



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005  
& ANSI/NCSL Z540-1-1994

CALIBRATION SPECIALISTS, LLC  
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Oak Ridge, NC 27310  
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CALIBRATION

Valid To: October 31, 2018

Certificate Number: 4089.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1</sup>:

I. Dimensional

Parameter/Equipment	Range	CMC <sup>2,4</sup> ( $\pm$ )	Comments
Outside Micrometers <sup>3</sup>	Up to 4 in (4 to 12) in (12 to 26) in	(99 + 4L) $\mu$ in (49 + 22L) $\mu$ in (840 + 22L) $\mu$ in	Gage blocks and gage balls
Inside Micrometers <sup>3</sup>	Up to 36 in	750 $\mu$ in	Gage blocks
Depth Micrometers <sup>3</sup>	Up to 12 in	(730 + 21L) $\mu$ in	Gage blocks
Calipers <sup>3</sup>	Up to 6 in (6 to 12) in (12 to 18) in (18 to 24) in (24 to 60) in	(240 + 95L) $\mu$ in (620 + 29L) $\mu$ in (720 + 3L) $\mu$ in (510 + 15L) $\mu$ in (560 + 4L) $\mu$ in	Gage blocks and plug gage
Indicators <sup>3</sup>	Up to 3 in	(56 + 40L) $\mu$ in	Comparator stand and gage blocks
Height Gages <sup>3</sup>	Up to 48 in	(690 + 11L) $\mu$ in	Gage blocks

Parameter/Equipment	Range	CMC <sup>2,4</sup> (±)	Comments
Plain Anvil OD Snap Gages (Adjustable or Fixed) <sup>3</sup>	Up to 12 in	(18 + 80L) μin	Gage blocks
Bench Micrometers – Length <sup>3</sup> Force <sup>3</sup>	Up to 10 in Up to 48 ozf	(23 + 6.3L) μin (0.34 + 0.02X) ozf	Gage blocks, force gage, and gage balls
Optical Comparators / Video CMM <sup>3</sup> – Linear Travel	Up to 12 in	(160 + 1L) μin	Comparison to master glass scales
Microscopes <sup>3</sup>	Up to 4 in	130 μin	Glass scale

## II. Mechanical

Parameter/Equipment	Range	CMC <sup>2</sup> (±)	Comments
Hardness Testers <sup>3</sup>	HRBW: < 60 ≥ 60 to < 80 ≥ 80  HRC: < 35 ≥ 35 to < 60 ≥ 60  HR15N: < 78 ≥ 78 to < 90 ≥ 90	0.41 HRBW 0.38 HRBW 0.27 HRBW  0.34 HRC 0.34 HRC 0.40 HRC  0.53 HR15N 0.46 HR15N 0.42 HR15N	Hardness blocks; ASTM E18 and ASTM E110

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<sup>1</sup> This laboratory offers commercial calibration service and field calibration service.

<sup>2</sup> 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. CMC's 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.

<sup>3</sup> 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.

<sup>4</sup> In the statement of CMC,  $L$  is the numerical value of the nominal length of the device measured in inches and  $X$  is the numerical value of the measured force of the device measured in ounce-force.



## Accredited Laboratory

A2LA has accredited

### CALIBRATION SPECIALISTS, LLC

*Oak Ridge, NC*

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 8 January 2009*).



Presented this 2<sup>nd</sup> day of August 2016.

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

President and CEO  
For the Accreditation Council  
Certificate Number 4089.01  
Valid to October 31, 2018  
Revised on August 21, 2017

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