



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

TESTCAL PLUS  
7100 Oakman Street  
Dearborn, MI 48126  
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CALIBRATION

Valid To: September 30, 2020

Certificate Number: 4306.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1,6</sup>:

I. Dimensional

Parameter/Equipment	Range	CMC <sup>2,4,5</sup> (±)	Comments
Calipers	Up to 200 mm (8 inches)	0.025 mm + 0.6R	Caliper fixtures, gage blocks
Extensometers <sup>3</sup> – Gage Length	(10 to 200) mm	0.21 mm	ASTM E83, digital caliper
Displacement Measuring Systems – Travel <sup>3</sup>	(0.1 to 100) mm	0.15 %	ASTM E2309 Digital glass scale

II. Mechanical

Parameter/Equipment	Range	CMC <sup>2,4,7</sup> (±)	Comments
Force <sup>3</sup> – Measuring Equipment	120 000 lbf (500 kN) 25 000 lbf (110 kN) 1000 lbf (4.5 kN) (0.01 to 45) lbs (200 N)	0.10 % 0.10 % 0.16 % 0.12 %	ASTM E4, load cells, dead weights

Parameter/Equipment	Range	CMC <sup>2, 4, 5, 7</sup> ( $\pm$ )	Comments
Extensometers <sup>3</sup>	(0.1 to 100) mm	0.10 %	ASTM E83, digital glass scale
Scales	(0.01 to 1000) lbf 4.5 g to 454 kg	0.01 % + 0.6R	ASTM E898 ASTM E4
Torque – Measuring Equipment	45 ft·lbf (60 N·m)	0.10 %	ASTM E2624

### III. Thermodynamics

Parameter/Equipment	Range	CMC <sup>2, 7</sup> ( $\pm$ )	Comments
Temperature – Measure	(-100 to 1300) °C	0.79 °C	Elements of ASTM E145 section 4 Thermocouples

### IV. Time & Frequency

Parameter/Equipment	Range	CMC <sup>2, 4</sup> ( $\pm$ )	Comments
Timers and Stopwatches – Measuring Equipment	30 s to 24 hrs	50 ms	High accuracy stop watch
Cross Head Speed <sup>3</sup> – Measuring Equipment	Up to 1000 mm/min	0.2 %	ASTM E2658 Digital glass scale or Encoder travel sensor

<sup>1</sup> This laboratory offers commercial 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. 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.

- <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, percentages are to be read as percent of reading, unless otherwise noted.
- <sup>5</sup> In the statement of CMC, *R* is the resolution of the unit under test.
- <sup>6</sup> This scope meets A2LA's *P112 Flexible Scope Policy*.
- <sup>7</sup> 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.

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## *Accredited Laboratory*

A2LA has accredited

### **TESTCAL PLUS**

*Dearborn, MI*

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 the requirements of ANSI/NCCL 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 3<sup>rd</sup> day of October 2018.

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President and CEO  
For the Accreditation Council  
Certificate Number 4306.01  
Valid to September 30, 2020

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