



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

LAKE SHORE INDUSTRIAL SERVICES, INC.
 2230 Caughey Road
 Erie, PA 16506
 Rebecca Giles Phone: 814 838 3539

CALIBRATION

Valid To: June 30, 2026

Certificate Number: 1505.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to the laboratory at the location listed above as well as the satellite laboratory location listed below to perform the following calibrations^{1, 5}:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2, 4} (±)	Comments
Length ³ – Micrometer Standards, Length Rods	Up to 24 in Up to 39 in	(17 + 5.3L) μin (110 + 7.3L) μin	Standard measuring machine, gage blocks, surface plate & height gage
Cylindrical Gages – Outside Diameter – Plugs Inside Diameter – Rings	Up to 24 in (0.375 to 10) in	(33 + 4.5L) μin (20 + 2.5L) μin	Standard measuring machine, master ring
Threads Diameter – Thread Plug – PD Thread Plug – MD Thread Rings Adjustable, Tactile Fit Set to Plug	Up to 24 in (4 to 80) TPI Up to 24 in Up to 8 in	(83 + 2.5L) μin (33 + 4.5L) μin (W) Tolerance Master Setting Plug	Standard measuring machine, thread wires & gage blocks Standard set thread plugs
Micrometers ³ Tri-Point Micrometers	Up to 48 in Up to 6 in	(58 + 5L) μin (61 + 4.4L) μin	Gage blocks Plain ring gage

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Calipers ³	Up to 60 in	(640 + 1.6L) μin	Gage blocks & set rings
Height Gages ³	Up to 36 in	(58 + 4.5L) μin	Gage blocks
Indicators ³	Up to 1 in Up to 6 in	60 μin 580 μin	Gage blocks, indicator calibrator & bench micrometer
Thickness Gages	(0.001 to 0.1) in	30 μin	Bench micrometer & gage blocks
Squares – Parallelism	Up to 36 in	270 μin	Granite square & test indicator
Protractors ³	(0 to 360)°	0.065°	Sine bar, gage blocks
Surface Analyzer (Ra) ³	(116 to 120) μin	6.3 μin	Roughness standard
Optical Comparators ³ – X, Y Axis Scales Angle Magnification	Up to 12 in Up to 45° 10X, 20X, 50X	(120 + 3L) μin 0.03° 190 μin	Glass scale Angle blocks Spheres & glass stage
Linear Measuring Machine / Universal Measuring Machine ³ – Length Force	Up to 80 in Up to 2 kgf	(12 + 6L) μin 37 gf (1.3 ozf)	Gage blocks Force gage
NPT Ring Gages Standoff Thickness	Up to 3 in dia Up to 1 in	2600 μin 140 μin	Height gage indicator, surface plate
NPT Thread Plug Gage Notch Depth	Up to 1 in	140 μin	Height gage indicator, surface plate

Parameter/Equipment	Range	CMC ² (±)	Comments
NPT Thread Plug Gage PD	Up to 3 in dia (4 to 80) TPI	100 μin	Gage block, bench mic, thread wires, & sine block

II. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Torque Wrenches ³	(10 to 100) lbf·in (30 to 300) lbf·in (25 to 250) lbf·ft (100 to 1000) lbf·ft	1.3 lbf·in 1.5 lbf·in 1.9 lbf·ft 8.9 lbf·ft	Torque transducer
Indirect Verification of Rockwell Hardness Testers ³	HRBW: Low Medium High HRC: Low Medium High	3.4 HRBW 1.3 HRBW 1.3 HRBW 1.5 HRC 1.5 HRC 0.94 HRC	Indirect verification method per ASTM E18

¹ This laboratory offers commercial calibration service and 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. 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 In the statement of CMC uncertainty, L is the numerical value of the nominal length of the device measured in inches and % applies the associated uncertainty at the full scale of the range.

⁵ This scope meets A2LA's *P112 Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

LAKE SHORE INDUSTRIAL SERVICES, INC.

Erie, PA

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 20th day of March 2024.

A blue ink signature of Mr. Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1505.01
Valid to June 30, 2026

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