SCOPE OF ACCREDITATION TO ISO/IEC 17043:2010

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PROFICIENCY TESTING PROVIDER

Valid To: August 31, 2022 Certificate Number: 1966.01

In recognition of the successful completion of the A2LA evaluation process, this proficiency testing provider has been found to meet the ISO/IEC 17043:2010, "Conformity assessment-General Requirements for Proficiency testing." Therefore, in recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this provider to offer the following proficiency testing programs:

DISCIPLINE	SUB-DISCIPLINE	PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT[2]
CHEMICAL	pH, conductance measuring devices, gas concentration	Conductivity Meter 9 µS/cm to 110 mS/cm pH Meter 3.9 pH to 10.1 pH
DIMENSIONAL	1D – portable gauging and hand tools	Micrometers Up to 50 mm Up to 2 in Calipers Up to 150 mm Up to 6 in Indicators Up to 12.5 mm Up to 0.5 in Height Gages (0 to 300) mm (0 to12) in
	1D – artifacts, standards, and parts	Gage Blocks Up to 500 mm Up to 20 in Plug Gages Up to 50 mm Up to 2 in Ring Gages Up to 100 mm Up to 4 in

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DISCIPLINE	SUB-DISCIPLINE	PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT[2]
DIMENSIONAL (Continued)	1D – artifacts, standards, and parts (continued)	Micrometer Standards (25 to 300) mm (1 to 12) in Artifacts Up to 500 mm Up to 20 in Rules Up to 300 mm Up to 12 in
	2D – portable gauging and hand tools	Bevel Protractors (0 to 360)°
	2D – artifacts, standards, and parts	Angle Blocks 30°, 45°, 60° and 90° Artifacts Up to (500 x 500) mm Up to (20 x 20) in
	3D – artifacts, standards, and parts	Artifacts Up to (500 x 500 x 500) mm Up to (20 x 20 x 20) in
	Form	Surface Plates Up to (300 x 450) mm Up to (12 x 18) in Surface Finish Ra 0.1 µm to 4 µm Rz 0.3 µm to 11 µm
	Other	Thread Plug Gages Up to 50 mm Up to 2 in Adjustable Thread Rings Up to 50 mm Up to 2 in Thread Wires Up to 5 mm Up to 0.2 in
ELECTRICAL – DC/LOW FREQUENCY	Current	DC Current 2 mA to 100 mA DC Current[1] 1 mA to 999.9 A AC Current[1] 100 mA to 3 A @ 3 Hz to 5 kHz 3 A to 999.9 A @ 10 Hz to 500 Hz

DISCIPLINE	SUB-DISCIPLINE	PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT[2]
ELECTRICAL – DC/LOW FREQUENCY (Continued)	Voltage	DC Voltage 10 mV to 100 V DC Voltage[1] 10 mV to 1000 V AC Voltage[1] 10 mV to 750 V @ 3 Hz to 300 KHz
	Resistance	10 Ω to 100 MΩ[1] 10 Ω to 1 MΩ
	Capacitance	Capacitance[1] 100 pF to 100 mF @ 1 kHz to 100 kHz Capacitance 50 pF to 1.1111 µF @ 1 kHz
	Oscilloscope Functions	Gain[1] 10 mV to 50 V Vertical Bandwidth[1] (100 to 600) MHz Tim Base Deviation[1] 2 ns to 20 ms Vertical Position Deviation[1] (0.1 to 10) V
	Process Calibrators	DC Current[1] (1 to 24) mA DC Voltage[1] 10 mV to 30 V Resistance[1] 40 Ω to 3.2 kΩ Thermocouple Simulation[1] Type J (-200 to 1200) °C Type K (-200 to 1370) °C Type T (-200 to 400) °C Type E (-200 to 950) °C Type R (-20 to 1750) °C Type S (-20 to 1750) °C Type B (600 to 1800) °C Type L (-200 to 900) °C Type U (-200 to 400) °C Type N (-200 to 1300) °C

DISCIPLINE	SUB-DISCIPLINE	PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT[2]
ELECTRICAL – DC/LOW FREQUENCY (Continued)	Process Calibrators (continued)	RTD Simulation[1] Ni120 (-80 to 260) °C Pt100 (-200 to 800) °C Pt200 (-200 to 630) °C Pt500 (-200 to 630) °C Pt1000 (-200 to 630) °C
ELECTRICAL – RF/MICROWAVE	Attenuation, AM/FM/PM modulation, power	RF Power Sensor Calibration Factor 10 MHz to 18 GHz[1] Microwave Attenuators Attenuation and Phase 3, 6, 10, 20 dB @ 200 MHz to 18 GHz[1]
MECHANICAL	Pressure, vacuum	(-14 to 10,000) psi[1]
	Hardness	Measurement of Hardness (40 to 100) HRB (20 to 65) HRC
	Torque, force, durometers, extensometers, strain gauges	Force Gages[1] (10 to 5000) lbf Torque Wrenches[1] 6 in-lbf to 100 ft-lbf
	Scales & balances, mass	Weights (1 to 500) g
THERMODYNAMICS	Thermometers, ovens, furnaces	PRT Thermometers[1] (-30 to 300) °C Thermocouple Thermometers[1] (-40 to 800) °C Temperature Uniformity Surveys / System Accuracy Tests[1] (25 to 100) °C
	Temperature indicating systems/environmental monitoring	Humidity Sensors[1] (10 to 90) %RH
	Blackbody/IR	IR Thermometer[1] (0 to 500) °C

DISCIPLINE	SUB-DISCIPLINE	PROPERTIES MEASURED TYPE OF TEST RANGE OF MEASUREMENT[2]
TIME & FREQUENCY	Period, time, frequency	Frequency Standard 10 MHz Frequency Sourcing[1] 3 Hz to 1 MHz Stop Watch[1] Deviation per 24 hr Tachometer[1] Optical (30 to 95 000) rpm Mechanical (100 to 19 900) rpm

[1] Participants source the listed parameter.

[2] The assigned values and associated uncertainties are either reference values reported by a reference laboratory or weighted average values calculated according to HN Proficiency Testing's procedure PRO-11.

Accredited Proficiency Testing Provider

A2LA has accredited

HN PROFICIENCY TESTING, INC.

Indianapolis, IN

This accreditation covers the specific proficiency testing schemes listed on the agreed upon Scope of Accreditation. This provider is accredited in accordance with the recognized International Standard *ISO/IEC 17043: 2010 Conformity assessment - General requirements for proficiency testing*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.

Presented this 29th day of June, 2018.

President and CEO
For the Accreditation Council
Certificate Number 1966.01
Valid to August 31, 2022

For the proficiency testing schemes to which this accreditation applies, please refer to the provider's Scope of Accreditation.