



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Calibration Services, Inc.

300 Buttertown Road

Emlenton PA 16373

has been assessed by ANAB

and meets the requirements of international standard

ISO/IEC 17025:2005

and national standards

ANSI/NCSL Z540-1-1994 (R2002) and

ANSI/NCSL Z540.3-2006 (R2013)

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of calibrations to which this accreditation applies.

L1174-1

Certificate Number


ANAB Approval

Certificate Valid: 06/13/2018-08/27/2020

Version No. 003 Issued: 06/13/2018



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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).



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005,
ANSI/NCSL Z540-1-1994 (R2002), AND 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, 2020**

Certificate Number: **L1174-1**

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Dimensional Extensometers and Deflectometers	(0.000 1 to 2) in	280 μ in	In accordance with ASTM E-83/ISO 9513 Using length comparator
Dimensional LVDT and LDT Devices, Dial Indicators	(0.000 1 to 3) in	280 μ in	In accordance with ASTM D6027 Using length comparator and gage blocks
Dimensional Crosshead Displacement	(0.001 to 31) in	(50 + 190L) μ in	In accordance with ASTM E2309 Using Gauge Blocks and Dial Indicators
Dimensional Speed Controls	(0.001 to 20) in/min	(300 + 190L) μ in	In accordance with ASTM E2658

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Force in Compression ¹ Mechanical Testing Machines and Force Measurement Devices	(60 to 800 000) lbf	0.18 lbf + 0.15 % of reading	In accordance with ASTM E4 using Loading Cells



Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Force in Tension Mechanical Testing Machines and Force Measurement 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 Mechanical Testing Machines and Force Measurement Devices	(0.01 to 45 359) g	0.003 g + 0.015 % of reading	In accordance with ASTM E4 using Dead Weights
Pressure Transducers and Analog Gauges	(1 to 10 000) psi	0.005 psi + 0.15 % of reading	In accordance with ASTM D5720
Low Pressure and Vacuum Devices	(0 to 29.5) inHg	0.04 inHg – 0.15 % of reading	In accordance with AASHTO methods

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.
2. L = length in inches.
3. Tension by transfer.
4. This scope is formatted as part of a single document including Certificate of Accreditation No. L1174-1.



Vice President