AS 4243—1994
IEC 932:1988

Australian Standard®

Additional requirements for enclosed switchgear and controlgear from 1 kV to 72.5 kV to be used in severe climatic conditions

This Australian Standard was prepared by Committee EL/7, Power Switchgear. It was approved on behalf of the Council of Standards Australia on 8 August 1994 and published on 17 October 1994.

The following interests are represented on Committee EL/7:

Australian-British Chamber of Commerce

Australian Electrical and Electronic Manufacturers Association

Electricity Supply Association of Australia

Institution of Engineers, Australia

Railways of Australia Committee

Testing Authorities

WorkCover Authority of New South Wales

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 94005.

Australian Standard®

Additional requirements for enclosed switchgear and controlgear from 1 kV to 72.5 kV to be use in severe climatic conditions

First published as AS 4243—1994.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140
ISBN 0 7262 9222 2

PREFACE

This Standard was prepared by the Standards Australia Committee EL/7 on Power Switchgear. It is identical with and has been reproduced from IEC 932:1988, *Additional requirements for enclosed switchgear and controlgear from 1 kV to 72.5 kV to be used in severe climatic conditions.*

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 substitutes for a comma when referring to a decimal marker.

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

Reference to International Standard		*Australian Standard*	
IEC		AS	
50	International Electrotechnical Vocabulary (IEV)	1852	International Electrotechnical Vocabulary
50(441)	Chapter 441: Switchgear controlgear and fuses	1852.441	Part 441: Switchgear, controlgear and fuses
298	A.C. metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 72.5 kV	2086	High-voltage a.c. switchgear and controlgear — Metal-enclosed — Rated voltages above 1 kV up to and including 72.5 kV
466	A.C. insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 38 kV	2264	High voltage a.c. switchgear and controlgear—Insulation-enclosed for rated voltages above 1 kV up to and including 36 kV
694	Common clauses for high voltage switchgear and controlgear standards	2650	High voltage a.c. switchgear and controlgear—Common requirements

CONTENTS

NOTES

AUSTRALIAN STANDARD

ADDITIONAL REQUIREMENTS FOR ENCLOSED SWITCHGEAR AND CONTROLGEAR FROM 1 kV TO 72.5 kV TO BE USED IN SEVERE CLIMATIC CONDITIONS

INTRODUCTION

This report has been compiled to indicate the form which a future standard might take and to promote research on this subject.

To this end, two established ageing test procedures are presented and possible evaluation criteria are also proposed with the intention of guiding this future research so that results can be properly compared and the evaluation criteria more exactly related to actual service experience.

The proposed penetration test is based on the principle that ageing effects may be essentially reduced by making use of the protection given by the external enclosure of the switchgear and controlgear. Potentially, a means of predicting internal equipment life duration with a short-time test is offered but only limited experience of performing the test and relating results to performance in service is currently available. Further research in this field is also therefore desirable.

1. Scope

This report applies to indoor enclosed switchgear and controlgear complying with IEC Publications 298 and 466, excluding gas-insulated metal-enclosed switchgear, intended to be used in service conditions more severe with respect to condensation and pollution than the normal service conditions specified in those standards.

Note.- Whilst the performance of mechanical components, such as mechanisms, interlocks and enclosures, is also of importance, the tests detailed in this report have been designed primarily to investigate the behaviour of electrical insulation.

2. Object

This report proposes definitions for two degrees of severe service conditions with respect to condensation and pollution. It also proposes test procedures for assessing the performance of enclosed switchgear and controlgear under specified conditions so that conclusions may be drawn concerning their suitability for service under those severe service conditions.

In this report, the term “equipment” is used in accordance with the scope for an “enclosed assembly of switchgear and controlgear” (IEV 441-12-02).