



**National Voluntary
Laboratory Accreditation Program**



CALIBRATION LABORATORIES

NVLAP LAB CODE 200464-0

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

<p>NYS Bureau of Weights & Measures Metrology Laboratory NYS Department of Agriculture and Market Bureau of Weights and Measures 10B Airline Drive Albany, NY 12235 Mr. Michael Sikula Phone: 518-457-3452 Fax: 518-457-2552 E-mail: mike.sikula@agriculture.ny.gov URL: http://www.agmkt.state.ny.us/wm/wmhome.html</p>	<p>Parameter(s) of Accreditation Dimensional Time and Frequency Mechanical</p>
<p>The physical laboratory location where calibrations are performed is 7A Harriman Campus Road, Suite 122, Albany, NY 12206.</p>	

CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) ^{Note 3}	Remarks
DIMENSIONAL			
NVLAP Code: 20/D13 SURVEYING RODS and TAPES	Rules	0.5 in to < 12 in 12 in to 24 in	Rule Method
	Steel Tape	1 ft to 16 ft 0.1 m to 5 m	Tape Method 0.1 m to 5 m
	1 ft to 16 ft (0.1 m to 5 m)	0.0052 in	Bench Method
	15 ft to 30 ft (5 m to 10 m)	0.0050 in	
	30 ft to 45 ft (10 m to 15 m)	0.010 in	
	45 ft to 60 ft (15 m to 20 m)	0.015 in	
	60 ft to 75 ft (20 m to 25 m)	0.020 in	
	75 ft to 90 ft (25 m to 30 m)	0.025 in	
		0.030 in	

2013-01-01 through 2013-12-31

Effective dates

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NVLAP LAB CODE 200464-0

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	90 ft to 105 ft (30 m to 35 m)	0.035 in	
	105 ft to 120 ft (35 m to 40 m)	0.040 in	
	120 ft to 135 ft (40 m to 45 m)	0.045 in	
	135 ft to 150 ft (45 m to 50 m)	0.050 in	
	150 ft to 165 ft (50 m to 55 m)	0.055 in	
	156 ft to 180 ft (55 m to 60 m)	0.060 in	
	180 ft to 195 ft	0.065 in	
	195 ft to 210 ft	0.070 in	
TIME and FREQUENCY			
NVLAP Code: 20/F02 TIME DISSEMINATION Stopwatches	1 h to 3 h	0.19 s	
MECHANICAL			
NVLAP Code: 20/M08 MASS Metric	25 kg 20 kg 10 kg 5 kg 3 kg 2 kg 1 kg 500 g 300 g 200 g 100 g 50 g 30 g 20 g 10 g	25 mg 21 mg 7.0 mg 3.8 mg 2.8 mg 2.3 mg 94 µg 76 µg 71 µg 69 µg 28 µg 24 µg 24 µg 11 µg 7 µg	Echelon II

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NVLAP LAB CODE 200464-0

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Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) <small>Note 3</small>	Remarks
Avoirdupois	5 g	3.7 μ g	Echelon II
	3 g	3.4 μ g	
	2 g	3.4 μ g	
	1 g	2.7 μ g	
	500 mg	2.6 μ g	
	300 mg	2.6 μ g	
	200 mg	2.6 μ g	
	100 mg	2.6 μ g	
	50 mg	2.6 μ g	
	30 mg	2.6 μ g	
	20 mg	2.6 μ g	
	10 mg	2.6 μ g	
	5 mg	2.6 μ g	
	3 mg	2.6 μ g	
	2 mg	2.6 μ g	
	1 mg	2.6 μ g	
	50 lb	26 mg	
	25 lb	17 mg	
	20 lb	8.0 mg	
	10 lb	4.3 mg	
	5 lb	2.7 mg	
	3 lb	2.2 mg	
	2 lb	98 μ g	
	1 lb	79 μ g	
	0.5 lb	74 μ g	
	0.3 lb	39 μ g	
	0.2 lb	39 μ g	
	0.1 lb	39 μ g	
0.05 lb	33 μ g		
0.03 lb	14 μ g		
0.02 lb	11 μ g		
0.01 lb	10 μ g		
0.005 lb	7.3 μ g		
0.003 lb	7.1 μ g		
0.002 lb	3.4 μ g		

2013-01-01 through 2013-12-31

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**National Voluntary
Laboratory Accreditation Program**



CALIBRATION LABORATORIES

NVLAP LAB CODE 200464-0

CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) Notes 1,2

Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) <small>Note 3</small>	Remarks
Metric	0.001 lb	3.4 μ g	Echelon III
	500 μ lb	3.4 μ g	
	300 μ lb	3.1 μ g	
	200 μ lb	3.1 μ g	
	100 μ lb	3.4 μ g	
	50 μ lb	3.4 μ g	
	30 μ lb	3.1 μ g	
	20 μ lb	3.1 μ g	
	10 μ lb	3.4 μ g	
	5 μ lb	3.4 μ g	
	3 μ lb	3.1 μ g	
	2 μ lb	3.1 μ g	
	1 μ lb	3.1 μ g	
	1000 kg	15 g	
	500 kg	6 g	
	200 kg	5 g	
	100 kg	2.5 g	
	50 kg	0.32 g	
	30 kg	0.32 g	
	25 kg	0.22 g	
	20 kg	0.22 g	
	10 kg	0.10 g	
	5 kg	29 mg	
	3 kg	35 mg	
	2 kg	33 mg	
	1 kg	32 mg	
500 g	3.8 mg		
300 g	3.6 mg		
200 g	3.3 mg		
100 g	3.3 mg		
50 g	0.41 mg		
30 g	0.36 mg		
20 g	0.31 mg		
10 g	0.27 mg		
5 g	0.24 mg		

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Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) <small>Note 3</small>	Remarks
Avoirdupois	3 g	49 µg	Echelon III
	2 g	46 µg	
	1 g	36 µg	
	500 mg	34 µg	
	300 mg	34 µg	
	200 mg	34 µg	
	100 mg	34 µg	
	50 mg	24 µg	
	30 mg	24 µg	
	20 mg	24 µg	
	10 mg	24 µg	
	5 mg	24 µg	
	3 mg	24 µg	
	2 mg	24 µg	
	1 mg	22 µg	
	2500 lb	16 g	
	2000 lb	10 g	
	1000 lb	6.4 g	
	500 lb	5.8 g	
	200 lb	2.5 g	
	100 lb	0.32 g	
	50 lb	0.22 g	
	25 lb	0.10 g	
	20 lb	0.10 g	
	10 lb	28 mg	
	5 lb	35 mg	
	3 lb	33 mg	
	2 lb	3.8 mg	
1 lb	3.6 mg		
0.5 lb	3.3 mg		
0.3 lb	3.3 mg		
0.2 lb	3.3 mg		
0.1 lb	0.36 mg		
0.05 lb	0.32 mg		
0.03 lb	0.28 mg		

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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) Notes 1,2

Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) <small>Note 3</small>	Remarks
	0.02 lb	0.25 mg	
	0.01 lb	0.25 mg	
	0.005 lb	49 µg	
	0.003 lb	45 µg	
	0.002 lb	43 µg	
	0.001 lb	43 µg	
	8 oz	3.6 mg	
	4 oz	3.4 mg	
	2 oz	0.38 mg	
	1 oz	0.32 mg	
	1/2 oz	0.29 mg	
	1/4 oz	0.25 mg	
	1/8 oz	36 µg	
	1/16 oz	36 µg	
	1/32 oz	36 µg	
NVLAP Code: 20/M12 VOLUME and DENSITY			
Metal Measures	10 gal	0.0015 gal	Gravimetric
	5 gal	0.00070 gal	
	1 gal	0.00014 gal	
	20 L	5.8 mL	
Glassware	1 gal	7.2 min	Volume Transfer
	(5 L)		
	½ gal (2 L)	6.6 min	
	1 qt (1 L)	4.6 min	
	1 pt (500 mL)	2.4 min	
	1/2 pt (200 mL)	2.0 min	
	1 gill (100 mL)	1.8 min	

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Measured Parameter or Device Calibrated	Range	Uncertainty ($k=2$) <small>Note 3</small>	Remarks
Metal Measures	150 gal	0.032 gal	
	132 gal	0.029 gal	
	100 gal	0.024 gal	
	50 gal	0.012 gal	
	25 gal	0.0086 gal	
	5 gal	0.0012 gal	
	2 gal	0.00061 gal	
	20 L	8.2 mL	
END			

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Notes

Note 1: A Calibration and Measurement Capability (CMC) is a description of the best result of a calibration or measurement (result with the smallest uncertainty of measurement) that is available to the laboratory's customers under normal conditions, when performing more or less routine calibrations of nearly ideal measurement standards or instruments. The CMC is described in the laboratory's scope of accreditation by: the measurement parameter/device being calibrated, the measurement range, the uncertainty associated with that range (see note 3), and remarks on additional parameters, if applicable.

Note 2: Calibration and Measurement Capabilities are traceable to the national measurement standards of the U.S. or to the national measurement standards of other countries and are thus traceable to the internationally accepted representation of the appropriate SI (Système International) unit.

Note 3: The uncertainty associated with a measurement in a CMC is an expanded uncertainty using a coverage factor, $k = 2$, with a level of confidence of approximately 95 %. Units for the measurand and its uncertainty are to match. Exceptions to this occur when marketplace practice employs mixed units, such as when the artifact to be measured is labeled in non-SI units and the uncertainty is given in SI units (Example: 5 lb weight with uncertainty given in mg).

Note 3a: The uncertainty of a specific calibration by the laboratory may be greater than the uncertainty in the CMC due to the condition and behavior of the customer's device and specific circumstances of the calibration. The uncertainties quoted do not include possible effects on the calibrated device of transportation, long term stability, or intended use.

Note 3b: As the CMC represents the best measurement results achievable under normal conditions, the accredited calibration laboratory shall not report smaller uncertainty of measurement than that given in a CMC for calibrations or measurements covered by that CMC.

Note 3c: As described in Note 1, CMCs cover calibrations and measurements that are available to the laboratory's customers under *normal conditions*. However, the laboratory may have the capability to offer special tests, employing special conditions, which yield calibration or measurement results with lower uncertainties. Such special tests are not covered by the CMCs and are outside the laboratory's scope of accreditation. In this case, NVLAP requirements for the labeling, on calibration reports, of results outside the laboratory's scope of accreditation apply. These requirements are set out in Annex A.1.h. of NIST Handbook 150, Procedures and General Requirements.

Note 4: Uncertainties associated with field service calibration may be greater as they incorporate on-site environmental contributions, transportation effects, or other factors that affect the measurements. (This note applies only if marked in the body of the scope.)

Note 5: Values listed with percent (%) are percent of reading or generated value unless otherwise noted.

Note 6: NVLAP accreditation is the formal recognition of specific calibration capabilities. Neither NVLAP nor NIST guarantee the accuracy of individual calibrations made by accredited laboratories.

Note 7: See [NIST Handbook 150](#) for further explanation of these notes.

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