

ISO 9000:2000 2.10.3 Metrologische Bestätigung

Gesamtheit von notwendigen Tätigkeiten, um sicherzustellen, das Messmittel die Forderungen für ihren Verwendungszweck erfüllen

umfasst üblicherweise: Kalibrierung, notwendige Einstellung, Reparatur, Plombierung ...

VIM 2.39 calibration

operation that, under specified conditions, in a first step establishes a relation between the **quantity values** with **measurement uncertainties** provided by **measurement standards** and corresponding **indications** with associated measurement uncertainties and, in a second step, uses this information to establish a relation for obtaining a **measurement result** from an indication

Eigenschaft eines Messergebnisses oder des Wertes eines Normals, durch eine ununterbrochene Kette von Vergleichsmessungen mit angegebenen Messunsicherheiten auf geeignete Normale, im allgemeinen internationale oder nationale Normale, bezogen zu sein (6.10; VIM:1994)

5.6.1 Alle Einrichtungen, die für Prüfungen und/oder Kalibrierungen verwendet werden, einschließlich Einrichtungen für Hilfsmessungen, die einen signifikanten Einfluss auf die Genauigkeit und Gültigkeit der Prüfung, Kalibrierung, Probenahme haben, müssen vor der Inbetriebnahme kalibriert werden.

Das Labor muss über ein eingeführtes Programm und Verfahren für die Kalibrierung seiner Einrichtungen verfügen.

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ILAC Policy on Traceability

Laboratories accredited by ILAC Member Bodies shall be able to demonstrate that calibration of critical equipment, and hence the measurement results generated by that equipment, relevant to their scopes of accreditation, are traceable to the International System of Units (SI units). Where such traceability is not technically possible or reasonable, the laboratory and the client and other interested parties may agree to using certified reference materials provided by a competent supplier or using specified methods and/or consensus standards that are clearly described and agreed by all parties concerned; (See: Notes 1 and 2).

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ILAC Policy on Traceability

Note 1:

It is recognised by ILAC that, due to the nature of some tests, it is not possible, realistic or relevant to expect traceability of measurement results to be demonstrated. ILAC Member Bodies have agreed to investigate this issue and develop guidelines on such exceptions and areas where requirements for traceability are difficult to apply.

Note 2:

“Critical “ equipment used by testing and calibration laboratories is considered by ILAC to be those items of equipment necessary to perform a test or calibration from the scope of accreditation and which have a significant effect on the uncertainty of measurement of test or calibration results. ILAC Member Bodies have agreed to investigate this issue further and to develop guidelines to differentiate between calibrations that are critical and less critical and to indicate how in the latter case the traceability requirements may be less rigorous.

ILAC – P 10

ILAC Policy on Traceability



Accredited calibration laboratories, for equipment and calibrations relevant to their scopes of accreditation, shall in all cases, where possible, derive their traceability either:

- directly from an appropriate national metrology institute or
- from a calibration laboratory that can demonstrate competence, measurement capability and traceability with appropriate measurement uncertainty, e.g. an accredited calibration laboratory (See: Notes 3 and 4).

Note 3:

It is recognised by ILAC that in some economies calibrations performed by verifying authorities appointed under their economies' legal metrology frameworks are also accepted. Legal metrology laboratories should also be encouraged by Accreditation Bodies and through their international and regional organisations to seek accreditation to ensure competence and safeguard proper traceability of their measurement and calibration results and to make their competence transparent to third parties.

Note 4:

ILAC considers an “appropriate “ national metrology institute to be one that participates regularly and successfully in relevant international interlaboratory comparisons performed by BIPM and/or by regional metrology bodies. ILAC encourages BIPM and regional bodies to conduct and publish details of as broad a range of international comparisons as possible to provide transparency on the equivalence and linkages of national measurement standards, which underpin accreditation activities. ILAC has taken note that the results of international comparisons carried out in the scope of the Metre Convention are published in Appendix B of the CIPM MRA (www.bipm.org).

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ILAC Policy on Traceability



Where the concept of traceability is relevant and technically possible, accredited testing laboratories shall be required by ILAC Member Bodies to ensure the traceability of their in-house calibration and/or accredited test results to an external calibration provider that is accredited for suitably small uncertainties or that can otherwise demonstrate its competence, or to a national metrology institute or national reference laboratory or to a certified reference material or mutual consent standard or agreed method (See: Notes 3 and 4).

Kalibrierlabor - Rückführung auf SI Einheiten

Anschluss an Primärnormale (über nationale Normale)

Bezug auf Naturkonstante

Prüfstelle

wie Kalibrierlabor, außer bei geringem Beitrag der Kalibrierung zur Gesamtunsicherheit

Einrichtungen müssen erforderliche Messunsicherheit liefern können

Rückführung auf geeignete Normale

zertifizierte Referenznormale

spezielle Verfahren und/oder Konsensnormale

- Kompetentes Kalibrierlabor
 - erfüllt ISO/IEC 17025
 - Akkreditierung ist ausreichender Nachweis
- Vergleich mit Normalen metrologischer Staatsinstitute
- Kalibrierschein muss auf Spezifikation des Normals verweisen
- die Kette von Vergleichen kann mehrere Schritte enthalten

- Definiert in ISO/IEC 17025 Pkt. 5.10
- besonderer Inhalt
 - Bedingungen unter denen kalibriert wurde
 - Messunsicherheit
 - Erfüllung einer bezeichneten metrologischen Spezifikation
 - Aufschluss über die messtechnische Rückführung
- ÖKD Logo oder Logo von MLA Partner bedeutet jedenfalls Nachweis der Kompetenz der Kalibrierstelle