



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Lapycal, S.A. de C.V.

***HQ: Av. Revolución # 1500, col. Ciudad Universitaria
Guadalajara, Jalisco, México C.P. 44430***

***Site CALINSTO: Brillante #1576, Colonia Mariano Otero
Zapopan, Jalisco, México. CP. 45067***

*(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, Mass, Force and Weighing Devices and
Mechanical 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

Initial Accreditation Date:

January 31, 2017

Issue Date:

March 23, 2019

Expiration Date:

April 30, 2021

Revision Date:

February 07, 2020

Accreditation No.:

90812

Certificate No.:

L19-149-R1

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.pjilabs.com*



Certificate of Accreditation: Supplement

Lapycal, S.A. de C.V.

HQ: Av. Revolución # 1500, Col. Ciudad Universitaria
 Guadalajara, Jalisco, México. CP. 44430
 Contact Name: Jorge Jimenez. Phone: 331-423-4189

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 (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Caliper ^{FO}	1.5 mm to 600 mm	$(12.1 + 3.5 \times 10^{-3}L) \mu\text{m}$	NMX-CH-002 Set Block Gage Grade 0 or 1 and Step Master
Outside Micrometer ^{FO}	1.5 mm to 300 mm	$(7.84 \times 10^{-1} + 1.04 \times 10^{-2}L) \mu\text{m}$	NMX-CH-036 Set Block Gage Grade 0 or 1
Indicator ^{FO}	1.5 mm to 50 mm	$(7.9 + 1.04 \times 10^{-3}L) \mu\text{m}$	
Height Gages ^{FO}	1.5 mm to 600 mm	$(13.6 + 5 \times 10^{-3}L) \mu\text{m}$	NMX-CH-141 Master Block 0 or 1
Rulers ^{FO}	1.5 mm to 1 000 mm	0.81 mm	NMX-148-SCFI Master Rule
Tapes ^{FO}	1 mm to 8 m	0.92 mm	NOM-046-SCFI Master Rule
Thickness Gages ^{FO}	0.025 mm to 3 mm	3.8 μm	Digital Indicator (Res.= 0.001 mm) ISO 3650

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Temperature, Measurement, Controller and Chart Recorders ^{FO}	-20 °C to 300 °C (Res.= 0.1 °C)	0.57 °C	NMX-CH-070 Thermometer Read Out Fluke Model 51 II Thermocouple Type K
	-20 °C to 300 °C (Res.= 1 °C)	0.57 °C	
	-20 °C to 300 °C (Res.= 2 °C)	1.1 °C	
	-20 °C to 300 °C (Res.= 5 °C)	2.7 °C	

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 (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Scales ^{FO}	0.01 kg to 50 kg (Res.= 0.001 kg)	3 g	Master Weights Class M1 NOM-010-SCFI NMX-CH- 009-SCFI
	0.02 kg to 100 kg (Res.= 0.002 kg)	5 g	
	0.05 kg to 200 kg (Res.= 0.005 kg)	7 g	



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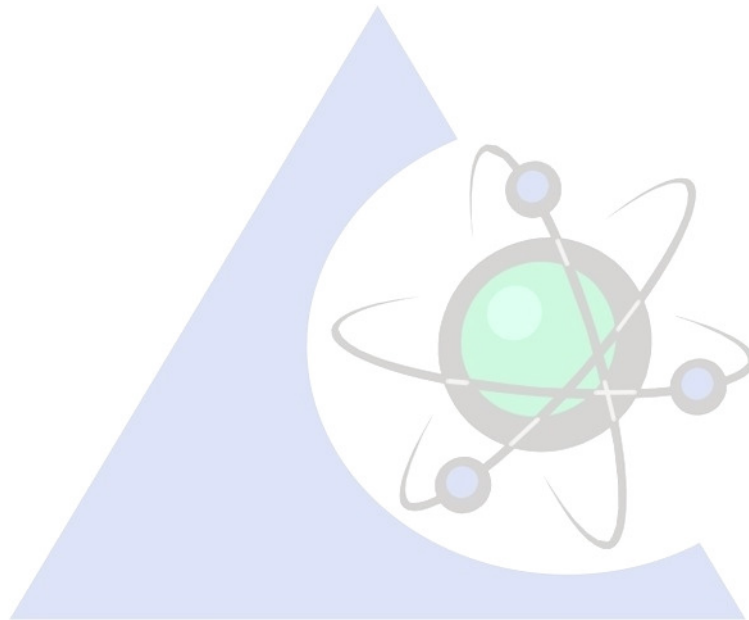
Lapycal, S.A. de C.V.

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Contact Name: Jorge Jiménez. Phone: 331-423-4189

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

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Pressure Gauges ^{FO}	30 psi to 300 psi	0.25 % of reading	Digital Pressure Gage Dwyer NOM-013-SCFI





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Site CALINSTO: Brillante # 1576, Colonia Mariano Otero

Zapopan, Jalisco, México C.P. 45067

Contact Name: Jorge Jimenez Phone: 331-423-4189

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

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 (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Weights M1 ^F	20 kg	340 mg	Master Weights Class F1 OIML R 111 A B B A Method Double Substitution
	5 kg	83 mg	
	2 kg	33 mg	
	1 kg	17 mg	
	500 g	8.3 mg	
	200 g	3.3 m	
	100 g	1.7 mg	
	50 g	1 mg	
	20 g	0.83 mg	
	10 g	0.67 mg	
	5 g	0.53 mg	
	2 g	0.4 mg	
1 g	0.33 mg		
Weights M2 ^F	20 kg	1 000 mg	Master Weights Class M1 OIML R 111 ABBA Method Double Substitution
	10 kg	550 mg	
	5 kg	270 mg	Master Weights Class F1 OIML R 111 ABBA Method Double Substitution
	2 kg	100 mg	
	1 kg	53 mg	
	500 g	27 mg	
	200 g	10 mg	
	100 g	5.3 mg	
	50 g	3.3 mg	
	20 g	2.5 mg	
	10 g	2 mg	
	5 g	1.7 mg	
	2 g	1.3 mg	
	1 g	1 mg	
Weights M3 ^F	20 kg	3 400 mg	Master Weight Class M1 OIML R 111 ABBA Method Double Substitution
	10 kg	1 700 mg	
	5 kg	840 mg	Master Weight Class F1 OIML R 111 ABBA Method
	2 kg	340 mg	



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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 OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Weights M3 ^F	1 kg	170 mg	Weight Class F1 OIML R 111 ABBA Method Double Substitution
	500 g	83 mg	
	200 g	33 mg	
	100 g	17 mg	
	50 g	10 mg	
	20 g	8.3 mg	
	10 g	6.7 mg	
	5 g	5.3 mg	
	2 g	4 mg	
	1 g	3.3 mg	
Mechanical and Electronic Top Loader Balance ^{FO}	1 g to 100 g (Res.= 0.0000 5 g)	$(7.6 \times 10^{-5} + 4 \times 10^{-6}Wt) \text{ g}$	Master Weights Class F1 SIM MWG7/cg-01 NOM-010-SCFI NMX-CH-009-SCFI
	100 g to 500 g (Res.= 0.000 2 g)	$(2.1 \times 10^{-5} + 4 \times 10^{-6} Wt) \text{ g}$	
Scales ^{FO}	500 g to 1 000 g (Res.= 0.000 5 g)	$(7.38 \times 10^{-4} + 5 \times 10^{-6} Wt) \text{ g}$	Master Weights Class M1 SIM MWG7/cg-01 NOM-010-SCFI NMX-CH- 009-SCFI
	1 000 g to 5 000 g (Res.= 0.002 g)	$(2.03 \times 10^{-4} + 4 \times 10^{-6}Wt) \text{ g}$	
	5 000 g to 20 000 kg (Res.= 0.01g)	$(6.01 \times 10^{-3} + 5 \times 10^{-6}Wt) \text{ g}$	
	20 000 g to 100 000 g (Res.= 0.05 g)	$(4.46 \times 10^{-1} + 3.1 \times 10^{-5}Wt) \text{ g}$	
	100 000 g to 500 000 g (Res.= 1 g)	$(2.43 \times 10^{-2} + 3.5 \times 10^{-5}Wt) \text{ g}$	
	500 000 g to 1 000 000 g (Res.= 1 g)	$(3.38 \times 10^{-1} + 3.5 \times 10^{-5}Wt) \text{ g}$	

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Direct Reading Thermometer ^F	0 °C to 300 °C	0.2 °C	Well Dry Platinum Resistance (Res.= 0.001 °C) Euramet-cg-11



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

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