

LABORATORY ACCREDITATION ACCORDING TO ISO 17025:2005 – NEED OR ACTUAL TREND

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ABSTRACT

Laboratory accreditation for calibration and testing: Being accredited to perform the specific work you are buying offers strong assurances that the answer will be correct and traceable. As a rule, within an organization any process or technology should be subjected to calibration and testing and measured by sampling schemes that ensues in data collection and analysis. It is then possible to gauge the effect of the activities or goods produced and plan appropriately for improvement. This is the goal of all standards introduced in the business environment. Standard ISO 17025:2005 contains specifications for quality system requirements and also those based on technical competency and ability to generate technically valid results.

Keywords: accreditation, laboratory, ISO/IEC 17025

1. INTRODUCTION

As a rule, within organization any process or technology should be subjected to calibration and testing and measured by a sampling scheme that ensures in data collection and analysis. It is then possible to gauge the effect of the activities or goods produced and plan appropriately for improvement. Essentially, this is the goal of all standard introduced in business environment.

ISO/IEC 17025:2005 contains all of the requirements that testing and calibration laboratories need to meet to demonstrate to customers and regulators that they operate a sound management system which puts them in full control of their processes, are technically competent, and are able to generate technically valid results. Accreditation bodies that recognize the competence of testing and calibration laboratories use the standard as the basis for their accreditation.

2. CALIBRATION AND LABORATORY ACCREDITATION

Measurements are pretty much useless without calibration and it can be achieved in many ways. Calibrations can be performed by national laboratories, by calibration laboratories, which somehow prove their competence for certain types of calibrations or by users of measurement devices. Usually, the method of choice is to hire a commercial calibration laboratory to achieve traceability between your work and the top of the pyramid. The term traceability means a process whereby the indication of a measuring instrument can be compared, in one or more stages, with a national or international standard for the measurand in question. Traceability of measuring and test equipment to national standards by means of calibration is necessitated by growing national and international demand that manufactured parts should be interchangeable. Everybody must measure with “the same measure”. Traceability assures that the measurements made by laboratory are comparable to those made by the others, a fundamental requirement for fairness in trade... Knowing measurement uncertainties associated with the procedures allows an assessor to judge the adequacy of the laboratory’s calibration methods.

Commercial laboratories are businesses, and as such compete on several fronts. Calibration labs may choose to register their quality systems to ISO 9001:2000, or to be accredited according to ISO

17025:2005 or both. Certification of a laboratory against ISO 9001:2000 does not testify to the correctness or traceability of the answers a laboratory provides, it only addresses to the quality system. Accreditation, unlike certification of a quality system, adds the dimension of technical proficiency to the assessment. An accredited laboratory has been evaluated not only on the robustness of the quality system, but also their technical proficiency to determine if they can actually make the measurements to the degree of accuracy claimed.

Figure 1 shows the components of a quality system required by the ISO 17025 standard.

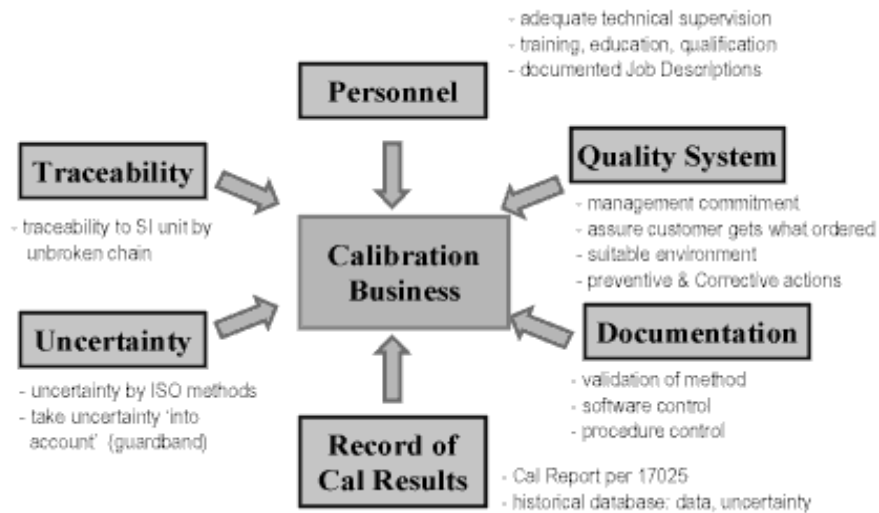


Figure 1. Basic requirements of ISO/IEC 17025

Accreditation according to ISO/IEC 17025 is not a substitute for certification according to the ISO 9001:2000. There are differences between the purpose, criteria and emphasis of the ISO 9001:2000 quality system standard, and those of the accreditation standard ISO/IEC 17025. For laboratories concerned with demonstrating technical competence underpinned by sound quality system elements, ISO/IEC 17025 is the appropriate standard. However, if the laboratory is seeking a more holistic, quality management recognition that demonstrate customer focus and continual improvement, it may decide to also maintain a certified ISO 9001:2000 management system.

3. FREQUENTLY ASKED QUESTIONS ABOUT LABORATORY WORK AND ISO/IEC 17025:2000

Philip Stein in "Calibration Buyers, Beware": What to look for when considering a commercial calibration laboratory" (American Society for Quality's Quality Progress magazine, Sept. 2000) suggests these questions be addressed:

1. Is the laboratory ...accredited?
2. Is the body that accredited this laboratory a signatory to one of the lab accreditation agreements?
3. Are the measurement parameters you wish to have calibrated listed on the laboratory's scope of accreditation? Are the ranges of the parameters you have chosen within the scope?
4. Have you specified accredited service on purchase order to the laboratory?
5. Do all the certificates you received from the laboratory have a logo from the accreditation body, and are no exceptions taken for specific results?

All above mentioned questions helps you in making decisions about making decisions to hire or not commercial laboratory with or without accreditation certificate. Of course, the economic price of accredited or non-accredited work is different. Some laboratories will accept both, to make accredited and non-accredited work and charge different prices. Nothing's perfect of course, and there are no absolute guarantees, but accreditation is the best evidence that laboratory work is trustworthy, traceable, and likely to get full service.

4. CONCLUSION

Decision to hire an accredited laboratory according to ISO/IEC 17025:2000 has many advantages:

- Laboratory is competent to carry out specific tests or specific types of tests.
- Laboratory personnel are highly skilled, professional and trained.
- Strong assurances that measuring results are correct and traceable.
- Savings in terms of time and money due to reduction or elimination of the need for re-testing of products.
- Accredited laboratory is signatory of laboratory accreditation agreements.
- Increase of confidence in testing / calibration results and personnel performing work.
- Users of accredited laboratories will enjoy greater access for their products, in both domestic and international markets, when tested by accredited laboratories.

5. REFERENCES

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