



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## Certificate of Accreditation

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

***IBC Metrology, S.A. de C.V.***  
*Playa 564, Colonia Las Reynas*  
*Irapuato, Guanajuato, México. C.P. 36660*

*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:

***Dimensional, Mass, Force and Weighing Devices, Thermodynamic, Mechanical,  
Optical, Time and Frequency and Electrical 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:*

April 12, 2021

May 15, 2025

July 31, 2027

*Accreditation No.:*

*Certificate No.:*

112685

L25-466

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

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



# Certificate of Accreditation: Supplement

## IBC Metrology, S.A. de C.V.

Playa 564, Col. Las Reynas

Irapuato, Guanajuato, México. C.P. 36660

Contact Name: Raul Alejandro Solis Fuerte Phone: 462-255-1319

*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)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ )	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	LOCATION OF ACTIVITY
Dimensional	Outside Micrometer	0.01 mm to 1 000 mm	0.59 $\mu\text{m}$	Metrology Gage Block GB-9047-0 Grade 0 Metrology Gage Block GB-908M-0 Grade 0	JIS B 7502 CENAM Technical Guide	F, O
Dimensional	Inside Micrometer Inside Gauge	1 mm to 300 mm	0.59 $\mu\text{m}$	Metrology Gage Block GB-9047-0 Grade 0 Metrology Gage Block GB-908M-0 Grade 0	JIS B 7502	F, O
Dimensional	Depth Micrometer Depth Gauge	1 mm to 300 mm	0.59 $\mu\text{m}$	Metrology Gage Block GB-9047-0 Grade 0 Metrology Gage Block GB-908M-0 Grade 0	JIS B 7502	F, O
Dimensional	Height Gauge	0.01 mm to 1 000 mm	9.2 $\mu\text{m}$	Metrology Gage Block GB-9047-0 Grade 0 Metrology Gage Block GB-908M-0 Grade 0	JIS B 7517	F, O
Dimensional	Caliper Linear Scale Laser Distance Sensor	0.01 mm to 1 000 mm	9.3 $\mu\text{m}$	Metrology Gage Block GB-9047-0 Grade 0 Metrology Gage Block GB-908M-0 Grade 0	JIS B 7507 CENAM Technical Guide	F, O
Dimensional	Pin Gage Plug Gauge Go/NoGo	0.01 mm to 50 mm	3.1 $\mu\text{m}$	Metrology High-Accuracy Digital Caliper EC-9001SU	ASME B89.1.5 CENAM Technical Guide	F, O
Dimensional	Dial Indicator	1 mm to 500 mm	0.6 $\mu\text{m}$	Metrology Gage Block GB-9047-0 Grade 0 Metrology Gage Block GB-908M-0 Grade 0	JIS B 7503	F, O



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Dimensional	Linear Variable Differential Transformer (LVDT)	1 mm to 500 mm	0.6 $\mu$ m	Metrology Gage Block GB-9047-0 Grade 0 Metrology Gage Block GB-908M-0 Grade 0	JIS B 7503	F, O
Dimensional	Dial Test Indicators (Lever Type)	0.01 mm to 25 mm	0.6 $\mu$ m	Head Micrometer	JIS B 7533	F, O
Dimensional	Thickness Gauge with Indicator	0.01 mm to 200 mm	5.8 $\mu$ m	Metrology Gage Block GB-9047-0 Grade 0 Metrology Gage Block GB-908M-0 Grade 0	CENAM Technical Guide	F, O
Dimensional	Metallic Feeler Gauge Plastic Feeler Gauge	0.01 mm to 10 mm	3.1 $\mu$ m	Metrology Outside Micrometer EM-9001WF	JIS B 7524	F, O
Dimensional	Length Meter Counter - Odometer	0.1 m to 1 000 m	0.18 m	Length Meter Counter NIDEC-SHIMPO DT-205LR	NMX-CH-74	F, O
Dimensional	Granite Surface Plates (Flatness)	200 mm to 3 300 mm Diagonal	5.8 $\mu$ m	Mitutoyo High-Accuracy Indicator 543-700B with Surface Plate Repeat Checking Calibrator	JIS B 7513	F, O
Mass, Force and Weighing Devices	Analytical Balance	0.001 g to 500 g (Res.= 0.000 1 g)	$(9.5 \times 10^{-5} + 5.8 \times 10^{-5}Wt)$ g	OIML Class F1 Weights	CENAM Technical Guide	O
Mass, Force and Weighing Devices	Analytical Balance	0.1 g to 5 000 g (Res.= 0.001 g)	$(9.11 \times 10^{-4} + 7 \times 10^{-6}Wt)$ g	OIML Class F1 Weights	CENAM Technical Guide	O



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Mass, Force and Weighing Devices	Precision Balance	1 g to 35 000g (Res.= 0.01 g)	$(4.08 \times 10^{-3} + 7 \times 10^{-6} \text{Wt}) \text{ g}$	OIML Class F1 Weights	CENAM Technical Guide	O
Mass, Force and Weighing Devices	Precision Balance	1 kg to 100 kg (Res.= 0.1 g)	$(8.6 \times 10^{-5} + 6 \times 10^{-6} \text{Wt}) \text{ kg}$	OIML Class F1 and Class M1 Weights	CENAM Technical Guide	O
Mass, Force and Weighing Devices	Scale	50 kg to 1 000 kg (Res.= 1 g)	$(5.71 \times 10^{-1} + 4 \times 10^{-6} \text{Wt}) \text{ kg}$	OIML Class M1 Weights	CENAM Technical Guide NOM-010-SCFI	O
Mass, Force and Weighing Devices	Floor Scale	100 kg to 10 000 kg (Res.= 10 g)	$(4.55 + 2 \times 10^{-6} \text{Wt}) \text{ kg}$	OIML Class M1 Weights	CENAM Technical Guide NOM-010-SCFI	O
Mass, Force and Weighing Devices	Mass Class M1 Weights	2 kg	0.033 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M1 Weights	5 kg	0.083 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M1 Weights	10 kg	0.16 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M1 Weights	20 kg	0.33 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M2 Weights	1 kg	0.053 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O



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Mass, Force and Weighing Devices	Mass Class M2 Weights	2 kg	0.1 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M2 Weights	5 kg	0.26 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M2 Weights	10 kg	0.53 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M2 Weights	20 kg	1 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M3 Weights	200 g	0.033 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M3 Weights	500 g	0.083 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M3 Weights	1 kg	0.16 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M3 Weights	2 kg	0.33 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M3 Weights	5 kg	0.83 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O



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Mass, Force and Weighing Devices	Mass Class M3 Weights	10 kg	1.6 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Mass Class M3 Weights	20 kg	3.3 g	Class F1 Mass RADWAG Precision Balance WLC-20-A2	OIML R 111-1	F, O
Mass, Force and Weighing Devices	Solid Objects Not Normalized	0.01 g to 20 000 g	0.092 g	RADWAG Precision Balance WLC-20-A2 Direct Measure	OIML D 28	F, O
Mass, Force and Weighing Devices	Plastometer (Weights)	0.01 g to 20 000 g	0.092 g	RADWAG Precision Balance WLC-20-A2 Direct Measure	OIML D 28 ASTM D 1238	F, O
Mass, Force and Weighing Devices	Testing Machines (Tension and Compression)	0.02 N to 5 000 N	0.006 2 N	Interface Force Transducer 1210AF-5KN-B	NMX-CH-7500-1-INMC	F, O
Mass, Force and Weighing Devices	Testing Machines (Tension and Compression)	0.000 02 kN to 5 kN	0.006 2 N	Interface Force Transducer 1210AF-5KN-B	NMX-CH-7500-1-INMC	F, O
Mass, Force and Weighing Devices	Testing Machines (Tension and Compression)	1 N to 49 870 N	3.7 N	Interface Force Transducer 1210AF-50KN-B	NMX-CH-7500-1-INMC	F, O
Mass, Force and Weighing Devices	Testing Machines (Tension and Compression)	0.001 kN to 49.87 kN	3.7 N	Interface Force Transducer 1210AF-50KN-B	NMX-CH-7500-1-INMC	F, O



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Mass, Force and Weighing Devices	Force Gauges and Force Measuring (Tension and Compression)	0.02 N to 5 000 N	0.006 2 N	Interface Force Transducer 1210AF-5KN-B	NMX-CH-376-IMNC	F, O
Mass, Force and Weighing Devices	Force Gauges and Force Measuring (Tension and Compression)	0.000 02 kN to 5 kN	0.006 2 N	Interface Force Transducer 1210AF-5KN-B	NMX-CH-376-IMNC	F, O
Mass, Force and Weighing Devices	Load Cell (Tension and Compression)	0.02 N to 5 000 N	0.006 2 N	Interface Force Transducer 1210AF-5KN-B	NMX-CH-376-IMNC	F, O
Mass, Force and Weighing Devices	Load Cell (Tension and Compression)	0.000 02 kN to 5 kN	0.006 2 N	Interface Force Transducer 1210AF-5KN-B	NMX-CH-376-IMNC	F, O
Mass, Force and Weighing Devices	Load Cell (Tension and Compression)	1 N to 49 870 N	3.7 N	Interface Force Transducer 1210AF-50KN-B	NMX-CH-376-IMNC	F, O
Mass, Force and Weighing Devices	Load Cell (Tension and Compression)	0.001 kN to 49.87 kN	3.7 N	Interface Force Transducer 1210AF-50KN-B	NMX-CH-376-IMNC	F, O
Thermodynamic	Infrared Thermometer	-20 °C to 1 200°C	0.21 °C	Infrared Thermometer UNI-T UT303D+ with Black Body, Cold Dry Block and Muffle	CENAM Technical Guide	F, O



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Thermodynamic	Freezer	-80 °C to 20 °C	0.43 °C	Process Multicalibrator Fluke 754 with TC Type K Temperature Calibration	CENAM Technical Guide	F, O
Thermodynamic	Temperature Output "System Accuracy" Ovens, Furnaces, Muffles, Incubators, Thermobalances, Plastometer, Liquid Bath, Autoclave and Welder	0 °C to 1 100 °C	0.43 °C	Process Multicalibrator Fluke 754 with TC Type K Temperature Calibration	CENAM Technical Guide ASTM D 1238	F, O
Thermodynamic	Temperature and Humidity Output Climatic Chambers Controlled Enclosures	0 °C to 200 °C	0.43 °C	Process Multicalibrator Fluke 754 with TC Type K	Euramet_cg-20	F, O
Thermodynamic	Temperature and Humidity Output Climatic Chambers Controlled Enclosures	20 % RH to 90 % RH	1.7 % RH	HTI Hygrometer HT-350 Temperature and Humidity Calibration	Euramet_cg-20	F, O
Thermodynamic	Thermo Hygrometer with Temperature Sensor Humidity Sensor	15 °C to 50 °C	0.16 °C	Process Multicalibrator Fluke 754 with RTD pt100 $\Omega$ Humidity Chamber Complete Calibrator	ASTM E879 CENAM Technical Guide	F, O
Thermodynamic	Thermo Hygrometer with Temperature Sensor Humidity Sensor	20 % RH to 90 % RH	1.7 % RH	HTI Hygrometer HT-350 and Humidity Chamber Complete Calibrator	ASTM E879 CENAM Technical Guide	F, O



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Thermodynamic	Direct Reading Thermometer used Thermistor RTD, Thermocouple and Bi-Metal Thermometer	-20 °C to 1 200 °C	0.16 °C	Process Multicalibrator Fluke 754 with RTD Pt 100 $\Omega$ TC Type K, Reference Temperature Dry Block Calibrator and Muffle	CEM TH-001 ASTM E1137/ E1137M ASTM E 220-19	F, O
Mechanical	Torque Meter Clockwise and Counter-Clockwise	0.2 N•m to 67 N•m	0.1 N•m	Crane Torque Tester 89339 with Torque Test Stand	ISO 6789 Part 2	F, O
Mechanical	Torque Meter Clockwise and Counter-Clockwise	1 N•m to 542 N•m	0.81 N•m	Crane Torque Tester 39570 with Torque Test Stand	ISO 6789 Part 2	F, O
Mechanical	Torque Tools, Electrical and Pneumatic Screwdriver	0.1 N•m to 25 N•m	0.087 N•m	A-BF Torque Analyzer HP-100 with Joint Simulator	ISO 5393	F, O
Mechanical	Pressure Gauges, Pressure Transducer, Pressure Sensor, Pressure Transmitter, and Leak Gauges	-14.18 psi to -0.01 psi	0.0061 psi	Process Multicalibrator Fluke 754 with Vacuum Transducer Fluke PV350 Transducer Extech HD750 and Manual Vacuum Pressure Pump	NOM-013-SCFI	F, O
Mechanical	Pressure Gauges, Pressure Transducer, Pressure Sensor, Pressure Transmitter, and Leak Gauges	-97.767 kPa to -0.068 9 kPa	0.042 kPa	Process Multicalibrator Fluke 754 with Vacuum Transducer Fluke PV350 Transducer Extech HD750 and Manual Vacuum Pressure Pump	NOM-013-SCFI	F, O



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Mechanical	Pressure Gauges, Pressure Transducer, Pressure Sensor, Pressure Transmitter and Leak Gauges	psi to 500 psi	0.006 1 psi	Process Multicalibrator Fluke 754 with Pressure Transducer Fluke PV350 Transducer Extech HD750 and Hand Pressure Pump	NOM-013-SCFI	F, O
Mechanical	Pressure Gauges, Pressure Transducer, Pressure Sensor, Pressure Transmitter and Leak Gauges	0.068 9 kPa to 3 447.38 kPa	0.042 kPa	Process Multicalibrator Fluke 754 with Pressure Transducer Fluke PV350 Transducer Extech HD750 and Hand Pressure Pump	NOM-013-SCFI	F, O
Mechanical	Pressure Gauges, Pressure Transducer, Pressure Sensor, Pressure Transmitter and Leak Gauges	1 psi to 1 000 psi	0.16 psi	Process Multicalibrator Fluke 754 with Pressure Module Fluke 700P08 and Pneumatic Pressure Pump	NOM-013-SCFI	F, O
Mechanical	Pressure Gauges, Pressure Transducer, Pressure Sensor, Pressure Transmitter and Leak Gauges	6.894 kPa to 6 894.76 kPa	1.1 kPa	Process Multicalibrator Fluke 754 with Pressure Module Fluke 700P08 and Pneumatic Pressure Pump	NOM-013-SCFI	F, O
Mechanical	Pressure Gauges, Pressure Transducer and Pressure Sensor, Pressure Transmitter	100 psi to 5 000 psi	0.35 psi	Process Multicalibrator Fluke 754 with Pressure Module Fluke 700P30 and Pneumatic Pressure Pump	NOM-013-SCFI	F, O



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Mechanical	Pressure Gauges, Pressure Transducer and Pressure Sensor, Pressure Transmitter	689.47 kPa to 34 473.79 kPa	2.4 kPa	Process Multicalibrator Fluke 754 with Pressure Module Fluke 700P30 and Pneumatic Pressure Pump	NOM-013-SCFI	F, O
Time and Frequency	Tachometers Contact and Not Contact Centrifuge	6 rpm to 9 999 rpm	0.01 rpm	Tachometer Nidec-Shimpo DT-205LR	ASTM-F2046-00	F, O
Time and Frequency	Chronometer, Stopwatch, Timers (Fixed Point)	0.01 s to 86 400 s	0.9 s/day	Stopwatch Traceable 1025	NIST 960-12	F, O
Time and Frequency	Plastometer (Cut Time)	0.01 s to 86 400 s	0.9 s/day	Stopwatch Traceable 1025	ASTM D 1238	F, O
Optical	$\rho$ ( $\lambda$ ) Spectral Reflectance (L: CIE)	Up to 100 Units	0.72 Units	Color Ceramic	NPL Guide No. 96	F, O
Optical	$\rho$ ( $\lambda$ ) Spectral Reflectance (a*: CIE)	-28 Units to 36 Units	0.41 Units	Color Ceramic	NPL Guide No. 96	F, O
Optical	$\rho$ ( $\lambda$ ) Spectral Reflectance (b*: CIE)	-26 Units to 63 Units	0.71 Units	Color Ceramic	NPL Guide No. 96	F, O
Optical	Spectrophotometer Transmittance	$\tau$ : 1 % to 95 %	0.27 % of Transmittance	Neutral Density Filters Holmium Oxide Glass	CENAM Technical Guide	F, O
Optical	Spectrophotometer Transmittance	$\lambda$ : 230 nm to 700 nm	0.5 nm	Neutral Density Filters Holmium Oxide Glass	CENAM Technical Guide	F, O



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Optical	Gloss/Specular Reflectance (@ 20°)	92.1 Gloss Units	0.15 Gloss Units	Ceram Research Gloss and Semi-Gloss Standards	ASTM D523	F, O
Optical	Gloss/Specular Reflectance (@ 60°)	94.9 Gloss Units	0.15 Gloss Units	Ceram Research Gloss and Semi-Gloss Standards	ASTM D523	F, O
Optical	Gloss/Specular Reflectance (@ 85°)	99.8 Gloss Units	0.18 Gloss Units	Ceram Research Gloss and Semi-Gloss Standards	ASTM D523	F, O
Optical	Ev Illuminance	50 lux to 6 000 lux	0.98 % of reading	Opplé Luxometer Light-Master-III	ASTM D1729	F, O
Optical	Ev Light Color	2 856 K	0.78 % of reading	Opplé Luxometer Light-Master-III	ASTM D1729	F, O
Optical	Ev Light Meters	50 lux to 6 000 lux	0.7 % of reading	Opplé Luxometer Light-Master-III	CENAM Technical Guide CNM-MFO-PT-004	F
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	0 °C to 150 °C	0.3 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	150 °C to 650 °C	0.26 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	650 °C to 1 000 °C	0.31 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	1 000 °C to 1 800 °C	0.5 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type C	1 800 °C to 2 316 °C	0.84 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	-250 °C to -100 °C	0.5°C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	-100 °C to -25 °C	0.16 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	-25 °C to 350 °C	0.14 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	350 °C to 650 °C	0.16 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E	650 °C to 1 000 °C	0.21 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	-210 °C to -100 °C	0.27 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	-100 °C to -30 °C	0.16 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	-30 °C to 150 °C	0.14 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	150 °C to 760 °C	0.17 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J	760 °C to 1 200 °C	0.23 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	-200 °C to -100 °C	0.33 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	-100 °C to -25 °C	0.18 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	-25 °C to 120 °C	0.16 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	120 °C to 1 000 °C	0.26 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K	1 000 °C to 1 372 °C	0.4 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type L	-200 °C to -100 °C	0.37 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type L	-100 °C to 800 °C	0.26 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type L	800 °C to 900 °C	0.17 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	-200 °C to -100 °C	0.4 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	-100 °C to -25 °C	0.22 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	-25 °C to 120 °C	0.19 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	120 °C to 410 °C	0.18 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N	410 °C to 1 300 °C	0.27 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	0 °C to 250 °C	0.57 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	250 °C to 400 °C	0.35 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	400 °C to 1 000 °C	0.33 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R	1 000 °C to 1 767 °C	0.4 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O



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Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	-250 °C to -150 °C	0.63 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	-150 °C to 0 °C	0.24 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	0 °C to 120 °C	0.16 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T	120 °C to 400 °C	0.14 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type U	-200 °C to 0 °C	0.56 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O
Electrical	Temperature Calibration, Indication and Control Equipment used with Thermocouple Type U	0 °C to 600 °C	0.27 °C	Process Multicalibrator Fluke 754 Electrical Simulation of Thermocouple Output	Euramet_cg-11 ASTM E230/E230M	F, O

- 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



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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. Location of activity:

<b>Location</b>	<b>Location</b>
<b>Code</b>	
F	Conformity assessment activity is performed at the CABs fixed facility
O	Conformity assessment activity is performed onsite at the CABs 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 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.

5. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.