



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
& ANSI/NCSL Z540-1-1994

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CALIBRATION

Valid To: August 31, 2024

Certificate Number: 4692.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1, 8}:

I. Acoustic

Parameter/Equipment	Range	CMC ² (±)	Comments
Sound Level Meters, @ 1 kHz	94 dB, 114 dB	0.52 dB	Sound calibrator

II. Dimensional

Parameter/Equipment	Range	CMC ^{2, 4} (±)	Comments
Gage Blocks	Up to 20 in	$(4.8 + 4.1L) \mu\text{in}$	Master gage blocks & comparator
Length Standards – Step Gages	(0.5 to 22) in	$(190 + 0.22L) \mu\text{in}$	Gage blocks & height master
Micrometer Setting Standards	(1 to 39) in	$(62 + 2.1L) \mu\text{in}$	Step gage, height gage & gage blocks

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Length Standards – (cont)			
Endrods, Distance Indicators	(0.1 to 600) in (600 to 1200) in (1200 to 2000) in	0.2 in 0.25 in 0.5 in	Laser distance meter
Plain Ring Gages	(0.3 to 8) in	(5.4 + 18L) µin	Length measuring machine & master ring gages
Pin Gages	(0.01 to 2) in	91 µin	Laser micrometer
Thickness & Feeler Gages –			
Thickness	(0.0005 to 1) in	580 µin	Gage blocks
Feeler Gages	(0.001 to 1) in	80 µin	Digital micrometer
Ultrasonic Thickness	(0.01 to 100) mm	0.01 mm	Steel gage blocks
Coating Thickness	(1 to 100) µm (100 to 250) µm (250 to 500) µm	1.6 µm 6 µm 10 µm	Thickness standards
Radius Gages	(0.01 to 1) in	690 µin	Optical projector
Stage Micrometers	(0.001 to 2) in	220 µin	Vision system
Gaging Fixtures –			
Straight Edges, Parallel Bars	(1 to 72) in	(150 + 3L) µin	Precision height gage
Squares	(1 to 20) in	5L µin	Ceramic square, mu-checker & height gage

Parameter/Equipment	Range ⁴	CMC ^{2,4} (\pm)	Comments
Gaging Fixtures – (cont) V Blocks – Squareness of Sides Parallelism of Sides Angles Straightness	Up to 10 in	58 μ in 120 μ in 0.07° 120 μ in	Precision height gage, square, video machine & gage blocks
Surface Plates ³ – Flatness Only	Up to 160 in <i>DL</i>	0.12 <i>DL</i> ² μ in	Laser measuring system
Thread Plugs – Pitch Diameter	(0.05 to 2) in (6 to 36) TPI (0.2 to 4) mm	170 μ in 0.0043 mm	Length measuring machine, thread wire set
Calipers	(0.01 to 24) in (24 to 80) in	0.0007 in 0.001 in	Length standards
Micrometers – Outside Inside Heads Depth	(0.01 to 40) in (1 to 60) in (0.01 to 2) in (0.05 to 12) in	(53 + 15 <i>L</i>) μ in (130 + 13 <i>L</i>) μ in 43 μ in 0.000 86 in	Gage blocks & micmaster Check master Gage blocks Depth master & surface plate
Height Gages	(0.05 to 40) in	(84 + 7.9 <i>L</i>) μ in	Step gage & surface plate
Length Indicators – Dial & Test	Up to 1 in (1 to 4) in (4 to 6) in	20 μ in 86 μ in 0.01 in	Height master Gage blocks

Parameter/Equipment	Range	CMC ^{2,4} (\pm)	Comments
Rules & Tapes – Rulers Pi Tapes Tape Measures	 (1 to 40) in (40 to 80) in (6.3 to 10.3) in (1 to 108) in (9 to 100) ft	 0.0029 in 0.0036 in 900 μ in (560 + 29L) μ in	 Length measuring machine Cylinder Length measuring machine
Length Measuring Systems ³ – (UMMs, ULMs, Length Setting Machine, Distance Indicators)	(0.1 to 4) in (100 to 500) mm (500 to 1300) mm (1300 to 2200) mm (2200 to 4000) mm	(5.7 + 3.8L) μ in 2 μ m 15 μ m 23 μ m 32 μ m	Gage blocks Laser measuring system
Optical Comparators ³ – Linear Accuracy Angle Magnification	 (1 to 250) mm 90° (10, 20, 31.25, 50) X	 6 μ m 0.05° 290 μ m	 Glass scale master, precision square & gage blocks
Microscopes ³ – Linear Accuracy	(0.05 to 2) in	110 μ in	Glass scale master
Video Machines ³ – Linear Accuracy	(0.05 to 300) mm	(2.9 + 0.0043L) μ m	Glass scale master
Angle Indicators – Inclinometer & Protractors Levels	 (0.1 to 360)° (4 to 12) in	 0.08° 330 μ in	 Angle blocks Master precision level, surface plate & gage blocks
Bore Gages	(0.2 to 3.5) in (3.5 to 7) in	190 μ in 210 μ in	Ring gages

Parameter/Equipment	Range	CMC ² (\pm)	Comments
Roughness Testers	16.1 Ra 119.5 Ra	3.1 μ in 4.2 μ in	Roughness standard
Machine Tools Scale ³ (DRO)	1 mm to 2.2 m	26 μ m	Laser measuring system; standard reference bar & step gages

III. Dimensional Testing⁵

Parameter/Equipment	Range	CMC ^{2, 7} (\pm)	Comments
Length – 1D	Up to 2 in Up to 6 in Up to 12 in Up to 24 in Up to 40 in	150 μ in 370 μ in 300 μ in 0.0025 in 300 μ in	Digital micrometer Optical comparator Video machine Digital caliper Check master
Length – 2D	Up to 60 in Up to 90°	370 μ in 0.015°	Optical comparator or video machine Video machine
Length – 3D	Up to 18 in	270 μ in	Coordinate measuring machine

IV. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ^{2, 6} (\pm)	Comments
Capacitance – Generate	(0.1 to 10) nF (10 to 110) nF (0.1 to 1) μ F (1 to 5) μ F (5 to 11) μ F (11 to 33) μ F (33 to 110) μ F	18 pF 72 pF 0.7 nF 7.2 nF 44 nF 0.3 μ F 0.9 μ F	Multifunction calibrator

Parameter/Equipment	Range	CMC ^{2, 4, 6} (\pm)	Comments
DC Current – Generate	Up to 3 mA (3 to 30) mA (30 to 300) mA (0.3 to 3) A (3 to 10) A	0.4 μ A 3.8 μ A 38 μ A 1.3 mA 6.4 mA	Multifunction calibrator
Clamp Meters – Non-Toroidal	(10 to 150) A (150 to 500) A (500 to 1025) A	1.2 % 0.9 % 0.7 %	Multifunction calibrator & 50 turn coil
DC Current – Measure	Up to 200 μ A 200 μ A to 2 mA (2 to 20) mA (20 to 200) mA 200 mA to 2 A (2 to 20) A 10 μ A to 200 mA	27 μ A/A + 0.03 nA 25 μ A/A + 5 nA 38 μ A/A + 0.08 μ A 100 μ A/A + 2.3 μ A 180 μ A/A + 92 μ A 610 μ A/A + 3 mA 0.30 %	Reference multimeter Hipot leakage current using a digital meter
DC Voltage – Generate	Up to 300 mV (0.3 to 3) V (3 to 30) V (30 to 300) V (300 to 1000) V	10 μ V 71 μ V 0.73 mV 8.7 mV 62 mV	Multifunction calibrator
DC Voltage – Measure	Up to 200 mV 200 mV to 2 V (2 to 20) V (20 to 200) V (200 to 1000) V	9.7 μ V/V + 0.5 μ V 2.8 μ V/V + 1.5 μ V 2.5 μ V/V + 9.5 μ V 4.3 μ V/V + 0.09 mV 4.9 μ V/V + 1 mV	Reference Multimeter
High Voltage ³	(1 to 35) kV	0.07 V/kV + 0.1 V	Voltage divider & meter
Resistance – Generate	Up to 1 Ω (1 to 10) Ω (10 to 100) Ω (0.1 to 1) k Ω (1 to 10) k Ω (10 to 100) k Ω (0.1 to 1) M Ω (1 to 10) M Ω (10 to 100) M Ω (100 to 110) M Ω	0.06 m Ω 1.7 m Ω 7.5 m Ω 68 m Ω 680 m Ω 6.8 Ω 71 Ω 1.7 k Ω 85 k Ω 7.5 M Ω	Multifunction calibrator

Parameter/Equipment	Range	CMC ^{2, 4, 6} (\pm)	Comments
Resistance ³ – Generate, Fixed Points	100 k Ω 1 M Ω 10 M Ω 100 M Ω 1 G Ω 10 G Ω 100 G Ω 1 T Ω	0.06 % 0.06 % 0.06 % 0.06 % 0.06 % 0.24 % 0.36 % 0.6 %	Fixed resistors: for the calibration of insulation testers
Electrical Calibration of RTD Temperature Sensors ³	(32 to 1382) °C	0.6 °C	Process calibrator
Electrical Calibration of Thermocouples – Measure			Multifunction calibrator
Type C	Up to 150 °C (150 to 650) °C (650 to 1000) °C (1000 to 1800) °C (1800 to 2316) °C	0.56 °C 0.53 °C 0.8 °C 0.92 °C 1.2 °C	
Type E	(-250 to -100) °C (-100 to -25) °C (-25 to 350) °C (350 to 650) °C (650 to 1000) °C	0.56 °C 0.53 °C 0.8 °C 0.92 °C 1.2 °C	
Type J	(-210 to -100) °C (-100 to -30) °C (-30 to 150) °C (150 to 760) °C (760 to 1200) °C	0.47 °C 0.39 °C 0.38 °C 0.4 °C 0.72 °C	
Type K	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 1000) °C (1000 to 1372) °C	0.59 °C 0.49 °C 0.48 °C 0.79 °C 0.86 °C	
Type N	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 410) °C (410 to 1300) °C	0.63 °C 0.5 °C 0.48 °C 0.48 °C 0.78 °C	
Type S	Up to 250 °C (250 to 1000) °C (1000 to 1400) °C (1400 to 1767) °C	0.7 °C 0.83 °C 0.84 °C 0.9 °C	
Type U	(-200 to 0) °C (0 to 600) °C	0.76 °C 0.5 °C	

Parameter/Equipment	Range	CMC ² (±)	Comments
Electrical Simulation of Thermocouples ³ – Type J Type K Type N Type S Type T	(-18 to 700) °C (-178 to 1200) °C (-178 to 1200) °C Up to 1200 °C (-200 to 350) °C	0.77 °C 0.85 °C 0.87 °C 1 °C 0.71 °C	Thermocouple calibrator – field calibration
Electrical Calibration of pH Meters & Calibrators ³ – pH Meters Calibrators	Up to 14 pH units (-415 to 415) mV Up to 14 pH	0.017 pH units 0.01 mV 0.01 pH	pH meter calibrator Multifunction calibrator

Parameter/Range	Frequency	CMC ^{2, 6} (±)	Comments
AC Current – Generate (0.03 to 3) mA (3 to 30) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz (10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	7.4 µA 6.9 µA 6.9 µA 9.2 µA 8.4 µA 36 µA 34 µA 17 µA 17 µA 31 µA 73 µA 0.14 mA	Multifunction calibrator

Parameter/Range	Frequency	CMC ^{2, 4, 6} (\pm)	Comments
AC Current – Generate (cont)			
(30 to 300) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	0.3 mA 0.1 mA 0.1 mA 0.4 mA 0.8 mA 1.6 mA	Multifunction calibrator
(0.3 to 3) A	45 Hz to 1 kHz (1 to 5) kHz	21 mA 21 mA	
(3 to 10) A	60 Hz to 1 kHz (1 to 5) kHz	14 mA 0.35 A	
Clamp Meters – Toroidal			Multifunction calibrator & 50 turn coil
(10 to 150) A	(45 to 65) Hz	0.6 %	
(150 to 500) A	(45 to 65) Hz	0.4 %	
(500 to 1025) A	(45 to 65) Hz	0.3 %	
Clamp Meters – Other Than Toroidal			
(40 to 150) A	(45 to 65) Hz	1.4 %	
(150 to 500) A	(45 to 65) Hz	1.3 %	
(500 to 1025) A	(45 to 65) Hz	0.8 %	
AC Voltage – Generate			
Up to 30 mV	(10 to 45) Hz 45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	12 μ V 12 μ V 12 μ V 14 μ V 42 μ V 0.14 mV 0.34 mV	Multifunction calibrator
(30 to 300) mV	(10 to 45) Hz 45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	61 μ V 61 μ V 61 μ V 66 μ V 0.13 mV 0.32 mV 0.78 mV	

Parameter/Range	Frequency	CMC ^{2,4,6} (±)	Comments
AC Voltage – Generate (cont)			
(0.3 to 3) V	(10 to 45) Hz 45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.59 mV 0.59 mV 0.59 mV 0.73 mV 1.1 mV 2.6 mV 9.1 mV	Multifunction calibrator
(3 to 30) V	(10 to 45) Hz 45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz	6 mV 6 mV 6 mV 9 mV 13 mV 33 mV	
(30 to 300) V	45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz	69 mV 77 mV 94 mV 0.12 V 0.76 V	
(300 to 750) V	45 Hz to 1 kHz (1 to 10) kHz	0.3 V 0.36 V	
(750 to 1000) V	45 Hz to 1 kHz (1 to 10) kHz	0.31 V 0.36 V	
AC Voltage – Measure			
High Voltage ³ – (1 to 30) kV	60 Hz	0.22 V/kV + 0.4 V	Voltage divider & meter
AC Current ³ – Measure			
10 µA to 200 mA	60 Hz	0.3 %	Hipot leakage current using a digital meter

V. Fluid Quantities

Parameter/Equipment	Range	CMC ^{2,7} (±)	Comments
Volumetric Flow – Measure ³	(0.1 to 30) l/s	1 % of rdg	Ultrasonic flowmeter

VI. Mechanical

Parameter/Equipment	Range	CMC ^{2,7} (±)	Comments
Force – Measuring Equipment, Compression & Tension ³	(1 to 8) ozf (0.5 to 2) lbf (2 to 10) lbf (10 to 25) lbf (25 to 500) lbf	0.002 ozf 0.001 lbf 0.008 lbf 0.009 lbf 0.06 lbf	NIST Class F weights
Force – Measuring Equipment, Load Cells ³	(30 to 300) lbf (200 to 2000) lbf (2500 to 25 000) lbf (5000 to 50 000) lbf (50 000 to 320 000) lbf	0.07 % of rdg 0.07 % of rdg 0.07 % of rdg 0.07 % of rdg 0.25 % of rdg	Load cell system High capacity load cell system
Durometers – A, B, E, O, C, D, & DO Test Blocks Indenter Shape: Length Angle Diameter Radius Calibrators	(0 to 90) Duro (20 to 90) Duro (2 to 3) mm (2 to 40)° (0.7 to 12) mm (0.09 to 11) mm Up to 4.54 kg·f	0.9 Duro 1.9 Duro 0.01 mm 0.066° 0.01 mm 0.01 mm 9 g·f	ASTM D2240 with: Durometer calibrator/force gauge Durometers Vision system Force gage
Rockwell Hardness Testers ³ – Indirect Verification	HRBW: High Middle Low HRC: High Middle Low HRFW: High Middle Low	0.72 HRBW 0.52 HRBW 0.65 HRBW 0.52 HRC 0.45 HRC 0.41 HRC 0.55 HRFW 0.58 HRFW 0.57 HRFW	ASTM E18 with test blocks

Parameter/Equipment	Range	CMC ² (±)	Comments
Leeb Hardness Testers – Indirect Verification	(500 to 800) HLD	17 HLD	ASTM A956
Mass, Fixed Points	1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg 2 oz 4 oz 8 oz 1 lb 2 lb 5 lb 10 lb 20 lb 25 lb 50 lb	0.04 mg 0.04 mg 0.04 mg 0.04 mg 0.05 mg 0.05 mg 0.04 mg 0.05 mg 0.04 mg 0.03 mg 0.02 mg 0.04 mg 0.03 mg 0.08 mg 0.27 mg 0.32 mg 0.87 mg 3.2 mg 5.7 mg 0.14 g 0.2 g 0.22 g 0.26 g 0.000 01 oz 0.000 02 oz 0.000 05 oz 0.000 12 oz 0.000 16 oz 0.000 37 oz 0.000 37 oz 0.000 43 oz 0.000 46 oz 0.000 48 oz	ASTM E617 Class I weights & precision balance

Parameter/Equipment	Range	CMC ^{2,7} (±)	Comments
Pressure – Measuring Equipment –			
Pneumatic	(0.1 to 100) psig (100 to 500) psig	0.02 psi 0.1 psi	Pressure meter
Hydraulic	(500 to 5000) psig (5000 to 10 000) psig (10 000 to 16 000) psig	1 psi 2.2 psi 3.0 psi	Dead weight tester
Negative Pressure	(-14 to -1) psig	0.07 psi	Dead weight tester
Pressure – Measuring Equipment ³ –			
Pneumatic	(0 to 14.49) psig (0 to 100) psig (0 to 300) psig	0.0025 psi 0.020 psi 0.086 psi	Pressure calibrator
Hydraulic	(0 to 1000) psig (0 to 10 000) psig	0.26 psi 7.0 psi	
Pressure – Measuring Equipment, Transducers ³	(0.5 to 30) psia	0.2 psia	Pressure gage, pressure/vacuum pump
Vacuum Gauges & Transducers ³	(0 to 28.8) in·Hg	0.2 in·Hg	Vacuum gage/pump
Scales & Balances ³	Up to 1 g Up to 10 g Up to 20 g Up to 50 g Up to 100 g Up to 200 g Up to 500 g Up to 1200 g Up to 5 lb Up to 10 lb Up to 20 lb Up to 50 lb Up to 60 lb Up to 1000 lb	35 µg 42 µg 53 µg 0.18 mg 0.24 mg 0.6 mg 2.3 mg 3.8 mg 0.0003 lb 0.0003 lb 0.0004 lb 0.0004 lb 0.0026 lb 0.3 lb	Class 0 & 1 weights Class 1 weights Class F weights calibrated in accordance with NIST Handbook 105-1

Parameter/Equipment	Range	CMC ^{2,7} (\pm)	Comments
Torque – Measuring Equipment, Transducers ³	(1.25 to 250) lbf·in (20 to 260) lbf·ft	0.1 % of rdg 0.23 % of rdg	NIST Class F weights, torque arm
Torque – Measure, Wrenches, Indicators ³	(4 to 36) ozf·in (4 to 1000) lbf·in (20 to 250) lbf·ft (250 to 1000) lbf·ft	2 % of rdg 0.4 % of rdg 0.7 % of rdg 0.9 % of rdg	Torque calibration system

VII. Thermodynamics

Parameter/Equipment	Range	CMC ^{2,7} (\pm)	Comments
Relative Humidity – Measure & Measuring Equipment	(10 to 90) % RH	0.62 % RH	2 pressure calibration chamber
Humidity – Measure ³	(10 to 95) %	1.0 % RH	High precision thermo-hygrometer
Infrared Thermometers	(50 to 100) °C (101 to 249) °C (250 to 500) °C	1.4 °C 3.6 °C 6.4 °C	Infrared calibrator ($\epsilon = 0.95$) ($\lambda = 8$ to $14 \mu\text{m}$)
Temperature – Measuring Equipment & Measure	(-45 to 150) °C (150 to 200) °C (150 to 650) °C	0.024 °C 0.04 °C 0.06 °C	Temp. calibrator, liquid temp. calibrator, PRT probe
Temperature – Measure, Sensors/Digital Thermometers ³	(-70 to 25) °C (-40 to 140) °C (140 to 420) °C	0.14 °C 0.18 °C 0.26 °C	Metal block, cal bath PRT sensor, Hart 1560, 2560 SPRT module

Parameter/Equipment	Range	CMC ^{2,7} (\pm)	Comments
Temperature – Measure, System Checks, System Accuracy Tests (Type K or Type N) ³	(100 to 1100) °C	2.6 °C	Thermocouple calibrator, thermocouple
Temperature – Measure, System Checks System Accuracy Tests ³	(-80 to 220) °C	0.5 °C	Process calibrator, RTD
Temperature – Measure, Uniformity Survey ³ (Type K or Type N)	(50 to 1205) °C	1.3 °C	Datalogger, thermocouples
Calibration of Thermocouples – Type J Type K Type N Type S	Up to 700 °C Up to 1100 °C 1200 °C Up to 1100 °C 1200 °C Up to 1100 °C 1200 °C	1.3 °C 1.4 °C 1.9 °C 1.4 °C 1.9 °C 1.5 °C 2 °C	Tube furnace, Type S thermocouple data acquisition system

VIII. Time & Frequency

Parameter/Equipment	Range	CMC ^{2,7} (\pm)	Comments
Frequency – Measuring Equipment	(0.1 to 120) Hz (0.12 to 1) kHz (1 to 100) kHz (100 to 500) kHz	360 μ Hz 3 mHz 320 mHz 1.5 Hz	Multifunction calibrator

Parameter/Equipment	Range	CMC ^{2, 7} (\pm)	Comments
Tachometers –			
Contact	(1 to 500) rpm (500 to 2000) rpm (2000 to 4000) rpm	0.2 rpm 0.5 rpm 1 rpm	Tachometer, calibrator
Non-Contact	(1 to 1000) rpm (1000 to 10 000) rpm (10 000 to 100 000) rpm	0.022 rpm 0.062 rpm 0.61 rpm	Multifunction calibrator & LED
Stroboscopes	(1 to 12 500) fpm (20 000 to 100 000) fpm	0.019 % rdg + 0.64 fpm 0.058 % rdg + 0.5 fpm	Digital tachometer
Speed – Measure ³	(0.1 to 12) in/min (10 to 12 500) rpm (20 000 to 100 000) rpm	0.6 % of rdg 0.019 % rdg + 0.64 rpm 0.058 % rdg + 0.5 rpm	Ruler & stopwatch Tachometer
Timers & Stopwatches	1 s to 8 h	0.55 s	Master stopwatch & camera

MECHANICAL TESTING

Test

Compression Test

Tensile Test

Test Method

Internal Procedure TP02

Internal Procedure TP03

¹ This laboratory offers commercial calibration, dimensional testing and mechanical testing service.

² Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

³ Field calibration service is available for this calibration. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

⁴ In the statement of CMC L is the numerical value of the nominal length of the device measured in inches, DL is the diagonal length of the surface plate in inches, and percentages are percentage of reading, unless otherwise indicated.

⁵ This test is not equivalent to that of a calibration.

⁶ The stated measured values are determined using the indicated instrument (see Comments). This capability is suitable for the calibration of the devices intended to measure or generate the measured value in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a percent or fraction of the reading plus a fixed floor specification.

⁷ The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

⁸ This scope meets A2LA's *P112 Flexible Scope Policy*.



Accredited Laboratory

A2LA has accredited

TRESCAL CANADA INC. (ONTARIO)

Brampton, ON, CANADA

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 18th day of July 2022.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4692.01
Valid to August 31, 2024

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.