



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Metrosmart, S.A. de C.V. / Metrokal

***Alcatraz 23, Paseo del Pedregal Salitre
El Salitre, Querétaro, México. C.P. 76223***

*(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 Inspection, Thermodynamic and Mechanical Testing (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

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

Initial Accreditation Date:

June 26, 2018

Issue Date:

December 03, 2022

Expiration Date:

December 31, 2024

Revision Date:

October 13, 2023

Accreditation No.:

74050

Certificate No.:

L22-819-4-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

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Alcatraz 23, Paseo del Pedregal Salitre
 El Salitre, Querétaro, México. C.P. 76223
 Contact Name: Efrain Calva Gomez Phone: 442 220 7054

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

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT			
Dimensional Inspection ^F	Fixtures and Parts All kind of Material	Geometrical and Dimensional Tolerances (GD&T)	ASME Y14.5 CMM	Measurement Volume 2 000 x 3 300 x 1 500 mm Uncertainty (3.22 + 0.001 8L) μm 0.004 °arch (Res.= 0.001 mm)			
				Measurement Volume 700 x 1 000 x 700 mm Uncertainty (3.22 + 0.001 8L) μm 0.004 °arch (Res.= 0.001 mm)			
				Measurement Volume 900 x 1 200 x 800 mm Uncertainty (3.22 + 0.001 8L) μm 0.004 °arch (Res.= 0.001 mm)			
			ASME Y14.5 PCMM (Romer)	0.025 4 mm to 3 m (Res.= 0.001 mm)			
			ASME Y14.5 Tracker Laser	0.1 m to 80 m (Res.= 0.05 mm)			
			ASME Y14.5 Digital Scanner	0.1 m to 3 m (Res.= 0.05 mm)			
			Parts, All kind of Material	Contour Measurement X Axis	Contour Instrument ISO 12179 VDI/VDE 2629	Up to 60 mm Uncertainty (0.12 + 5L) μm	
						Contour Measurement Z Axis	Up to 60 mm Uncertainty (0.12 + 5L) μm
						Contour Measurement Radius	Up to 80 mm Uncertainty (1.7 + 4.5L) μm
						Contour Measurement Angle	Up to 180° Uncertainty 0.28°
Dimensional Inspection ^O	Vertical, Cylindrical, Aboveground, Closed- and Open-Top, Welded Storage Tanks	Plumbness and Roundness	API 650 Section 7 API 653 Section 10 ASTM A6 ASTM A20 Total Station Theodolite Metric Tape from	1 m to 75 m			



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Thermodynamic ^o	Environmental Chamber and Environmental Stabilities Chamber (Temperature and % Relativity Humidity)	Design Installation Operating Performance	IEC 60068-3-5 (3.5; 3.7; 3.1 Numeral 4.4, page 15-IEC 60068-3-11 (3.1; 3.27; 3.13; 7.7.8; 3.4; 3.12; 7.7.7; 3.21) DKD-R-5-7 (Numeral 5, clause a paragraph 3, page 8) Numeral 5, clause b paragraph 3, page 9, Numeral 6, page 9 and 10)	0 °C to 100 °C 10 % RH to 90 % RH
Thermodynamic ^o	Refrigerator	Design Installation Operating Performance	- IEC 60068-3-5 (3.5; 3.7; 3.1; Numeral 4.4, page 15 - IEC 60068-3-11 (3.1; 3.27; 3.13; 7.7.8; 3.4; 3.12; 7.7.7; 3.21) - DKD-R-5-7 (Numeral 5, Clause a Paragraph 3, page 8) Numeral 5, Clause b Paragraph 3, Page 9, Numeral 6, Page 9 and 10)	-10 °C to 20 °C
	Incubators	Design	- IEC 60068-3-5	0 °C to 150 °C
	Liquid Bath	Installation	(3.5; 3.7; 3.1; Numeral 4.4, page 15	-20 °C to 250 °C
	Oven and Muffle	Operating Performance	- IEC 60068-3-11	25 °C to 900 °C
	Saline Chamber (Temperature and % Relativity Humidity)		(3.1; 3.27; 3.13; 7.7.8; 3.4; 3.12; 7.7.7; 3.21) - DKD-R-5-7 (Numeral 5, Clause a Paragraph 3, Page 8)	0 °C to 100 °C 10 % RH to 90 % RH
	Stoves		Numeral 5, Clause B Paragraph 3, Page 9, Numeral 6, Page 9 and 10)	0 °C to 150 °C
	Warehouse Temperature Conditions			-10 °C to 100 °C
	Furnaces–Mufflers	Characterization	DKD-R-5-7	0 °C to 420 °C 420 °C to 900 °C



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 Contact Name: Efrain Calva Gomez Phone: 442 220 9707

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

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Thermodynamic ^O	Climatic Chambers, Refrigerating (Freezer) Chambers, Autoclave & Incubators	Characterization	DKD-R-5-7	-50 °C to 420 °C
	Autoclave & Incubators		DKD-R-5-7	-50 °C to 420 °C
	Water Baths, Dry Well		DKD-R-5-7	-50 °C to 900 °C
	Climatic Chambers	Characterization	DKD-R-5-7 Set Dataloggers	10 % RH to 90 % RH
Mechanical ^F	Metal Automotive Components	Hardness	ASTM E18 Hardness Tester Mitutoyo 810-203A & Hardness Reference Block	69.4 HR15N to 94 HR15N D.L: 0.1 HR15N
			ASTM E18 Hardness Tester Mitutoyo 810-203A & Hardness Reference Block	40 HR30N to 85 HR30N D.L: 0.1 HR30N
			ASTM E18 Hardness Tester Mitutoyo 810-203A & Hardness Reference Block	72 HR 15TW to 95 HR15TW D.L: 0.1 HR15TW
			ASTM E18 Hardness Tester Mitutoyo 810-203A & Hardness Reference Block	41 HR30TW to 85 HR30TW D.L: 0.1 HR30TW
			ASTM E18 Hardness Tester Mitutoyo 810-203A & Hardness Reference Block	18 HRA to 87 HRA D.L: 0.1 HRA



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Mechanical ^F	Metal Automotive Components	Hardness	ASTM E18 Hardness Tester Mitutoyo 810-203A & Hardness References Block	35 HRBW to 100 HRBW D.L: 0.1 HRBW
			ASTM E384 Vickers Hardness Tester Shimadzu MHV-2 & Hardness Reference Blocks	100 HV to 1 000 HV D.L: 1 HV
			ASTM E10 Hardness Tester Mitutoyo 810-203A & Hardness Reference Blocks	100 HBW to 1 000 HBW D.L: 0.1 HBW
			ASTM D2240 Shore A Hardness Tester Sundoo, LD-A	1 HA to 100 HA D.L: 0.1 HA
	Rubber Testing			
Force	Force Max and Min Load		ASTM E4 Tension and Compression Machine Chatillon TCM 201 Manual Press	0.1 N to 1 kN D.L: 0.001 N
			ASTM E4 Manual Press	1 kN to 50 kN D.L: 1 N

1. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this testing at its fixed location.
2. The presence of a superscript O means that the laboratory performs testing of the indicated parameter onsite at customer locations. Example: Outside Micrometer^O would mean that the laboratory performs this testing onsite at the customer's location.
3. The term L represents length in millimeters as appropriate to the uncertainty statement.