

PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

***Precision Standards International
11337 Distribution Ave. W.
Jacksonville, FL 32256***

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

ISO/IEC 17025: 2005

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

***Mechanical (including Force and Torque & Nuclear Density (soil) Measurement),
Mass, Dimensional, and Thermodynamic Calibration
(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)
26555 Evergreen, Suite 1325
Southfield, Michigan 48076

Initial Accreditation Date:

March 06, 2009

Issue Date:

March 06, 2009

Expiration Date:

March 05, 2011

Accreditation No.:

63923

Certificate No.:

L09-21

Page No.:

Page 1 of 3

Certificate of Accreditation: Supplement

Precision Standards International
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Accreditation is granted to this facility to perform the following calibrations:

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Length Standards	0 cm to 60.96 cm (0 in to 24 in)	$(0.55 + 3.97 \times 10^{-2}L) \mu\text{m}$ (L = length in cm) $[(21.17 + 4.0L)\mu\text{in}]$ (L = length in in)	End rods Ceramic Block Sets
Calipers and Micrometers	0 cm to 60.96 cm (0 in to 24 in)	16.5 μm (650 μin)	Gage Blocks

Mass, Force, and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Scales/Balances with 0.001 g Resolution	0.002 g to 200 g	1.3 mg	Class 1 Standards
Scales/Balances with 0.01 g Resolution	0.01 g to 40 000 g	$(13 + 5.43 \times 10^{-3} \text{wt}) \text{mg}$ (wt = weight in grams)	Class 2 Standards
Scales/Balances with 0.01 lbm Resolution	1lb to 50 lb	0.06 lb	Class F Standards
Scales/Balances with 1 lbm Resolution	50 lb to 2 000 lb	0.6 lb	Class F Standards
Compression –Tension	418 N to 8 896 N (94 lbf to 2 000 lbf)	2.7 N (0.6 lbf)	Load Cells

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Pressure	0 kPa to 68 947.57 kPa (0 psi to 10 000 psi)	$(3.99 + 2.14 \times 10^{-4}P) \text{kPa}$ (P = pressure in kPa) $[(0.58 + 2.12 \times 10^{-4}P) \text{psi}]$ (P = pressure in psi)	Crystal Engine Corp Gage 1533
Torque	0 N·m to 1 355.8 N·m (0 lbf·ft 1 000 lbf·ft)	$(0.52 + 0.037T) \text{N}\cdot\text{m}$ (T = torque in N·m) $[(0.379 + 0.037T) \text{lbf}\cdot\text{ft}]$ (T = torque in lbf·ft)	CDI Torque Transducer
Nuclear Density Gauges	1 768.4 kg/m^3 to 2 691.1 kg/m^3 (110.4 pcf to 168.0 pcf)	3.97 kg/m^3 (0.248 pcf)	ASTM D7013-04 for Facility Setup

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

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Temperature	0 °C to 425 °C (32 °F to 797 °F)	(0.44 + 1.41 x 10 ⁻³ T) °C (T = temperature in °C) [(0.18 °F + 2.12 x 10 ⁻³ T) °F] (T = temperature in °F)	Omega CL780A

Time and Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	REMARKS
Stop Watches	15 s to 24 h	500 ms	NIST Time Standard

1. 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.