

Australian Standard[®]

**General requirements for the
competence of testing and calibration
laboratories**



This Australian Standard® was prepared by Committee QR-010, Conformity Assessment. It was approved on behalf of the Council of Standards Australia on 11 November 2005. This Standard was published on 6 December 2005.

The following are represented on Committee QR-010:

- Association of Accredited Certification Bodies
 - Australian Information Industry Association
 - Certification Interests (Australia)
 - Consumers Federation of Australia
 - International Accreditation Forum
 - Joint Accreditation System of Australia and New Zealand
 - National Association of Testing Authorities Australia
-

This Standard was issued in draft form for comment as DR 05393.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that 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Standards may also be withdrawn.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 that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting **www.standards.org.au**

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at **mail@standards.org.au**, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard[®]

**General requirements for the
competence of testing and calibration
laboratories**

Originated as AS ISO/IEC 17025—1999.
Second edition 2005.
Reissued incorporating Amendment No. 1 (December 2006).

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 7018 5

PREFACE

This Standard was prepared by the Standards Australia Committee QR-010, Conformity Assessment to supersede AS ISO/IEC 17025—1999.

Amendment No. 1 (December 2006) is identical to ISO/IEC 17025:2005/Technical Corrigendum 1:2006 and has been added after the source text. The corrigendum applies to Annex A.

The objective of this Standard is to specify the general requirements for the competence to carry out test and/or calibrations, including sampling. It covers testing and calibration performed using standard methods, non-standard methods, and laboratory-developed methods.

If testing and calibration laboratories comply with the requirements of this Australian adoption of the international Standard, they will operate a quality management system for their testing and calibration activities that also meets the principles of AS/NZS ISO 9001.

This Standard covers technical competence requirements that are not covered by AS/NZS ISO 9001.

Annex A provides nominal cross-references between ISO/IEC 17025 and ISO 9001. The cross-references also apply to this Standard and AS/NZS ISO 9001, as each is an identical adoption.

This Standard is identical with, and has been reproduced from ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories* which was prepared by the ISO Committee on Conformity Assessment (CASCO) to replace ISO/IEC 17025:1999.

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

Its number appears on the cover and title page while the international standard number appears only on the cover.

In the source text ‘this International Standard’ should read ‘AS ISO/IEC 17025’.

A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO/IEC	AS ISO/IEC
17000 Conformity assessment— Vocabulary and general principles	17000 Conformity assessment— Vocabulary and general principles

The terms ‘normative’ and ‘informative’ have been used in this Standard 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..... 1
2	Normative references 2
3	Terms and definitions..... 2
4	Management requirements 2
4.1	Organization 2
4.2	Management system..... 3
4.3	Document control 4
4.3.1	General..... 4
4.3.2	Document approval and issue 4
4.3.3	Document changes 5
4.4	Review of requests, tenders and contracts 5
4.5	Subcontracting of tests and calibrations 6
4.6	Purchasing services and supplies 6
4.7	Service to the customer 6
4.8	Complaints..... 7
4.9	Control of nonconforming testing and/or calibration work..... 7
4.10	Improvement..... 7
4.11	Corrective action..... 8
4.11.1	General..... 8
4.11.2	Cause analysis 8
4.11.3	Selection and implementation of corrective actions..... 8
4.11.4	Monitoring of corrective actions 8
4.11.5	Additional audits 8
4.12	Preventive action 8
4.13	Control of records..... 9
4.13.1	General..... 9
4.13.2	Technical records 9
4.14	Internal audits..... 9
4.15	Management reviews 10
5	Technical requirements..... 10
5.1	General..... 10
5.2	Personnel..... 11
5.3	Accommodation and environmental conditions 12
5.4	Test and calibration methods and method validation..... 12
5.4.1	General..... 12
5.4.2	Selection of methods..... 13
5.4.3	Laboratory-developed methods 13
5.4.4	Non-standard methods..... 13
5.4.5	Validation of methods..... 14
5.4.6	Estimation of uncertainty of measurement..... 14
5.4.7	Control of data..... 15
5.5	Equipment..... 15
5.6	Measurement traceability 17
5.6.1	General..... 17
5.6.2	Specific requirements..... 17
5.6.3	Reference standards and reference materials 18
5.7	Sampling 19

5.8	Handling of test and calibration items	19
5.9	Assuring the quality of test and calibration results	20
5.10	Reporting the results	20
5.10.1	General	20
5.10.2	Test reports and calibration certificates	20
5.10.3	Test reports	21
5.10.4	Calibration certificates	22
5.10.5	Opinions and interpretations	22
5.10.6	Testing and calibration results obtained from subcontractors	23
5.10.7	Electronic transmission of results	23
5.10.8	Format of reports and certificates	23
5.10.9	Amendments to test reports and calibration certificates	23
Annex A	(informative) Nominal cross-references to ISO 9001:2000	24
Annex B	(informative) Guidelines for establishing applications for specific fields	26
Bibliography	27

INTRODUCTION

The first edition (1999) of this International Standard was produced as the result of extensive experience in the implementation of ISO/IEC Guide 25 and EN 45001, both of which it replaced. It contained all of the requirements that testing and calibration laboratories have to meet if they wish to demonstrate that they operate a management system, are technically competent, and are able to generate technically valid results.

The first edition referred to ISO 9001:1994 and ISO 9002:1994. These standards have been superseded by ISO 9001:2000, which made an alignment of ISO/IEC 17025 necessary. In this second edition, clauses have been amended or added only when considered necessary in the light of ISO 9001:2000.

Accreditation bodies that recognize the competence of testing and calibration laboratories should use this International Standard as the basis for their accreditation. Clause 4 specifies the requirements for sound management. Clause 5 specifies the requirements for technical competence for the type of tests and/or calibrations the laboratory undertakes.

Growth in the use of management systems generally has increased the need to ensure that laboratories which form part of larger organizations or offer other services can operate to a quality management system that is seen as compliant with ISO 9001 as well as with this International Standard. Care has been taken, therefore, to incorporate all those requirements of ISO 9001 that are relevant to the scope of testing and calibration services that are covered by the laboratory's management system.

Testing and calibration laboratories that comply with this International Standard will therefore also operate in accordance with ISO 9001.

Conformity of the quality management system within which the laboratory operates to the requirements of ISO 9001 does not of itself demonstrate the competence of the laboratory to produce technically valid data and results. Nor does demonstrated conformity to this International Standard imply conformity of the quality management system within which the laboratory operates to all the requirements of ISO 9001.

The acceptance of testing and calibration results between countries should be facilitated if laboratories comply with this International Standard and if they obtain accreditation from bodies which have entered into mutual recognition agreements with equivalent bodies in other countries using this International Standard.

The use of this International Standard will facilitate cooperation between laboratories and other bodies, and assist in the exchange of information and experience, and in the harmonization of standards and procedures.

NOTES

AUSTRALIAN STANDARD

General requirements for the competence of testing and calibration laboratories

1 Scope

1.1 This International Standard specifies the general requirements for the competence to carry out tests and/or calibrations, including sampling. It covers testing and calibration performed using standard methods, non-standard methods, and laboratory-developed methods.

1.2 This International Standard is applicable to all organizations performing tests and/or calibrations. These include, for example, first-, second- and third-party laboratories, and laboratories where testing and/or calibration forms part of inspection and product certification.

This International Standard is applicable to all laboratories regardless of the number of personnel or the extent of the scope of testing and/or calibration activities. When a laboratory does not undertake one or more of the activities covered by this International Standard, such as sampling and the design/development of new methods, the requirements of those clauses do not apply.

1.3 The notes given provide clarification of the text, examples and guidance. They do not contain requirements and do not form an integral part of this International Standard.

1.4 This International Standard is for use by laboratories in developing their management system for quality, administrative and technical operations. Laboratory customers, regulatory authorities and accreditation bodies may also use it in confirming or recognizing the competence of laboratories. This International Standard is not intended to be used as the basis for certification of laboratories.

NOTE 1 The term 'management system' in this International Standard means the quality, administrative and technical systems that govern the operations of a laboratory.

NOTE 2 Certification of a management system is sometimes also called registration.

1.5 Compliance with regulatory and safety requirements on the operation of laboratories is not covered by this International Standard.

1.6 If testing and calibration laboratories comply with the requirements of this International Standard, they will operate a quality management system for their testing and calibration activities that also meets the principles of ISO 9001. Annex A provides nominal cross-references between this International Standard and ISO 9001. This International Standard covers technical competence requirements that are not covered by ISO 9001.

NOTE 1 It might be necessary to explain or interpret certain requirements in this International Standard to ensure that the requirements are applied in a consistent manner. Guidance for establishing applications for specific fields, especially for accreditation bodies (see ISO/IEC 17011) is given in Annex B.

NOTE 2 If a laboratory wishes accreditation for part or all of its testing and calibration activities, it should select an accreditation body that operates in accordance with ISO/IEC 17011.