



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
& ANSI/NCSL Z540-1-1994

GRAND RAPIDS METROLOGY, INC.
28500 Eureka Rd.
Romulus, MI 48174
Rich Burttis Phone: 734 942 0696

CALIBRATION

Valid To: January 31, 2020

Certificate Number: 1489.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations¹:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Calipers ³	Up to 24 in (< 24 to 60) in	(300 + 10L) μin (1400 + 1.2L) μin	Gage blocks
Dial Indicators ³	Up to 4 in	(76 + 91L) μin	Gage blocks
Height Gages ³	Up to 40 in	(600 + 41L) μin	Gage blocks
Micrometers ³ – Outside	Up to 6 in (< 6 to 60) in	(55 + 8L) μin (530 + 5L) μin	Gage blocks

II. Mechanical

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Torque ³ – Wrenches	(5 to 250) ft·lbf	0.86 % full scale	Torque transducers

Parameter/Equipment	Range	CMC ^{2, 5} (\pm)	Comments
Force ³ – Gages	Up to 1000 lbf	1.7R lbf	Verification with ASTM class 6 weights
Transducers	Up to 250 lbf (250 to 50 000) lbf (Up to 10 000) lbf— Tension and compression (10 000 to 50 000) lbf—Compression only	0.07 % full scale 0.12 % full scale	Load cell and meter
Analytical Balances ³	(0 to 300) g	0.59 mg	Verification with Class 1 weights
Balances ³	(300 to 1000) g (1000 to 2000) g (2000 to 10 000) g (10 000 to 20 000) g (20 000 to 40 000) g	0.002 % 0.002 % 0.002 % 0.002 % 0.002 %	Verification with Class 1, 3 and F weights
Scales ³	(0 to 200 000) lb	0.02 %	Verification with Class F weights

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 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 In the statement of CMC, R is the numerical value of the resolution of the device in pounds-force or in microinches, and L is the numerical value of the nominal length of the device measured in inches.

⁵ In the statement of CMC, percentages are percentage of reading, unless otherwise indicated.

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Accredited Laboratory

A2LA has accredited

GRAND RAPIDS METROLOGY, INC.

Romulus, MI

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and 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 9th day of February 2018.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 1489.02
Valid to January 31, 2020

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