

AS 60076.1—2005
IEC 60076-1, Ed. 2.1 (2000)

AS 60076.1—2005

Australian Standard™

Power transformers

**Part 1: General (IEC 60076-1, Ed. 2.1
(2000) MOD)**



This Australian Standard was prepared by Committee EL-008, Power Transformers. It was approved on behalf of the Council of Standards Australia on 11 November 2005.
This Standard was published on 5 December 2005.

The following are represented on Committee EL-008:

Australasian Railway Association
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Greenhouse Office, Department of Environment and Heritage
Australian Institute of Petroleum
Energy Networks Association
Engineers Australia
Testing Interests (Australia)

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Web Shop at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to the Chief Executive, Standards Australia, GPO Box 476, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 05383.

AS 60076.1—2005

Australian Standard™

Power transformers

Part 1: General (IEC 60076-1, Ed. 2.1 (2000) MOD)

Originated as part of AS C61—1931.
Previous edition AS 2374.1—1997.
Revised and redesignated as AS 60076.1—2005.

COPYRIGHT

© Standards Australia

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 7025 8

PREFACE

This Standard was prepared by the Standards Australia Committee EL-008, Power Transformers to supersede AS 2374.1—1997 on publication.

The objective of this Standard is to provide manufacturers, suppliers, test laboratories, purchasers and users of power transformers with general requirements for most three-phase and single-phase transformers. The exceptions are some small and special purpose transformers.

This Standard is an adoption with national modifications, and has been reproduced from IEC 60076-1, Ed. 2.1 (2000), *Power transformers – Part 1: General* and Corrigendum 1 (June 1997) and Amendment 1 (1999), and has been varied as indicated to take account of Australian/New Zealand conditions.

Variations to IEC 60076-1, Ed. 2.1 (2000) are indicated at the appropriate places throughout this standard. Strikethrough (~~example~~) identifies IEC text, tables and figures which, for the purposes of this Australian Standard, are deleted. Where text, tables or figures are added, each is set in its proper place and identified by shading (**example**). Added figures are not themselves shaded, but are identified by a shaded border. Two additional annexes, ZA and ZB have been added for Australian conditions. Some editorial errors in the original IEC text have been corrected; in particular the equations in Clause 3.4.3, notes 2 and 3 have been corrected.

This Standard is Part 1 of the AS 60076 series which is to replace the AS 2374 series. This series will consist of adoptions of the IEC 60076 series of Standards on power transformers.

This Standard differs from AS 2374.1—1997 in the following ways:

- (a) A reduction in the number of Australian variations to IEC 60076-1.
- (b) The Australian variations have been included in the body of the Standard. The variations are also listed in Annex ZZ.
- (c) The Standard has been re-styled.

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

- (i) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (ii) In the source text 'IEC 60076-1' should read 'AS 60076.1'.
- (iii) A full point should be substituted for a comma when referring to a decimal marker.

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

CONTENTS

	<i>Page</i>
1 Scope and service conditions	1
1.1 Scope	1
1.2 Service conditions	1
1.2.1 Normal service conditions	1
1.2.2 Provision for unusual service conditions	2
2 Normative references	2
3 Definitions	4
3.1 General	4
3.2 Terminals and neutral point	5
3.3 Windings	5
3.4 Rating	6
3.5 Tappings	8
3.6 Losses and no-load current	9
3.7 Short-circuit impedance and voltage drop	10
3.8 Temperature rise	11
3.9 Insulation	11
3.10 Connections	11
3.11 Kinds of tests	12
3.12 Meteorological data with respect to cooling	12
4 Rating	13
4.1 Rated power	13
4.2 Loading cycle	13
4.3 Preferred values of rated power	13
4.4 Operation at higher than rated voltage and/or at disturbed frequency	14
5 Requirements for transformers having a tapped winding	14
5.1 General – Notation of tapping range	14
5.2 Tapping voltage – tapping current. Standard categories of tapping voltage variation. Maximum voltage tapping	15
5.3 Tapping power. Full-power tappings – reduced-power tappings	17
5.4 Specification of tappings in enquiry and order	18
5.5 Specification of short-circuit impedance	18
5.6 Load loss and temperature rise	19
6 Connection and phase displacement symbols for three-phase transformers	19
7 Rating plates	21
7.1 Information to be given in all cases	21
7.2 Additional information to be given when applicable	22
8 Miscellaneous requirements	23
8.1 Dimensioning of neutral connection	23
8.2 Oil preservation system	23
8.3 Load rejection on generator transformers	23
8.201 Permissible sound power levels	23
8.202 Oil	23
8.203 Other insulating fluids	23
9 Tolerances	24

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

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-