SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

KFA CAL
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CALIBRATION

Valid until: January 31, 2021 Certificate Number: 1604.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1, 8]:

I. Dimensional

Parameter/Equipment	Range	CMC[2] (±)	Comments
Paper Micrometers[3]	Up to 0.05 in	0.00002 in	Tappi T411
Micrometers[3]	Up to 1 in	0.0001 in	Gage blocks grade 2
Calipers[3]	Up to 6 in	0.001 in	Gage blocks grade 2

II. Dimensional Testing/Calibration[1]

Parameter/Equipment	Range	CMC[2, 7] (±)	Comments
Length (1D)[3, 6] – Measure	Up to 1 in Up to 6 in Up to 12 in	0.0001 in 0.001 in 0.01 in	Micrometer Caliper Steel rule

III. Mechanical

Parameter/Equipment	Range	CMC[2] (±)	Comments
Force Testers[3, 4] –	(0.01 to 5) kgf (0.25 to 20) lbf (0.25 to 100) lbf (100 to 1000) lbf	0.1 g 0.01 lbf 0.1 lbf 1 lbf	ASTM E4 by deadweights ASTM E4 by force gauge
Scales[3, 5] –			Handbook 44
Class I	10 mg to 200 g	0.2 mg	Class I deadweights
Class II	200 g to 10 kg	8 mg	
Class III	(10 to 25) kg	6 g	Class I and II deadweights

IV. Thermodynamics

Parameter/Equipment	Range	CMC[2] (±)	Comments
Ovens[3]	(23 to 200) ºC	0.7 ºC	Thermometer (Fluke 51)

[1] This laboratory offers commercial field calibration service.

[2] Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

[3] Field calibration service is available for this calibration and this laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

[4] Instruments calibrated for force include: Tensile testers, Compression testers, Force gages, Coefficient of Friction (ASTM 1894), MIT Fold (TAPPI T511), Elmendorf Tear (TAPPI T414), and Internal Bond (TAPPI T569).

[5] Instruments calibrated include: Analytical scales, Laboratory scales, Moisture scales, Class III scales and Counting scales.

[6] This laboratory meets R205 – *Specific Requirements: Calibration Laboratory Accreditation Program* for the types of dimensional tests listed above and is considered equivalent to that of a calibration.

[7] The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

[8] This scope meets A2LA's *P112 Flexible Scope Policy*.

Accredited Laboratory

A2LA has accredited

KFA CAL

Cave Creek, AZ

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets *R205 – Specific Requirements: Calibration Laboratory Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 5th day of December 2018.

President and CEO
For the Accreditation Council
Certificate Number 1604.01
Valid to January 31, 2021

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.