



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

NATIONAL FORCE CALIBRATIONS PLUS LLC

2250 Lake Mist Drive
Chattanooga, TN 37421
Jeff Myrick Phone: 919 605 0311

CALIBRATION

Valid To: September 30, 2025

Certificate Number: 2621.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1, 6}:

I. Dimensional

Parameter/Equipment	Range	CMC ² (±)	Comments
Calipers ³	Up to 12 in (12 to 36) in	0.000 31 in 0.0026 in	Caliper calibrator, gage blocks

II. Mechanical

Parameter/Equipment	Range	CMC ^{2, 4} (±)	Comments
Force Transducers ³ – Tension & Compression	(0.10 to 2.0) lbf	0.000 16 lbf	ASTM E4 Class 1 weights
	(>2.0 to 10) lbf	0.000 17 lbf	Class 1, 2 weights
	(>10.0 to 2000) lbf	0.0048 lbf	Class F weights
	(40.0 to 2000) lbf	0.13 %	Load cell
	(2000 to 10 000) lbf	0.12 %	

Parameter/Equipment	Range	CMC ^{2, 4, 5} (\pm)	Comments
Force Transducers ³ – (cont)			ASTM E4
Tension Only	(10 000 to 100 000) lbf	0.13 %	Load cell
Compression Only	(10 000 to 50 000) lbf (50 000 to 600 000) lbf	0.12 % 0.21 %	
Speed of Materials Testing Instruments ³			ISO 5893, ASTM E2658
	(0.001 to 1.0) in/min	0.11 %	Heidenhain gages, stopwatch
	(>1.0 to 40.0) in/min	0.15 %	Encoder
Extensometers ³ –			ASTM E83
Gage Length	(0.5 to 4.0) in	0.000 92 in	Digital caliper
Travel	(0.005 to 1.0) in	0.000 056 in	Heidenhain glass scale
Displacement ³ – Measure			ASTM E 2309, ISO 5893
	(0.001 to 1.0) in	0.000 062 in	Heidenhain length gages
	(1.0 to 40) in	0.0017 in	Morehouse readout linear measurement
Scales ³			ASTM E898, NIST Handbook 44
	(0.0005 to 100) g (>100 to 1000) g (>1000 to 4000) g	0.21 mg 4.7 mg 21 mg	Class 1 weights
	(8.0 to 32) lb (>32 to 150) lb	0.0059 lb 0.079 lb	Class F weights
Pressure ³ – Measure			
	(0 to 100) psi	0.16 psi	Fluke pressure calibrator
	(100 to 5000) psi	0.41 % of range	Pressure transducers

III. Thermodynamics

Parameter/Equipment	Range	CMC ^{2,5} (±)	Comments
Temperature ³ – Measure	 (-100.0 to 200.0) °C (>200.0 to 500.0) °C (>500.0 to 700.0) °C (-50.0 to 200) °C	 1.6 °C 4.0 °C 7.3 °C 0.88 °C	 Elements of ASTM E145 section 4 Type T w/ Fluke 714 RTD

IV. Time & Frequency

Parameter/Equipment	Range	CMC ² (±)	Comments
Timers & Stopwatches ³	30 s to 24 hr	690 ms	High accuracy stopwatches

¹ This laboratory offers commercial 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, a percent is defined as the percentage of indicated value unless otherwise noted.

⁵ 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.

⁶ This scope meets A2LA's *P112 Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

NATIONAL FORCE CALIBRATIONS PLUS LLC

Chattanooga, TN

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 8th day of January 2024.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2621.01
Valid to September 30, 2025

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