



World Class Accreditation

The American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

INSPECTION ENGINEERING L.L.C.

Westlake, OH

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 any additional program requirements in the field of calibration. 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 10th day of December 2010.





Peter Meyer

President & CEO
For the Accreditation Council
Certificate Number 1453.01
Valid to January 31, 2013

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



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

INSPECTION ENGINEERING L.L.C.
 30903 Viking Parkway
 Westlake, OH 44145
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CALIBRATION

Valid To: January 31, 2013

Certificate Number: 1453.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations and dimensional inspections¹:

I. Dimensional⁵

Parameter	Range	CMC ^{2,4} (±)	Comments
Coordinate Measuring Machines ³ – Linearity Volumetric	Up to 120 in Up to 120 in	(28 + 0.1L) µin (46 + 0.1L) µin	Gage blocks
Optical Comparators ³ – Linear Axis Magnification	(4 to 24) in 10x to 100x lenses	76 µin 0.05 % of measured length	Glass standards
Vision Systems ³ – Linear XY-Axis Z-Axis	Up to 26 in Up to 12 in	40 µin 62 µin	Glass standard
Calipers	(0 to 12) in	290 µin	Gage blocks

Parameter	Range	CMC ^{2,4} (±)	Comments
Micrometers	Up to 4 in	32 µin	Gage blocks
Cylindrical Pins and Plugs	(0.01 to 0.75) in	72 µin	Gage block, micrometer
Indicators	Up to 1 in	290 µin	Gage blocks
Functional Gages – Linearity Volumetric	Up to 40 in Up to 40 in	(28 + 0.1L) µin (46 + 0.1L) µin	Zeiss coordinate measuring machine
Roundness Machines ³	Up to 10 in diameter	50 µin	Master ball
Contour Machines ³	Up to 4 in	25 µin	Master ball
Surface Measurements ³	(0 to 2) in	25 µin	Max measuring range

II. Dimensional Testing⁶

Parameter	Range	CMC ^{2,4} (±)	Technique	Standards
Coordinate Measuring Machine ⁷ – Linearity Volumetric	Up to 64 in Up to 40 in	(28 + 0.1L) µin (46 + 0.1L) µin	Zeiss coordinate measuring machine	Customer specifications
Linear Measure ⁷ –	(0.001 to 8) in (0.0001 to 1) in (0.0001 to 1) in Up to 10 in Up to 12 in Up to 0.500 in	420 µin 52 µin 291 µin 89 µin 47 µin 580 µin	Calipers Micrometers Indicators Optical comparator Vision systems Pin gages	Customer specifications

¹ This laboratory offers commercial calibration, field calibration and dimensional testing services.

- ² Calibration and Measurement Capability (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. Calibration and Measurement Capabilities 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, L is the numerical value of the nominal length of the device measured in inches.
- ⁵ This laboratory offers dimensional calibration service.
- ⁶ This laboratory offers commercial dimensional testing service only.
- ⁷ This test is not equivalent to that of a calibration.