



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Mess Servicios Metrológicos S. de R.L. de C.V.

***Acceso III No. 16 A, Nave 10, Parque Industrial Benito Juárez
Querétaro, Querétaro, México. C.P. 76120***

*and hereby declares that the Organization is accredited in accordance with
the recognized International Standard:*

ISO/IEC 17025:2017

Whereby, technical competence has been confirmed for the associated scope supplement, in the fields of:

Thermodynamic, Electrical, Mechanical and Time and Frequency Calibration (As detailed in the supplement)

Accreditation claims for conformity assessment activities shall only be made from the addresses referenced within this certificate and shall apply solely to those activities identified in the related scope. This Accreditation is granted subject to the Accreditation Body rules governing the Accreditation referred to above, and the Organization hereby commits to observing and complying with those rules in their entirety.

For PJLA:

Initial Accreditation Date:

Issue Date:

Expiration Date:

July 29, 2015

August 03, 2025

October 31, 2027

Accreditation No.:

Certificate No.:

56695

L25-591

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.pjlab.com*

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



Certificate of Accreditation: Supplement

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Acceso III No. 16 A, Nave 10, Parque Industrial Benito Juárez

Querétaro, Querétaro, México. C.P. 76120

Contact Name: José Tomas Morales Phone: 442-476-0646

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY ($\pm$) ¹	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Thermodynamic	Temperature Measurement RTD Pt 100	-45 °C to 0 °C	0.06 °C	Fluke 9170 Fluke 9173 Fluke 5626, OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Thermodynamic	Temperature Measurement RTD Pt 100	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Thermodynamic	Temperature Measurement RTD Pt 100	150 °C to 700 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Thermodynamic	Thermistor Thermocouples Type N and P	-45 °C to 0 °C	0.06 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Thermodynamic	Thermistor Thermocouples Type N and P	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Thermodynamic	Thermistor Thermocouples Type N and P	150 °C to 700 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F



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Thermodynamic	Temperature Measurement Thermocouple Type B	600 °C to 660 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type B	660 °C to 700 °C	0.25 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type C	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type C	150 °C to 660 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type C	660 °C to 700 °C	0.25 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type E	-45 °C to 0 °C	0.06 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O



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Thermodynamic	Temperature Measurement Thermocouple Type E	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type E	150 °C to 660 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type E	660 °C to 700 °C	0.25 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type J	-45 °C to 0 °C	0.06 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type J	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type J	150 °C to 660 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O



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Thermodynamic	Temperature Measurement Thermocouple Type J	660 °C to 700 °C	0.25 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type K	-45 °C to 0 °C	0.06 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type K	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type K	150 °C to 660 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type K	660 °C to 700 °C	0.25 °C	Fluke 9170 Fluke 9173 Fluke 5626, OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type N	-45 °C to 0 °C	0.06 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O



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Thermodynamic	Temperature Measurement Thermocouple Type N	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type N	150 °C to 660 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type N	660 °C to 700 °C	0.25 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type R	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type R	150 °C to 660 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type R	660 °C to 700 °C	0.25 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O



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Thermodynamic	Temperature Measurement Thermocouple Type S	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type S	150 °C to 660 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Temperature Measurement Thermocouple Type S	660 °C to 700 °C	0.25 °C	Fluke 9170 Fluke 9173 Fluke 5626 OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Thermodynamic	Bimetallic Thermometer	-45 °C to 0 °C	0.06 °C	Fluke 9170 Fluke 9173 Fluke 5626	NMX-CH-70-SCFI MESS-TE-PRO-002	F1, F2	F
Thermodynamic	Bimetallic Thermometer	0 °C to 150 °C	0.08 °C	Fluke 9170 Fluke 9173 Fluke 5626	NMX-CH-70-SCFI MESS-TE-PRO-002	F1, F2	F
Thermodynamic	Bimetallic Thermometer	150 °C to 700 °C	0.1 °C	Fluke 9170 Fluke 9173 Fluke 5626	NMX-CH-70-SCFI MESS-TE-PRO-002	F1, F2	F
Thermodynamic	Infrared Temperature Measuring Instrument	-20 °C to 35 °C	3.2 °C	HEITRONICS KT19.82 II	ASTM E2847 MESS-TE-PRO-003	F1, F2	F
Thermodynamic	Infrared Temperature Measuring Instrument	35 °C to 100 °C	0.45 °C	HEITRONICS KT19.82 II	ASTM E2847 MESS-TE-PRO-003	F1, F2	F
Thermodynamic	Infrared Temperature Measuring Instrument	100 °C to 200 °C	0.64 °C	HEITRONICS KT19.82 II	ASTM E2847 MESS-TE-PRO-003	F1, F2	F



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Thermodynamic	Infrared Temperature Measuring Instrument	200 °C to 350 °C	1.1 °C	HEITRONICS KT19.82 II	ASTM E2847 MESS-TE-PRO-003	F1, F2	F
Thermodynamic	Infrared Temperature Measuring Instrument	350 °C to 500 °C	1.5 °C	HEITRONICS KT19.82 II	ASTM E2847 MESS-TE-PRO-003	F1, F2	F
Thermodynamic	Infrared Temperature Measuring Instrument	500 °C to 1 000 °C	4.5 °C	HEITRONICS KT19.82 II	ASTM E2847 MESS-TE-PRO-003	F1, F2	F
Thermodynamic	Infrared Temperature Measuring Instrument	1 000 °C to 1 500 °C	7 °C	HEITRONICS KT19.82 II	ASTM E2847 MESS-TE-PRO-003	F1, F2	F
Thermodynamic	Temperature Chamber	-70 °C to 300 °C	0.1 °C	Fluke 1586A	AMS 2750F	F1, F2	F
Thermodynamic	Temperature Chamber	301 °C to 650 °C	0.5 °C	Fluke 1586A	AMS 2750F	F1, F2	F
Thermodynamic	Temperature Chamber	651 °C to 1 000 °C	1.3 °C	Fluke 1586A	AMS 2750F	F1, F2	F
Thermodynamic	Hygrometer (Humidity)	10 % RH to 90 % RH	1 % RH	Vaisala HMP75	ASTM E104-02	F1, F2	F
Thermodynamic	Hygrometer (Humidity)	90 % RH to 99 % RH	2 % RH	Vaisala Indigo 80	ASTM E104-02	F1, F2	F
Thermodynamic	Hygrometer (Temperature)	10 °C to 50 °C	0.1 °C	Vaisala HMP75	ASTM E104-02	F1, F2	F
Electrical	Equipment to Measure DC Voltage	1 mV to 330 mV	40 μ V/V + 2 μ V	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Voltage	0.33 V to 3.3 V	22 μ V/V + 10 μ V	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Voltage	3.3 V to 33 V	24 μ V/V + 204 μ V	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O



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Electrical	Equipment to Measure DC Voltage	33 V to 330 V	36 μ V/V + 6 mV	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Voltage	330 V to 1 025 V	36 μ V/V + 10 mV	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Voltage	10 mV to 100 mV	18 μ V/V + 1 μ V	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Voltage	0.1 V to 1 V	13 μ V/V + 4.3 μ V	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Voltage	1 V to 10 V	14 μ V/V + 96 μ V	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Voltage	10 V to 100 V	19 μ V/V + 330 μ V	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Voltage	100 V to 1 000 V	19 μ V/V + 4.6 mV	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Current	2 μ A to 200 μ A	0.2 mA/A + 20 nA	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Current	0.2 mA to 2 mA	0.1 mA/A + 230 nA	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O



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Electrical	Equipment to Measure DC Current	2 mA to 20 mA	0.1 mA/A + 3 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Current	20 mA to 200 mA	0.1 mA/A + 23 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Current	0.2 A to 2 A	0.26 mA/A + 120 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Current	2 A to 20 A	0.6 mA/A + 600 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure DC Current	20 A to 30 A	1 mA/A + 900 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Clamp-On Meters	11 A to 1 500 A	1.2 A	Transmille 4010 and 50 Turn Coil (Type Thyroid)	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Current	0.1 μ A to 1 μ A	1.4 mA/A + 68 pA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Current	1 μ A to 10 μ A	200 μ A/A + 400 pA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Current	10 μ A to 100 μ A	56 μ A/A + 5.8 nA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O



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Electrical	Equipment to Output DC Current	0.1 mA to 1mA	56 μ A/A + 62 nA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Current	1 mA to 10 mA	64 μ A/A + 660 nA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Current	10 mA to 100 mA	94 μ A/A + 1.2 μ A	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Current	0.1 A to 1 A	470 μ A/A + 26 μ A	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Current	1 A to 10 A	1.1 mA/A + 700 μ A	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Current	10 A to 30 A	1.5 mA/A + 9 mA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	0.11 Ω to 11 Ω	80 $\mu\Omega/\Omega$ + 20 m Ω	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	11 Ω to 110 Ω	56 $\mu\Omega/\Omega$ + 30 m Ω	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	0.11 k Ω to 1.1k Ω	56 $\mu\Omega/\Omega$ + 40 m Ω	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O



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Acceso III No. 16 A, Nave 10, Parque Industrial Benito Juárez

Querétaro, Querétaro, México. C.P. 76120

Contact Name: José Tomas Morales Phone: 442-476-0646

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY ($\pm$) ¹	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Electrical	Equipment to Measure Resistance	1.1 k Ω to 11 k Ω	56 $\mu\Omega/\Omega$ + 400 m Ω	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	11 k Ω to 110 k Ω	56 $\mu\Omega/\Omega$ + 2 Ω	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	0.11 M Ω to 1.1 M Ω	64 $\mu\Omega/\Omega$ + 22 Ω	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	1.1 M Ω to 3.3 M Ω	120 $\mu\Omega/\Omega$ + 820 Ω	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	3.3 M Ω to 11 M Ω	260 $\mu\Omega/\Omega$ + 500 Ω	Fluke 5522A	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	11 M Ω to 33 M Ω	500 $\mu\Omega/\Omega$ + 46 k Ω	Fluke 5522A	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	33 M Ω to 110 M Ω	1 m Ω/Ω + 100 k Ω	Fluke 5522A	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure Resistance	110 M Ω to 330 M Ω	6 m Ω/Ω + 200 k Ω	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	1 mV to 33 mV	0.3 mV/V + 12 μ V	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O



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Querétaro, Querétaro, México. C.P. 76120

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Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	33 mV to 330 mV	0.3 mV/V + 94 μ V	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	0.33 V to 3.3 V	0.3 mV/V + 920 μ V	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	3.3 V to 33 V	0.3 mV /V + 11 mV	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 10 kHz)	33 V to 330 V	0.38 mV /V + 90 mV	Fluke 5522A	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	33 mV to 330 mV	0.32 mV/V + 30 μ V	Fluke 5522A	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	0.33 V to 3.3 V	0.38 mV /V + 230 μ V	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	3.3 V to 33 V	0.48 mV /V + 3.8 mV	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 10 kHz to 20 kHz)	33 V to 330 V	0.5 mV /V + 12 mV	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Voltage (@ 45 Hz to 1 kHz)	0.33 kV to 1 kV	0.6 mV /V + 56 mV	Fluke 5560A/2G	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O



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Querétaro, Querétaro, México. C.P. 76120

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Electrical	Equipment to Output AC Current (@ 40 Hz to 1 kHz)	0.1 mA to 1 mA	1 mA /A + 240 nA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Current (@ 40 Hz to 1 kHz)	1 mA to 10 mA	1 mA /A + 2.4 μ A	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Current (@ 40 Hz to 1 kHz)	10 mA to 100 mA	1 mA /A + 24 μ A	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Current (@ 40 Hz to 1 kHz)	0.1 A to 1 A	1.4 mA/A + 300 μ A	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Current (@ 40 Hz to 1 kHz)	1 A to 10 A	2.4 mA /A + 6 mA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Current (@ 40 Hz to 1 kHz)	10 A to 30 A	2.4 mA /A + 18 mA	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output Resistance	0.1 Ω to 1 Ω	94 $\mu\Omega/\Omega$ + 24 $\mu\Omega$	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output Resistance	1 Ω to 10 Ω	63 $\mu\Omega/\Omega$ + 870 $\mu\Omega$	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output Resistance	10 Ω to 100 Ω	56 $\mu\Omega/\Omega$ + 7.9 m Ω	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O



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Querétaro, Querétaro, México. C.P. 76120

Contact Name: José Tomas Morales Phone: 442-476-0646

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Electrical	Equipment to Output Resistance	100 Ω to 1 k Ω	25 $\mu\Omega/\Omega$ + 37 m Ω	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output Resistance	1 k Ω to 10 k Ω	30 $\mu\Omega/\Omega$ + 400 m Ω	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output Resistance	10 k Ω to 100 k Ω	31 $\mu\Omega/\Omega$ + 1.6 Ω	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output Resistance	0.1 M Ω to 1 M Ω	36 $\mu\Omega/\Omega$ + 56 Ω	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output Resistance	1 M Ω to 10 M Ω	48 $\mu\Omega/\Omega$ + 880 Ω	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output DC Voltage	0.1 kV to 6 kV	0.012 kV	Fluke 80K-6	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Voltage (@ 40 Hz to 1 kHz)	10 mV to 100 mV	0.6 mV/V + 18 μ V	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Voltage (@ 40 Hz to 1 kHz)	0.1 V to 1 V	0.6 mV/V + 120 μ V	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Voltage (@ 40 Hz to 1 kHz)	1 V to 10 V	0.6 mV/V + 1.2 mV	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O



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Electrical	Equipment to Output AC Voltage (@ 40 Hz to 1 kHz)	10 V to 100 V	0.6 mV/V + 18 mV	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Voltage (@ 40 Hz to 1 kHz)	1 V to 1 000 V	0.6 mV/V + 180 mV	Transmille 8081	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Output AC Voltage (@ 45 Hz to 500 Hz)	0.1 kV to 6 kV	0.012 kV	Fluke 80K-6	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	20 μ A to 200 μ A	1.4 mA/A + 1.1 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	0.2 mA to 2 mA	1.2 mA/A + 1.7 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	2 mA to 20 mA	0.8 mA/A + 4 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	20 mA to 200 mA	0.8 mA/A + 240 μ A	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	0.2 A to 2 A	1.2 mA/A + 4.8 mA	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F
Electrical	Equipment to Measure AC Current (@ 45 Hz to 1 kHz)	2 A to 30 A	1.6 mA/A + 16 mA	Transmille 4010	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2--SCFI	F1, F2	F



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Electrical	Equipment to Measure AC Current Clamp-On Meters (@ 45 Hz to 65 Hz) (Type Thyroid)	11 A to 1 500 A	1.5 A	Transmille 4010 and 50 Turn Coil	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI	F1, F2	F, O
Electrical	Temperature Calibration Indication and Control Equipment used with RTD Type Pt 385, 100 Ω	-100 °C to 800 °C	0.036 °C	Transmille 4010 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration Indication and Control Equipment used with RTD Type Pt 25	-200 °C to 800 °C	0.036 °C	Transmille 4010 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Electrical	Temperature Calibration Indication and Control Equipment used with RTD Type Pt 100	-200 °C to 800 °C	0.55 °C	Transmille 4010 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Electrical	Temperature Calibration Indication and Control Equipment used with RTD Type Pt 250	-200 °C to 800 °C	0.3 °C	Transmille 4010 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Electrical	Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 500	-200 °C to 500 °C	0.9 °C	Transmille 4010 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F



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Electrical	Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 1 000	-200 °C to 800 °C	0.45 °C	Transmille 4010 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F
Electrical	Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 385, 500 Ω	-200°C to 630 °C	0.031 °C	Fluke 754 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 385, 1 000 Ω	-200 °C to 630 °C	0.027 °C	Fluke 754 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with RTD Type Pt Ni 385, 120 Ω (Ni 120 Ω)	-80 °C to 260 °C	0.051 °C	Fluke 754 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with RTD Type Cu 42 710 Ω	-100 °C to 260 °C	0.17 °C	Fluke 754 Electrical Simulation of RTD Output OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B	600 °C to 1 820 °C	0.19 °C	Fluke 754 Electrical Simulation of Thermocouple Output Transmille 4010 + EA001A OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	0 °C to 2 316 °C	0.17 °C	Fluke 754 Electrical Simulation of Thermocouple Output Transmille 4010 + EA001A OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	-250 °C to 1 000 °C	0.11 °C	Fluke 754 Electrical Simulation of Thermocouple Output Transmille 4010 + EA001A OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	-210 °C to 1 200 °C	0.11 °C	Fluke 754 Electrical Simulation of Thermocouple Output Transmille 4010 + EA001A OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	-200 °C to 1 372 °C	0.12 °C	Fluke 754 Electrical Simulation of Thermocouple Output Transmille 4010 + EA001A OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	-200 °C to 1 300 °C	0.13 °C	Fluke 754 Electrical Simulation of Thermocouple Output Transmille 4010 + EA001A OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	0 °C to 1 767 °C	0.2 °C	Fluke 754 Electrical Simulation of Thermocouple Input / Output Transmille 4010+EA001A/ OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S	0 °C to 1 767 °C	0.22 °C	Fluke 754 Electrical Simulation of Thermocouple Input / Output Transmille 4010+EA001A/ OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	-250 °C to 400 °C	0.11 °C	Fluke 754 Electrical Simulation of Thermocouple Input / Output Transmille 4010+EA001A/ OIML-R-84	ASTM-E-230 Euramet cg-08	F1, F2	F, O
Mechanical	Vacuum Gage	-12 psi to 0 psi	0.01 psi	2700G-BG200K	MESS-PR-PRO-001	F1, F2	F, O
Mechanical	Pressure Gage	Up to 100 psi	0.025 psi	2700G-BG200K 2700G-BG700K	MESS-PR-PRO-001	F1, F2	F, O
Mechanical	Pressure Gage	100 psi to 1 000 psi	0.25 psi	2700G-BG2M 2700G-BG3.5M 2700G-BG7M	MESS-PR-PRO-001	F1, F2	F, O
Mechanical	Pressure Gage	1 000 psi to 5 000 psi	1.3 psi	2700G-G20M 2700G-G35M	MESS-PR-PRO-001	F1, F2	F, O
Mechanical	Pressure Gage	5 000 psi to 10 000 psi	2.5 psi	2700G-G70M	MESS-PR-PRO-001	F1, F2	F, O
Mechanical	Pressure Gage	10 000 psi to 30 000 psi	15 psi	ADT672	MESS-PR-PRO-001	F1, F2	F, O



Certificate of Accreditation: Supplement

Mess Servicios Metrológicos S. de R.L. de C.V.

Acceso III No. 16 A, Nave 10, Parque Industrial Benito Juárez

Querétaro, Querétaro, México. C.P. 76120

Contact Name: José Tomas Morales Phone: 442-476-0646

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY ($\pm$) ¹	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Mechanical	Pressure Gage	30 000 psi to 60 000 psi	30 psi	ADT672-10-GP60K-PSI-AM	MESS-PR-PRO-001	F1, F2	F, O
Time and Frequency	Frequency Calibration Equipment to Measure Frequency (Non-Contact Tachometer)	10 Hz to 119.99 Hz	0.0058 Hz	Fluke 5560A/2G	MESS-EL-PRO-007	F1, F2	F, O
Time and Frequency	Frequency Calibration Equipment to Measure Frequency (Non-Contact Tachometer)	600 rpm to 7 199.4 rpm	0.35 rpm	Fluke 5560A/2G	MESS-EL-PRO-007	F1, F2	F, O
Time and Frequency	Frequency Calibration Equipment to Measure Frequency (Non-Contact Tachometer)	120 Hz to 1 199.9 Hz	0.058 Hz	Fluke 5560A/2G	MESS-EL-PRO-007	F1, F2	F, O
Time and Frequency	Frequency Calibration Equipment to Measure Frequency (Non-Contact Tachometer)	7 200 rpm to 71 994 rpm	3.5 rpm	Fluke 5560A/2G	MESS-EL-PRO-007	F1, F2	F, O
Time and Frequency	Frequency Calibration Equipment to Measure Frequency (Non-Contact Tachometer)	1.2 kHz to 10 000 kHz	0.58 Hz	Fluke 5560A/2G	MESS-EL-PRO-007	F1, F2	F, O
Time and Frequency	Frequency Calibration Equipment to Measure Frequency (Non-Contact Tachometer)	72 000 rpm to 600 000 rpm	35 rpm	Fluke 5560A/2G	MESS-EL-PRO-007	F1, F2	F, O



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Contact Name: José Tomas Morales Phone: 442-476-0646

Accreditation is granted to the facility to perform the following conformity assessment activities:

1. The CMC (Calibration and Measurement Capability) is expressed in terms of measurement instrument/aspect being calibrated, range, expanded measurement uncertainty, equipment, and method/procedure. The expanded measurement uncertainty 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 measurement uncertainty included on this scope 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 laboratory's range of calibration capability for all disciplines for which it is 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. Location of activity:

Location

Code

F

Conformity assessment activity is performed at the CAB's fixed facility

O

Conformity assessment activity is performed onsite at the CAB's customer location

4. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratory's 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 laboratory's fixed location.

5. Flex Codes

F0: When no flexibility is identified. There are no changes to items calibrated, characteristics identified or versions of methods except for updating to the most recent version of a standard method after verification.

F1: The laboratory has the capability to introduce a new instrument, quantity, or gauge for an accredited calibration method.

F2: The laboratory has the capability to introduce the newest revision of an accredited authoritative standard method (with no modifications) identified on the scope

F3: The laboratory has the capability to introduce a new revision of an accredited non-standard method using the same technology or technique identified on the scope

F4: The laboratory has the capability to introduce a validated method that is equivalent to an accredited method (using the same Calibration Equipment or Reference Standards identified on the scope for the same parameter, component, or analyte identified on the line item of the scope).