



International Laboratory
Assessment and Accreditation

ACCREDITED LABORATORY

ILAA has accredited

Cornerstone Metrology Services Inc.
Van Nuys, California

For technical competence in the field of

Calibration

The accreditation covers the specific testing listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 – 2005 “General Requirements for the Competence of Testing and Calibration Laboratories.” This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and any additional program requirements. Additionally, ISO/IEC 17025 – 2005 meets the relevant requirements of ISO/TS 16949. Based on a Quality and Technical assessment, a rating of 986 out of a possible 1000 points has been issued to the laboratory. For the tests to which this accreditation applies, please refer to the laboratory’s Scope of Accreditation.

Presented this 28th day of April 2008.

A handwritten signature in black ink, appearing to read "Michael A Bird". The signature is written in a cursive style and is positioned above a horizontal line.

Michael A Bird

President

Certificate Number: 1713.02

Valid to April 28, 2011

SCOPE OF ACCREDITATION TO ISO/IEC 17025-2005
AND ANSI/NCSL Z540-1-1994
Cornerstone Metrology Services Inc.
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Calibration

Valid to: April 28, 2011

Certificate Number: 1713.02

In recognition of the successful completion of the ILAA evaluation process, accreditation is granted to this laboratory to perform the following measurements.¹

PARAMETER/EQUIPMENT	RANGE	BEST UNCERTAINTY ^{2,4} (±)	COMMENTS
Surface plate	12in x 12in & larger grade B, A & AA.	12.75µ per sq. Ft.	
Super-micrometer, bench micrometer and length measurement machines	0 up to 72in with resolution to .000010	Sm & bm = 5µin per 1in Imm = 11.23µin per 1in	
Optical comparator and profile projectors	5in to 60in screen diameter. With x & y travel to 12in and resolution to 0.000050	86.94µin per 12in	
Hardness tester	Standard, superficial, all scale, micro and brinell	S,s & as = 1 point m = 2 micron b = .05 mm	
Indicators and indicator gages	All types dial, digital mechanical and electronic. 0-6in resolution to .00001	11.71µin per 1in	
Caliper, dial, vernier and digital	0-72in using gage blocks and ring gages	9.02µin per 1in for ID, OD and depth	
Micrometer, ID, OF, depth, V, ball, point, pitch, heads and dial	0-60in digital and vernier with resolution to 0.000050	OD = 8.29µin / 1in ID = 12.21µin / 1in depth = 12.21µin / 1in point = 8.29µin / 1in ball = 8.29µin / 1in pitch = 100.09µin / 1in dial = 51.47µin / 1in heads = 8.84µin / 1in	

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PARAMETER/EQUIPMENT	RANGE	BEST UNCERTAINTY ^{2,4} (±)	COMMENTS
Squares, Cylindrical, Combo, Magnetic And Steel	2-12in	C & M = .000040 / 6in S = .0001 / 6in	
Levels, Digital Protractors And Inclonometers	0-360° Resolution To .5 Arc.Sec.	0.27 Arc sec.	
Optical Flats And Optical Parallels	1 - 6in Single & Double Sided 1,4&8µin	OF = 2.8.µin 1 to 6in OP = 3.46µin per 1in	
Height Gage .0005 And .001 Resolution	0-60in	5.08µin per 1in	
Digital Height Gage .0001 Resolution And Higher	0-60in	5.08µin per 1in Height 35.36µin per 12in Squareness	
Height Master, Riser Blocks And Block Stacks	0-60in	7.13µin per 1in Height	
Ovens, Environment Chambers And Freezers	1-9 Point 148-2501°F and 5-95% R.H.	2.17°F Temperature 2% Humidity	
Electronic Gage / Dimensional Comparator	All Types Dial, Digital Mechanical And Electronic. 0-6in Resolution To .000001	4.3µin per 1in	
Force Gages And Weight Scales	0-500 Lbs Using Weights 0-10k Using Load Cells	10mg-500g = 2.87 mg 500g-5000g = 20.38 mg 5kg-25kg = 506.36 mg 50 To 500 Lbs = 1.27g 500 To 10k Lbs = 0.5% of Reading	
Toolmakers Microscope And Video Scope	0-12in Travel X And Y And Z. To 0.00005 To 0.000010 Using Laser. Reticule	86.94µin per 12in . 5.48µin per 1in Travel 20µin	
V Blocks	To 12in	24.37µin per 1in	
Parallels, 1x2x3 Blocks And Right Angle Blocks	1in-60in	13.7µin per 12in RAB = 42.28µin per 6in	
Sine Plate/Sine Bars	5 - 21in	14.24µin per 6in	
Protractors	0-360°	0.5 Arc.Sec.	

PARAMETER/EQUIPMENT	RANGE	BEST UNCERTAINTY ^{2,4} (±)	COMMENTS
Surface Roughness Testers And Calibration Specimens	10 -120 µin	T= 10 - 30 ±3µin, 31- 120 ±5µin S= 10- 30 ±2µin, 31- 120 ±4µin	
Autocollimator	0-60 arc.min. Range 0.2 arc sec To 1 arc min. Resolution	0.3 Arc sec.	
Cable Tensionmeter	Up To 2000 Lbs	1% Reading	
Rotary Table, Dividing Heads And Ultradex	0-360° Rotary 0-90° Tilt	0.57 arc.sec. Rotary 1 arc sec. Tilt	
Torque Tool And Calibrators	From 0.1 in oz To 1000 Ft Lbs.	TT= 1% Reading C = .5% Reading	
Coordinate Measurement Machines	0-72in Using Blocks And Square Or Ball Bar 0-30 Feet Using Laser All Resolutions	6.06µin per 1in Travel Using Blocks & Square 36.35µin per 10in Using Ball Bar 5.48µin per 1in Travel using Laser	
Thread Wires	Inch And Metric 60°, Acme	6.10 µin up To 1in	
AGD Ring Gages And Bore Gage Rings	0.062-12in XX,X, and Y Class	8.02µin per 1in	
Laser Micrometer	Calibrated XXX Rolls 0.125 - 1in	5µin per 1in	
Plug Gage, Deltronic Gage And Disk Gages	0.005 - 10in XXX,XX,X,Y & Z Class	5µin per 1in	
Gage Ball Calibration	0.062 - 2in Grade 25 Using Supermicrometer And 0.000002 Mikrokator	5µin per 1in	

PARAMETER/EQUIPMENT	RANGE	BEST UNCERTAINTY ^{2,4} (±)	COMMENTS
Dmm, Volt, Amp And Resistance Gages Oscilloscope	DC Voltage 0 to ±1020V AC Voltage 1 mV to 1020V DC Current 0 to ±11A AC Current 29 mA to 11A Resistance 0 to 3.29.999Mohm Capacitance: 0.33 nF to 1.1 Mf DC Power: 109 mW to 11 kW AC Power: 109 mW to 11 kW Phase: 0 to ± 179.99° Frequency: 0.01 Hz to 2.0 MHz	±50 ppm of setting ±0.03% of setting ±0.01% of setting ±0.06% of setting ±0.009% of setting ±0.25% of setting ± 0.08% of setting ± 0.15% of setting ±25 ppm of setting ±25 ppm of setting	
Oscilloscope to 1040 MHz	DC Voltage 0 to ±2.2V (50ohm.) 0 to ±33V (1 Mohm.) AC Voltage (Squarewave) ±1.8mV to ±2.2V p-p (50ohm.) ±1.8mV to ±105V p-p(1 Mohm.) Fast Edge 4.5 mV to 2.75V p-p (50ohm.) Leveled Sinewave Ranges: 50 kHz to 300 MHz Time Markers 5s to 2ns Pulsed sawtooth, sine Wave Generator 1.8 mV to 55V p-p (1 Mohm.) 1.8 mV to 2.2V p-p (50ohm.) 10 Hz to 100 kHz Square, Sine, Triangle	±0.25% ±0.25% 1ns Rise Time ±1.5% Flatness to 300MHz ±3.5% TO 1040MHz ±25 ppm ±3%	
Current Shunt	TO 1000A	1%	
Temp. Gages, Controllers And Chart Recorders, Hygrometers, Hygrothermographs, and Thermometers	Thermocouple: Source and Measure: -250°C to +2316°C (11 types). RTD Source: -200°C to +630°C (8 types) 5-95% RH. using chamber and salt solutions	± 0.14°C of setting ±0.03°C of setting 33-75 ± 1%, 5-32 & 76-95 ± 2%	

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PARAMETER/EQUIPMENT	RANGE	BEST UNCERTAINTY ^{2,4} (±)	COMMENTS
Pressure Gages And Vacuum Gages	0-10,000 psi and 0 To -25 in Hg	0-10,000 psi : 0.02% 0 To -25 in Hg : 0.05%	
Micrometer Standards And Pitch Mic Standard	1-60in O.D. Standard 1 & 2in Pitch Standard	5.08µin Per 1in Length 50µin Up To 2in	
Mikemaster And Caliper Checker	1-12in	5.08µin Per 1in	
Pi Tapes	0-72in	0.001in per ft	
Tachometers	0-99,999 Rpm Photo Type	P = ± 0.25% + 1 Count	
	7200 Rpm Mechanical Type	M = ± 0.5% + 1 Count	
pH.Meters And Chart Recorders	0-10 Ph To .01 Resolution	0.01 @ 25°C For 4,7 & 10 pH	
Power Supplies, Hi Pot Testers And Welders	To 40kV And 1000A	DC = 1.12% Of Reading Ac = 1.12% Of Reading	
Gear Wires	0.005 To 1in Dia	6.10 µin Up To 1in	
Thread Ring Gage	2-56 - 1in UNC, UNF 2A, 3A	10µin Per 1in	
Durometer And Shore Hardness	Type A, D And M	± 1 Point	
Angle Blocks	0-45° Inspection And Shop Grade	0.21 Arc sec	
Thread Plug Gage	4-100 Pitch 2 - 10in	8.84µin per 1in	
Thread Ring Setting Master	4-100 Pitch 2 - 10in	8.84µin per 1in	
Calibration Tester Indicator Calibrators	0-2in X 0.000010in to 0.0001 in 0-2in X 0.00005in to 0.001in	CT = 2.65µin per 1in IC = 5.26µin per 1in	
Linear Scales, Glass And Steel	0.0001 - 12in Glass 1in -72in Steel	Glass = 30µin per in Steel = 0.0001in per in	
Stop Watches, Watches And Timers	All Analog And Digital	10 ppm (.864 Seconds Per Day)	

PARAMETER/EQUIPMENT	RANGE	BEST UNCERTAINTY ^{2,4} (±)	COMMENTS
Gage Blocks and Block Accessories	0.010-20in Grade 1,2 & 3	To 2 in : 2.86µin 3 To 20in : +1µin per 1in	
Radius Gages	0.005 – 2in	.001in Up To 2in	
Crimp Tools	All	0.001in	
Film And Plating Thickness Gage And Specimens	0.0001 To .100in Range, 0.0001in Resolution	Gages : 0.0001in Specimens :0.00005in	
Weights (Lbs-kg-oz-g)	1gTo 50 Lbs Class F	10mg-500g = 2.87 mg 500g-5000g = 20.38 mg 5kg-25kg = 506.36 mg	
Repeat-O-Meter And Repeat Reading Gages	All	10µin	
Sunnens Gage Setting Fixture	0 - 4in X 0.0001	8.29µin per 1in	
Sunnens Gage	.375 - 4in X.000050	11.53µin per 1in	
Conductivity Meter	Solution 10- 45000 µmho/cm Resistivity 1-100 % IACS	1% 1%	NIST Traceable Solutions 31.62, 40.29,59.09 & 99.79 Standards
Granite, Ceramic Squares 2,3,4 & 5 Face	2in-24in Shop, Inspection Or Lab Grade	0.39 Arc sec. or 1.89µin per 1in	
Telescoping And Small Hole Gages	.062 - 4in	22µin Per 1in	
Screw Pitch Gages	8-80 Pitch	0.001in to 1in	
Insulation Tester	Up To 40kV And 1000A	DC = 1.12% Of Reading AC = 1.12% Of Reading	
Ultrasonic Thickness Gage	0-2in Range, 0.001,0.0005 And 0.0001in Resolution	11µin per 1in	
Taper Gage And Hole Check Pin	0.062 - 1in	11.53 µin to 1in	
Pocket Comparator And Loupe	All Types	35µin	
Bench Centers	0-12in	0.0001in	
Wire Strippers	All Types Using Pin Gages	0.00004in	

PARAMETER/EQUIPMENT	RANGE	BEST UNCERTAINTY ^{2,4} (\pm)	COMMENTS
Granite, Ceramic Straight Edges And Parallels	6 To 60 in	Straight 1.89 μ m per 1 in Parallel = 5 μ m per 1in	
Feeler Or Thickness Gages	.0005 To .125in	24 μ m.	
Transits (Surveying) Theodolite	All Types	Rotation And Elevation = .5 Arc sec.	
Eddy Current Testers	All ,using various types of metal standards	1%	
Graduated Cylinders And Beakers	0-500 cc/mL	\pm 0.00287 cc/mL	
Pipette	0-500 cc/mL Fixed Volume, Class A	\pm 0.00287 cc/mL	
Penta Prism And Optical Square	90°	.39 Arc sec.	

- 1) This laboratory offers commercial, on-site calibration services.
- 2) "Best Uncertainty" is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine tests of nearly ideal measurement standards of nearly ideal measuring equipment. Best uncertainties represent expanded uncertainties expressed at approximately the 95% level of confidence, usually using a coverage factor of $k = 2$. The best uncertainty of a specific test performed by the laboratory may be larger than the best uncertainty stated above due to the behavior and limitations of the customer's device, environmental conditions, and to influences due to the specific measurement method.

(ILAA Certificate Number 1713.02)

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