The International Standard ISO/IEC 17025:2017

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The International Standard **ISO/IEC 17025:2017** "General requirements for the competence of testing and calibration laboratories," is a standard published by:

ISO: *International Organization for Standardization, and*

IEC: *International Electrotechnical Commission*.

These are international standardization bodies, prestigious and highly recognized worldwide.

ISO/IEC 17025:2017 has its origins in the Guide ISO/IEC 25 "General requirements for the competence of calibration and testing laboratories" and the standard EN 45001 "General Criteria for the Operation of Testing Laboratories", and the first version became effective in 1999.

In some countries or regions ISO/IEC 17025 adopted different nomenclatures (including year of publication), such as:

- NMX-EC-**17025**-IMNC: 2018 (Mexico).
- UNE-EN **ISO/IEC 17025** (Spain).
- IRAM 301 (Argentina).
- NTC-**ISO/IEC 17025** (Colombia).
- NCh-**ISO 17025**Of (Chile).
- Etc.

ISO/IEC 17025 emerged as a reference guide for those laboratories which perform testing or calibration activities and seek to demonstrate that:

- **They operate an effective quality management system, which is continuously improving.** The laboratory implements a quality system in order to manage and use its administrative and technical documentation.

- **They are technically competent.** Technical competence of personnel is demonstrated, including facilities and environmental conditions, validated methods, equipment and reliable standards traceable to the units of the International System of Units (SI).

- **They are capable of reporting reliable testing or calibration results.** The laboratory implements programs for quality assurance of results, to generate technically valid results.

- **That Laboratory is impartial and coherent in the development of its activities.**

Implement risk management programs and demonstrate the consistent achievement of their policies, objectives and requirements of the standard.

ISO/IEC 17025-2017 applies to any kind of calibration or testing laboratory, regardless of size or activity, and is comprised of a series of requirements grouped into 5 sections.

ISO / IEC 17025-2017 has been adopted as a reference guide of accreditation bodies to assess the conformity of testing and calibration laboratories, and it is used worldwide for accreditation purposes.

The accreditation body is responsible for assessing the conformity of compliance with the requirements of **ISO/IEC 17025-2017**, and witnesses the laboratory's competence to perform specific tasks of the testing or calibration in order to declare the accreditation.

See **ISO/IEC 17025-2017** requirements in next table.

Standard ISO/IEC 17025:2017 Managerial and technical requirements	
4. GENERAL REQUIREMENTS. 4.1 Impartiality. 4.2 Confidentiality. 5. STRUCTURAL REQUIREMENTS. 5.1 Legality of the Laboratory. 5.2 Head of the Laboratory. 5.3 Scope of activities. 5.4 Responsibility for compliance with the standard, customers and authorities. 5.5 Organizational structure. 5.6 Responsible of the management system. 5.7 Responsibility of top management. 6. RESOURCES REQUIREMENTS. 6.1 General. 6.2 Personnel. 6.3 Facilities and environmental conditions. 6.4 Equipment. 6.5 Metrological traceability. 6.6 External products and services.	7. PROCESS REQUIREMENTS. 7.1 Review of requests, tenders and contracts. 7.2 Selection, verification and validation of methods. 7.3 Sampling. 7.4 Management of items under testing or calibration. 7.5 Technical records. 7.6 Evaluation of measurement uncertainty. 7.7 Ensuring the validity of results. 7.8 Reporting of results. 7.9 Complaints. 7.10 Nonconforming work. 7.11 Management of information and data. 8. MANAGEMENT SYSTEM REQUIREMENTS. 8.1 Options. 8.2 Documentation of the management system. 8.3 Document control. 8.4 Control of records. 8.5 Risks and opportunities. 8.6 Improvement. 8.7 Corrective actions. 8.8 Internal audits. 8.9 Management reviews.

A testing or calibration laboratory seeking accreditation under the International Standard **ISO/IEC 17025-2017**, or its equivalent national or regional standard, must satisfy and show evidence of compliance with the requirements contained in the 5 sections of the table above.

These requirements include the preparation and implementation of:

- ✓ A quality manual.
- ✓ Managerial and technical policies, including a quality policy.
- ✓ Managerial and technical procedures.

And the generation of objective evidence of their implementation:

- ✓ Managerial and technical records.

The **Guide M-17025** is a tool that leads the user through the process of implementing the quality system **ISO/IEC 17025-2017** in your laboratory with minimal training, in a simple, orderly, reliable, compact way and in the shortest time possible.

Get a **FREE SAMPLE** of the full Quality Manual ISO/IEC 17025-2017, Procedures and Forms at **www.metrycal.com**

[Ref]: ISO/IEC 17025:2017 "*General requirements for the competence of testing and calibration laboratories*".