Australian Standard®

Insulators—Ceramic or glass—Station post for indoor and outdoor use—Voltages greater than 1000 V a.c.

Part 1: Characteristics

[Based on and including the full text of IEC 273:1990, Characteristics of indoor and outdoor post insulators for systems with nominal voltages greater than 1000 V]

This Australian Standard was prepared by Committee EL/10, Overhead Lines. It was approved on behalf of the Council of Standards Australia on 6 May 1996 and published on 5 July 1996.

The following interests are represented on Committee EL/10:

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

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Part 1: Characteristics

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/10 on Overhead Lines.

This Standard is based on and has been reproduced from IEC 273 (1990), *Characteristics of indoor and outdoor post insulators for systems with nominal voltages greater than 1000 V*. For the purposes of this Australian Standard, the IEC text is amended, supplemented or replaced as set out in Appendix ZZ. The changes are indicated by a marginal bar against each clause, table or figure affected by a reference to Appendix ZZ.

This Standard is Part 1 of AS 4398, *Insulators—Ceramic or glass—Station post for indoor and outdoor use—Voltages greater than 1000 V a.c.* The two Parts are as follows:

Part 1: Characteristics
Part 2: Tests

The objective of the two parts of AS 4398 is to provide users and manufacturers of station post insulators with definitions of terms, requirements and acceptance criteria to facilitate the specifications of insulators.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. Appendices designated 'normative' are essential to the understanding or implementation of this Standard.

As this Standard is reproduced from an international Standard, the following applies:

(a) Its number is shown only on the cover and title pages, while the international Standard number appears only on the cover.

(b) In the source text, 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

(d) Where any cross-references to page numbers appear in the text these relate to page numbering in the International Standard and can be disregarded.

References to international Standards should be replaced by equivalent Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
IEC		AS	
71	Insulation co-ordination	1824	Insulation co-ordination
71-1	Part 1: Definitions, principles and rules	1824.1	Definitions, principles and rules
168	Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1000 V.	4398 4398.2	Insulators—Ceramic or glass—Station post for indoor and outdoor use—Voltages greater than 1000 V a.c. Part 2: Tests
506	Switching impulse tests on high-voltage insulators	—	

IEC		AS
660	Tests on indoor post insulators of organic material for systems with nominal voltages greater than 1000 V up to but not including 300 kV	—
815	Guide for the selection of insulators in respect of polluted conditions	—

The following Australian documents are referred to in this Standard.

AS

1111 ISO metric hexagon commercial bolts and screws

1137 Insulators
1137.3 Part 3: Porcelain and glass indoor and outdoor station post insulators (for voltages greater than 1000 V a.c.)

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

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Originated as part of AS 1132.3— 1972.
Previous edition AS 1132.3 — 1981.
Revised and redesignated in part as AS 4398.1— 1996.

AUSTRALIAN STANDARD

Insulators—Ceramic or glass—Station post for indoor and outdoor use—Voltages greater than 1000 V a.c.

Part 1: Characteristics

SECTION ONE—GENERAL

1. **Scope**

This standard applies to post insulators and post insulator units of ceramic material or glass intended for indoor or outdoor service, and to post insulators of organic material intended for indoor service in electrical installations or equipment operating on alternating current systems with a nominal voltage greater than 1000 V and a frequency not greater than 100 Hz. It may also be regarded as a provisional standard for insulators for use on direct current systems.

The insulators covered by this standard are primarily intended for use in isolators (disconnectors) or as bus-bar or fuse supports.

This standard covers five types of post insulators:

a) indoor post insulators of ceramic material or glass and with internal metal fittings;

b) indoor post insulators of organic material and with internal metal fittings;

c) outdoor cylindrical post insulators of ceramic material or glass and with internal metal fittings;

d) outdoor cylindrical post insulators of ceramic material or glass and with external metal fittings;

e) outdoor pedestal post insulators of ceramic material or glass.

The term “cylindrical insulators” is intended to cover insulators of the truncated conical form also.

The five types of insulators are distinguished by their electrical, mechanical and dimensional characteristics. Figures 1, 2, 3, 4 and 5 illustrate typical examples of each type of insulator.

These drawings are only general illustrations and other shapes and constructions are permitted.

2. **Object**

This standard is intended to establish standard values of those electrical characteristics, mechanical characteristics and dimensions which are essential for the interchangeability of post insulators and post insulator units of the same type.