# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

# *Certificate of Accreditation*

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

## *Stadia Servicios de Calibración*

***San Pedro Mezquital No. 4175, Colonia Mirasol***
***Mexicali, Baja California, México C.P. 21396***

*(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-ILAC-IAF Communiqué dated April 2017):

## *Dimensional, Thermodynamic, Electrical, Mechanical and Mass, Force and Weighing Devices Calibration*

***(As detailed in the supplement)***

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. 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:

Tracy Szerszen
President/Operations Manager

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

| *Initial Accreditation Date:* | *Issue Date:* | *Expiration Date:* |
|---|---|---|
| October 25, 2017 | October 25, 2017 | December 31, 2019 |
| *Revision Date:* | *Accreditation No.:* | *Certificate No.:* |
| December 01, 2018 | 93557 | L17-456-R1 |

*The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com*

# *Certificate of Accreditation: Supplement*


**Stadia Servicios de Calibración**

San Pedro Mezquital No. 4175, Col. Mirasol
Mexicali, Baja California, México C.P. 21396
Contact Name: Rodolfo Ley Castro. Phone: 686-185-3236


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

## Dimensional

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|---|---|---|---|
| Caliper[F] | 0.1 in to 24 in | (620 + 0.9L) µin | Block Grade 0 |
| Dial Indicator[F] | 0.005 in to 0.03 in | 475 µin | |
| Micrometer[F] | 0.1 in to 2 in | (57 + 1.9L) µin | |
| Height Gage[F] | 0.1 in to 24 in | (582 + 0.7L) µin | |

## Thermodynamic

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|---|---|---|---|
| Oven (Furnace) Temperature Uniformity Test[O] | 65 °C to 500 °C | 2.5 °C | Data Logger Multithread SX |
| Oven (Furnace) System Accuracy Test[O] | 65 °C to 500 °C | 2.5 °C | Thermocouple Calibrator Fluke 714B |
| IR Thermometer[F] | 10 °C to 100 °C | 1.2 °C | BX-500 Infrared Calibrator |
| | 101 °C to 500 °C | 3.5 °C | |
| Hygrometer[F] | 10 % RH to 90 % RH | 1.2 % RH | Humidity Chamber and Vaisala M170/ HMP76B |

## Electrical

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|---|---|---|---|
| Electrical Simulation of Temperature Controllers[FO] | 10 °F to 2 000 °F | 3.1 °F | Thermocouple Calibrator Fluke 714B |

## Mechanical

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|---|---|---|---|
| Pressure Gage[F] | -14.7 psi to 30 psi | 0.2 psi | Fluke 700G04 CPG2500 Mensor Pressure Gage |
| | 0.1 psi to 500 psi | 0.2 psi | |
| | 500 psi to 3 000 psi | 1.06 psi | |
| Indirect Verification of Rockwell Hardness Tester HRC[O] | 24.21 HRC | 1.2 HRC | Hardness Test Blocks |

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## Mechanical

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|---|---|---|---|
| Indirect Verification of Rockwell Hardness Tester HRC$^{O}$ | 44.03 HRC | 1.2 HRC | Hardness Test Blocks |
| | 60.81 HRC | 0.7 HRC | |
| Indirect Verification of Rockwell Hardness Tester HRBW$^{O}$ | 32.02 HRBW | 2.1 HRBW | |
| | 72.32 HRBW | 1.5 HRBW | |
| | 91.41 HRBW | 1.5 HRBW | |
| Indirect Verification of Rockwell Hardness Tester HREW$^{O}$ | 64.35 HREW | 1.4 HREW | |
| | 84.73 HREW | 1.4 HREW | |
| | 93.61 HREW | 1.4 HREW | |

## Mass, Force and Weighing Devices

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|---|---|---|---|
| Electronic Top Loading Balance$^{FO}$ | 1 mg to 6 000 mg | $(0.25 + 1.8 \times 10^{-4}\text{Wt})$ mg | Class F Weights |
| Bench Scale$^{FO}$ | 0.001 lb to 100 lb | 0.6 lb | |

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically 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. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.

3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer$^{F}$ would mean that the laboratory performs this calibration at its fixed location.

4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations. Example: Outside Micrometer$^{O}$ would mean that the laboratory performs this calibration onsite at the customer's location.

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

5. The presence of a superscript FO means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer$^{FO}$ would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.

6. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.

7. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.

8. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.