

Under Revision see
DR 83220 of Oct 1983

Australian Standard 2264-1979

INSULATION-ENCLOSED SWITCHGEAR AND CONTROLGEAR

FOR RATED VOLTAGES ABOVE
1 kV UP TO AND INCLUDING
36 kV



STANDARDS ASSOCIATION OF AUSTRALIA

Incorporated by Royal Charter



THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS were officially represented on the committee entrusted with the preparation of this standard:

Australian British Trade Association
Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industry
Electricity Supply Association of Australia
Railways of Australia Committee
Testing Authorities
The Institution of Engineers, Australia

This standard, prepared by Committee EL/7, Power Switchgear, was approved on behalf of the Council of the Standards Association of Australia on 30 March 1979, and was published on 1 July 1979.

To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvement to published standards, addressed to the head office of the Association, are welcomed.

This standard was issued in draft form for public review as DR 78091.

AUSTRALIAN STANDARD

**INSULATION-ENCLOSED
SWITCHGEAR AND
CONTROLGEAR
FOR RATED VOLTAGES ABOVE 1 kV
UP TO AND INCLUDING 36 kV**

AS 2264—1979

First published 1979

**PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR-ST, NORTH SYDNEY, N.S.W.**

ISBN 0 7262 1692 5



PREFACE

This standard was prepared by the Association's Committee on Power Switchgear. During its preparation consideration was given to IEC 466, High-voltage Insulation-enclosed Switchgear and Controlgear, including Amendment No 1. Consideration was also given to draft Amendments 2 to 4 which were issued by IEC as Documents 17C(Secretariat)36,39 and 40, and to draft Amendment No 4, which was issued by IEC as 17C(Secretariat)44.

The standard generally follows IEC 466 in technical content, but where it deviates technically by way of additional or different requirements, this is indicated by a ruled line in the margin against the clause, or part thereof, affected.

The standard follows the sequence of clauses in IEC 466 but the clauses have been re-numbered in accordance with SAA style. For reference purposes, Appendix D lists the IEC clause and table numbers alongside those given in this standard.

This standard requires reference to the standards listed below. Where an Australian standard, which is based on an IEC standard is listed, the equivalent IEC number is shown in parentheses:

- AS 1018 Recommendations for Partial Discharge Measurements (IEC 270)
- AS 1255 Methods of Test for Electrical Characteristics of Solid Plastics Insulating Materials
 - 1255.1 — Method 1 — Determination of Volume and Surface Resistivities (IEC 93)
 - 1255.3 — Method 3 — Determination of Electric Strength at Power Frequencies (IEC 243)
- AS 1306 High Voltage Isolators (Disconnectors) and Earthing Switches (IEC 129)
- AS 1824 Insulation Coordination (IEC 71)
 - Part 1 — Basic Principles, Standard Insulation Levels and Test Procedures
- AS 1931 High Voltage Testing Techniques
 - Part 1 — General Definitions, Test Requirements, Test Procedures and Measuring Devices (IEC 60)
- AS 1939 Classification of Degrees of Protection Provided by Enclosures for Electrical Equipment (IEC 529)
- AS 2006 High Voltage Alternating Current Circuit-breakers (IEC 56)
- AS 2086 Metal-enclosed Switchgear and Controlgear for Rated Voltages Above 1 kV up to and including 72.5 kV (IEC 298)

**AS C320 Classification of Insulating Materials for Electrical Machinery
and Apparatus on the Basis of Thermal Stability in Service
SAA MP19 Report on Preferred Numbers and Their Use**

© Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1979

Users of standards are reminded that copyright subsists in all SAA publications. No part of this publication may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing of the Standards Association of Australia.

CONTENTS

	<i>Page</i>
SECTION 1. SCOPE AND OBJECT	
1.1 Scope	6
1.2 Object	6
SECTION 2. DEFINITIONS	
2.1 Application of Section	7
2.2 General Terms	7
2.3 Enclosure and Parts	8
2.4 Defined Positions	9
2.5 Rated Quantities	9
2.6 Main and Auxiliary Circuits	10
2.7 Insulation	11
SECTION 3. SERVICE CONDITIONS AND CONDITIONS DURING TRANSPORT AND ERECTION	
3.1 Normal Service Conditions	12
3.2 Abnormal Service Conditions	12
3.3 Condition During Transport, Storage and Erection	13
SECTION 4. RATINGS	
4.1 Rated Values	14
4.2 Rated Voltage	14
4.3 Rated Insulation Level	14
4.4 Rated Frequency	14
4.5 Rated Normal Current	14
4.6 Rated Short-time Withstand Current	14
4.7 Rated Peak Withstand Current	15
4.8 Coordination of Rated Values	15
4.9 Temperature Rise	15
4.10 Degrees of Protection	17
4.11 Rated Supply Voltages, Frequencies and Pressures of Operating Devices and of Auxiliary and Control Circuits	18
SECTION 5. DESIGN AND CONSTRUCTION	
5.1 General	20
5.2 Insulation Enclosures	20
5.3 Isolators and Earthing Switches	22
5.4 Interlocks	23
5.5 Earthing	24

	<i>Page</i>
SECTION 6. INFORMATION TO BE GIVEN AND NAMEPLATE INFORMATION	
6.1 Information to be Given by the Purchaser	25
6.2 Information to be Given by the Manufacturer	25
6.3 Nameplate Information	25
SECTION 7. TESTS	
7.1 General	27
7.2 Classification of Tests	27
7.3 Voltage Tests and Measurement of Partial Discharges	28
7.4 Temperature-rise Tests	37
7.5 Short-time Current Tests on Main Circuits	39
7.6 Short-time Current Tests on Main Earthing Circuits	39
7.7 Verification of Making and Breaking Currents	40
7.8 Mechanical Operation Tests	40
7.9 Verification of the Degrees of Protection	41
7.10 Humidity Test	42
7.11 Tests of Auxiliary, Pneumatic and Hydraulic Devices	42
7.12 Check of Wiring	43
APPENDICES	
A Humidity Test	45
B Items Subject to Agreement Between the Purchaser and the Manufacturer	50
C Cross Reference to IEC 466	51

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
INSULATION-ENCLOSED SWITCHGEAR AND
CONTROLGEAR FOR RATED VOLTAGES ABOVE
1 kV UP TO AND INCLUDING 36 kV

SECTION 1. SCOPE AND OBJECT

1.1 SCOPE. This standard applies to factory assembled alternating current insulation-enclosed switchgear and controlgear, designed for indoor installations, for rated voltages above 1 kV up to and including 36 kV.

Insulation-enclosed switchgear and controlgear for special use, e.g. in flammable atmospheres, in mines or on board ships, may be subject to additional requirements.

This standard does not cover components contained in insulation-enclosed switchgear and controlgear for which separate Australian standards exist.

1.2 OBJECT. The purpose of this standard is to establish provisions concerning classification, construction, ratings and tests.