



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## *Certificate of Accreditation*

*Perry Johnson Laboratory Accreditation, Inc., has assessed the Laboratory of:*

**ISOCAL Laboratories, Inc.  
381-A Governors Highway  
South Windsor, CT 06074**

*(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:*

**ISO/IEC 17025:2005  
& Meets the Requirements of ANSI/NCSL Z540-1-1994**

*This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated January 2009):*

**Calibration of Dimensional, Mechanical,  
Thermodynamic, Time, Force, and Weighing Devices  
(As detailed in the supplement)**

*Such testing and/or calibration services shall only be offered at or from the address given above. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.*

For PJLA:

*The validity of this certificate is mandated through ongoing surveillance.*

Tracy Szerszen  
President/Operations Manager

Perry Johnson Laboratory  
Accreditation, Inc. (PJLA)  
755 W. Big Beaver, Suite 1325  
Troy, Michigan 48084

*Initial Accreditation Date:*

August 25, 2010

*Accreditation No.:*

68747

*Issue Date:*

January 14, 2011

*Certificate No.:*

L11-17

*Expiration Date:*

January 13, 2013

*Page No.:*

Page 1 of 4



# Certificate of Accreditation: Supplement

**ISOCAL Laboratories, Inc.**  
381-A Governors Highway  
South Windsor, CT 06074

*Accreditation is granted to this facility to perform the following calibrations:*

## Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	REMARKS
Angles, Sine Plates and Sine Bars	0.05° to 0.5°	0.01°	Direct Measurement
	0.007° to 45°	0.025°	Sine Bar and Gage Blocks
Bore Gage Chamfer Gage	0.025 in to 6 in	(154 + 15L) $\mu$ in	Master Rings
Calipers	0 in to 60 in	(578 + 15L) $\mu$ in	Gage Blocks, Rings
Electronic Probes	0.001 in to 0.030 in	18 $\mu$ in	Direct Comparison with Gage Blocks
Dial and Test Indicators	0.001 in to 0.030 in (Res. = 0.000 05 in)	58 $\mu$ in	
	0.001 in to 0.500 in (Res. = 0.000 1 in)	120 $\mu$ in	
	0.001 in to 1.000 in (Res. = 0.000 5)	280 $\mu$ in	
Gage Blocks	0.001 in to 4.000 in (Res. = 0.001 in)	600 $\mu$ in	
	0.005 in to 8 in	(3.8 + 1L) $\mu$ in	P&W Labmaster Federal Comparator Probe/Amplifier
	9 in to 20 in	(3.9 + 1.7L) $\mu$ in	
Height Master	6 in to 48 in	(60 + 3L) $\mu$ in	Direct Comparison with Gage Blocks
Height Gage	0.01 in to 12 in (Res. = 0.000 1 in)	(117 + 15L) $\mu$ in	
		0.001 in to 48.0 in (Res. = 0.001 in)	(1 156 + 15L) $\mu$ in
Level	0° to 0.007°	0.003°	Wylar Minilevel Gage Blocks
Length - Contact	0.001 in to 12 in	(22 + 4L) $\mu$ in	Supermicrometer
	0.001 in to 48 in	(274 + 6L) $\mu$ in	Horizontal Trimos
Linear - Optical	0.000 1 in to 8 in	(64 + 7L) $\mu$ in	VMS3020
	8.001 in to 16 in	(95 + 15L) $\mu$ in	S-T 2450
Micrometer	0 in to 36 in	(78 + 15L) $\mu$ in	Gage Blocks
Optical Comparator 6 in to 30 in Screen X axis length Y axis length	24 in maximum	(144 + 7L) $\mu$ in	Accu-Rite Stage Master Overlay and Gage Blocks



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## Dimensional

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Optical Comparator 6 in to 30 in Screen Magnification	10X 20X 31.25X 50X 100X 250X	0.02 % of magnification 0.04 % of magnification 0.07 % of magnification 0.1 % of magnification 0.2 % of magnification 0.5 % of magnification	Accu-Rite Stage Master Overlay and Gage Blocks
Diameters	0.001 in to 12 in	(22 + 4L) $\mu$ in	Supermicrometer
Setting Ring	0.040 in to 12 in	(16 + 7L) $\mu$ in	ID Comparator Gage Blocks
Profilometer	17 $\mu$ in to 118 $\mu$ in	3.6 $\mu$ in	Surface Finish Standard
Thread Plug Gage Pitch Diameter	0-80 to 12-16	(92 + 7L) $\mu$ in	Supermicrometer with Thread Wires
Thread Plug Gage Major Diameter	0-80 to 12-16	(22 + 4L) $\mu$ in	Supermicrometer

## Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	REMARKS
Torque Wrench	1 ozf-in to 200 lbf-in	1.3 % of reading	Calibrators
	50 lbf-ft to 150 lbf-ft	0.7 % of reading	
	150 lbf-ft to 600 lbf-ft	1.3 % of reading	
Torque Calibrator	10 ozf-in to 300 lbf-ft	0.2 % of applied load	Dead Weights Torque Arm
Pressure	26 inHg to 32 inHg	0.2 inHg	Master Barometer
	0 psi to 300 psi	0.1 % of reading	Druck Calibrator
	301 psi to 10 000 psi	0.05 % of reading	Dead Weight Tester



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## Mass, Force, and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	REMARKS
Force - Tension and Compression	0.01 lbf to 100 lbf	0.08 % of applied load	Dead Weights
	101 lbf to 200 lbf	0.93 % of applied load	Calibrator
	201 lbf to 5 000 lbf	5 lbf	Proving Ring
Scales and Balances	0.01 g to 200 g	0.7 mg	ASTM Class 1 Weights
	201 g to 3 300 g	0.2 g	
	3 301 g to 40 kg	2.0 g	ASTM Class 3 Weights
	50 lb to 300 lb	0.12 lb	ASTM Class 7 Weights

## Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	REMARKS
Temperature			Precision Master Thermometer
Glass	30 °C to 300 °C	0.9 °C	Type R Master
Type R Thermocouple	30 °C to 300 °C	1.3 °C	Fluke 5101
Type K Thermocouple	30 °C to 300 °C	1.8 °C	Drywell
Temperature	60° F to 90 °F	0.2 °F	RTD Standard
Humidity	20 % to 100 % RH	5 % RH	Psychrometer

## Time and Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	REMARKS
Timer	5 s to 60 min	0.2 s	Master Clock

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represent the smallest measurement uncertainties attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is expressed at a confidence level of 95 % using a coverage factor  $k$  (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. Remarks: This column shall include pertinent information about the calibration of the Measured Instrument or parameter. The information should include the type of standards used and any pertinent information about the measurement method. This column is not to be used for commercial advertisement of laboratory services.
3. The term L represents length in inches or millimeters appropriate to the uncertainty statement.