

CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Calibration Services, Inc.
300 Buttertown Road
Emlenton, PA 16373

Fulfills the requirements of

ISO/IEC 17025:2017

and national standards

ANSI/NCSL Z540-1-1994 (R2002) and ANSI/NCSL Z540.3-2006 (R2013)

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document. The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 27 August 2026 Certificate Number: L1174-1









SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017 AND

ANSI/NCSL Z540-1-1994 (R2002) ANSI/NCSL Z540.3-2006 (R2013)

Calibration Services, Inc.

300 Buttertown Road Emlenton, PA 16373 William W. Stump III 800-793-1870 / 724-867-6664

CALIBRATION

Valid to: **August 27, 2026** Certificate Number: **L1174-1**

Length – Dimensional Metrology

Version 011 Issued: October 18, 2024

| Parameter/Equipment | Range | Expanded Uncertainty of Measurement (+/-) ² | Reference Standard, Method, and/or Equipment |
|---|--|---|---|
| Dimensional Extensometers and Deflectometers | (0.000 1 to 2) in | 120 µin | In accordance with ASTM E-83 Using length comparator |
| Dimensional LVDT and LDT Devices, Dial Indicators | (0.000 1 to 3) in | 120 µin | In accordance with ASTM D6027 Using length comparator and gage blocks |
| Dimensional Crosshead Displacement | (0.001 to 31) in | (50 + 190 <i>L</i>) μin | In accordance with ASTM E2309 Using Gauge Blocks and Dial Indicators |
| Dimensional Speed Controls | (0 to 0.1) in/min (0.1 to 0.5) in/min (0.5 to 1) in/min (1 to 5) in/min (5 to 20) in/min | 0.003 5 in/min 0.004 7 in/min 0.029 in/min 0.029 in/min 0.11 in/min | In accordance with ASTM E2658 |





Mass and Mass Related

Version 011 Issued: October 18, 2024

| Parameter/Equipment | Range | Expanded Uncertainty of Measurement (+/-) | Reference Standard, Method, and/or Equipment |
|---|--|--|---|
| Force in Compression ^{1, 4} Mechanical Testing Machines and Force Testing Devices | (60 to 800 000) lbf | 0.18 lbf + 0.15 % of reading | In accordance with ASTM E4 using Loading Cells |
| Force in Tension ⁴ Mechanical Testing Machines and Force Testing Devices | (45 to 60 000) lbf (45 to 250 000) lbf ³ | 0.18 lbf + 0.15 % of reading | In accordance with ASTM E4 using Loading Cells |
| Force in Compression and Tension ^{1,4} Mechanical Testing Machines and Force Testing Devices | (0.01 to 45 359) gf | 0.003 gf + 0.015 % of reading | In accordance with ASTM E4 using Dead Weights |
| Laboratory Balance / Scales Resolution 0.01 g Resolution 0.01 lb Resolution 0.1 lb | Up to 200 g (200 to 2 000) g Up to 10 lb (10 to 100) lb | 0.013 g 0.13 g 0.013 lb 0.12 lb | ASTM E-898 and CSI Procedure CAL 10.02A |
| Pneumatic Gauge Pressure - Pressure Transducers and Digital/Analog Pressure Gauges | Up to 100 psig (60 to 300) psig | 0.04 psig 0.06 psig | In accordance with CSI Procedure CAL 2.02A and ASTM D5720 |
| Hydraulic Gauge Pressure - Pressure Transducers and Digital/Analog Pressure Gauges | (300 to 1 000) psig (1000 to 10 000) psig | 0.37 psig 5.5 psig | In accordance with CSI Procedure CAL 2.02A and ASTM D5720 |
| Pneumatic Low Gauge Pressure and Vacuum Devices | (0 to -29.5) inHg (0 to 29.5) inHg (0 to -13.5) psig (0 to 15) psig | 0.05 inHg 0.05 inHg 0.025 psig 0.025 psig | In accordance with CSI Procedure CAL 2.02A |

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (*k*=2), corresponding to a confidence level of approximately 95%.





Notes:

- 1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
- L =length in inches.
- Tension by transfer.
- The CMC for weighing/force systems is highly dependent upon the resolution of the unit under test. The CMC presented here does not include the resolution of the unit under test. The resolution will be included in the reported measurement uncertainty at the time of calibration.
- This scope is formatted as part of a single document including Certificate of Accreditation No. L1174-1.

Jason Stine, Vice President



