THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

JONES INDUSTRIAL SERVICE L.L.C.

Pemberville, 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 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 18 June 2005*).

AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION
CORPORATE SEAL 1978 DISTRICT OF COLUMBIA
A2LA

Presented this 23rd day of October 2007.

President
For the Accreditation Council
Certificate Number 1440.01
Valid to November 30, 2009

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

JONES INDUSTRIAL SERVICE
17221 Eisenhour Rd.
Pemberville, OH 43450
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CALIBRATION

Valid To: November 30, 2009 Certificate Number: 1440.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1]:

I. Dimensional

Parameter/Equipment	Range	Best Uncertainty[2, 4] (±)	Comments
Length Standards	(0 to 32) in	(15 + 10*L*) μin	ULM
Gage Blocks	(0 to 4) in (5 to 20) in	(4 + 3*L*) μin (55 + 10*L*) μin	Direct comparison, ULM
Micrometers[3] – Outside and Depth	(0 to 30) in	(0.6*R* + 30*L*) μin	Length standards and/or gage blocks
Calipers[3]	(0 to 40) in	(0.6*R* + 30*L*) μin	Length standards and/or gage blocks
Height Gages[3]	(0 to 40) in	(60 + 20*L*) μin	Length standards and/or gage blocks
Dial Indicators[3] Test Indicators[3]	(0 to 1) in (0 to 6) in (0 to 0.1) in	(0.6*R* + 120*L*) μin (0.6*R* + 30*L*) μin (0.6*R* + 30*L*) μin	Indicator calibrator Gage blocks Indicator calibrator

Parameter/Equipment	Range	Best Uncertainty[2, 4] (±)	Comments
OD Cylindrical Gages (Plugs, Pin and Disk)	(0 to 10) in	(15 + 10*L*) µin	Direct comparison, ULM
Roughness Specimens[3], ISO Type C	(5 to 150) µin	5 µin + 10 % of reading	Federal pocketsurf
Profilometer[3] – Indirect Verification of Ra Measurement	15 µin at 0.03 in cut-off 120 µin at 0.03 in cut-off	20 % of reading 5 % of reading	Roughness specimens, ISO Type C
Radius Gages	(0 to 1) in	0.006 in	Optical comparator
Rules	(4 to 40) in	(0.0007 +0.00016*L*) in	Optical comparator
Thread Plug Gages – Pitch Diameter and Major Diameter	(0.125 to 7) in and (4 to 40) TPI	100 µin	ULM Three wire method
Plain Ring Gages	(0.340 to 10) in (0.032 to 0.340) in	(40 + 10*L*) µin 23 µin	ULM ULM with electric touch probe
Thread Wires	(4 to 40) TPI	15 µin	ULM
Spheres and Precision Balls	(0 to 3) in	(20 + 10*D*) µin	ULM
Parallels	(0 to 36) in	(25 + 2*L*) µin	Electronic indicator and master gage blocks
Height Masters	(0.2 to 24) in	(30 + 10*L*) µin	Electronic indicators and gage blocks
Adjustable Thread Ring Gages – Functional Fit	(0.125 to 3) in	200 µin	Setting masters

II. Dimensional Testing

Parameter/Equipment	Range	Best Uncertainty[2, 4] (±)	Comments
Length – 1D	(0 to 20) in	(280 + 8*L*) μin	CMM (single axis)
Optical Comparator	(0 to 12) in	270 μin	Glass Scales

[1] This laboratory offers commercial and on-site calibration services.

[2] "Best Uncertainty" 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 of nearly ideal measuring equipment. Best uncertainties represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The best uncertainty of a specific calibration performed by the laboratory may be greater than the best uncertainty due to the behavior of the customer's device, to the environment and to influences from the circumstances of the specific calibration.

[3] On-site calibration service is available for this calibration. The uncertainties achievable on a customer's site can normally be expected to be larger than the Best Measurement Capabilities (BMC) that the accredited laboratory has been assigned as Best Uncertainty 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 uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the calibration uncertainty being larger than the BMC."

[4] In the statement of best uncertainty, *L* is the numerical value of the nominal length of the device measured in inches, *R* is the numerical value of the resolution of the device in microinches and *D* is the numerical value of the nominal diameter of the device measured in inches.