



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200115-0

Revised Scope: 2009-02-04

NVLAP Code: 20/A01

ANSI/NCSL Z540-1-1994; Part 1

Compliant

DIMENSIONAL

NVLAP Code: 20/D03

Gage Blocks

<i>Range in inches</i>	<i>Best Uncertainty (\pm) in μin ^{note 1}</i>	<i>Remarks</i>
Master Set Calibration		
0.010 to 0.09375	3.6	Steel
0.100 to 1.000	3.0	Steel
2.000	3.0	Steel
3.000	3.0	Steel
4.000	3.5	Steel
0.050 to 0.09375	3.0	Chrome Carbide
0.100 to 1.000	3.0	Chrome Carbide
2.000	3.0	Chrome Carbide
3.000	3.0	Chrome Carbide
4.000	3.0	Chrome Carbide
0.050 to 0.09375	3.0	Tungsten Carbide
0.100 to 1.000	3.0	Tungsten Carbide
2.000	3.0	Tungsten Carbide
3.000	3.0	Tungsten Carbide

2009-01-01 through 2009-12-31

Effective dates

Sally S. Bruce

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4.000	3.0	Tungsten Carbide
Long Block Calibration		
5	4.4	Steel
6	4.4	Steel
7	5.3	Steel
8	5.3	Steel
10	6.6	Steel
12	7.5	Steel
16	10.3	Steel
20	11.8	Steel

<i>Range in mm</i>	<i>Best Uncertainty (±) in μm^{note 1}</i>	<i>Remarks</i>
Master Set Calibration		
0.3 to 0.9	0.08	Steel
1.0 to 24.5	0.08	Steel
25	0.08	Steel
50	0.08	Steel
75	0.08	Steel
100	0.09	Steel
Long Block Calibration		
125	0.10	Steel
150	0.11	Steel
175	0.12	Steel
200	0.13	Steel
250	0.17	Steel
300	0.19	Steel
400	0.27	Steel
500	0.30	Steel

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ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E05
Resistance

<i>Range in Ohms</i>	<i>Best Uncertainty ($\pm \mu\Omega/\Omega$)^{note 1}</i>	<i>Remarks</i>
0.1	0.35	In air
1.0	0.3	In oil
10.0	0.35	In oil
100	0.5	In oil
1 k	0.6	In oil
10 k	0.5	In oil
100 k	1.0	In air
1 M	5.0	In air

NVLAP Code: 20/E06
DC Voltage

<i>Range in Volts</i>	<i>Best Uncertainty ($\pm \mu V/V$)^{note 1}</i>	<i>Remarks</i>
Fixed Points		
10 J Array	0.013	Single Measurement
1.018 J Array	0.11	Single Measurement
10 J Array	0.06	Over Extended Time
1.018 J Array	0.23	Over Extended Time
10 Zener Reference Comparison	0.3	Over Extended Time
Variable Points		
Up to 100 m	4.0	Zener + Divider
0.1 to 1	0.8	Zener + Divider
1 to 10	0.5	Zener + Divider
10 to 100	0.8	Zener + Divider
100 to 1000	2.5	Zener + Divider

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TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

Range in MHz	Best Uncertainty (\pm) ^{note 1}	Remarks
0.1, 1, 5, 10	$1 \times 10^{-12}/24$ hours	NIST FMS System

MECHANICAL

NVLAP Code: 20/M06
Force – Tension and Compression

Range in lbf	Best Uncertainty (\pm) % of F/S ^{note 1}	Remarks
10 to 20	0.017	Primary Standard (Deadweight)
>20 to 40	0.006	Primary Standard (Deadweight)
>40 to 50	0.0058	Primary Standard (Deadweight)
>50 to 400	0.0043	Primary Standard (Deadweight)
>400 to 1000	0.0042	Primary Standard (Deadweight)
100 to 1000	0.020	Secondary Standards (Load Cells)
1000 to 11 000	0.0078	Secondary Standards (Load Cells)
10 000 to 100 000	0.0073	Secondary Standards (Load Cells)
100 000 to 400 000	0.05	Secondary Standards (Load Cells)

NVLAP Code: 20/M08
Mass

Range	Best Uncertainty (\pm) in μg ^{note 1}	Remarks
1 kg	140	Repetitive Double Substitution
500 g	98	Repetitive Double Substitution
200 g	58	Repetitive Double Substitution
100 g	22	Repetitive Double Substitution
50 g	15	Repetitive Double Substitution
20 g	8.0	Repetitive Double Substitution
10 g	3.8	Repetitive Double Substitution

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5 g	5.7	Repetitive Double Substitution
2 g	3.8	Repetitive Double Substitution
1 g	5.4	Repetitive Double Substitution
0.5 g	2.0	Repetitive Double Substitution
0.2 g	0.95	Repetitive Double Substitution
0.1 g	2.8	Repetitive Double Substitution
0.05 g	4.1	Repetitive Double Substitution
0.02 g	2.1	Repetitive Double Substitution
0.01 g	0.7	Repetitive Double Substitution
0.005 g	1.9	Repetitive Double Substitution
0.002 g	2.2	Repetitive Double Substitution
0.001 g	1.8	Repetitive Double Substitution

Balances
In-Lab and On-Site

<i>Range in g</i>	<i>Best Uncertainty (±) in mg ^{note 1}</i>	<i>Remarks</i>
1 m to 60	0.10	Using ASTM Class 1 Weights
>60 to 80	0.12	Using ASTM Class 1 Weights
>80 to 200	0.50	Using ASTM Class 1 Weights
>200 to 500	0.80	Using ASTM Class 1 Weights
>500 to 1 k	4.0	Using ASTM Class 1 Weights
>1k to 6 k	30	Using ASTM Class 1 Weights
>6k to 10.1 k	40	Using ASTM Class 1 Weights
>10.1k to 32 k	300	Using ASTM Class 1 Weights

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THERMODYNAMICS

NVLAP Code: 20/T05

Pressure

Deadweight Pressure Gauge – Direct Pressure Comparison

<i>Range in psi</i>	<i>Best Uncertainty (±) in ppm ^{note 1}</i>	<i>Remarks</i>
0.4 to 18	32	Air
18 to 700	44	Air
700 to 4000	37	Oil
4000 to 40 000	78	Oil

NVLAP Code: 20/T07

Resistance Thermometry – Fixed

Certification of PRTs

<i>Range in °C</i>	<i>Best Uncertainty (±) in mK ^{note 1}</i>	<i>Remarks</i>
0	5.7	Comparison to Reference SPRT
232	7.1	Comparison to Reference SPRT
420	9.4	Comparison to Reference SPRT

1. Represents an expanded uncertainty using a coverage factor, $k = 2$, at an approximate level of confidence of 95 %.

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