



# National Voluntary Laboratory Accreditation Program



## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

### Pennsylvania Standards Laboratory

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### CALIBRATION LABORATORIES

### NVLAP LAB CODE 200869-0

Scope Revised: 2012-01-10

### DIMENSIONAL

**NVLAP Code:** 20/D13  
Surveying Tapes

<i>Range in ft</i>	<i>Best Uncertainty (<math>\pm</math>) in inches<sup>note 1</sup></i>	<i>Remarks</i>
0 to 16	0.0071	Bench Method
0 to 30	0.013	Bench Method
0 to 45	0.019	Bench Method
0 to 60	0.026	Bench Method
0 to 75	0.032	Bench Method
0 to 84	0.039	Bench Method
0 to 90	0.039	Bench Method
0 to 100	0.045	Bench Method
0 to 105	0.045	Bench Method
0 to 120	0.051	Bench Method
0 to 135	0.058	Bench Method
0 to 150	0.064	Bench Method
0 to 165	0.070	Bench Method
0 to 180	0.077	Bench Method
0 to 184	0.083	Bench Method
0 to 195	0.083	Bench Method
0 to 200	0.090	Bench Method

2011-04-01 through 2012-03-31

Effective dates

For the National Institute of Standards and Technology



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Scope Revised: 2012-01-10

### TIME AND FREQUENCY

**NVLAP Code:** 20/F05

Stopwatches

<b>Range in hours</b>	<b>Best Uncertainty (<math>\pm</math>) in seconds <sup>note 1</sup></b>	<b>Remarks</b>
0 to 24	0.44	Direct Comparison (DUT Resolution 0.01 s)
0 to 24	0.73	Direct Comparison (DUT Resolution 0.1 s)

### MECHANICAL

**NVLAP Code:** 20/M08

Mass - Metric

<b>Range</b>	<b>Best Uncertainty (<math>\pm</math>) <sup>note 1</sup></b>	<b>Remarks</b>
30 kg	11 mg	Echelon II
25 kg	10 mg	Echelon II
20 kg	9.9 mg	Echelon II
10 kg	3.1 mg	Echelon II
5 kg	1.5 mg	Echelon II
3 kg	1.3 mg	Echelon II
2 kg	1.2 mg	Echelon II
1 kg	0.23 mg	Echelon II
500 g	0.13 mg	Echelon II
300 g	0.098 mg	Echelon II
200 g	0.083 mg	Echelon II
100 g	0.042 mg	Echelon II
50 g	0.025 mg	Echelon II
30 g	0.019 mg	Echelon II
20 g	0.017 mg	Echelon II
10 g	0.016 mg	Echelon II
5 g	0.0042 mg	Echelon II
3 g	0.0032 mg	Echelon II

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<b>Range</b>	<b>Best Uncertainty (<math>\pm</math>)<sup>note 1</sup></b>	<b>Remarks</b>
2 g	0.0027 mg	Echelon II
1 g	0.0027 mg	Echelon II
500 mg	0.0020 mg	Echelon II
300 mg	0.0018 mg	Echelon II
200 mg	0.0017 mg	Echelon II
100 mg	0.0018 mg	Echelon II
50 mg	0.0015 mg	Echelon II
30 mg	0.0014 mg	Echelon II
20 mg	0.0013 mg	Echelon II
10 mg	0.0015 mg	Echelon II
5 mg	0.0011 mg	Echelon II
3 mg	0.00099 mg	Echelon II
2 mg	0.00097 mg	Echelon II
1 mg	0.0010 mg	Echelon II
Mass – Avoirdupois		
50 lb	18 mg	Echelon II
25 lb	9.3 mg	Echelon II
20 lb	4.6 mg	Echelon II
10 lb	2.0 mg	Echelon II
5 lb	1.4 mg	Echelon II
2 lb	0.41 mg	Echelon II
1 lb	0.11 mg	Echelon II
0.5 lb	0.085 mg	Echelon II
0.2 lb	0.031 mg	Echelon II
0.1 lb	0.023 mg	Echelon II
0.05 lb	0.018 mg	Echelon II
0.02 lb	0.016 mg	Echelon II
0.01 lb	0.0069 mg	Echelon II
0.005 lb	0.0039 mg	Echelon II
0.002 lb	0.0023 mg	Echelon II
0.001 lb	0.0022 mg	Echelon II

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<b>Range</b>	<b>Best Uncertainty (<math>\pm</math>) <sup>note 1</sup></b>	<b>Remarks</b>
Mass – Metric		
2500 kg	47 g	Echelon III
1000 kg	14 g	Echelon III
750 kg	14 g	Echelon III
500 kg	1.7 g	Echelon III
250 kg	1.3 g	Echelon III
200 kg	1.3 g	Echelon III
50 kg	110 mg	Echelon III
30 kg	54 mg	Echelon III
25 kg	54 mg	Echelon III
20 kg	54 mg	Echelon III
10 kg	53 mg	Echelon III
5 kg	4.4 mg	Echelon III
3 kg	4.3 mg	Echelon III
2 kg	4.3 mg	Echelon III
1 kg	4.3 mg	Echelon III
500 g	4.3 mg	Echelon III
300 g	4.3 mg	Echelon III
200 g	4.3 mg	Echelon III
100 g	0.073 mg	Echelon III
50 g	0.073 mg	Echelon III
30 g	0.069 mg	Echelon III
20 g	0.068 mg	Echelon III
10 g	0.068 mg	Echelon III
5 g	0.085 mg	Echelon III
3 g	0.068 mg	Echelon III
2 g	0.068 mg	Echelon III
1 g	0.068 mg	Echelon III
500 mg	0.0084 mg	Echelon III
300 mg	0.0084 mg	Echelon III
200 mg	0.0084 mg	Echelon III
100 mg	0.0084 mg	Echelon III

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50 mg	0.0084 mg	Echelon III
30 mg	0.0084 mg	Echelon III
20 mg	0.0084 mg	Echelon III
10 mg	0.0084 mg	Echelon III
5 mg	0.0084 mg	Echelon III
3 mg	0.0084 mg	Echelon III
2 mg	0.0084 mg	Echelon III
1 mg	0.0084 mg	Echelon III

Mass – Avoirdupois

5000 lb	47 g	Echelon III
2500 lb	15 g	Echelon III
2000 lb	14 g	Echelon III
1000 lb	1.8 g	Echelon III
500 lb	1.3 g	Echelon III
250 lb	950 mg	Echelon III
200 lb	950 mg	Echelon III
100 lb	130 mg	Echelon III
50 lb	55 mg	Echelon III
25 lb	54 mg	Echelon III
20 lb	53 mg	Echelon III
10 lb	4.4 mg	Echelon III
5 lb	4.3 mg	Echelon III
3 lb	4.3 mg	Echelon III
2 lb	4.3 mg	Echelon III
1 lb	4.3 mg	Echelon III
0.5	4.3 mg	Echelon III
0.3	0.074 mg	Echelon III
0.2	0.072 mg	Echelon III
0.1	0.072 mg	Echelon III
0.05	0.069 mg	Echelon III
0.03	0.068 mg	Echelon III

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<b>Range</b>	<b>Best Uncertainty (<math>\pm</math>)<sup>note 1</sup></b>	<b>Remarks</b>
0.02	0.068 mg	Echelon III
0.01	0.068 mg	Echelon III
0.005	0.068 mg	Echelon III
0.003	0.068 mg	Echelon III
0.002	0.068 mg	Echelon III
0.001	0.068 mg	Echelon III
8 oz	4.3 mg	Echelon III
4 oz	4.3 mg	Echelon III
2 oz	0.074 mg	Echelon III
1 oz	0.072 mg	Echelon III
1/2 oz	0.069 mg	Echelon III
1/4 oz	0.068 mg	Echelon III
1/8 oz	0.068 mg	Echelon III
1/16 oz	0.068 mg	Echelon III
1/32 oz	0.068 mg	Echelon III

## Mass – Troy Ounce

200 oz t	4.9 mg	Echelon III
100 oz t	4.3 mg	Echelon III
50 oz t	4.3 mg	Echelon III
20 oz t	4.3 mg	Echelon III
10 oz t	4.3 mg	Echelon III
5 oz t	4.3 mg	Echelon III
2 oz t	0.073 mg	Echelon III
1 oz t	0.070 mg	Echelon III
0.5 oz t	0.070 mg	Echelon III
0.25 oz t	0.069 mg	Echelon III
0.2 oz t	0.078 mg	Echelon III
0.1 oz t	0.068 mg	Echelon III
0.05 oz t	0.068 mg	Echelon III
0.025 oz t	0.068 mg	Echelon III
0.02 oz t	0.068 mg	Echelon III

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Range	Best Uncertainty ( $\pm$ ) <sup>note 1</sup>	Remarks
0.01 oz t	0.068 mg	Echelon III
0.005 oz t	0.068 mg	Echelon III

### Mass - Wheel Load Weighers

40000 lb	70 lb	Echelon III
30000 lb	57 lb	Echelon III
20000 lb	63 lb	Echelon III
10000 lb	56 lb	Echelon III

### Mass- Weight Carts

6000 lb	52 g	Echelon III
5500 lb	52 g	Echelon III
5000 lb	52 g	Echelon III
4500 lb	31 g	Echelon III
4000 lb	31 g	Echelon III
3500 lb	31 g	Echelon III
3000 lb	31 g	Echelon III
2500 lb	31 g	Echelon III
2000 lb	30 g	Echelon III

NVLAP Code: 20/M12

### Volume

1500 gal	49 in <sup>3</sup>	Volume - Transfer
1000 gal	34 in <sup>3</sup>	Volume - Transfer
500 gal	20 in <sup>3</sup>	Volume - Transfer
200 gal	8.7 in <sup>3</sup>	Volume - Transfer
100 gal	4.3 in <sup>3</sup>	Volume - Transfer
50 gal	4.5 in <sup>3</sup>	Volume - Transfer
25 gal	2.3 in <sup>3</sup>	Volume - Transfer
10 gal	0.88 in <sup>3</sup>	Volume - Transfer
5 gal	0.53 in <sup>3</sup>	Volume - Transfer

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<b>Range</b>	<b>Best Uncertainty (<math>\pm</math>)<sup>note 1</sup></b>	<b>Remarks</b>
4 gal	0.77 in <sup>3</sup>	Volume – Transfer
3 gal	0.67 in <sup>3</sup>	Volume – Transfer
2 gal	0.59 in <sup>3</sup>	Volume – Transfer
1 gal	0.52 in <sup>3</sup>	Volume – Transfer
20 L	6.7 mL	Volume - Transfer
Volume – Gravimetric		
10 gal	0.31 in <sup>3</sup>	Slicker Standard
5 gal	0.25 in <sup>3</sup>	Slicker Standard
1 gal	0.029 in <sup>3</sup>	Slicker Standard
5 gal	0.35 in <sup>3</sup>	Test Measure
3 gal	0.29 in <sup>3</sup>	Test Measure
2.5 gal	0.28 in <sup>3</sup>	Test Measure
2 gal	0.27 in <sup>3</sup>	Test Measure
1 gal	0.26 in <sup>3</sup>	Test Measure
20 L	5.5 mL	Slicker Standard
20 L	4.1 mL	Test Measure

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

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