



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Grupo Comsurlab, S.A. de C.V.

Ave. José Pagés Llergo # 345, Col. Nueva Villahermosa Villahermosa, Tabasco, México. CP. 86070

(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, Mechanical, Chemical, Time & Frequency, Optical, Electrical 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:

September 11, 2011

January 26, 2024

March 31, 2026

Revision Date:

Accreditation No.:

Certificate No.:

December 17, 2024

69078

L24-86-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



Grupo Comsurlab, S.A. de C.V.

Ave. Jose Pagés Llergo # 345, Col. Nueva Villahermosa Villahermosa, Tabasco, México. C.P. 86070 Contact Name: Claudia De la Fuente Phone: 993-354-8521

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

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Bimetallic	-25 °C to 150 °C	0.3 °C	Sensor RTD Pt-100	GC-PR-L007
Thermometers ^{FO}	150 °C to 600 °C	0.3 °C	Brand: Hart Scientific	Internal Procedure
Thermocouple Type J ^{FO}	-25 °C to 150 °C	0.3 °C	Model: 5615 and Sensor RTD Pt-10 Hart	
	150 °C to 895 °C	0.3 °C	Scientific Model 5624	
Thermocouple Type K ^{FO}	-25 °C to 150 °C	0.3 °C		
	150 °C to 895 °C	0.3 °C		
Thermocouple Type TFO	-25 °C to 150 °C	0.3 °C		
	150 °C to 400 °C	0.3 °C		
Glass Thermometers ^{FO}	-25 °C to 150 °C	3 °C	Sensor RTD Pt-100	CENAM Technical
	150 °C to 250 °C	3 °C	Brand Hart Scientific Model 5615 and Sensor RTD Pt-10 Hart Scientific Model: 5624	Guide
Temperature Controller	0 °C to 1 000 °C	0.33 °C	Sensor RTD Pt-100	GC-PR-L007
used with RTD Pt 385, 100 Ω^{FO}			Brand: Hart Scientific Model 5615 and Sensor	(Internal Procedure)
Temperature Controller used with RTD Pt 385, 200 Ω^{FO}	0 °C to 1 000 °C	0.2 °C	RTD Pt-10 Hart Scientific Model: 5624	,
Temperature Controller used with RTD Pt 385, 500 Ω ^{FO}	0 °C to 1 000 °C	0.33 °C		
Temperature Controller used with RTD Pt 385, 1 000 Ω^{FO}	0 °C to 1 000 °C	0.2 °C		
Temperature Calibration, Indication and Control Equipment used with RTD Pt 385, $100 \ \Omega^{FO}$	25 °C to 750 °C	1.5 °C		
Temperature Calibration, Indication and Control Equipment used with RTD Pt 3926, $100~\Omega$, JIS $100~\Omega^{FO}$	-25 °C to 750 °C	1.5 °C		
Dry Well ^{FO}	0 °C to 800 °C	0.1 °C	Sensor RTD Pt-100	CENAM Technical
Oven ^{FO}	30 °C to 500 °C	1.7 °C	Brand: Hart Scientific Model 5615 and Sensor RTD Pt-10 Hart Scientific Model: 5624	Guide



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Thermodynamic

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MEASURED	RANGE	CALIBRATION AND	CALIBRATION	CALIBRATION
INSTRUMENT,	(AND	MEASUREMENT	EQUIPMENT AND	MEASUREMENT
QUANTITY OR GAUGE	SPECIFICATION	CAPABILITY	REFERENCE	METHOD OR
	WHERE APPROPRIATE)	EXPRESSED AS AN UNCERTAINTY (±)	STANDARDS USED	PROCEDURES USED
Tl f	,		C DTD D4 100	CENIAM Taskasiasi
Thermometers of	50 °C to 450 °C	1 °C	Sensor RTD Pt-100	CENAM Technical
Radiation ^F			Brand Hart Scientific	Guide
			Model 5615 and Sensor	
			RTD Pt-10 Hart	
			Scientific Model 5624	
Thermo Balance ^O	40 °C to 200 °C	2 °C	Thermometer bimetallic	GC-PR-L021
			40 °C to 400 °C	(Internal
			Brand Ohaus	Procedure)
Thermal Bath ^{FO}	0 °C to 100 °C	1.7 °C	Sensor RTD Pt-100	CENAM Technical
			Brand	Guide
			Hart Scientific Model	
			5615	
Hygrometer ^F	30 % to 90 %	1.2 %	Humidity and	
			Temperature Meter,	
			Vaisala HM40	

Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Weight Set Class F1 ^F	1 mg	0.005 mg	Weight Set	ABBA Method
	2 mg	0.005 mg	1 mg to 2 kg Mass Class E2 Troemner	CENAM Technical Guide
	5 mg	0.005 mg	Class E2 Troeninei	Guide
	10 mg	0.007 mg		
	20 mg	0.009 mg		
	50 mg	0.009 mg		
	100 mg	0.009 mg		
	200 mg	0.009 9 mg		
	500 mg	0.002 5 mg		
	1 g	0.003 2 mg		
	2 g	0.052 mg		
	5 g	0.065 mg		
	10 g	0.082 mg		
	20 g	0.039 mg		
	50 g	0.99 mg		
	100 g	0.2 mg		



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Weight Set Class F1 ^F	200 g	0.4 mg	Weight Set	ABBA Method
	500 g	0.8 mg	1 mg to 2 kg Mass Class E2, Troemner	CENAM Technical Guide
	1 kg	1.7 mg	Class E2, Troeninei	Guide
	2 kg	3 mg		
Weight Set Class F2 ^F	1 mg	0.019 mg		
	2 mg	0.019 mg		
	5 mg	0.019 mg		
	10 mg	0.025 mg		
	20 mg	0.032 mg		
	50 mg	0.039 mg		
	100 mg	0.052 mg		
	200 mg	0.065 mg		
	500 mg	0.082 mg		
	1 g	0.99 mg		
	2 g	0.13 mg		
	5 g	0.16 mg		
	10 g	0.19 mg		
	20 g	0.26 mg		
	50 g	0.33 mg		
	100 g	0.53 mg		
	200 g	1 mg		
	500 g	2.6 mg		
	1 kg	5.3 mg		
	2 kg	10 mg		
Weight Set Class M1 ^F	1 mg	0.06 mg		
	2 mg	0.06 mg		
	5 mg	0.06 mg		
	10 mg	0.08 mg		
	20 mg	0.032 mg		
	50 mg	0.052 mg		
	100 mg	0.15 mg		
	200 mg	0.19 mg		
	500 mg	0.25 mg		



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Weight Set Class M1 ^F	1 g	0.32 mg	Weight Set	ABBA Method
	2 g	0.39 mg	1 mg to 2 kg Mass Class E2 Troemner	CENAM Technical Guide
	5 g	0.49 mg	Class E2 Troeniner	Guide
	10 g	0.65 mg		
	20 g	0.82 mg		
	50 g	0.99 mg		
	100 g	1.6 mg		
	200 g	3.3 mg		
	500 g	8.3 mg		
	1 kg	17 mg		
	2 kg	33 mg		
	10 kg	0.12 g	Weight Class F1	1
	20 kg	0.77 g	10 kg, 20 kg	
Weight Set Class M2 ^F	100 mg	0.52 mg	Weight Set 1 mg to 2 kg Mass Class E2 Troemner	
	200 mg	0.65 mg		
	500 mg	0.82 mg		
	1 g	0.99 mg		
	2 g	1.3 mg		
	5 g	1.7 mg		
	10 g	2 mg		
	20 g	2.6 mg		
	50 g	3.3 mg		
	100 g	5.3 mg		
	200 g	10 mg		
	500 g	27 mg		
	1 kg	53 mg		
	2 kg	100 mg		
Weight Set Class M3 ^F	1 g	3.3 mg		
	2 g	4 mg		
	5 g	5 mg		
	10 g	6.6 mg		
	20 g	8 mg		
	50 g	10 mg		



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Weight Set Class	100 g	17 mg	Weight Set	ABBA Method
M3 ^F	200 g	33 mg	1 mg to 2 kg Mass	CENAM
	500 g	83 mg	Class E2 Brand Troemner	Technical Guide
	1 kg	170 mg	214144 110 0111101	
	2 kg	340 mg		
Density (Hydrometer) ^F	0.4 g/cm ³ to 4 g/cm ³	0.031 g/cm ³	Analytic Balance 210 g Brand: Ohaus Model: Discovery Cuckow	
Torsion Viscometer Rotatority ^{FO}	10 g to 100 g (25 °Deflexion to 254 °Deflexion)	4.5 Dina/°Deflexion	Mass 10 g to 200 g Brand Ohaus	GC-PR-L019 Internal Procedure
Balances ^F	0.001 g to 81 g (Res.= 0.1 mg) 81.001 g to 310 g (Res.= 0.1 mg) 310.001 g to 610 g (Res.= 1 mg) 610.01 g to 6100 g (Res.= 10 mg) 5 kg to 200 kg	(1.25 x 10-4 + 3.64 x 10-6Wt) g (3 x 10-4 + 1.1 x 10-6Wt) g (1.5 x 10-3 + 7.85 x 10-7Wt) g (1.61 x 10-2 + 5.81 x 10-7Wt) g 0.016 kg	OIML E2 Analytical Weight Set 1 mg to 2 000 g w/27 pieces Brand: Troemner	CENAM Technical Guide
	(Res.= 10 g) 200 kg to 500 kg (Res.= 0.1 kg)	0.039 kg	M1	

Mechanical

Issue: 01/2024

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Pressure Gauges ^{FO}	1 psi to 100 psi	2 % of reading	Digital Pressure	CENAM Guide
	100 psi to 10 000 psi	0.3 % of reading	Gauge 500 psi, 2 000 psi and 10 000 psi Brand: Crystal, Model: XP2i	Technical
Pressure Gauges and Transducer ^{FO}	3 000 psi to 30 000 psi	0.25 % of reading	Digital Pressure Gauge 40 000 psi Brand: Additel, Model: 681	



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Pressure Gauges and Transducer ^{FO}	30 000 psi to 60 000 psi	0.25 % of reading	Pressure Gages FB-75-1 Brand Astragauge and Generator of Pressure 10 000 psi to 60 000 psi	CENAM Technical Guide
Vacuum Gauges ^{FO}	-10 psi to -1 psi	0.25 % of reading	Pressure Gage Brand: Crystal Model: 2Pxi 0 psi to14 psi	
Rotational Viscometer	100 mPa/s	2 mPa/s	Fluid of Calibration Certificate	GC-PR-L010 Internal Procedure
Dynamic FO	500 mPa.s	0.5 mPa.s	Brand: Ofite	
Viscosity ^{FO}	1 100 mPa.s	2.5 mPa.s	Fluid of Calibration	
	3 000 mPa.s	5 mPa.s	Certificate Brand: Cannon	
Mud Balance	1 sp	0.03 sp	Sensor RTD Pt-100	GC-PR-L013 Internal Procedure
Density ^F Fixed Points	2 sp	0.023 sp	Brand: Hart Scientific Model: 5615 Weight Set 1 mg to 2 kg Mass Class E2 Troemner	
	1.8 sp	0.01 sp	Weight Mass Set Class	
	2.3 sp	0.01 sp	M1	
Micropipettes ^{FO}	1 μL to 99 μL	0.1 μL	Balance	CENAM Technical
Micropipettes ^F	100 μL to 1 000 μL	1.5 μL	0.000 01 g to 81 g	Guide
Pipettes ^F	0.5 mL	0.006 mL	Res.= 0.01 mg) OHAUS Balance 81 g to 210 g	
	1 mL	0.002 mL	(Res.= 0.1 mg)	
	2 mL	0.002 6 mL	Brand: OHAUS	
	5 mL	0.055 mL	Model: Discovery DV 215CD	
	10 mL	0.003 mL	- D v 213CD	
	20 mL	0.004 mL		
	25 mL	0.005 mL		
	50 mL	0.005 mL		
	100 mL	0.01 mL		



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Burettes ^F	1 mL	0.000 45 mL	Balance 81g to 210 g	CENAM Technical Guide
	2 mL	0.000 46 mL	(Res.= 0.1 mg) Brand: OHAUS	
	5 mL	0.004 6 mL	Model: Discovery DV	
	10 mL	0.004 6 mL	215CD	
	20 mL	0.006 8 mL		
	25 mL	0.007 mL		
	50 mL	0.01 mL		
	100 mL	0.02 mL		
Cylinders ^F	1 mL	0.006 5 mL		
	2 mL	0.006 6 mL		
	5 mL	0.006 5 mL		
	10 mL	0.015 mL		
	20 mL	0.03 mL		
	25 mL	0.04 mL		
	50 mL	0.06 mL		
	100 mL	0.11 mL		
	200 mL	0.3 mL		
Flask ^F	500 mL	0.38 mL	Balance 210.01 g to 4 100 g	CENAM Technical
	1 000 mL	1.8 mL	(Res.= 0.01 g)	Guide
	2 000 mL	3 mL	Brand: OHAUS CENAM Technical Guide	
	1 mL	0.007 mL	Balance 210.01 g to 4 100 g	
	2 mL	0.001 4 mL	(Res.= 0.01 g)	
	5 mL	0.003 5 mL	Brand: OHAUS Model:	
	10 mL	0.005 mL	Discovery DV 215CD	
	20 mL	0.004 mL	,	
	25 mL	0.037 mL		
	50 mL	0.007 5 mL		
	100 mL	0.011 mL	Balance 210.01 g to 4 100 g	1
	500 mL	0.05 mL	(Res.= 0.01 g)	
	1 000 mL	0.1 mL	Brand: OHAUS	
	2 000 mL	0.2 mL		
		The state of the s		



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Mechanical

MEAGURER	DANCE	CALIDD ATION AND	CALIDDATION	CALIDDATION
MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
		AS AN UNCERTAINTY (±)		
Flask Le Chatelier ^F	24 mL	0.1 mL	Balance 4 100 g	CENAM Technical
			(Res.= 0.01 g)	Guide
			Brand: OHAUS	
Tube Centrifuge ^F	0.05 mL	0.015 mL	Balance Analytics	
	0.2 mL to 0.5 mL	0.029 mL	0 g to 220 g Brand: OHAUS	
	1 mL to 3 mL	0.057 mL	Explorer EX 224	
	5 mL	0.11 mL		
	10 mL	0.29 mL		
	25 mL to 100 mL	0.57 mL		

Chemical

Chemical				
MEASURED	RANGE	CALIBRATION AND	CALIBRATION	CALIBRATION
INSTRUMENT,	(AND SPECIFICATION	MEASUREMENT	EQUIPMENT AND	MEASUREMENT
QUANTITY OR GAUGE	WHERE APPROPRIATE)	CAPABILITY	REFERENCE	METHOD OR
		EXPRESSED	STANDARDS USED	PROCEDURES USED
		AS AN UNCERTAINTY (±)		
pH Meter ^{FO}	4.005 pH	0.02 pH	Buffer Solution pH 4,	GC-PR-L020
	7.000 pH	0.02 pH	pH 7 and pH 10	(Internal Procedure)
	1	1	Traceable	
	10.012 pH	0.02 pH	Through NIST	

Time & Frequency

Time & Frequency	1			
MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Tachometer, Centrifuge, Rotational Viscometer, Mixer ^F	0.05 Hz to 1 000 Hz	3.33 x 10 ⁻³ Hz	Tektronix AFG1022 Arbitrary/ Function Generator Digital Optical & Contact Brand: Monarch	GC-PR-L012 (Internal Procedure)
Stopwatch ^{FO}	10 s 60 s 120 s 3 600 s 86 400 s	0.5 s 0.5 s 0.5 s 0.72 s	Digital Chronometer Brand: Control Company Model: 1 021C	NIST Handbook 105-5



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Optical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Spectrophofometer Transmittance Density ^F	0.25 % OD to 4 % OD	3 % of reading	Opacity Filter (KV450/3)	Technical Guide UV-Vis
ά Absorbance ^F	0.297 absorbance to 1.409 absorbance	3 % of reading	Density, Neutral (NG9/1, NG5/2, NG11/2)	
τ Transmittance ^F	1 % to 95 %	0.27 % of reading	Filter of Oxide, Holmium (Ho)	
Wavelenght ^F	359 n·m to 809 n·m	2 n·m	Filter of Oxide Didymium (BG20/2) UV-Vis	CENAM Technical Guide

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Standard Emulsion Stability Tester ^{FO}	10 MΩ	25 Ω	Multimeter Fluke	GC-PR-L016
	32 MΩ	1.6 ΜΩ	Model: 28II	(Internal Procedure)
Equipment to Measure	Up to 104 mV	11 μV	Multimeter Calibrator Trasmille 1000	CENAM Technical Guide
DC Voltage ^F	0.104 V to 1.04 V	31 µV		
	1.04 V to 10.4 V	1.5 mV		
	10.4 V to 104 V	15 mV		
	104 V to 1 020 V	640 mV		
Equipment to Measure	Up to 104 μA	0.052 μΑ		
DC Current ^F	0.104 mA to 1.04 mA	0.001 1 mA		
	1.04 mA to 10.4 mA	0.018 A		
	10.4 mA to 104 mA	0.035 mA		
	104 m to 1 040 mA	0.06 mA		
	1.4 A to 10.2 A	1.8 mA		
	10.2 A to 500 A	2 mA		
Equipment to Measure AC voltage At the listed frequencies 10 Hz to 20 kHz	Up to 104 mV	0.001 1 mV		
	0.104 V to 1.04 V	0.011 mV		
	1.04 V to 10.4 V	0.11 mV		



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Equipment to Measure	10.4 V to 104 V	1.1 mV	Multimeter Calibrator	CENAM Technical
AC voltage At the listed frequencies 40 Hz to 1 kHz ^F	104 V to 1020 V	11 mV	Trasmille 1000	Guide
Equipment to Measure	10.4 μA to 104 μA	0.001 1 μΑ		
AC voltage	0.104 mA to 1 mA	0.015 mA		
At the listed frequencies 10 Hz to 2 kHz ^F	1.04 mA to 10.4 mA	0.15 mA		
TO THE TO E RITE	10.4 mA to 104 mA	1 mA		
	104 mA to 1 040 mA	10 mA		
	1.04 A to 10.4 A	0.01 A		
Equipment to Measure AC voltage At the listed frequencies 30 Hz to 60 Hz ^F	10 A to 500 A	1 A		
Equipment to Measure	0 Ω to 10 Ω	0.57 mΩ		
Resistance ^F	10.1 Ω to 100 Ω	5.7 mΩ		
	101 Ω to 1 kΩ	57 mΩ		
	$1.01~\mathrm{k}\Omega$ to $10~\mathrm{k}\Omega$	0.57 Ω		
	10.1 kΩ to 100 kΩ	5.7 Ω		
	101 kΩ to 1 MΩ	57 Ω		
	$1.01~\mathrm{M}\Omega$ to $10~\mathrm{M}\Omega$	570 Ω		
	10 MΩ to 32 MΩ	570 Ω		
Equipment to Measure	1 kΩ	0.000 5 % of reading	Multimeter Calibrator	
Resistance	10 kΩ	0.000 5 % of reading	Transmiller 1000	
At the listed frequencies ^F Up to 10 kV Fixed Point	100 kΩ	0.000 5 % of reading	High Resistance Standard VRS-100-	
	1 ΜΩ	0.002 % of reading	1K-BP-10KV	
	10 ΜΩ	0.54 % of reading		
	100 ΜΩ	0.5 % of reading		
	1 GΩ	0.5 % of reading		
	10 GΩ	0.5 % of reading		
	100 GΩ	0.5 % of reading		
	1 ΤΩ	0.5 % of reading		
Equipment to Output	0.001 mV to 100 mV	0.57 mV	Multimeter Calibrator	
DC Voltage ^F	0.1 V to 1 V	5.7 mV	Trasmille 1000	
	1 V to 10 V	57 mV		



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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Equipment to Output DC Voltage ^F	10 V to 30 V	0.57 V	Multimeter Calibrator Trasmille 1000	CENAM Technical Guide
Equipment to Output DC Current ^F	0.01 mA to 30 mA	0.005 7 mA		
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B ^F	600 °C to 1 800 °C	0.35 °C	Multimeter Calibrator Trasmille 1000 Electrical Simulation of Thermocouple	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E ^F	-200 °C to 1 000 °C	0.34 °C	Output	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J ^F	-200 °C to 1 000 °C	0.34 °C		
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K ^F	-200 to 1 000 °C	0.34 °C		
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R ^F	-200 °C to 1 000 °C	0.34 °C		
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S ^F	-200 °C to 1 000 °C	0.34 °C		
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N ^F	-200 °C to 1 000 °C	0.34 °C		
Equipment to Measure	1 Hz to 200 Hz	0.005 7 Hz	Multimeter Calibrator	
Frequency ^F	200 Hz to 2000 Hz	0.057 Hz	Trasmille 1000	
	2 000 Hz to 20 kHz	0.000 57 kHz		
	20 kHz to 100 kHz	0.005 7 kHz		
Equipment to Measure	1 nF to 10 nF	0.000 057 nF		
Capacitance ^F	10 nF to 100 nF	0.005 7 nF		
	100 nF to 1μF	0.057 nF		



Grupo Comsurlab, S.A. de C.V.

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

Dimensional

Issue: 01/2024

Difficitsional				
MEASURED	RANGE	CALIBRATION AND	CALIBRATION	CALIBRATION
INSTRUMENT,	(AND SPECIFICATION	MEASUREMENT	EQUIPMENT AND	MEASUREMENT
QUANTITY OR GAUGE	WHERE APPROPRIATE)	CAPABILITY	REFERENCE	METHOD OR
		EXPRESSED	STANDARDS USED	PROCEDURES USED
		AS AN UNCERTAINTY (±)		
Caliper ^{FO}	5 mm to 600 mm	12 μm	Gauge Block Set	CENAM Technical
	(0.19 in to 24 in)	[(0.000 47 in)]	Grade 0, Mitutoyo	Guide
Flexometer and	0.05 m to 5 m	1.3 mm	D2 Distance Meter	CEM DI-011
Ruler ^F				

- 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.
- 4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations.
- 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.