

Proficiency testing: Pyrometer

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Provider of proficiency testing

Testo Industrial Services GmbH
Gewerbestraße 3
79199 Kirchzarten
GERMANY

Coordination

Janina Posdziech
Tel: +49 (7661) 90901 8780
Email: proficiencytesting@testotis.de

Pilot laboratory

DAkkS-Kalibrierlaboratorium D-K-15070-01-00
Testo Industrial Services GmbH
Temperature laboratory
Gewerbestr. 3
79199 Kirchzarten
GERMANY

1 Programme

A proficiency testing is carried out for calibrations of **pyrometers**. An **infrared thermometer** is sent as calibration object. The aim of the proficiency testing is to confirm the competence of the participating laboratories for the reported measurement uncertainties.

A surface or cavity emitter should be used as the measuring setup. Insets in liquid baths are also possible. The temperature deviation must be determined at the following measuring points: -18 °C, 0 °C, 100 °C, 200 °C and 350 °C.

1.1 Confidentiality

The participants undertake to maintain confidentiality with regard to the information and results obtained during the proficiency testing. Any subcontractors involved are contractually bound to the same confidentiality.

The results are presented in anonymised form in the final report.

1.2 Schedule / Procedure

Planned Start: August 2025

The proficiency testing takes place in a ring, whereby a calibration is carried out in the pilot laboratory before and after the calibrations of the participants and, if necessary, an interim test is scheduled after half of the participants.

Each participant has one calendar week to carry out the calibration and one calendar week to forward the calibration objects. If this is not possible, the coordinator must be informed, if possible even before the start of the proficiency testing. If necessary, the time periods will be adjusted due to delivery distances and public holidays.

The participants are responsible for an **insured and immediate forwarding** of the calibration items to the next participant or to Testo Industrial Services.

2 Realisation

2.1 Calibration object

Designation	IR-Thermometer	
Type	testo 835-T1	
Manufacturer	TESTO SE & CO. KGaA	
Serialno.	42916569	
Measurement range	-30 °C to 600 °C	

2.2 Measurement uncertainty

The measurement uncertainty must be specified as an expanded measurement uncertainty in accordance with EA-4/02 M:2022.

2.3 Assigned values

The assigned values are determined using the weighted average of all participant results from the accredited calibration laboratories. If this is not possible, the assigned values are determined as a reference value measurement in the pilot laboratory.

In addition, the stability of the calibration items is evaluated over the period of the proficiency testing and, if necessary, taken into account in the evaluation as a transfer uncertainty contribution.

2.4 Evaluation

The results are evaluated using the E_n -value for the assigned value. An acceptable result is achieved if $|E_n| < 1.0$.

3 Participation

3.1 Participants

This proficiency testing is primarily aimed at calibration laboratories that have or are seeking accreditation for the specified measurand.

Other laboratories can also participate as long as they calibrate according to the specified procedures, issue a report according to ISO 17025 and declare an expanded measurement uncertainty according to EA-4/02 M:2022.

3.2 Registration procedure

If interested, the laboratory will be sent an offer with the participation fees. Participation is considered binding as soon as the offer has been accepted and the order confirmation has been sent to the laboratory.

The registration deadline is enclosed with the offer.

Note: A minimum number of 7 participants is required for the organisation of this proficiency testing.

4 Further information

At the end of the proficiency testing, a draft of the final report is sent to the participants to review the results and their performance evaluation.

It is planned to present the results in anonymised form to the DKD Technical Committee.