CALIBRATION POLICY

Scope

All calibrations processed by our laboratories.

Overview

In the absence of any specific instructions from customers, we have set out herein our standardised default approach. This makes the processing of calibration work much more efficient and improves turnaround time considerably when compared with referring back to the customer for specific instructions every time we receive an item for calibration.

Should customers have any specific requirements for individual items, for example calibration points or methods, tolerances or features to be calibrated, they should put a note detailing these requirements with the items when they are sent for calibration.

Customers wishing to discuss anything other than specific requirements for an individual item or batch, should in the first instance contact the laboratory on 01257 244 670 or mail@lambda-cal.co.uk

Selection of methods

The vast majority of calibrations undertaken by us are carried out to written procedures. The basis for these procedures may come from a variety of sources e.g. BS, ISO or other written standards, calibration and measurement guides produced by national or international institutes, manufacturer's calibration guides, and commonly accepted industry best practice.

In the absence of any specific calibration instructions from the customer we would normally carry out a "routine" calibration to our standard procedures. And where we have various methods accredited for a particular type of instrument, we will use our judgement to select the most appropriate method based on such things as its age, type, accuracy, manufacturer.

We will of course refer back to the customer at times if we feel it is important to clarify certain things such as calibration points, etc.

Tolerances

A great many dimensional measuring instruments are manufactured to well defined BS, ISO or other written standards. These written standards often contain tolerances for the various features against which the gauge, instrument or tool can be judged during periodic recalibration.

Where there is a reference document or standard and the standard contains tolerances, we will generally use those tolerances. We may make an exception where a mainstream manufacturer makes a set of well defined tolerances widely available.

Where there is no suitable BS, ISO or other written standard or reference document, but the manufacturer publishes a set of well defined specifications, we will use those.

Where there is no suitable BS, ISO or written standard, and no suitable manufacturers' specifications, we may simply report the measured results of the calibration.

Pass/Fail statements, decision rules and calibration uncertainty

A pass/fail statement (or conformity statement) is typically a statement about whether a calibrated feature on an item conforms or does not conform to the acceptance criteria.

In its simplest form the acceptance criteria would be the tolerance zone for the feature.

A decision rule is a rule about what constitutes a pass or a fail. The simplest decision rule would Pass any result that falls within the tolerance zone, and Fail any result that falls outside the tolerance zone. This type of decision rule is called “simple acceptance”. It is a binary decision rule as it only has two possible outcomes, Pass or Fail.

However, if we accept that any reported calibration result has a level of uncertainty attaching to it. It then becomes obvious that with “simple acceptance” the bigger the uncertainty the greater the risk of false pass or false fail.

An alternative to “simple acceptance” might give rise to say four possible outcomes. For instance, if a result is in tolerance, or out of tolerance, but by an amount which is less than the uncertainty it would not be possible to know absolutely that the result was a Pass or Fail and the decision rule would need to cover the other possible outcomes. E.g. Marginal Pass or Marginal Fail.

The tolerances in a great many BS and other written standards were intended to be applied using a “simple acceptance” decision rule, and the calibration uncertainties inherent in the methods had already been considered when the tolerances were set. Because this approach keeps things simple it is the approach we prefer to take across the board.

Once again, it is worth noting that measurement uncertainty will affect the accuracy of a simple pass/fail statement, giving rise to the possibility of false pass or false fail. We aim to select methods which keep the measurement uncertainty relatively small compared with the size of the tolerance, though there are instances where this is not possible. We would not however make a pass/fail statement if the uncertainty were larger than the tolerance, unless the methodology in a written standard upon which the calibration is based called for it.

We will state the calibration uncertainty on certificates of calibration and customers can have sight of our general calibration uncertainties prior to submitting any items for calibration by referring to our UKAS schedule of accreditation.

To sum up: Our default approach, if we make a statement of conformity, is to use a simple Pass/Fail decision rule.

For more detailed information please see…
ISO/IEC Guide 98-4 "Role of measurement uncertainty in conformance assessment".
ILAC G8 "Guidelines on decision rules and statements of conformity".

Calibration certificates, labels and calibration due dates

We report calibration results in accordance with the requirements of ISO/IEC 17025 and UKAS Publication LAB 5.

We don’t normally put an end date or due date on a calibration certificate because it would be at odds with the above publications.

Calibration labels are treated differently purely for the convenience of the customer. By default we print a “due date” on calibration labels because it is what most customers want most of the time.

It is easy for us to turn this facility off and customers requiring this should contact the laboratory.

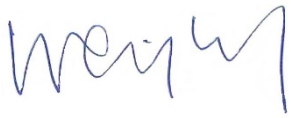
Calibration intervals

Most customers use a 12 month recalibration interval for their equipment.

Our database allows us to set individual calibration intervals for individual pieces of equipment, though the default interval is 12 months, again because it is what most customers want, most of the time.

Customers requiring different calibration intervals should contact the laboratory or send a written note in with their equipment.

Approved by



Managing Director
for and on behalf of the board of directors
Lambda Calibration Ltd

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