PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Regiocal Metrologia / Athziri Jair Orlando Orta Padilla

Avellana 319, Col. Los Almendros, Pedregal de Linda Vista, 2do Sector
Guadalupe, Nuevo León, México. C.P. 67110

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

ISO/IEC 17025:2017

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):

Mass, Force and Weighing Devices, Dimensional, Mechanical, Chemical, Time and Frequency, Optical and Thermodynamic 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:

DRAFT

Tracy Szerszen
President

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

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
October 15, 2024	October 15, 2024	December 31, 2026

Accreditation No.:	*Certificate No.:*
124069	L24-786

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

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Avellana 319, Col. Los Almendros, Pedregal de Linda Vista, 2do Sector
Guadalupe, Nuevo León, México. C.P. 67110
Contact Name: Jair Orlando Orta Phone: 811-961-1377

Accreditation is granted to the facility to perform the following calibration:

Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Analytical Balance[O]	0.001 g to 220 g (Res.= 0.000 1g)	$(5.4 \times 10^{-4} + 6.23 \times 10^{-6}Wt)$ g	Class F1 Weights	NOM-010-SCFI-199 Euramet_cg-18
Precision Balance[O]	220 g to 10 000 g (Res.= 0.001 g)	$(9 \times 10^{-4} + 7.14 \times 10^{-6}Wt)$ g		
Scales[O]	5 kg to 200 kg (Res.= 0.001 kg)	$(1.3 \times 10^{-3} + 1.38 \times 10^{-4}Wt)$ kg	Class M2 Weights	Euramet_cg-18
Weighting Devices[O]	200 kg to 10 000 kg (Res.= 0.1 kg)	$(1.2 \times 10^{-1} + 2.2 \times 10^{-4}Wt)$ kg		Euramet_cg-18 Substitution Load
Mass Class F2, M1 Weights[F]	0.1g	0.05 mg	Class F1 Weights and Analitycal Balance	OIML R111
	0.5g	0.05 mg		
	1g	0.13 mg		
	2g	0.16 mg		
	5 g	0.18 mg		
	10g	0.22 mg		
	20g	0.28 mg		
	50g	0.29 mg		
	100g	0.18 mg		
	200g	0.34 mg		
	500g	0.13mg		
	1 kg	19 mg	Class F1 and M1 Weights and Precision Balance	
	2 kg	35 mg		
	5 kg	150 mg		
	1 0kg	580 mg		
	20 kg	580 mg		

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Calipers[FO]	0.105 in to 24 in	$(7.7 + 1.1 \times 10^{-2}L)$ µin	Gauge Block Grade 0	NMX-CH-002
Micrometer[FO]	0.5 mm to 600 mm	$(7.2 \times 10^{-1} + 1.8 \times 10^{-5}L)$ µin	Gauge Block	NMX-CH-093
Height Gauges[FO]	0.105 in to 24 in	$(5.51 \times 10^{-3} + 3 \times 10^{-6}L)$ mm		NMX-CH-141
Dial Indicator[FO]	Up to 1 in	$(4.7 + 4 \times 10^{-3}L)$ µm	Micrometric Head	NMX-CH-149
Tape[F]	0.001 m to 8 m	0.1 cm	Metal Rule Reticule	NOM-046-SCFI

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Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Rule[F]	0.5 mm to 1 000 mm	0.006 cm	Metal Rule Reticule	NMX-CH-148
Angle Meter[F]	Up to 90º	0.007°	Angle Block	NMX-CH-151
Roughness Tester Ra (Fixed point)[FO]	2.94 µm	0.08 µm	Standard Roughness	NMX-CH-12179
Roughness Tester Ry (Fixed point)[FO]	9.3 µm	0.028 µm		
Surface Plate[O]	150 mm to 1 500 mm	1.1 µm	Repeat o Meter	JIS B 7513
Coating Thickness Gauges[FO]	50 µm to 1 900 µm	0.64 µm	Foils Standard	Defelsko Procedure

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Pressure Gauges[FO]	-1 psi to -15 psi	0.6 % of reading	Digital Manometer	NOM-013-SCFI
	Up to 5 000 psi	0.6 % of reading		
Torque Gauges[F]	3.5 N·m to 35 N·m	1 % of reading	Torque Transducer	NMX-CH-6789
	36 N·m to 135 N·m	1 % of reading		
	162 N·m to 810 N·m	1 % of reading		
Force Compression and Tension Gauges[O]	Up to 222 411.08 N	0.1 % of reading	Load Cells	NMX-7500

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Viscosity Meter[O]	485 Pa·s to 4 850 Pa·s	0.58 % of reading	Standard Oil	ASTM D 7042

Time and Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Stopwatch[FO]	0.01 s to 86 400 s	16 s/day	Stopwatch	NIST 960 12
Tachometer Not Contact[FO]	1 rpm to 10 000 rpm	0.2 % of reading	Process Meter	AS 432

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Accreditation is granted to the facility to perform the following calibration:

Optical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Glossmeter[FO]	20º 93.5 GU 60º 92.5 GU 85º 95.7 GU	0.5 GU	Gloss Standard	ASTM D523
Spectral Reflectance[FO] Cie* L Cie* a Cie* b	Color Values 0 to 100 -28 to 36 -26 to 63	 0.34 Units 0.54 Units 0.57 Units	Standard Tiles	NPL Practice Guide No. 96
Illuminance Light Booth[FO]	100 lux to 6 000 lux	1 % of reading	Radiometer	ASTM D-1729
Color Light Light Booth[FO]	2 856 K	20 K		
Luxmeter[F]	100 lux to 6 000 lux	2 % of reading		Technical Guide CENAM
Spectrophotometers Transmittance[FO]	1 % T to 30 % T	0.27 % of reading	Neutral Density Filters	
	λ: 230 nm to 730 nm	0.27 % of reading		

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Bimetallic Thermometer and Direct Reading Thermometer[FO]	-20 to 500 ºC	1.2 ºC	UNIT Process Calibrator Model UT 714	Euramet cg-20
Temperature Controllers[FO]	-20 ºC to 1 100 °C	0.5 ºC	Fluke 724 and Thermocouple type K	
Equipment to Generate Temperature[FO]	-40 to 1 200 ºC	1.9 ºC		
Thermohygrometer (Relative Humidity)[FO]	30 % RH to 90 % RH	2.2 % RH	Thermohygrometer Humidity Chamber	CENAM Technical Guide
Thermohygrometer (Temperature)[FO]	25 ºC to 50 ºC	0.35 ºC		
IR Thermometer[FO]	20 ºC to 500 ºC	1.4 ºC	Black Body	
Liquid in Glass Thermometers[FO]	-20 °C to 200 ºC	0.6 ºC	UNIT Process Calibrator Model UT 714 with RTD Dry Well	Euramet cg-20

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Accreditation is granted to the facility to perform the following calibration:

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.

4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations.

5. 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.

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

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