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HIGH-VOLTAGE A.C. SWITCHGEAR AND CONTROLGEAR—COMMON REQUIREMENTS

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The following interests are represented on Committee EL/7:

Australian British Trade Association

Australian Electrical and Electronic Manufacturers Association

Confederation of Australian Industry

Electricity Supply Association of Australia

Institution of Engineers Australia

Railways of Australia Committee

Testing Authorities

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HIGH-VOLTAGE A.C. SWITCHGEAR AND CONTROLGEAR—COMMON REQUIREMENTS

AS 2650—1983

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PREFACE

This standard was prepared by the Association's Committee on High Voltage Switchgear. It is based on IEC 694 and acknowledgement is made of the assistance received therefrom.

The standard specifies those requirements which are common to most items of high-voltage a.c. switchgear and controlgear and it is intended that standards for individual high-voltage switchgear and controlgear equipment will refer to it. It is expected that the following standards will be amended to incorporate by reference the appropriate clauses of this standard; however, this standard will not affect the application of those standards until the necessary amendments thereto have been made:

AS 1025, AS 1033, AS 1034, AS 1306, AS 2006, AS 2024, AS 2067, AS 2086, AS 2232, AS 2263, and AS 2264.

To facilitate cross-reference with IEC standards for high-voltage switchgear and controlgear, the clause numbering sequence of this standard closely follows that of IEC 694, and it is intended that the same clause numbering sequence will be used in standards for individual switchgear and controlgear making reference to this standard.

Where this standard deviates technically from IEC 694 by way of additional or different requirements, this fact is indicated by a rule in the margin against the clause, or part thereof, affected. A summary of technical variations between this standard and IEC 694 is given in the Annex.

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Australian Standard
for
HIGH-VOLTAGE A.C. SWITCHGEAR AND CONTROLGEAR—COMMON REQUIREMENTS

1. SCOPE AND GENERAL

1.1 SCOPE. This standard applies to a.c. switchgear and controlgear, designed for indoor and outdoor installation and for operation at service frequencies up to and including 60 Hz in systems having voltages above 1000 V, except as otherwise specified in relevant standards for particular types of switchgear and controlgear.

1.2 APPLICATION. This standard incorporates those clauses which have a common application to the various high voltage switchgear and controlgear standards and is intended to be read in conjunction with such standards when referred to therein.

1.3 REFERENCED DOCUMENTS. The following documents are referred to in this standard:

AS 1018	Recommendations for Partial Discharge Measurements
AS 1025	High Voltage Switches
AS 1034	High-voltage Current-limiting Fuses
AS 1306	High-voltage Isolators (Disconnectors) and Earthing Switches
AS 1767	Insulating Oil for Transformers and Switchgear
AS 1821	Suppliers Quality Control System—Level 1
AS 1824	Insulation Coordination Part 1—Basic Principles, Standard Insulation Levels and Test Procedures Part 2—Application Guide
AS 1852	International Electrotechnical Vocabulary 1852(441)— Switchgear and Controlgear
AS 1931	High Voltage Testing Techniques Part 1—General Definitions, Test Requirements, Test Procedures and Measuring Devices
AS 2006	High Voltage Alternating Current Circuit-breakers
AS 2024	High Voltage Fuse/Switch Combinations and Fuse/Circuit-breaker Combinations
AS 2067	Switchgear Assemblies and Ancillary Equipment for Alternating Voltages Above 1 kV
AS 2086	Metal-enclosed Switchgear and Controlgear for Rated Voltages Above 1 kV Up to and Including 72.5 kV
AS 2232	High Voltage Motor Starters Part 1—Direct-on-line (Full Voltage) A.C. Starters
AS 2263	Metal-enclosed Switchgear for Rated Voltages of 72.5 kV and Above
AS 2264	Insulation-enclosed Switchgear and Controlgear for Rated Voltages Above 1 kV Up to and Including 36 kV
AS 2467	Maintenance of Electrical Switchgear
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
IEC 376	Specification and Acceptance of New Sulphur Hexafluoride
IEC 507	Artificial Pollution Tests on High-voltage Insulators to be Used on A.C. Systems
CISPR 16	CISPR Specification for Radio Interference Measuring Apparatus and Measurement Methods

2. SERVICE CONDITIONS

2.0 GENERAL. Unless otherwise specified, high-voltage switchgear and controlgear, including the operating devices and the auxiliary equipment which form an integral part of it, is intended to be used at its rated characteristics under the normal service conditions stated in Clause 2.1.

If the actual service conditions differ from these normal service conditions, high-voltage switchgear and controlgear and associated operating devices and auxiliary equipment shall be designed to comply with any special service conditions required by the purchaser, or appropriate arrangements shall be made (see Clause 2.2).

2.1 NORMAL SERVICE CONDITIONS.

2.1.1 Indoor Switchgear and Controlgear.

(a) The ambient air temperature does not exceed 40° C and its average value, measured over a period of 24 h, does not exceed 35° C.

The minimum ambient air temperature is −5° C.

(b) The altitude does not exceed 1000 m.

(c) The ambient air is not significantly polluted by dust, smoke, corrosive or flammable gases, vapours or salt.