



**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 | | | |
| <p>NVLAP Code: 20/D13 SURVEYING RODS and TAPES Rules Steel Tape</p> | <p>0.5 in to < 12 in 12 in to 24 in 1 ft to 16 ft 1 ft to 16 ft (0.1 m to 5 m) 15 ft to 30 ft (5 m to 10 m) 30 ft to 45 ft (10 m to 15 m) 45 ft to 60 ft (15 m to 20 m) 60 ft to 75 ft (20 m to 25 m) 75 ft to 90 ft (25 m to 30 m)</p> | <p>0.0052 in 0.0052 in 0.0045 in 0.0045 in 0.009 in 0.014 in 0.018 in 0.022 in 0.027 in</p> | <p>Rule Method Tape Method 0.1 m to 5 m Bench Method</p> |

2012-01-01 through 2012-12-31
 Effective dates

David F. Alderson
 For the National Institute of Standards and Technology



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| Measured Parameter or Device Calibrated | Range | Uncertainty ($k=2$) <small>Note 3</small> | Remarks |
|---|---|---|------------|
| | 90 ft to 105 ft (30 m to 35 m) | 0.031 in | |
| | 105 ft to 120 ft (35 m to 40 m) | 0.036 in | |
| | 120 ft to 135 ft (40 m to 45 m) | 0.040 in | |
| | 135 ft to 150 ft (45 m to 50 m) | 0.045 in | |
| | 150 ft to 165 ft (50 m to 55 m) | 0.049 in | |
| | 156 ft to 180 ft (55 m to 60 m) | 0.054 in | |
| | 180 ft to 195 ft | 0.058 in | |
| | 195 ft to 210 ft | 0.063 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 22 mg 7.0 mg 3.7 mg 2.8 mg 2.2 mg 87 µg 70 µg 64 µg 62 µg 40 µg 33 µg 32 µg 30 µg 10 µg | Echelon II |

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| Measured Parameter or Device Calibrated | Range | Uncertainty ($k=2$) <small>Note 3</small> | Remarks |
|---|-------------|---|------------|
| Avoirdupois | 5 g | 8.1 μ g | Echelon II |
| | 3 g | 7.3 μ g | |
| | 2 g | 7.1 μ g | |
| | 1 g | 2.9 μ g | |
| | 500 mg | 2.8 μ g | |
| | 300 mg | 2.8 μ g | |
| | 200 mg | 2.8 μ g | |
| | 100 mg | 2.8 μ g | |
| | 50 mg | 2.8 μ g | |
| | 30 mg | 2.8 μ g | |
| | 20 mg | 2.8 μ g | |
| | 10 mg | 2.8 μ g | |
| | 5 mg | 2.8 μ g | |
| | 3 mg | 2.8 μ g | |
| | 2 mg | 2.8 μ g | |
| | 1 mg | 2.8 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 | 92 μ g | |
| | 1 lb | 71 μ g | |
| | 0.5 lb | 65 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 | | |

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| 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 | 32 µg | |
| | 300 mg | 32 µg | |
| | 200 mg | 32 µg | |
| | 100 mg | 32 µg | |
| | 50 mg | 22 µg | |
| | 30 mg | 22 µg | |
| | 20 mg | 22 µg | |
| | 10 mg | 22 µg | |
| | 5 mg | 22 µg | |
| | 3 mg | 22 µg | |
| | 2 mg | 22 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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|--|--------------------|---|-----------------|
| | 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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|--|--------------|---|----------------|
| 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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