

# **APLAC M026 Square KOLAS Program Proposal**

## **Objective**

The aim of the program is to assess the ability of laboratories to competently perform square calibration and to ascertain whether laboratories achieve their accredited least uncertainty of measurement.

## **Organization**

This program will be coordinated by Korea Laboratory Accreditation Scheme (KOLAS). KOLAS will use the service provided by Korea Testing Laboratory (KTL). KOLAS will be responsible for inviting participants and assigning confidential codes to participating laboratories. KTL will provide the artifacts, prepare and dispatch artifacts and result sheets to the participants. KOLAS will collect calibration results from participants, and perform the analysis of the data and prepare the report with KTL.

## **Application Fee**

Free of charge.

## **Participants**

Laboratories from APLAC members will be invited through their accreditation bodies to participate. Each APLAC member may nominate up to a maximum of 2 laboratories from its economy and preference will be given to laboratories which have been accredited for this calibration. It is estimated that there will be a total of about 40 participant laboratories.

## **Artifacts**

As for the artifacts to be circulated, refer to the specification below.

- Manufacturer: Ocean
- Specification: 300 mm × 200 mm
- Type: I-Section

### **Stability of Artifacts**

The artifacts will be measured by the reference laboratory (KTL). KTL will check for the stability of the artifacts at the opening and closing of the program.

### **Circulation of Artifacts**

The artifacts are stored in rigid cases designed to restrict movement and prevent damage and rust to the artifacts. Two artifacts are prepared, the participants will be divided into two groups.

### **Calibration Procedures**

The measurement will be followed to normal method used in calibration interlaboratory comparison.

### **Reporting of results**

Within one week of the completion of the measurements, participating laboratories are required to send the Results Sheet, the Report of Uncertainty, Surface Condition Report of Square, and their Calibration Certificate to their accreditation body. No other documentation is required.

Uncertainties shall be calculated using the method in or the ISO Guide to the Expression of Uncertainty in Measurement or the EA-4/02 Expression the Uncertainty of Measurement in Calibration.

### **Analysis of results**

KOLAS and KTL will analyze the results and produce a report. KTL is a non-profit organization providing calibration service accredited by ISO/IEC 17025 and proficiency testing service accredited by ISO/IEC 17043.

The reference values and measurement uncertainty are derived from the average of 'before' calibrations and 'after' calibration carried out by the KTL. And the reference value will be reviewed by KOLAS and NMI.

The artifacts have already been used for KOLAS PT in 2011. The history of the performance and stability of the artifacts is known. The expected CMC levels of participants are  $1.8 \mu\text{m} \sim 5.0 \mu\text{m}$ .

## Performance Assessment

Performance of the participating laboratories is assessed using  $E_n$  which is a convenient and internationally accepted method of judging the quality of each measurement result.

$$E_n = \frac{LAB - REF}{\sqrt{U_{LAB}^2 + U_{REF}^2}}$$

According to APLAC PT 001 clause 3.9, Any allowance for drift or instability of the artifact will be included in  $U_{REF}$ .

## Program schedule

- Week 1-12     Invite participation and pre-condition artifacts in reference laboratory
- Week 12-66     Dispatch artifacts and collect results
- Week 66-72     Data analysis and issuance of interim report
- Week 72-76     Prepare draft report
- Week 76-81     Submit draft report to APLAC Proficiency Committee for approval
- Week 81-84     Print and issue final report

## Confidentiality

To preserve this confidentiality, participants receive reports giving all results for that assessment but without identifying individual laboratories. The code number assigned to a participant in this program is only made known to the contact person or authorized person of his laboratory and/or the respective accreditation body.

## Contacts

If you have any query or comment on the proposal, please send it to KOLAS or KTL

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