PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Bluemetric, S.A. de C.V.

Blvd. Antonio L. Rodriguez No. 3000, Int. 1101, Torre Albia, Col. Santa María
Monterrey, Nuevo León, México, C.P. 64650

(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):

Dimensional, Thermodynamic 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

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
July 15, 2022	July 14, 2024	September 30, 2026

Accreditation No.:	*Certificate No.:*
108620	L24-538

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

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

Bluemetric, S.A. de C.V.
Blvd. Antonio L. Rodriguez No. 3000, Int. 1101, Torre Albia, Col. Santa María
Monterrey, Nuevo León, México, C.P. 64650
Contact Name: Mario Mendoza Flores Phone: 818-315-5764

Accreditation is granted to the 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 (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Outside Micrometer[F]	2.5 mm to 203.2 mm	$(4 \times 10^{-4} + 1 \times 10^{-4}L)$ mm	Gauge Blocks Grade 1	JIS B 7502
Caliper[F]	2.5 mm to 457.2 mm	$(0.0058 + 2.41 \times 10^{-5}L)$ mm	Gauge Blocks Grade 1	JIS B 7507
Coating Thickness Gauge Ferrous Base/ Gauge Non-Ferrous Base[F]	22.8 µm to 1 465 µm	$(1.58 + 1.3 \times 10^{-3}L)$ µm	Certified Standards Shims	ASTM E 376
Ultrasonic Thickness Gauge[F]	2.5 mm to 12 mm (Res.= 0.001 mm)	$(1.4 \times 10^{-3} + 1 \times 10^{-5}L)$ mm	Block Set Grado 1, 5- Step Thickness Reference Blocks	ASTM E 797
Ultrasonic Thickness Gauge[F]	2.5 mm to 100 mm (Res.= 0.1 mm)	$(0.079 + 2 \times 10^{-4}L)$ mm		ASTM E 797

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
Infrared Thermometer[F]	50 °C to 500 °C	$(0.42 + 2.9 \times 10^{-3}T)$ °C	Black Body Fluke IR 566	CENAM Technical Guide
Bimetallic Thermometer[F]	50 °C to 250 °C	0.36 °C	Dry Well Calibrator Fluke 724	TH-001 CEM
Thermohygrometer Humidity Only[F]	30 % RH to 80 % RH	1.3 % RH	Novus Humidity Chamber	TH-007 CEM
Thermohygrometer Temperature Only[F]	20 ºC to 40 ºC	0.6 °C	Novus Humidity Chamber	TH-007 CEM

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[FO]	10 g to 300 g (Res.= 0.001 g)	$(1.2 \times 10^{-3} + 3 \times 10^{-6}Wt)$ g	Class F1 Weights	Euramet cg.18
	300 g 500 g (Res.= 0.01 g)	$(7.5 \times 10^{-3} + 3 \times 10^{-6}Wt)$ g		
Balances and Scale[FO]	500 g to 2 000 g (Res.= 0.01 g)	$(9.3 \times 10^{-3} + 3 \times 10^{-6}Wt)$ g		
	2 000 g to 5 000 g (Res.= 0.1 g)	$(7 \times 10^{-2} + 7 \times 10^{-6}Wt)$ g		
	5 000 g 20 000 g (Res.= 1 g)	$(6.8 \times 10^{-1} + 1 \times 10^{-5}Wt)$ g		

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

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
Balances and Scale^{FO}	20 000 g to 60 000 g (Res.= 5 g)	(2.9 + 3 x 10^{-7}Wt) g	Class F1 Weights	Euramet cg.18
Force Meter-Tension (Dynamometer)^{F}	9.81 N to 98.1 N	0.19 % of reading	Load Cell Interface	ISO 7500-1
	98.11 N to 490.33 N	0.28 % of reading		
	490.34 N to 980.7 N	0.22 % of reading		
	980.71 N to 9 806.7 N	0.18 % of reading		
	9.81 kN to 98.07 kN	0.2 % of reading		
Force Meter-Compression (Dynamometer)^{F}	9.81 N to 98.1 N	0.18 % of reading		
	98.11 N to 490.33 N	0.27 % of reading		
	490.34 N to 980.7 N	0.22 % of reading		
	980.71 N to 9 806.7 N	0.17 % of reading		

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.

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

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.

8. The term T represents temperature in ºC or ºF as appropriate to the uncertainty statement.