AS/NZS 2947.2:2002

AS/NZS 2947.2

Australian/New Zealand Standard™

# Insulators—Porcelain and glass for overhead power lines— Voltages greater than 1000 V a.c.

## Part 2: Characteristics

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-010, Overhead Lines. It was approved on behalf of the Council of Standards Australia on 13 August 2002 and on behalf of the Council of Standards New Zealand on 2 October 2002. It was published on 25 October 2002.

The following are represented on Committee EL-010:

Australasian Railway Association
Australian Chamber of Commerce and Industry
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Porcelain Insulators Association
Electricity Engineers Association of New Zealand
Electricity Supply Association of Australia

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

*This Standard was issued in draft form for comment as DR 95266.*

Australian/New Zealand Standard™

# Insulators—Porcelain and glass for overhead power lines— Voltages greater than 1000 V a.c.

## Part 2: Characteristics

Originated as part of AS C67—1939 and AS C67 Supplement—1947.
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# PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee on Overhead lines to supersede AS 2947.2—1989.

The objective of this Standard is to provide manufacturers and suppliers with specifications of the characteristics and dimensions of particular types of porcelain and glass insulators.

Major changes to the previous edition are as follows:

(a) Changes to the designations and dimensions of pin insulator units.

(b) Alignment of insulation withstand voltages with AS 1824.1—1995, *Insulation co-ordination*, Part 1: *Definitions, principles and rules*.

(c) The addition of requirements for string insulator units for use in polluted conditions.

(d) Omission of string insulator units with a failing load of 190 kN.

This Standard is Part 2 of a three-part Standard arranged as follows:

AS/NZS

| | |
|---|---|
| 2947 | Insulators—Porcelain and glass for overhead power lines—Voltages greater than 1000 V a.c. |
| 2947.1 | Part 1: Test methods |
| 2947.2 | Part 2: Characteristics (this Standard) |
| 2947.3 | Part 3: Couplings |

In the preparation of this Standard, consideration was given to the following IEC Standards:

| | |
|---|---|
| IEC 60305 | Insulators for overhead lines with a nominal voltage above 1000 V—Ceramic or glass insulator units for a.c. systems—Characteristics of insulator units of the cap and pin type |
| IEC 60433 | Characteristics of string insulator units of the long rod type |
| IEC 60720 | Characteristics of line post insulators |

Acknowledgment is made of the assistance received from those sources.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An informative appendix is for information and guidance only.

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**Australian/New Zealand Standard**

# Insulators—Porcelain and glass for overhead power lines—Voltages greater than 1000 V a.c.

## Part 2: Characteristics

## SECTION 1 SCOPE AND GENERAL

### 1.1 SCOPE

This Standard specifies electrical and mechanical characteristics and principal dimensions for porcelain and glass insulators of the following types:

(a) String insulator units of the cap and pin type.

(b) String insulator units of the long rod type.

(c) Line post insulators.

(d) Pin insulators.

This Standard does not apply to insulators for electric traction lines which use special metal fittings.

NOTES:

1 Ball and socket couplings and clevis and tongue couplings are specified in AS 2947.3.

2 Manufacturers wishing to claim compliance with this Australian/New Zealand Standard on products, on packaging or on related promotional material are advised to ensure that such a claim is capable of being verified.

### 1.2 DEFINITIONS

The definitions given in AS/NZS 2947.1 apply.

### 1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

| | |
|---|---|
| 1154 | Insulator and conductor fittings for overhead power lines |
| 1154.2 | Part 2: Dimensions |
| 1214 | Hot-dip galvanized coatings on threaded fasteners (ISO metric coarse thread series) |
| 1824 | Insulation co-ordination |
| 1824.1 | Part 1: Definitions, principles and rules |
| 2947 | Insulators—Porcelain and glass for overhead power lines—Voltages greater than 1000 V a.c. |
| 2947.1 | Part 1: Test methods—Insulator units |
| 2947.3 | Part 3: Couplings |
| 4436 | Guide for the selection of insulators in respect of polluted conditions |