



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## Certificate of Accreditation

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

***Tecmelab Monterrey, S.A. de C.V.***

***15 de Mayo #1012 Pte., Colonia Centro  
Monterrey, Nuevo León, México. C.P. 64000***

*(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):

***Thermodynamic, Mass, Force and Weighing Devices, Time and Frequency,  
Electrical and Chemical 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:

*Initial Accreditation Date:*

April 09, 2020

*Issue Date:*

March 25, 2024

*Expiration Date:*

May 31, 2026

Tracy Szerszen  
President

*Accreditation No.:*

52315

*Certificate No.:*

L24-265

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.pjlab.com](http://www.pjlab.com)*



# Certificate of Accreditation: Supplement

**Tecmelab Monterrey, S.A. de C.V.**

15 de Mayo #1012 Pte., Colonia Centro  
 Monterrey, Nuevo León, México. CP. 64000  
 Contact Name: Jose Mauricio Gomez Phone: 818-252-4286

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

## Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Freezer, Dry Block, Baths Circulators <sup>FO</sup> Climatic Chambers, Incubators, Oven, Sterilizer <sup>FO</sup>	-70 °C to 200 °C	0.15 °C	Resistance Thermometer	PST-06 Internal Procedure
Bath Circulators, Dry Block, Oven, Sterilizer, Furnaces <sup>FO</sup>	200 °C to 1 200 °C	1.4 °C	Thermocouple Type K	
Thermocouple and RTD Probes and Systems and Bi-Metallic Thermometers <sup>FO</sup>	0 °C	0.08 °C	Ice Point Bath	PST-21 Internal Procedure
	30 °C to 100 °C	0.1 °C	Thermometric Bath	
	50 °C to 100 °C	0.13 °C	Dry well Block Calibrator	
	100 °C to 200 °C	0.24 °C		
	200 °C to 300 °C	0.47 °C		
Liquid in Glass Thermometers <sup>FO</sup>	0 °C	0.06 °C	Ice Point Bath	PST-03 Internal Procedure
	30 °C to 100 °C	0.1 °C	Thermometric Bath	
Thermohygrometer Temperature <sup>F</sup>	10 °C to 60 °C	1.2 °C	Incubator CH-150	PST-12 Internal Procedure
Thermohygrometer Hygrometer Only <sup>F</sup>	45 % RH to 70 % RH	1.6 % RH		
		70 % RH to 90 % RH	2.2 % RH	

## Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Balance <sup>O</sup>	1 mg to 500 g (Res.= 0.1 mg)	$(8.17 \times 10^{-2} + 1.87 \times 10^{-4}Wt)$ mg	Class E2	PST-02 Internal Procedure
	1 g to 5 000 g (Res. 1 mg)	$(8.16 \times 10^{-1} + 1.51 \times 10^{-3}Wt)$ mg	Class F1	
	1 g to 15 000 g (Res.= 0.01 g)	$(8.16 \times 10^{-3} + 8.14 \times 10^{-7}Wt)$ g		
	1 g to 50 000 g (Res.= 0.1 g)	$(8.16 \times 10^{-2} + 3.54 \times 10^{-8}Wt)$ g		



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### Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Balance <sup>o</sup>	1 g to 5 000 g (Res.= 0.01 g)	$(8.16 \times 10^{-3} + 1.64 \times 10^{-7}Wt) \text{ g}$	Class F2	PST-02 Internal Procedure
	1 g to 15 000 g (Res.= 0.1 g)	$(8.16 \times 10^{-2} + 6.27 \times 10^{-7}Wt) \text{ g}$		
	1 g to 5 000 g (Res.= 1 g)	$(8.16 \times 10^{-1} + 8.48 \times 10^{-7}Wt) \text{ g}$	Class M1	
	1 g to 10 000 g (Res.= 10 g)	$(8.16 + 8.51 \times 10^{-8}Wt) \text{ g}$		
	1 kg to 1 000 kg (Res.= 100 g)	$(81.6 + 3.06 \times 10^{-7}Wt) \text{ g}$		

### Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K <sup>FO</sup>	-200 °C to -100 °C	0.27 °C	Process Instrument MMB3.0 Electric Simulation of Thermocouple Output	PST-17 Internal Procedure
	-100 °C to 400 °C	0.21 °C		
	400 °C to 1 200 °C	0.27 °C		
	1 200 °C to 1 370 °C	0.35 °C		
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J <sup>FO</sup>	-200 °C to -100 °C	0.21 °C		
	-100 °C to 800 °C	0.17 °C		
	800 °C to 1 200 °C	0.27 °C		
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T <sup>FO</sup>	-200 °C to 400 °C	0.17 °C		
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 3 916, Pt 3 926, 100 $\Omega$ <sup>FO</sup>	-200 °C to 0 °C	0.14 °C	Process Instrument MMB3.0 Electric Simulation of RTD Output	
	0 °C to 400 °C	0.17 °C		
	400 °C to 850 °C	0.21 °C		



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 Contact Name: Jose Mauricio Gomez Phone: 818-252-4286

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

### Time and Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Rotational Speed Noncontact Measurement Centrifuge <sup>FO</sup>	10 rpm to 999 rpm	$(0.56 + 0.001 6\omega)$ rpm	Photo Tachometer 461700	PST-24 Internal Procedure
	1 000 rpm to 9 999 rpm	$(0.13 + 0.002\omega)$ rpm		
	10 000 rpm to 99 999 rpm	$(0.05 + 0.002\omega)$ rpm		

### Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
pH Meter Fixed Point <sup>FO</sup>	4 pH	0.017 pH	Buffer Solutions	PST-01 Internal Procedure
	7 pH	0.017 pH		
	10 pH	0.017 pH		
Dynamic Viscosity Meter <sup>FO</sup>	100 mPa·s @ 15 °C to 45 °C	0.52 % of reading	Cannon Certified Viscosity Reference Standard (25 °C)	PST-04 Internal Procedure
	500 mPa·s @ 15 °C to 45 °C	0.57 % of reading		
	1 000 mPa·s @ 15 °C to 45 °C	0.55 % of reading		
	5 000 mPa·s @ 15 °C to 45 °C	0.6 % of reading		
	12 500 mPa·s @ 15 °C to 45 °C	0.62 % of reading		
	30 000 mPa·s @ 15 °C to 45 °C	0.63 % of reading		
	60 000 mPa·s @ 15 °C to 45 °C	0.63 % of reading		
	100 000 mPa·s @ 15 °C to 45 °C	0.63 % of reading		

- 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.



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

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