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Planning of a calibration intercomparison with the calibration object in force. ILC force 2024:2

Proficiency testing provider (PT)

Swedish Metrology and Quality AB (SMQ) is organising this intercomparison on calibrations of:

1. Force calibration tensile and compression 10 kN (ISO 7500-1)
2. Extensometer calibration range 500 mm (EN ISO 9513)
3. Length position of the beam
4. Speed of the beam

Participants may choose the objects they want to calibrate.

This concept of the intercomparison on calibration has been decided by the advisory group related to this calibration areas. No subcontractors are involved in the intercomparison.

Participants in the intercomparison

There are three categories of laboratories that may participate in this comparison:

- Accredited laboratories
- Laboratories that will apply for accreditation.
- Laboratories that want to evaluate their calibration quality.

The result of the intercomparison will establish a base for the CMC values in calibrations for the laboratories.

The number of participants is minimum 4 and maximum 15.

Evaluation of values included in the intercomparison.

A consensus or reference value will be established as a base for calculations

Time schedule and detailed documented instructions

The time for calibration will be established in cooperation with the participants in week 35 and week 47 2025.

A detailed time schedule and technical instructions together with the reporting protocol in form of an excel document will be sent to the participants who have registered to the ILC.

Each participant will have access to the machines for maximum 4 hours and use its own method for calibration.

Preliminary data from the calibration shall be given to the organiser by e-mail directly after finishing the measurements. The final calibrating certificate may have the form you are used to and shall be sent as pdf-file one week after finalizing the work.

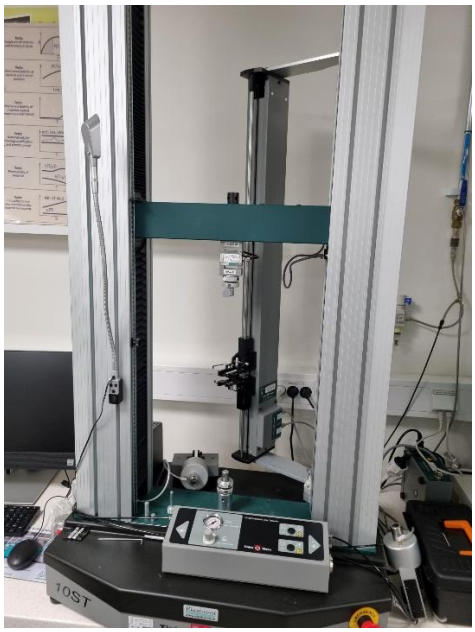
Calibration site

Elastocon AB
Twinnargatan 25
507 30 Brämhult
Borås, Sweden

The organiser will be present during the work.

Equipment to calibrate

Material testing machine

- Tinius Olsen
- 10 ST
- Measuring range 10 kN compression and tension
- 


Extensometer

Details will be given on site

Position of the beam

Details will be given on site

Speed of the beam

Details will be given on site

Calibration points

The participants shall calibrate according to their own method and use their reference equipment. The calibration points on force on 10 kN (compression and extension) will be:

- 1 kN
- 2 kN
- 3 kN
- 4 kN
- 5 kN
- 6 kN
- 7kN
- 8 kN
- 9 kN
- 10 kN

Calibration points on the extensometer will be:

- 1 mm
- 10 mm
- 20 mm
- 50 mm
- 100 mm
- 200 mm
- 500 mm

Calibration points on position of the beam

- 1 mm
- 10 mm
- 50 mm
- 100 mm
- 200 mm
- 500 mm

- 1000 mm

Observe that you can participate even if you cannot calibrate up to maximum capacity.

Statistical analyses that will be used

The organiser calculates the reference value based on the consensus principle and in some cases reference principle. That value will be used as reference in the calculations.

The formula described in ISO/IEC 17043:2023 annex B (B6) which gives En-values

Reporting

Participants shall send the calibration certificate to the organiser within one week after the calibrations are finished.

A draft report will be given to the participants within 4 weeks from the time when the last participant has reported the results in a calibration certificate.

The participant shall comment on the draft report within two weeks after receiving the draft report.

A participant not following the described reporting rules without giving reasons will be excluded from the report.

A participant may decide to leave the work before the draft report is distributed to the participants.

The participant may appeal to the full report if there are major faults in the report.

The report will be anonymously, and the participants will get an identification code related to the results in a separate e-mail.

Damaged PT item

The participant shall immediately inform the organiser about any damages on the PT item and the organiser will take appropriate actions.

Price for participation

Price for laboratories:

- Basic price 980 EUR on laboratories having more than 3 technicians and 750 for other laboratories EUR
- In addition, 350 EUR on calibration of force compression of force machine 10 kN
- In addition, 350 EUR on calibration on force tension of force machine 10 kN
- In addition, 260 EUR on calibration of the extensometer
- In addition, 260 EUR on calibration of length calibration of the position of the beam
- In addition, 260 EUR on calibration of speed of the beam

If the laboratory decides not to fulfil their part of the agreement the basic price shall be paid.