PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Ingeniería Integral de Aguascalientes, S.A de C.V.

Av. Independencia #1906 Int. 101, Col. Villas de San Nicolás
Aguascalientes, Aguascalientes, México. C.P. 20115

(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):

Mechanical and Dimensional 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

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

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
August 04, 2017	September 15, 2021	November 30, 2023

Accreditation No.:	*Certificate No.:*
93635	L21-550

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

Ingeniería Integral de Aguascalientes, S.A de C.V.
Av. Independencia #1906 Int. 101, Col. Villas de San Nicolás
Aguascalientes, Aguascalientes, México. C.P. 20115
Contact Name: Paulo Cesar Ibáñez Hernandez Phone: 449-972- 3333

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

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Indirect Verification of Micro Hardness Tester[O] Vickers HV 0.5 kg	100 HV to 900 HV	7.6 HV	Calibrated Hardness Test Blocks ASTM E384
Indirect Verification of Micro Hardness Tester[O] Vickers HV 0.05 kg	140 HV to 331 HV	12 HV	Calibrated Hardness Test Blocks ASTM E384 ASTM E92
Indirect Verification of Micro Hardness Tester[O] Vickers HV 0.1 kg	148 HV to 338 HV	11 HV	
Indirect Verification of Micro Hardness Tester[O] Vickers HV 1 kg	151 HV to 529 HV	4 HV	
Indirect Verification of Micro Hardness Tester[O] Vickers HV 5 kg	150 HV to 550 HV	1.4 HV	
Indirect Verification of Micro Hardness Tester[O] Vickers HV 10 kg	157 HV to 549 HV	2.4 HV	
Indirect Verification of Micro Hardness Tester[O] Knoop HK 0.5 kg	100 HK to 900 HK	13 HK	Test Blocks ASTM E384
Indirect Verification of Micro Hardness Tester Vickers HV 0.3[O]	300 HV to 750 HV	11 HV	Hardness Test Blocks ASTM E384 and ASTM E 92
Indirect Verification of Rockwell Hardness Tester HRC[O]	20 HRC to 70 HRC	0.31 HRC	Hardness Test Blocks ASTM E18
Indirect Verification of Rockwell Hardness Tester HRBW[O]	30 HRBW to 100 HRBW	0.26 HRBW	
Indirect Verification of Rockwell Hardness Tester HR 15N[O]	70 HR to 95 HR	0.41 HR	
Indirect Verification of Rockwell Hardness Tester HR 30N[O]	40 HR to 80 HR	0.28 HR	
Indirect Verification of Rockwell Hardness Tester HR 45N[O]	20 HR to 80 HR	0.22 HR	
Indirect Verification of Rockwell Hardness Tester HR 15T[O]	70 HR to 95 HR	0.25 HR	

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Indirect Verification of Rockwell Hardness Tester HR 30T^{O}	42 HR to 80 HR	0.21 HR	Hardness Test Blocks ASTM E18
Indirect Verification of Rockwell Hardness Tester HR 45T^{O}	20 HR to 70 HR	0.4 HR	
Indirect Verification of Brinell Hardness Tester HBW 10/3 000^{O}	92 HBW to 650 HBW	1.2 HBW	Hardness Test Blocks ASTM E10
Indirect Verification of Brinell Hardness Tester HBW 10/500^{O}	30 HBW to 125 HBW	0.35 HBW	

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Microscopes with Digital Camera and Software Linearity (X and Y)^{O}	24.99 µm to 3 001.6 µm	(0.023 4 + 1.83 x 10^{-4}L) µm	Stage Micrometer Clemex ASTM E1951

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 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.
4. 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.