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1. Reference Thermometers


- 1.1 Laboratories shall possess reference thermometer(s) that cover the range in question.
- 1.2 The laboratory(s) reference thermometer(s) shall be traceably calibrated. The calibration shall be carried out by an accredited calibration laboratory body according to clause 5.6.2.1 of [ISO 17025:2005](#)
- 1.3 The laboratory(s) reference thermometer(s) shall only be used for control of the laboratory(s); operational thermometer and not be in daily operational use.
- 1.4 The Laboratory(s) reference thermometer shall be calibrated in accordance with the requirements in Section 1.2 according to a set timetable. **Liquid-in-glass thermometers will normally have a calibration interval of five years and thermocouples two years.**
- 1.5 Assuming the laboratory has the necessary competence, internal calibration of the thermometers may be accepted, after agreement with ENAS. In such cases, an approved procedure for the calibration shall exist. During assessment a calibration expert may be taken to assess their competence at least once in the accreditation cycle, or if there is any change in the authorized to do calibrations or if needed for some other reason. Uncertainty of measurement has to be calculated as

2. Operational Thermometers

- 1.4 Thermometers used in daily operation shall be controlled against a reference thermometer with accuracy and a range suiting the actual operational thermometer. There shall exist written routines for control of an operational thermometer against the reference thermometer where action criteria are specified. The results of controls shall be documented.

3. External Control of Thermometers

- 3.1 In cases where laboratories do not perform control of operational thermometers themselves (ref. Section 2.1), but have this work carried out by other departments within the same organisation or by an external firm, the laboratory shall at least ensure that:
- I. the calibration laboratory has necessary competence to carry out the task and has an unbroken chain of traceability to international standards
 - II. the procedure used is approved by ENAS;
 - III. the laboratory has the result of the control and has routines for evaluating this;

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- IV. the laboratory has copies of relevant calibration certificates for the reference normals used in the control;
- V. the internal revision also contains control procedures and those that carry out the control of the thermometers