### AS 2374.1—1997

# Australian Standard®

## **Power transformers**

### Part 1: General

[Based on and including the full text of IEC 76-1:1993]

This Australian Standard was prepared by Committee EL/8, Power Transformers. It was approved on behalf of the Council of Standards Australia on 14 July 1997 and published on 5 September 1997.

The following interests are represented on Committee EL/8:

Australasian Railway Association

Australian Chamber of Commerce and Industry

Australian Electrical and Electronic Manufacturers Association

Australian Institute of Petroleum

Electricity Supply Association of Australia

Electricity Supply Engineers Association of New South Wales

Institution of Engineers Australia

Testing interests

University of South Australia

This Standard was issued in draft form for comment as DR 95423.

**Review of Australian Standards.** To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

Australian Standard®

### **Power transformers**

Part 1: General

Originated as part of AS C61—1931. Previous editions AS 2374.1—1982 and AS 2374.4—1982 AS 2374.1—1982 and AS 2374.4—1982 revised, amalgamated and designated AS 2374.1—1997.

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

#### ii

#### PREFACE

This Standard was prepared by the Standards Australia Committee EL/8, Power Transformers to supersede AS 2374.1—1982, Power transformers, Part 1: General requirements and AS 2374.4—1982, Power transformers, Part 4: Tappings and connections.

It is based on but not equivalent to, and has been reproduced from, IEC 76-1:1993, *Power transformers*, Part 1: *General*, with the exception that Appendices ZZ, ZA, ZB and ZC have been added.

Appendix ZZ lists the Australian variations to IEC 76-1. The changes are indicated with marginal bars against the relevant clause, note, table, figure or part thereof. Note that reference to Appendix ZZ is critical in cases where additional text or clauses have been introduced.

This Standard is Part 1 of a series, comprising:

AS

2374 Power transformers

2374.1 Part 1: General

2374.2 Part 2: Temperature rise

2374.3.0 Part 3.0: Insulation levels and dielectric tests—General requirements

2374.3.1 Part 3.1: Insulation levels and dielectric tests—External clearances in air

2374.5 Part 5: Ability to withstand short-circuit

2374.6 Part 6: Determination of transformer and reactor sound levels

Significant differences between this Standard and the previous edition include the following:

- (a) This Standard requires tests to be carried out on the maximum current tap. The previous edition required tests to be carried out on the maximum loss tap. It is noted that in some cases, including autotransformers, the two are not the same.
- (b) Tolerances, as set out in Table 1 of this Standard, differ significantly from those allowed by the previous edition.

The terms '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.

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

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title pages.
- (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.

References to international Standards should be replaced by references to the following Australian or Australian/New Zealand Standards:

Reference to International Standards or other publication

Australian/New Zealand Standard

IEC		AS
50	International Electrotechnical	
	Vocabulary	
50(421)	Chapter 421: Power transformers and	
	reactors	

#### iii

IEC		AS	
68 68-3-3	Environmental testing Part 3.3: Background information— Guidance. Seismic test methods for equipments	_	
76 76-2 76-3	Power transformers Part 2: Temperature rise Part 3: Insulation levels and dielectric tests	2374 2374.2 2374.3.0	Power transformers Temperature rise Insulation levels and dielectric tests—General requirements
76-3-1	Part 3.1: Insulation levels and dielectric tests—External clearances in air	2374.3.1	-
76-5	Part 5: Ability to withstand short circuit	2374.5	Ability to withstand short-circuit
137	Bushings for alternating voltages above 1000 V	1265	Bushings for alternating voltages above 1000 V $$
354	Loading guide for oil-immersed power transformers	1078	Guide to loading of oil-immersed transformers
529	Degrees of protection provided by enclosures (IP Code)	1939	Degrees of protection provided by enclosures for electrical equipment (IP Code)
551	Determination of transformer and reactor sound levels	2374 2374.6	Power transformers Determination of transformer and reactor sound levels
606	Application guide for power transformers	2421	Guide to the selection and use of power transformers
726	Dry-type power transformers	2735	Dry-type power transformers
815	Guide for the selection of insulators in respect of polluted conditions		
905	Loading guide for dry-type power transformers	3953	Loading guide for dry-type power transformers
ISO			
3	Preferred numbers—Series of preferred numbers	2752	Preferred numbers and their use
		AS/NZS	
9001	Quality systems—Model for quality assurance in design/development, production, installation and servicing	ISO 900	1 Quality systems—Model for quality assurance in design, development, production, installation and servicing

© Copyright - STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.



This is a free preview. Purchase the entire publication at the link below:

**Product Page** 

S Looking for additional Standards? Visit Intertek Inform Infostore

> Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation