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.

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

ISBN 0 7337 1394 7

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	—

IEC		AS	
68	Environmental testing	—	
68-3-3	Part 3.3: Background information—Guidance. Seismic test methods for equipments	—	
76	Power transformers	2374	Power transformers
76-2	Part 2: Temperature rise	2374.2	Temperature rise
76-3	Part 3: Insulation levels and dielectric tests	2374.3.0	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	Insulation levels and dielectric tests—External clearances in air
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 9001	Quality systems—Model for quality assurance in design, development, production, installation and servicing