

AS 2374.3.0—1982

Australian Standard<sup>®</sup>

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**Power transformers**

**Part 3.0: Insulation levels and  
dielectric tests—General  
requirements**

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This Australian standard, prepared by Committee EL/8, Static Electrical Machinery, was approved on behalf of the Council of the Standards Association of Australia on 8 June 1982 and published on 9 August 1982.

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The following interests were represented on the committee responsible for the preparation of this standard:

Australian-British Trade Association  
Australian Electrical and Electronic Manufacturers Association  
Confederation of Australian Industry  
Defence Standardization Committee  
Electrical testing laboratories  
Electricity Supply Association of Australia  
Electricity Supply Engineers Association of N.S.W  
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*This standard was issued in draft form for comment as DR 81267.*

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## Power transformers

### Part 3.0: Insulation levels and dielectric tests—General requirements

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First published . . . . .	1982
Reconfirmed . . . . .	1987
Incorporating: Amdt 1—1992	

PUBLISHED BY STANDARDS AUSTRALIA  
(STANDARDS ASSOCIATION OF AUSTRALIA)  
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 2638 6

## PREFACE

This standard was prepared by the Association's Committee on Static Electrical Machinery. It is based closely on IEC 76-3 (including Amendment No 1), Power Transformers, Part 3: Insulation Levels and Dielectric Tests, and is Part 3 of a six-part standard to supersede AS C61—1970, Power Transformers.

The other Parts of the standard are—

Part 1—General Requirements

Part 2—Temperature Rise

Part 4—Tappings and Connections

Part 5—Ability to Withstand Short Circuit

Part 6—Sound Levels

Where the standard differs from IEC 76-3 and changes have been made in compliance with Australian requirements, these changes are indicated by a rule in the margin. Only minor deviations from IEC 76-3 have been made but additional information and requirements have been introduced.

Main changes include the following:

- (a) The tables of withstand test voltages have been edited and the values adjusted to align with the requirements of AS 1824.
- (b) A new clause (Clause 16) covers an insulation resistance test.
- (c) A new appendix (Appendix D) gives supplementary information concerning high-voltage tests.

It should be noted that no changes from those given in IEC 76-3 have been made to requirements concerning partial discharge testing. Present practice in Australia is varied and differs significantly with regard to acceptable levels and voltage ratings of transformers to which they are applicable.

Furthermore, it is considered that impulse testing may be justified as routine tests for transformers of voltage ratings less than 300 kV.

The clauses covering partial discharge testing and impulse testing are under investigation with a view to future amendment.

This standard requires reference to the following standards:

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|----------|--|
| AS 1018  | Recommendations for Partial Discharge Measurements   |
| AS 1265  | Bushings for Alternating Voltages Above 1000 V   |
| AS 1307  | Surge Diverters—Non-linear Resistor Type   |
| AS 1767  | Insulating Oil for Transformers and Switchgear   |
| AS 1824  | Insulation Co-ordination   |
| AS 1852  | International Electrotechnical Vocabulary  |
| AS 1883  | Guide to Maintenance and Supervision of Insulating Oils in Service   |
| AS 1931  | High Voltage Testing Techniques  |
| AS 2326  | On-load Tap-changers   |
|          | Part 1—Requirements  |
|          | Part 2—Application Guide   |
| AS 2558  | Transformers for Use on Single Wire Earth Return Distribution Systems  |
| 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 |
| SAA MP19 | Report on Preferred Numbers and Their Use  |

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