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Australian Standard®

A.C. insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 38 kV

This Australian Standard was prepared by Committee EL/7, Power Switchgear. It was approved on behalf of the Council of Standards Australia on 7 April 1995 and published on 5 August 1995.

The following interests are represented on Committee EL/2:

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 (Australia)

WorkCover Authority of N.S.W.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/7 on Power Switchgear to supersede AS 2264—1985, *High voltage a.c. switchgear and controlgear—Insulation-enclosed for rated voltages above 1 kV and up to and including 36 kV*.

This Standard is the result of a consensus among representatives on the Joint Committee to produce it as an Australian Standard.

With the exception of Appendix ZZ, this Standard is equivalent in technical content but does not fully correspond in presentation to IEC 466 (1987), *A.C. insulation-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 38 kV*, including Amendment 1.

Appendix ZZ lists the Australian variations between this Standard and IEC 466. For the purposes of this Standard, the IEC text is amended, supplemented or replaced as set out in Appendix ZZ. These changes are indicated by a marginal bar against each clause, table, figure or part thereof affected. The changes required by Amendment 1 are indicated by double marginal bars against each clause, table, figure or part thereof.

The purpose of this edition is to bring it more into line with IEC 466. It is intended to be read in conjunction with AS 2650, *High-voltage a.c. switchgear and controlgear—Common requirements*, which is applicable unless otherwise specified in this Standard. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used in AS 2650. Amendments to these clauses and sub-clauses are given under the same references, whilst additional sub-clauses are numbered from 101. Additional annexes are lettered from AA.

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

(a) The AS number is shown only on the cover and title page, 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.

The term 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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

References to International Standard		*Australian Standard*	
IEC		AS	
50	International Electrotechnical Vocabulary (IEV)	1852	International Electrotechnical Vocabulary
50(151)	Chapter 151: Electrical and magnetic devices	1852.151	Part 151: Electric and magnetic devices
50(441)	Chapter 441: Switchgear, controlgear and fuses	1852.441	Part 441: Switchgear, controlgear and fuses
56	High-voltage alternating current circuit breakers	2006	High voltage a.c. switchgear and controlgear—Circuit breakers for rated voltages above 1000 V
60	High-voltage test techniques	1931	High voltage testing techniques
60-1	Part 1: General definitions and test requirements	1931.1	Part 1: General definitions, test requirements, test procedures and measuring devices

IEC		AS	
129	Alternating-current disconnectors and earthing switches	1306	High voltage a.c. switchgear and controlgear—Disconnectors (isolators) and earthing switches
243	Recommended methods of test for electric strength of solid insulating materials at power frequencies	1255	Methods of test for electrical characteristics of solid plastics insulating materials
		1255.3	Part 3: Determination of electric strength at power frequencies
270	Partial discharge measurements	1018	Partial discharge measurements
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
529	Degrees of protection provided by enclosures (IP Code)	1939	Degrees of protection provided by enclosures for electrical equipment (IP Code)
621	Electrical installations for outdoor sites under heavy conditions (including opencast mines and quarries)	3007	Electrical installations—Surface mines and associated processing plant
621-1	Part 1: Scope and definitions	3007.1	Part 1: Scope and definitions
694	Common clauses for high-voltage switchgear and controlgear standards	2650	High voltage a.c. switchgear and controlgear—Common requirements

Referenced document listed in Appendix ZZ:

AS	
2650	High voltage a.c. switchgear and controlgear—Common requirements

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AUSTRALIAN STANDARD

A.C. INSULATION-ENCLOSED SWITCHGEAR AND CONTROLGEAR FOR RATED VOLTAGES ABOVE 1 kV AND UP TO AND INCLUDING 38 kV

1. Scope

This standard specifies requirements for factory-assembled insulation-enclosed switchgear and controlgear for alternating current of rated voltages above 1 kV and up to and including 38 kV for indoor installation, and for service frequencies up to and including 60 Hz.

Note. - In some countries the highest voltage for equipment is 40.5 kV.

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

This standard does not deal with components contained in insulation-enclosed switchgear and controlgear for which individual specifications exist.

Notes 1. - Switchgear and controlgear assemblies having a metal enclosure are covered by IEC Publication 298:A.C. Metal-enclosed Switchgear and Controlgear for Rated Voltages above 1 kV and up to and including 72.5 kV.

2. - While this standard also covers insulation-enclosed switchgear and controlgear the insulation of which is an insulating fluid other than air at atmospheric pressure, additional requirements for such equipment may apply depending on its design.

For the purpose of this standard, when the term “switchgear” is used alone, it corresponds to “insulation-enclosed switchgear and controlgear”.

2. Normal and special service conditions

Unless otherwise specified, the insulation-enclosed switchgear and controlgear is designed to be used under normal indoor service conditions.

Refer to Sub-clause 2.1.1 of IEC Publication 694: Common Clauses for High-voltage Switchgear and Controlgear Standards. In all other cases the manufacturer should be consulted.

3. Definitions

For the definitions of general terms used in this standard, reference is made to IEC Publication 50(441): International Electrotechnical Vocabulary (IEV), Chapter 441: Switchgear, Controlgear and Fuses, and I EC Publication 50(151): Chapter 151: Electrical and Magnetic Devices. The following definitions apply for the purpose of this standard.

3.101 *Switchgear and controlgear*

A general term covering switching devices and their combination with associated control, measuring, protective and regulating equipment, also assemblies of such devices and equipment with associated interconnections, accessories, enclosures and supporting structures (IEV 441-11-01).