

PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Metrología e Ingeniería Avanzada, S.A. de C.V.

Azucena #200, Colonia Miraflores 2^{do} Sector San Nicolás de los Garza, Nuevo León, México. C.P. 66410

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

 ${\it Initial\ Accreditation\ Date:}$

Issue Date:

Expiration Date:

February 09, 2016

February 09, 2024

April 30, 2026

Accreditation No.:

60119

Certificate No.: L24-132

Tracy Szerszen President

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

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



Metrología e Ingeniería Avanzada, S.A. de C.V. Azucena #200, Colonia Miraflores 2^{do} Sector

Azucena #200, Colonia Miraflores 2^{do} Sector San Nicolás de los Garza, Nuevo León, México. C.P. 66410 Contact Name: Pedro Ramirez Rangel Phone: 811-505-9601

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

Dimensional

Diffictisional				
MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Caliper ^{FO}	12.7 mm to 1 016 mm	$(6.99 + 9.8 \times 10^{-3} L) \mu m$	Gauge Blocks	NMX-CH-002-IMNC
Depth Gauge ^{FO}	12.7 mm to 304.4 mm	$(6.08 + 1.24 \times 10^{-3} L) \mu m$		CAN/CGSB-39.19-98
Depth Micrometer ^{FO}	12.7 mm to 304.4 mm	$(1.95 + 1.3 \times 10^{-2} L) \mu m$	Gauge Blocks	ASME B89.1.13
Outside Micrometer ^{FO}	2.5 mm to 609.6 mm	$(6.76 \times 10^{-1} + 1.48 \times 10^{-2} L) \mu m$	Gauge Blocks	NMX-CH-099-IMNC ASME B 89.1.13
Two Contacts Interior Micrometer ^F	25 mm to 1 016 mm (1 in to 40 in)	(5.68 x 10 ⁻¹ + 8.48 x 10 ⁻³ L) μm [(22.21 + 8.5L) μin]	Gauge Blocks	NMX-CH-093-IMNC ASME B89.1.13
Height Gage ^{FO}	12.7 mm to 101 6 mm	$(7.22 + 9.23 \times 10^{-3} L) \mu m$	Gauge Blocks	NMX-CH-141-IMNC CAN/CGSB-39.19-98
Dial Indicator ^O	0.000 12 mm to 101.6 mm	$(2.2 + 5.4 \times 10^{-3} L) \mu m$	I-Checker	NMX-CH-463-IMNC
Level Indicator ^O	0.000 12 mm to 1.905 mm	$(2.6 + 0.11L) \mu m$	DPPI-001	ASME B89.1.10M
Linear Gage ^O	0.1 mm to 101.6 mm	$(0.16 + 9.4 \times 10^{-3} L) \mu m$	Brand: Mitutoyo Model: 170-322A	
Sieves	20 μm to 125 mm	$(1.21 + 8.08 \times 10^{-3} L) \mu m$	Scopecheck FB DZ 3D CNC	ASTM E11 NM-ISO 565
Glass Standard and Working Rules	Up to 304.8 mm (12 in)	$(5.76 \times 10^{-1} + 1.01 \times 10^{-2} L) \mu m$	Coordinate Measuring Machine (CMM)	JIS B 7541
Verification of Articulated Arm Performance (AACMM) with Contact Probe	Up to 3 200 mm (125 in)	$(1.71 \times 10^{-2} + 1.2 \times 10^{-2} \text{L}) \mu\text{m}$	Gauge Block Set, Grade K / Sphere / Gauge Ring	ASME B89.4.22 ISO 10360-12
Profiles Projector ^O X axis Linearity Y axis Linearity	300 mm 150 mm	(2.51 + 4.41 x 10 ⁻⁴ L) μm	Glass Scales	JIS B-7184
Profiles Projector	5X	0.007 6 %	Amplification Grid	JIS B-7184
Magnification ⁰	10X	0.007 6 %		
	20X	0.007 6 %		
	50X	0.007 6 %		
	100X	0.007 6 %		
Profiles Projector Angularity ^O	90° to 360°	1.2°	Angular Grid	ЛS B-7184



Metrología e Ingeniería Avanzada, S.A. de C.V. Azucena #200, Colonia Miraflores 2^{do} Sector

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Dimensional

RANGE	CALIBRATION	CALIBRATION	
(AND SPECIFICATION	OR MEASUREMENT	EOUIPMENT AND	CALIBRATION MEASUREMENT
	CAPABILITY EXPRESSED	REFERENCE	METHOD OR
,	AS AN UNCERTAINTY (±)	STANDARDS USED	PROCEDURES USED
0.2 mm to 485 mm	$(4.07 \times 10^{-1} + 1.42 \times 10^{-2} \text{L}) \mu\text{m}$		JIS B 0251
0.2 mm to 485 mm	$(4.07 \times 10^{-1} + 1.42 \times 10^{-2} \text{L}) \mu\text{m}$		
2 mm to 304.8 mm	$(3.53 \times 10^{-1} + 1.35 \times 10^{-2} \text{L}) \mu\text{m}$	1	ANSI/ ASME B1.1
	(A)	- C	
2 mm to 304.8 mm	$(3.53 \times 10^{-1} + 1.35 \times 10^{-2} \text{L}) \mu\text{m}$	Machine)	
5 mm to 2 000 mm	0.6 mm	Rule, Reticule	JIS B 7516
		Mitutoyo	
6 mm to 100 mm	2.6 μm	I-Checker	JIS B 7515
0.01 mm to 30 m	$(8.2 \times 10^{-4} + 2 \times 10^{-5} L) \text{ m}$	Rule, Reticule	NOM-046-SCFI
//			
Up to 101.6 mm	$(2.2 + 4.5 \times 10^{-3} L) \mu m$	Gauge Blocks	PRO-CAL-012
0.022 mm to 12.255 mm	1.4 μm	Set of 8 Calibration	PRO-CAL-013
	X X	Sheets	
0.022 mm to 12.255 mm	1.4 μm		
4 μm	0.039 μm	Roughness	ISO 4287
		specimen	NMX-CH-4287-
			IMNC
Up to 1 016 mm	$(1 \times 10^{-1} + 1.48 \times 10^{-2} L)$	Gauge Blocks Set,	NMX-CH-141-
Up to 1 016 mm	$(1 \times 10^{-1} + 1.48 \times 10^{-2}L)$	Grade K	IMNC
	WHERE APPROPRIATE) 0.2 mm to 485 mm 0.2 mm to 485 mm 2 mm to 304.8 mm 2 mm to 304.8 mm 5 mm to 2 000 mm 6 mm to 100 mm 0.01 mm to 30 m Up to 101.6 mm 0.022 mm to 12.255 mm 4 μm	WHERE APPROPRIATE) CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) 0.2 mm to 485 mm (4.07 x 10 ⁻¹ + 1.42 x 10 ⁻² L) μm 0.2 mm to 485 mm (4.07 x 10 ⁻¹ + 1.42 x 10 ⁻² L) μm 2 mm to 304.8 mm (3.53 x 10 ⁻¹ + 1.35 x 10 ⁻² L) μm 5 mm to 2 000 mm 0.6 mm 6 mm to 100 mm 2.6 μm 0.01 mm to 30 m (8.2 x 10 ⁻⁴ + 2 x 10 ⁻⁵ L) m Up to 101.6 mm (2.2 + 4.5 x 10 ⁻³ L) μm 0.022 mm to 12.255 mm 1.4 μm 0.039 μm Up to 1 016 mm (1 x 10 ⁻¹ + 1.48 x 10 ⁻² L)	WHERE APPROPRIATE) CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) REFERENCE STANDARDS USED 0.2 mm to 485 mm (4.07 x 10 ⁻¹ + 1.42 x 10 ⁻² L) μm ULM 600-E Brand: Mahr Series: 1666/ 16 0.2 mm to 304.8 mm (3.53 x 10 ⁻¹ + 1.35 x 10 ⁻² L) μm Optacom (Contour Measuring Machine) 2 mm to 304.8 mm (3.53 x 10 ⁻¹ + 1.35 x 10 ⁻² L) μm Rule, Reticule Mitutoyo 5 mm to 2 000 mm 0.6 mm Rule, Reticule Mitutoyo 6 mm to 100 mm (8.2 x 10 ⁻⁴ + 2 x 10 ⁻⁵ L) m Rule, Reticule Mitutoyo Up to 101.6 mm (2.2 + 4.5 x 10 ⁻³ L) μm Gauge Blocks 0.022 mm to 12.255 mm 1.4 μm Set of 8 Calibration Sheets 0.022 mm to 12.255 mm 1.4 μm Roughness specimen Up to 1 016 mm (1 x 10 ⁻¹ + 1.48 x 10 ⁻² L) Gauge Blocks Set,

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
pH Meters, Controllers	4 pH	0.013 pH	Certified Buffer	PRO-CAQ-001
Recorders ^{FO}	7 pH	0.013 pH	Solutions Thermometer	
	10 pH	0.013 pH	Fluke 725	
Conductivity Meters.	84 μS/cm	3.6 μS/cm	Certified	PRO-CAQ-002
Controllers and Recorders ^{FO}	1 413 μS/cm	1.6 μS/cm	Conductivity Standards Thermometer Fluke 725	

Issue: 02/2024 This supplement is in conjunction with certificate #L24-132



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

Mass. Force and Weighing Devices

Issue: 02/2024

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MEASURED	RANGE	CALIBRATION	CALIBRATION	CALIBRATION		
INSTRUMENT,	(AND SPECIFICATION	OR MEASUREMENT	EQUIPMENT AND	MEASUREMENT METHOD		
QUANTITY OR GAUGE	WHERE APPROPRIATE)	CAPABILITY EXPRESSED	REFERENCE	OR PROCEDURES USED		
		AS AN UNCERTAINTY (±)	STANDARDS USED			
Analytical Balances ^O	0.2 g to 8 200 g	$(1.2 \times 10^{-5} + 1 \times 10^{-6} \text{Wt}) \text{ g}$	Set of Weights	CENAM Technical Guide		
	(Res.= 0.000 01 g)		Class E2			
Digital and Mechanical	0.3 kg to 200 kg	$(8.19 \times 10^{-4} + 4 \times 10^{-6} \text{Wt}) \text{ kg}$	Weight Set			
Scales ^{FO}	(Res.= 0.001 kg)		Class M1			

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Equipment to Output	Up to 3.3 mV	0.098 % of reading	Multi-Product	Euramet cg-15
DC Volts ^F	3.3 mV to 329 mV	0.006 9 % of reading	Calibrator 5500A	
	0.33 mV to 3.29 V	0.005 2 % of reading		
	3.3 V to 32.9 V	0.005 3 % of reading		
	33 V to 329 V	0.005 7 % of reading		
	330 V to 1 000 V	0.005 7 % of reading		
Equipment to Output	0.3 mA to 3.2 mA	0.015 % of reading		
DC Current ^F	3.3 mA to 32 mA	0.011 % of reading		
	33 mA to 329 mA	0.012 % of reading	Multi-product Calibrator 5500A / Coil 9100-200	
	0.33 A to 2.1 A	0.033 % of reading		
	2.2 A to 11 A	0.064 % of reading		
	Up to 100 A	0.2 % of reading		
	100 A to 550 A	0.2 % of reading		
Equipment to Output	Up to 1 Ω	0.86 % of reading	Multi-Product	
Resistance ^F	1 Ω to 10 Ω	0.097 % of reading	Calibrator 5500A	
	11 Ω to 32 Ω	0.06 % of reading		
	33 Ω to 100 Ω	0.024 % of reading		
	101 Ω to 329 Ω	0.014 % of reading		
	$0.33~\mathrm{k}\Omega$ to $1~\mathrm{k}\Omega$	0.015 % of reading		
	$1.1 \text{ k}\Omega$ to $3.2 \text{ k}\Omega$	0.012 % of reading		
	$3.3 \text{ k}\Omega$ to $10 \text{ k}\Omega$	0.015 % of reading		
	11 kΩ to 32 kΩ	0.011 % of reading		
	33 kΩ to 100 kΩ	0.017 % of reading		
	101 kΩ to 329 kΩ	0.014 % of reading		



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Equipment to Output	$0.33~\mathrm{M}\Omega$ to $1~\mathrm{M}\Omega$	0.021 % of reading	Multi-Product	Euramet cg-15
Resistance ^F	$1.1~\mathrm{M}\Omega$ to $3.2~\mathrm{M}\Omega$	0.017 % of reading	Calibrator 5500A	
	$3.3~\mathrm{M}\Omega$ to $10~\mathrm{M}\Omega$	0.066 % of reading		
	11 MΩ to 32 MΩ	0.12 % of reading		
	$33~\mathrm{M}\Omega$ to $100~\mathrm{M}\Omega$	0.51 % of reading		
	$101~\mathrm{M}\Omega$ to $330~\mathrm{M}\Omega$	0.51 % of reading		
Equipment to Output	Up to 3 mV	0.82 % of reading		
AC Volts	3 mV to 33 mV	0.11 % of reading		
45 Hz to 1 kHz	33 mV to 329 mV	0.057 % of reading		
	0.33 V to 3.29 V	0.033 % of reading		
	3.3 V to 32.9 V	0.043 % of reading		
	33 V to 329 V	0.053 % of reading		
	330 V to 1 000 V	0.059 % of reading		
Equipment to Output	033 mA to 3.3 mA	0.18 % of reading		
AC Current 45 Hz to 1 kHz ^F	3.3 mA to 32 mA	0.1 % of reading		
43 HZ to 1 KHZ	33 mA to 329 mA	0.1 % of reading		
	0.33 A to 2.1 A	0.12 % of reading		
	2.2 A to 11 A	0.082 % of reading		
Equipment to Output	Up to 100 A	0.2 % of reading	Multi-Product	
AC Current 50 Hz to 400 Hz ^F	100 A to 550 A	0.2 % of reading	Calibrator 5500A / Coil 9100-200	
Equipment to Capacitance	1.1 nF to 3.2 nF	0.81 % of reading	Multi-Product	
Source ^F	3.3 nF to 10 nF	0.6 % of reading	Calibrator 5500A	
	11 nF to 32 nF	0.56 % of reading		
	33 nF to 100 nF	0.35 % of reading		
	101 nF to 329 nF	0.34 % of reading		
	0.33 μF to 1 μF	0.35 % of reading		
	1.1 μF to 3.2 μF	0.46 % of reading		
	3.3 μF to 10 μF	0.46 % of reading		
	11 μF to 32 μF	0.51 % of reading		
	33 μF to 100 μF	0.61 % of reading		



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Equipment to Measure	Up to 60 Hz	0.077 % of reading	Multi-Product	Euramet cg-15
Frequency ^F	60 Hz to 120 Hz	0.04 % of reading	Calibrator 5500A	PRO-CAE-001
	120 Hz to 1 000 Hz	0.032 % of reading	7	
	1 kHz to 10 kHz	0.22 % of reading	7	
	10 kHz to 100 kHz	0.32 % of reading		
Equipment to Measure	1.1 mV to 100 mV	0.72 % of reading	Fluke 8846A	Euramet cg-15
DC Voltage ^F	0.101 V to 1 V	0.32 % of reading	6 ½ Digits	
	1.1 V to 10 V	0.29 % of reading		
	11 V to 100 V	0.44 % of reading		
	101 V to 1 000 V	0.51 % of reading		
	Up to 1 kV	2 % of reading	Fluke 80K-15	
	1 kV to 6 kV	2 % of reading		
	6 kV to 15 kV	0.8 % of reading		
Equipment to Measure	Up to 100 μA	0.077 % of reading	Fluke 8846A 6 ½ Digits	
DC Current ^F	0.101 mA to 1 mA	5.5 % of reading		
	0.101 mA to 10 mA	7 % of reading		
	10.1 mA to 100 mA	5.5 % of reading		
	100.1 mA to 400 mA	5.5 % of reading		
	0.401 A to 1 A	7.1 % of reading	7 \	
	1.1 A to 3 A	12 % of reading		
	3.1 A to 10 A	16 % of reading	V	
Equipment to Measure	Up to 100 mV	0.68 % of reading		
AC Voltage At the listed	0.101 V to 1 V	0.68 % of reading		
frequencies	1.1 V to 10 V	0.68 % of reading	7	
50 Hz to 1 kHz ^F	10.1 V to 100 V	0.68 % of reading		
	101 to 1 000 V	0.68 % of reading	7	
Equipment to Measure AC Voltage At the listed	Up to 1 kV	5 % of reading	Fluke 80K-15	
	1 kV to 6 kV	5 % of reading		
frequencies 50 Hz to 60 Hz ^F	6 kV to 10 kV	5.1 % of reading		
Equipment to Measure	Up to 100 μA	0.14 % of reading	Fluke 8846A	1
AC Current ^F	0.101 mA to 1 mA	0.6 % of reading	6 ½ Digits	
50 Hz to 1 kHz	1.1 mA to 10 mA	0.06 % of reading	7	



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Equipment to Measure	10.1 mA to 100 mA	AS AN UNCERTAINTY (±) 0.14 % of reading	Fluke 8846A	PROCEDURES USED Euramet-cg-15
AC Current ^F	100.1 mA to 400 mA	0.14 % of reading	6 ½ Digits	
50 Hz to 1 kHz	0.401 mA to 1 A	1.1 % of reading		
	1.1 mA to 3 A	0.73 % of reading		
	3.1 mA to 10 A	0.44 % of reading		
Equipment to Measure	10.1 Ω to 100 Ω	0.071 % of reading		
Resistance ^F	0.101 kΩ to 1 kΩ	0.14 % of reading		
	1.1 kΩ t to 10 kΩ	0.018 % of reading		
	10.1 kΩ to 100 kΩ	0.011 % of reading		
	0.101 MΩ to 1 MΩ	0.15 % of reading		
	1.1 MΩ to 10 MΩ	0.078 % of reading		
	10.1 MΩ t to 100 MΩ	0.81 % of reading		
Temperature	-200 °C to 0 °C	0.077 °C	Multi-Product	Euramet-cg-15
Calibration Indication	1 °C to 100 °C	0.091 °C	Calibrator 5500A Electrical Simulation of RTD Output	
and Control Equipment used with RTD Type Pt	101 °C to 300 °C	0.11 °C		
$385, 100 \Omega^{\text{F}}$	301 °C to 400 °C	0.12 °C		
	401 °C to 630 °C	0.13 °C		
	631 °C to 800 °C	0.24 °C		
Temperature	-200 °C to -191 °C	0.26 °C		
Calibration Indication	-190 °C to -80 °C	0.071 °C		
and Control Equipment used with RTD Type Pt	-79 °C to 0 °C	0.077 °C	J	
$3916, 100 \Omega^{F}$	1 °C to 100 °C	0.084 °C		
	101 °C to 260 °C	0.091 °C		
	261 °C to 300 °C	0.099 °C		
	301 °C to 400 °C	0.11 °C		
	401 °C to 600 °C	0.12 °C		
	601 °C to 630 °C	0.24 °C		
Temperature	-200 °C to 0 °C	0.077 °C		
Calibration Indication	1 °C to 100 °C	0.091 °C		
and Control Equipment used with RTD Type Pt	101 °C to 300 °C	0.11 °C		
$3926, 100 \Omega^{F}$	301 °C to 400 °C	0.12 °C		
	401 °C to 630 °C	0.13 °C		



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Temperature Calibration Indication and Control Equipment used with RTD Type Pt Cu 10.9 Ω ^F	-100 °C to 260 °C	0.31°C	Multi-Product Calibrator 5500A Electrical Simulation of RTD Output	Euramet-cg-15
Temperature	-80 °C to 100 °C	0.099 °C	-	
Calibration Indication and Control Equipment used with RTD	101 °C to 260 °C	0.15 °C		
Type Pt Ni 120 Ω ^F Temperature	-200 °C to 0 °C	0.36 °C	Calibrator 725	
Calibration Indication	1 °C to 100 °C	0.36 °C	Electrical Simulation	
and Control Equipment	101 °C to 300 °C	0.36 °C	of RTD Output	
used with RTD	301 °C to 400 °C	0.37 °C		
Type Pt 385, $100 \Omega^{FO}$	401 °C to 630 °C	0.38 °C		
	631 °C to 800 °C	0.48 °C		
Temperature	-200 °C to -191 °C	0.48 °C		
Calibration Indication	-190 °C to -80 °C	0.48 °C		
and Control Equipment	-79 °C to 0 °C	0.33 °C		
used with RTD	1 °C to 100 °C	0.33 °C	7-0	
Type Pt 3916, 100 Ω^{FO}	101 °C to 260 °C	0.33 °C		
	261 °C to 300 °C	0.34 °C		
	301 °C to 400 °C	0.34 °C		
	401 °C to 600 °C	0.35 °C		
	601 °C to 630 °C	0.46 °C		
Temperature	-200 °C to 0 °C	0.40 °C		
Calibration Indication	1 °C to 100 °C	0.34 °C		
and Control Equipment	101 °C to 300 °C	0.34 °C		
used with RTD Type Pt	301 °C to 400 °C	0.35 °C	-	
3926, $100 \Omega^{FO}$	401 °C to 630 °C	0.36 °C		
Temperature	-70 °C to 100 °C	0.36 °C	-	
Calibration Indication	101 °C to 260 °C	0.26 °C	-	
and Control Equipment used with RTD Type Pt Ni 120 Ω^F	101 C to 200 C	0.5 °C		



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

Indication and Control Equipment used with Thermocouple Type B Thermocouple Typ	TY OR GAUGE V	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Equipment used with Thermocouple Type B Temperature Calibration Indication and Control Equipment used with Thermocouple Type EF Temperature Calibration Indication and Control Equipment used with Thermocouple Type JFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type JFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type JFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type FFO Temperature Calibration Indication Indication Indication Indication Indication Indication Indication Indication Indi		00 °C to 799 °C	0.56 °C		Euramet-cg-15
Thermocouple Type B	()(300 °C to 999 °C	0.43 °C		
1 551 °C to 1 820 °C 0.42 °C		. 000 °C to 1 550 °C	0.38 °C		
Indication and Control Equipment used with Thermocouple Type EF	1	551 °C to 1 820 °C	0.42 °C		
Equipment used with Thermocouple Type EF -25 °C to 350 °C -25 °C to 350 °C -25 °C to 1000 °C -21 °C -22 °C -23 °C to 150 °C -23 °C to 150 °C -25 °C to 120 °C -		250 °C to -101 °C	0.64 °C		
Thermocouple Type EF		100 °C to -26 °C	0.2 °C		
351 °C to 650 °C 0.21 °C		25 °C to 350 °C	0.19 °C		
Temperature Calibration -210 °C to -101 °C 1 °C -100 °C to -31 °C -100 °C to -31 °C -30 °C to 150 °C 0.72 °C -30 °C to 150 °C 0.73 °C -30 °C to 150 °C 0.73 °C -30 °C to 150 °C 0.74 °C -30 °C to 100 °C 0.74 °C -30 °C to -101 °C -100 °C to -26 °C -12 °C -100 °C to -26 °C -12 °C -100 °C to 1370 °C -25 °C to 120 °C -25 °C to 120 °C -100 °C to 1370 °C -25 °C to 399 °C -25 °C to 1000 °C -25 °C to 399 °C -25 °C to	3.5	551 °C to 650 °C	0.21 °C		
Indication and Control Equipment used with Thermocouple Type JFO	6.	551 °C to 1 000 °C	0.27 °C		
Equipment used with Thermocouple Type JFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type KFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type KFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type RFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type RFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type RFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration		210 °C to -101 °C	1 °C		
Thermocouple Type JFO		100 °C to -31 °C	1 °C		
151 °C to 760 °C 0.73 °C 761 °C to 1 200 °C 0.74 °C		30 °C to 150 °C	0.72 °C		
Temperature Calibration Indication and Control Equipment used with Thermocouple Type K Fo 120 °C 1.2 °C 121 °C to 1 200 °C 1.2 °C 121 °C to 1 370 °C 0.85 °C 120 °C 1.2 °C 120 °C 120 °C 1.2 °C 120 °C 1.2 °C 120 °C 1.2 °C 120 °C 120 °C 1.2 °C	1.	.51 °C to 760 °C	0.73 °C		
Indication and Control Equipment used with Thermocouple Type KFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type RFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type RFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type RFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Indication Indica	70	61 °C to 1 200 °C	0.74 °C		
Equipment used with Thermocouple Type K ^{FO} 101 °C to 1 20 °C 0.82 °C 121 °C to 1 000 °C 0.85 °C 1001 °C to 1 370 °C 0.9 °C 1001 °C to 249 °C 1.9 °C 250 °C to 399 °C 1.8 °C 400 °C to 1 000 °C 1.4 °C 1001 °C to 1 760 °C 1.5 °C 1001 °C to 249 °C 1.9 °C 1001 °C to 1 760 °C 1.5 °C 1001 °C to 1 760 °C 1.5 °C 250 °C to 399 °C 1.5 °C 1001 °C to 1 760 °C 1.5 °C 250 °C to 399 °C 1.5 °C 1001 °C to 1 760 °C 1.5 °C 250 °C to 399 °C 1.5 °C 250 °C to 399 °C 1.5 °C 250 °C to 1000 °C 250		200 °C to -101 °C	1.2 °C		
Thermocouple Type K ^{FO} 121 °C to 1 000 °C 0.85 °C 1 001 °C to 1 370 °C 0.9 °C 1 001 °C to 249 °C 1.9 °C 250 °C to 399 °C 1.8 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 249 °C 1.9 °C 250 °C to 399 °C 1.8 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 249 °C 1.9 °C 1 001 °C to 1 760 °C 1.5 °C 250 °C to 399 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 250 °C to 399 °C 1.5 °C 250 °C to 399 °C 1.5 °C 250 °C to 1 000 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1 001 °C to 1 1 760 °C 1.5 °C 1 001 °C to 1 1 760 °C 1 001 °C to	- 1	100 °C to -26 °C	1.2 °C		
121 °C to 1 000 °C 0.85 °C 1 001 °C to 1 370 °C 0.9 °C 1 001 °C to 249 °C 1.9 °C 250 °C to 399 °C 1.8 °C 400 °C to 1 000 °C 1.4 °C 1 001 °C to 1 760 °C 1.5 °C Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Indication Indicati		25 °C to 120 °C	0.82 °C		
Temperature Calibration Indication and Control Equipment used with Thermocouple Type RFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Equipment used with Thermocouple Type SFO Temperature Calibration Indication and Control Temperature Ca	12	.21 °C to 1 000 °C	0.85 °C		
Indication and Control Equipment used with Thermocouple Type R ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Thermocouple Ty	1	001 °C to 1 370 °C	0.9 °C		
Equipment used with Thermocouple Type R ^{FO} $ \frac{250 \text{ C to } 399 \text{ °C}}{1001 \text{ °C to } 1760 \text{ °C}} = 1.4 \text{ °C} $ Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} $ \frac{250 \text{ °C to } 1000 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{250 \text{ °C to } 1760 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{250 \text{ °C to } 1760 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{400 \text{ °C to } 1000 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{400 \text{ °C to } 1000 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{1.5 \text{ °C}}{1001 \text{ °C to } 1760 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{1.5 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{1.5 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{1.5 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{1.5 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{1.5 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{1.5 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $ $ \frac{1.5 \text{ °C}}{1.5 \text{ °C}} = 1.5 \text{ °C} $		°C to 249 °C	1.9 °C		
Thermocouple Type R ^{FO}		250 °C to 399 °C	1.8°C		
Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with Indication and Control Equipment used with Indication and Control Equipment used with Indication Ind		00 °C to 1 000 °C	1.4 °C		
Indication and Control Equipment used with Thermocouple Type S ^{FO} Temperature Calibration Indication and Control Equipment used with -250 °C to 399 °C 1.5 °C 1 001 °C to 1 760 °C 1.6 °C 1 001 °C to -151 °C 1.4 °C -150 °C to -1 °C 1.2 °C	1	001 °C to 1 760 °C	1.5 °C		
Equipment used with Thermocouple Type S ^{FO} $ \frac{250 \text{ C to } 399 \text{ C}}{400 \text{ °C to } 1000 \text{ °C}} = 1.5 \text{ °C} $ Temperature Calibration Indication and Control Equipment used with $-250 \text{ °C to } -151 \text{ °C} = 1.4 \text{ °C} $ $-150 \text{ °C to } -1 \text{ °C} = 1.2 \text{ °C}$		°C to 249 °C	1.9 °C		
Thermocouple Type S ^{FO} 400 °C to 1 000 °C 1.5 °C 1 001 °C to 1 760 °C 1.6 °C Temperature Calibration -250 °C to -151 °C 1.4 °C Indication and Control -150 °C to -1 °C 1.2 °C		250 °C to 399 °C	1.5 °C		
Temperature Calibration Indication and Control Equipment used with 1 001 °C to 1 760 °C 1.6 °C 1.4 °C 1.2 °C 1.2 °C		00 °C to 1 000 °C	1.5 °C		
Indication and Control -150 °C to -1 °C 1.2 °C	1	. 001 °C to 1 760 °C	1.6 °C		
Equipment used with		250 °C to -151 °C	1.4 °C		
Equipment used with	-	150 °C to -1 °C	1.2 °C		
Thermocouple Type T^{FO} 0 °C to 119 °C 0.82 °C		°C to 119 °C	0.82 °C		
120 °C to 400 °C	12	20 °C to 400 °C	0.82 °C		



Metrología e Ingeniería Avanzada, S.A. de C.V. Azucena #200, Colonia Miraflores 2^{do} Sector

Azucena #200, Colonia Miraflores 2^{do} Sector San Nicolás de los Garza, Nuevo León, México. C.P. 66410 Contact Name: Pedro Ramirez Rangel Phone: 811-505-9601

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

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Temperature Calibration	600 °C to 799 °C	2.2 °C	Calibrator 725	Euramet-cg-15
Indication and Control Equipment used with	800 °C to 999 °C	1.8 °C	Electrical Simulation of	
Thermocouple Type B ^{FO}	1 000 °C to 1 550 °C	1.4 °C	Thermocouple Output	
	1 551 °C to 1 820 °C	1.4 °C		
Temperature Calibration	-250 °C to -101 °C	1 °C		
Indication and Control	-100 °C to -26 °C	0.92 °C		
Equipment used with Thermocouple Type E ^{FO}	-25 °C to 350 °C	0.72 °C		
Thermocoupie Type E	351 °C to 650 °C	0.72 °C		
	651 °C to 1 000 °C	0.74 °C		
Temperature Calibration	-210 °C to -101 °C	1 °C		
Indication and Control	-100 °C to -31 °C	1 °C		
Equipment used with Thermocouple Type J ^{FO}	-30 °C to 150 °C	0.72 °C	/ /	
Thermocoupie Type 3	151 °C to 760 °C	0.73 °C		
	761 °C to 1 200 °C	0.74 °C		
Temperature Calibration	-200 °C to -101 °C	1.2 °C		
Indication and Control	-100 °C to -26 °C	1.2 °C		
Equipment used with Thermocouple Type K ^{FO}	-25 °C to 120 °C	0.82 °C		
Thermocoupie Type K	121 °C to 1 000 °C	0.85 °C		
	1 001 °C to 1 370 °C	0.9 °C		
Temperature Calibration	0 °C to 249 °C	1.9 °C	J	
Indication and Control	250 °C to 399 °C	1.8°C		
Equipment used with Thermocouple Type R ^{FO}	400 °C to 1 000 °C	1.4 °C		
Thermocoupie Type K	1 001 °C to 1 760 °C	1.5 °C		
Temperature Calibration	0 °C to 249 °C	1.9 °C		
Indication and Control Equipment used with Thermocouple Type S ^{FO}	250 °C to 399 °C	1.5 °C		
	400 °C to 1 000 °C	1.5 °C		
Thermocoupie Type 5	1 001 °C to 1 760 °C	1.6 °C		
Temperature Calibration	-250 °C to -151 °C	1.4 °C		
Indication and Control	-150 °C to -1 °C	1.2 °C		
Equipment used with	0 °C to 119 °C	0.82 °C		
Thermocouple Type T ^{FO}	120 °C to 400 °C	0.82 °C	1	



Metrología e Ingeniería Avanzada, S.A. de C.V.

Azucena #200, Colonia Miraflores 2^{do} Sector San Nicolás de los Garza, Nuevo León, México. C.P. 66410 Contact Name: Pedro Ramirez Rangel Phone: 811-505-9601

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

Mechanical

Mechanical				
MEASURED	RANGE	CALIBRATION	CALIBRATION	CALIBRATION
INSTRUMENT,	(AND SPECIFICATION	OR MEASUREMENT	EQUIPMENT AND	MEASUREMENT METHOD
QUANTITY OR GAUGE	WHERE APPROPRIATE)	CAPABILITY	REFERENCE	OR PROCEDURES USED
		EXPRESSED AS AN UNCERTAINTY	STANDARDS USED	
		(±)		
Indirect Verification of	20 HRC to 40 HRC	0.35 HRC	Hardness Test	ISO 6508-2 /
Rockwell Hardness	40 HRC to 60 HRC	0.29 HRC	Blocks HRC	ASTM E 18
Testers HRC ^o	60 HRC to 90 HRC	0.16 HRC		
Indirect Verification of	20 HRBW to 40 HRBW	0.25 HRBW	Hardness Test	
Rockwell Hardness	40 HRBW to 60 HRBW	0.29 HRBW	Blocks HRBW	
Testers HRBW ^o	60 HRBW to 100 HRBW	0.25 HRBW		
Durometer Indentor	0.55 N to 8.05 N	1.2 N	Electronic Balance	ASTM D2240
Spring			PRO-CAD-002	
Types A, B, C, D, E & O				
Torque Meter	2.26 N·m to 11.3 N·m	0.26 N.m	Torque Tester	ASME B107.300
Clockwise and Counter	21.96 N·m to 108.47 N·m	0.21 N.m	Sturtevant	
Clockwise ^F			STT100-P, STT80-P	
	162.7 N·m to 813.49 N·m	0.76 N.m	STT600-P	

Thermodynamic

1 ilei illou y ilailile				
MEASURED	RANGE	CALIBRATION	CALIBRATION	CALIBRATION
INSTRUMENT,	(AND SPECIFICATION	OR MEASUREMENT	EQUIPMENT AND	MEASUREMENT METHOD
QUANTITY OR GAUGE	WHERE APPROPRIATE)	CAPABILITY	REFERENCE	OR PROCEDURES USED
		EXPRESSED	STANDARDS USED	
	A	AS AN UNCERTAINTY		
		(±)		
Ovens, Furnaces	50 °C to 1 100 °C	0.66 °C	Thermocouple and	CENAM Technical Guide
Refrigerators, Muffles	20 °C to 250 °C	0.59 °C	Fluke725 Indicator	
and Incubators ^{FO}	20 C to 230 C	0.39	Type K and T	
and incubators	A		Type K and I	

Time and Frequency

Time and Trequency				
MEASURED	RANGE	CALIBRATION	CALIBRATION	CALIBRATION
INSTRUMENT,	(AND SPECIFICATION	OR MEASUREMENT	EQUIPMENT AND	MEASUREMENT METHOD
QUANTITY OR GAUGE	WHERE APPROPRIATE)	CAPABILITY	REFERENCE	OR PROCEDURES USED
		EXPRESSED	STANDARDS USED	
		AS AN UNCERTAINTY		
		(±)		
Stopwatches, Timers ^{FO}	Up to 36 000 s	0.056 s/hr	Stopwatch CASIO	PRO-CATI-001
			Model HS-70W	NIST 960-12

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.

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Metrología e Ingeniería Avanzada, S.A. de C.V.

Azucena #200, Colonia Miraflores 2^{do} Sector San Nicolás de los Garza, Nuevo León, México. C.P. 66410 Contact Name: Pedro Ramirez Rangel Phone: 811-505-9601

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. 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 outside mean that the laboratory performs this calibration onsite at the customer's location.
- 5. The presence of a superscript FO means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer^{FO} would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.
- 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 L represents length in inches or millimeters as appropriate to the uncertainty statement.
- 8. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.