinc/aluminium-alloy coatings on steel wire |

1.2.2 Related documents

This Standard may also require reference to the following documents:

AS

- | | |
|--------|--|
| 1111 | ISO metric hexagon commercial bolts and screws—Product grade C (all parts) |
| 1112 | ISO metric hexagon nuts (all parts) |
| 1222 | Steel conductors and stays—Bare overhead |
| 1222.1 | Part 1: Galvanized (SC/GZ) |
| 1531 | Conductors—Bare overhead—Aluminium and aluminium alloy |
| 1997 | Plain limit gauges (metric series) |
| 3607 | Conductors—Bare overhead, aluminium and aluminium alloy—Steel reinforced |