

Australian Standard™

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

**Part 2: Tests  
(IEC 60168, Ed. 4.2 (2001) MOD)**

This Australian Standard was prepared by Committee EL-010, Overhead Lines. It was approved on behalf of the Council of Standards Australia on 21 April 2005. This Standard was published on 24 May 2005.

---

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

---

### **Keeping Standards up-to-date**

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Web Shop at [www.standards.com.au](http://www.standards.com.au) and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.org.au](mailto:mail@standards.org.au), or write to the Chief Executive, Standards Australia, GPO Box 5420, Sydney, NSW 2001.

---

*This Standard was issued in draft form for comment as DR 05020.*

## Australian Standard™

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

## **Part 2: Tests (IEC 60168, Ed. 4.2 (2001) MOD)**

Originated as part of AS 1137.3—1972.  
Revised and redesignated in part as AS 4398.2—1996.  
Second edition 2005.

### **COPYRIGHT**

© Standards Australia

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia, GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 6690 0

## PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee EL-010, Overhead Lines, to supersede AS 4398.2—1996. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian, rather than Australian/New Zealand Standard.

The objective of this Standard is to provide users and manufacturers of station post insulators with definitions and terms, test methods and acceptance criteria to facilitate their specification.

This Standard is an adoption with national modifications and has been reproduced from IEC 60168, Ed. 4.2 (2001), *Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1000 V*.

Variations to IEC 60168, Ed. 4.2 (2001) are indicated at the appropriate places throughout this standard. Strikethrough (~~example~~) identifies IEC text, tables and figures which, for the purposes of this Australian Standard, are deleted. Where text, tables or figures are added, each is set in its proper place and identified by shading (example). Added figures are not themselves shaded, but are identified by a shaded border.

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

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text ‘this international standard’ should read ‘this Australian Standard’.
- (c) A full point should be substituted for a comma when referring to a decimal marker.
- (d) Any French text on figures should be ignored.

The term ‘informative’ is used to define the application of the annex to which it applies. An informative annex is only for information and guidance.

## CONTENTS

	<i>Page</i>
Section 1 - General .....	1
1.1 Scope and object .....	1
1.2 Normative references .....	2
1.3 Definitions .....	3
Section 2 - Insulators .....	6
2.1 Insulator designs and insulating materials .....	6
2.2 Values which characterize a post insulator .....	6
2.3 Identification of insulators .....	7
Section 3 - Classification of the tests, sampling rules and procedures .....	8
3.1 Classification of the tests .....	8
3.2 Quality assurance .....	8
3.3 General requirements for type tests .....	8
3.4 General requirements for sample tests .....	10
Section 4 - Test procedures for electrical tests .....	12
4.1 General requirements for high-voltage tests .....	12
4.2 Standard atmospheric conditions and correction factors for electrical tests .....	12
4.3 Artificial rain parameters for wet tests .....	12
4.4 Mounting arrangements for electrical tests .....	13
4.5 Dry lightning-impulse withstand voltage test – Type test .....	14
4.6 Dry or wet switching-impulse withstand voltage tests – Type test .....	15
4.7 Dry power-frequency withstand voltage test – Type test (applicable only to post insulators for indoor use) .....	16
4.8 Wet power-frequency withstand voltage test – Type test (applicable only to post insulators for outdoor use) .....	16
4.9 Puncture test – Sample test .....	17
4.10 Routine electrical test .....	17
Section 5 - Test procedures for mechanical and other tests .....	19
5.1 Verification of the dimensions – Type and sample test .....	19
5.2 Mechanical failing load test – Type and sample test .....	20
5.3 Test for deflection under load – Special type test .....	22
5.4 Temperature cycle test – Sample test .....	22
5.5 Routine thermal shock test (applicable only to toughened glass insulating parts) .....	23
5.6 Porosity test – Sample test (applicable only to ceramic post insulators) .....	24
5.7 Galvanizing test – Sample test .....	24
5.8 Routine visual inspection .....	26
5.9 Routine mechanical test .....	27
Section 6 - Tests applicable to post insulators .....	29
6.1 Type tests .....	29
6.2 Sample tests .....	29
6.3 Routine tests .....	30
6.4 Summary of tests on post insulators .....	30

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-