

Australian Standard 1306—1977

HIGH VOLTAGE ISOLATORS (DISCONNECTORS) AND EARTHING SWITCHES



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

Associated Chambers of Manufactures of Australia

Australian Electrical Manufacturers Association

Australian and New Zealand Railways Conferences

Australian-British Trade Association

Electricity Supply Association of Australia

The Institution of Engineers, Australia

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(DISCONNECTORS)
AND EARTHING SWITCHES**

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AMENDMENT NO 1
to
AS 1306—1977
HIGH VOLTAGE ISOLATORS (DISCONNECTORS) AND
EARTHING SWITCHES

SUMMARY: The following sections of the standard are covered by this amendment: Clauses 6.1.2 and 7.9.5.

PREFACE

This standard was prepared by a subcommittee of the Association's Committee on Power Switchgear as the revision of AS 1306—1974. It is based generally on IEC 129—1975, Alternating Current Disconnectors (Isolators) and Earthing Switches, and acknowledgement is made of the assistance obtained therefrom.

The main changes in the revised standard relate to type and routine tests. Section 7 covering type tests has been completely rewritten in this standard, and routine tests relating to power-frequency voltage dry withstand tests on the main circuit have been brought into line with the IEC publication.

Where this standard deviates technically from IEC 129, by way of additional or different requirements, this is indicated by a rule in the margin against the clause or part thereof affected.

The insulation levels and dielectric tests are based on AS 1824, Insulation Coordination. The values of rated voltages are in line with IEC recommendations except that the values of 52 kV and 420 kV are not included.

In the application of this standard, reference may be necessary to the following standards:

- AS 1018 Recommendations for Partial Discharge Measurements
- AS 1025 High Voltage Switches
- AS 1033 High-voltage Expulsion and Similar Fuses
- AS 1034 High-voltage Current-limiting Fuses
- AS 1052 Electromagnetic Interference Measuring Equipment
Part 2—Equipment for the frequency range 0.15 MHz to 1000 MHz
- AS 1137 Insulators
Part 3—Porcelain and glass indoor and outdoor station post insulators (for voltages greater than 1000 V a.c.)
- AS 1265 Bushings for Alternating Voltages above 1000 V
- AS 1307 Surge Diverters—Non-linear Resistor Type
- AS 1372 Tests on Hollow Insulators of Ceramic Material or Glass for Use in Electrical Equipment for Voltages above 1000 V
- AS 1767 Insulating Oil for Transformers and Switchgear
- AS 1824 Insulation Coordination

- AS 1931** High Voltage Testing Techniques
- AS C1** Standard Voltages and Frequency for A.C. Transmission and Distribution Systems
- AS C320** Classification of Insulating Materials for Electrical Machinery and Apparatus on the Basis of Thermal Stability in Service
- BS 2725** Memorandum on the Measurement of Cooling Medium Temperature when Testing Electrical Machines, Transformers and Other Electrical Apparatus.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard Specification for HIGH VOLTAGE ISOLATORS AND EARTHING SWITCHES

SECTION 1.

SCOPE AND SERVICE CONDITIONS

1.1 SCOPE. This standard applies to isolators and earthing switches designed for use outdoors or indoors on alternating current systems having rated voltages exceeding 1000 volts.

This standard also applies to the operating devices of the isolators and earthing switches and to their auxiliary equipment.

NOTES:

1. The isolating properties assigned to disconnector-fuses and drop-out fuses must meet the requirements of this standard. (Refer to AS 1033* and AS 1034†.)
2. Earthing switches forming an integral part of a high voltage switch or isolator must comply with this standard.
3. Other parts of an installation, such as plug devices and movable circuit-breakers in metal-enclosed switchgear, may also be used as isolators, provided they comply with this standard.

1.2 SERVICE CONDITIONS.

1.2.1 Normal Service Conditions. This standard applies to isolators and earthing switches that have been designed for use under the following service conditions:

(a) *Temperature*—

- (i) maximum ambient air temperature—not exceeding 40°C;
- (ii) mean ambient air temperature, measured over a period of 24 h—not exceeding 35°C;
- (iii) minimum ambient air temperature—not lower than -25°C for outdoor installations and -5°C for indoor installations;
- (iv) maximum temperature due to sunlight—not exceeding an equivalent black body temperature of 80°C.

- (b) *Altitude*—not exceeding 1000 m, to which the rated voltage, the insulation level, the rated current or the temperature rise in this standard shall apply.

*AS 1033, High-voltage Expulsion and Similar Fuses.

†AS 1034, High-voltage Current-limiting Fuses.