

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 105001-0

Rice Lake Weighing Systems
Rice Lake, WI

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Calibration Laboratories

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2024-03-12 through 2025-03-31

Effective Dates



A handwritten signature in blue ink, appearing to read 'Dana S. Gorman'.

For the National Voluntary Laboratory Accreditation Program

CALIBRATION LABORATORIES

NVLAP LAB CODE 105001-0

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

<p>Rice Lake Weighing Systems 230 West Coleman Street Rice Lake, WI 54868 Mr. Dan Demers Phone: 715-234-9171 x6113 Fax: 715-234-6967 E-mail: ddemers@ricelake.com URL: http://www.ricelake.com</p>	<p>Fields of Calibration Mechanical</p> <p>This laboratory is compliant to ANSI/NCSL Z540-1-1994; Part 1. (NVLAP Code: 20/A01)</p>
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CALIBRATION AND MEASUREMENT CAPABILITIES (CMC) ^{Notes 1,2}

Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
MECHANICAL			
MASS DETERMINATION (20/M08)			
Metric	50 kg	12 mg	Echelon I
	30 kg	6.7 mg	
	20 kg	5.1 mg	
	10 kg	1.5 mg	
	5 kg	0.78 mg	
	3 kg	0.53 mg	
	2 kg	0.27 mg	
	1 kg	54 µg	
	500 g	29 µg	
	300 g	19 µg	
	200 g	14 µg	
	100 g	13 µg	
	50 g	7.7 µg	
	30 g	5.8 µg	
	20 g	5.1 µg	
	10 g	5.6 µg	
	5 g	2.9 µg	
	3 g	1.8 µg	
	2 g	1.3 µg	
	1 g	1.1 µg	
	500 mg	0.77 µg	
	300 mg	0.63 µg	
	200 mg	0.59 µg	
	100 mg	0.69 µg	



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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
Avoirdupois	50 mg	0.71 µg	Echelon I
	30 mg	0.63 µg	
	20 mg	0.63 µg	
	10 mg	0.75 µg	
	5 mg	0.48 µg	
	3 mg	0.40 µg	
	2 mg	0.36 µg	
	1 mg	0.40 µg	
	0.5 mg	0.61 µg	
	50 lb	26 µlb (12 mg)	
	30 lb	15 µlb (6.9 mg)	
	25 lb	5.5 µlb (2.5mg)	
	20 lb	4.2 µlb (1.9 mg)	
	10 lb	2.2 µlb (0.99 mg)	
	5 lb	1.1 µlb (0.50 mg)	
	3 lb	0.77 µlb (0.35 mg)	
	2 lb	0.19 µlb (85 µg)	
	1 lb	0.090 µlb (41 µg)	
	0.5 lb	0.053 µlb (24 µg)	
	0.3 lb	0.042 µlb (19 µg)	
	0.2 lb	0.035 µlb (16 µg)	
	0.1 lb	0.037 µlb (17 µg)	
	0.05 lb	0.020 µlb (9.2 µg)	
	0.03 lb	0.014 µlb (6.2 µg)	
	0.02 lb	0.011 µlb (4.8 µg)	
	0.01 lb	0.010 µlb (4.6 µg)	
	0.005 lb	0.0051 µlb (2.3 µg)	
	0.003 lb	0.0031 µlb (1.4 µg)	
	0.002 lb	0.0021 µlb (0.97 µg)	
	0.001 lb	0.0013 µlb (0.61 µg)	
	4 oz	0.85 µoz (24 µg)	
	2 oz	0.71 µoz (20 µg)	
	1 oz	0.56 µoz (16 µg)	
1/2 oz	0.31 µoz (8.8 µg)		
1/4 oz	0.17 µoz (4.7 µg)		
1/8 oz	0.11 µoz (3.0 µg)		
1/16 oz	0.11 µoz (3.0 µg)		



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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
Metric	1/32 oz	0.085 μoz (2.4 μg)	Echelon II
	50 kg	12 mg	
	30 kg	11 mg	
	20 kg	9.9 mg	
	10 kg	1.7 mg	
	5 kg	0.83 mg	
	3 kg	0.55 mg	
	2 kg	0.29 mg	
	1 kg	73 μg	
	500 g	39 μg	
	300 g	27 μg	
	200 g	23 μg	
	100 g	18 μg	
	50 g	9.9 μg	
	30 g	6.9 μg	
	20 g	5.9 μg	
	10 g	5.9 μg	
	5 g	3.3 μg	
	3 g	2.3 μg	
	2 g	1.9 μg	
	1 g	2.0 μg	
	500 mg	1.5 μg	
	300 mg	1.3 μg	
	200 mg	1.2 μg	
	100 mg	1.4 μg	
	50 mg	1.0 μg	
	30 mg	0.89 μg	
20 mg	0.85 μg		
10 mg	0.97 μg		
5 mg	0.69 μg		
3 mg	0.61 μg		
2 mg	0.61 μg		
1 mg	0.61 μg		
0.5 mg	0.61 μg		
Avoirdupois	50 lb	33 μlb (15 mg)	Echelon II
	30 lb	24 μlb (11 mg)	



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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
Metric	25 lb	20 µlb (8.9 mg)	Echelon III
	20 lb	4.4 µlb (2.0 mg)	
	10 lb	2.1 µlb (0.96 mg)	
	5 lb	1.1 µlb (0.51 mg)	
	3 lb	0.79 µlb (0.36 mg)	
	2 lb	0.29 µlb (0.13 mg)	
	1 lb	0.19 µlb (86 µg)	
	0.5 lb	0.097 µlb (44 µg)	
	0.3 lb	0.073 µlb (33 µg)	
	0.2 lb	0.060 µlb (27 µg)	
	0.1 lb	0.062 µlb (28 µg)	
	0.05 lb	0.033 µlb (15 µg)	
	0.03 lb	0.021 µlb (9.7 µg)	
	0.02 lb	0.016 µlb (7.1-µg)	
	0.01 lb	0.013 µlb (6.1 µg)	
	0.005 lb	0.0068 µlb (3.1 µg)	
	0.003 lb	0.0042 µlb (1.9 µg)	
	0.002 lb	0.0029 µlb (1.3 µg)	
	0.001 lb	0.0019 µlb (0.86 µg)	
	4 oz	1.1 µoz (30 µg)	
	2 oz	0.81 µoz (23 µg)	
	1 oz	1.1 µoz (29 µg)	
	1/2 oz	0.53 µoz (15µg)	
	1/4 oz	0.30 µoz (8.6µg)	
	1/8 oz	0.22 µoz (6.2 µg)	
	1/16 oz	0.25 µoz (7.2 µg)	
	1/32 oz	0.16 µoz (4.7 µg)	
	1000 kg	13 g	
	500 kg	6.3 g	
	250 kg	2.6 g	
	200 kg	2.1 g	
	100 kg	1.2 g	
	50 kg	200 mg	
30 kg	120 mg		
20 kg	81 mg		
10 kg	40 mg		
5 kg	20 mg		



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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
Avoirdupois	3 kg	12 mg	
	2 kg	8.0 mg	
	1 kg	4.1 mg	
	500 g	2.0 mg	
	300 g	1.2 mg	
	200 g	0.81 mg	
	100 g	0.40 mg	
	50 g	0.20 mg	
	30 g	0.18 mg	
	20 g	0.14 mg	
	10 g	0.10 mg	
	5 g	72 µg	
	3 g	60 µg	
	2 g	52 µg	
	1 g	40 µg	
	500 mg	32 µg	
	300 mg	28 µg	
	200 mg	24 µg	
	100 mg	20 µg	
	50 mg	17 µg	
	30 mg	15 µg	
	20 mg	14 µg	
	10 mg	12 µg	
	5 mg	11 µg	
	3 mg	10 µg	
	2 mg	10 µg	
	1 mg	10 µg	
	0.5 mg	10 µg	
	3000 lb	0.029 lb (13 g)	
	2500 lb	0.026 lb (12 g)	
	2000 lb	0.026 lb (12 g)	
	1000 lb	0.013 lb (5.9 g)	
500 lb	5.1 mlb (2.3 g)		
250 lb	2.9 mlb (1.3 g)		
200 lb	2.4 mlb (1.1g)		
100 lb	0.42 mlb (190 mg)		
50 lb	0.20 mlb (92 mg)		



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Measured Parameter or Device Calibrated	Range	Expanded Uncertainty ^{Note 3}	Remarks
	30 lb	0.12 mlb (55 mg)	
	25 lb	0.10 mlb (47 mg)	
	20 lb	79 µlb (36 mg)	
	10 lb	40 µlb (18 mg)	
	5 lb	20 µlb (9.1 mg)	
	3 lb	12 µlb (5.4 mg)	
	2 lb	8.2 µlb (3.7 mg)	
	1 lb	4.0 µlb (1.8 mg)	
	0.5 lb	2.0 µlb (0.91 mg)	
	0.3 lb	1.2 µlb (0.55 mg)	
	0.2 lb	0.79 µlb (0.36 mg)	
	0.1 lb	0.49 µlb (0.22 mg)	
	0.05 lb	0.35 µlb (0.16 mg)	
	0.03 lb	0.26 µlb (0.12 mg)	
	0.02 lb	0.20 µlb (0.091 mg)	
	0.01 lb	0.15 µlb (0.069 mg)	
	0.005 lb	0.12 µlb (0.054 mg)	
	0.003 lb	0.097 µlb (0.044 mg)	
	0.002 lb	0.084 µlb (0.038 mg)	
	0.001 lb	0.066 µlb (0.030 mg)	
	4 oz	17 µoz (0.47 mg)	
	2 oz	9.2 µoz (0.26 mg)	
	1 oz	6.3 µoz (0.18 mg)	
	1/2 oz	4.2 µoz (0.12 mg)	
	1/4 oz	3.1 µoz (0.087 mg)	
	1/8 oz	2.2 µoz (0.063 mg)	
	1/16 oz	1.7 µoz (0.049 mg)	
	1/32 oz	1.3 µoz (0.038 mg)	
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 with a level of confidence of approximately 95 %, typically using a coverage factor of $k = 2$. However, laboratories may report a coverage factor different than $k = 2$ to achieve the 95 % level of confidence. 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.5 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.

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