



**National Voluntary
Laboratory Accreditation Program**



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Maryland Department of Agriculture, Weights and Measures Sec.

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200494-0

DIMENSIONAL

NVLAP Code: 20/D13
Surveying Rods and Tapes

<i>Range in inches</i>	<i>Best Uncertainty (±) in inches ^{note 1}</i>	<i>Remarks</i>
1	0.0023	Rigid Rules
2	0.0023	Rigid Rules
3	0.0023	Rigid Rules
4	0.0024	Rigid Rules
5	0.0024	Rigid Rules
6	0.0024	Rigid Rules
7	0.0024	Rigid Rules
8	0.0024	Rigid Rules
9	0.0024	Rigid Rules
10	0.0024	Rigid Rules
11	0.0024	Rigid Rules
12	0.0024	Rigid Rules
24	0.0036	Rigid Rules
36	0.0046	Rigid Rules
48	0.0055	Rigid Rules

2011-07-01 through 2012-06-30

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology



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CALIBRATION LABORATORIES

NVLAP LAB CODE 200494-0

MECHANICAL

NVLAP Code: 20/M08

Mass - Metric

<i>Range</i>	<i>Best Uncertainty (±) ^{note 1}</i>	<i>Remarks</i>
1000 g	63 µg	Echelon I
500 g	36 µg	Echelon I
300 g	27 µg	Echelon I
200 g	22 µg	Echelon I
100 g	24 µg	Echelon I
50 g	12 µg	Echelon I
30 g	7.9 µg	Echelon I
20 g	5.7 µg	Echelon I
10 g	4.5 µg	Echelon I
5 g	2.6 µg	Echelon I
3 g	1.8 µg	Echelon I
2 g	1.5 µg	Echelon I
1 g	1.6 µg	Echelon I
500 mg	0.83 µg	Echelon I
300 mg	0.53 µg	Echelon I
200 mg	0.40 µg	Echelon I
100 mg	0.34 µg	Echelon I
50 mg	0.24 µg	Echelon I
30 mg	0.20 µg	Echelon I
20 mg	0.18 µg	Echelon I
10 mg	0.21 µg	Echelon I
5 mg	0.21 µg	Echelon I
3 mg	0.20 µg	Echelon I
2 mg	0.19 µg	Echelon I
1 mg	0.23 µg	Echelon I
30 kg	17 mg	Echelon II
20 kg	15 mg	Echelon II

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<i>Range</i>	<i>Best Uncertainty (±) ^{note 1}</i>	<i>Remarks</i>
10 kg	5.1 mg	Echelon II
5 kg	1.6 mg	Echelon II
3 kg	1.5 mg	Echelon II
2 kg	0.79 mg	Echelon II
1 kg	0.10 mg	Echelon II
500 g	69 µg	Echelon II
300 g	57 µg	Echelon II
200 g	52 µg	Echelon II
100 g	20 µg	Echelon II
50 g	11 µg	Echelon II
30 g	10 µg	Echelon II
20 g	5.8 µg	Echelon II
10 g	4.1 µg	Echelon II
5 g	2.4 µg	Echelon II
3 g	1.7 µg	Echelon II
2 g	1.3 µg	Echelon II
1 g	1.4 µg	Echelon II
500 mg	0.80 µg	Echelon II
300 mg	0.71 µg	Echelon II
200 mg	0.49 µg	Echelon II
100 mg	0.34 µg	Echelon II
50 mg	0.29 µg	Echelon II
30 mg	0.49 µg	Echelon II
20 mg	0.33 µg	Echelon II
10 mg	0.31 µg	Echelon II
5 mg	0.39 µg	Echelon II
3 mg	0.33 µg	Echelon II
2 mg	0.30 µg	Echelon II
1 mg	0.39 µg	Echelon II

Mass - Metric

1 kg 0.41 mg Echelon III ^{note 2}

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<i>Range</i>	<i>Best Uncertainty (±) ^{note 1}</i>	<i>Remarks</i>
500 g	0.26 mg	Echelon III ^{note 2}
300 g	0.22 mg	Echelon III ^{note 2}
200 g	0.21 mg	Echelon III ^{note 2}
100 g	63 µg	Echelon III ^{note 2}
50 g	53 µg	Echelon III ^{note 2}
30 g	51 µg	Echelon III ^{note 2}
20 g	33 µg	Echelon III ^{note 2}
10 g	31 µg	Echelon III ^{note 2}
5 g	5.5 µg	Echelon III ^{note 2}
3 g	5.1 µg	Echelon III ^{note 2}
2 g	5.6 µg	Echelon III ^{note 2}
1 g	5.3 µg	Echelon III ^{note 2}
500 mg	5.6 µg	Echelon III ^{note 2}
300 mg	5.0 µg	Echelon III ^{note 2}
200 mg	4.8 µg	Echelon III ^{note 2}
100 mg	4.6 µg	Echelon III ^{note 2}
50 mg	4.7 µg	Echelon III ^{note 2}
30 mg	4.6 µg	Echelon III ^{note 2}
20 mg	4.6 µg	Echelon III ^{note 2}
10 mg	4.6 µg	Echelon III ^{note 2}
5 mg	4.6 µg	Echelon III ^{note 2}
3 mg	4.5 µg	Echelon III ^{note 2}
2 mg	4.5 µg	Echelon III ^{note 2}
1 mg	4.5 µg	Echelon III ^{note 2}
30 kg	0.12 g	Echelon III ^{note 3}
20 kg	73 mg	Echelon III ^{note 3}
10 kg	55 mg	Echelon III ^{note 3}
5 kg	15 mg	Echelon III ^{note 3}
3 kg	10 mg	Echelon III ^{note 3}
2 kg	11 mg	Echelon III ^{note 3}
1 kg	9.5 mg	Echelon III ^{note 3}
500 g	7.5 mg	Echelon III ^{note 3}

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Range	Best Uncertainty (\pm) ^{note 1}	Remarks
300 g	7.6 mg	Echelon III ^{note 3}
200 g	0.28 mg	Echelon III ^{note 3}
100 g	0.10 mg	Echelon III ^{note 3}
50 g	72 μ g	Echelon III ^{note 3}
30 g	71 μ g	Echelon III ^{note 3}
20 g	64 μ g	Echelon III ^{note 3}
10 g	62 μ g	Echelon III ^{note 3}
5 g	61 μ g	Echelon III ^{note 3}
3 g	62 μ g	Echelon III ^{note 3}
2 g	62 μ g	Echelon III ^{note 3}
1 g	53 μ g	Echelon III ^{note 3}
500 mg	20 μ g	Echelon III ^{note 3}
300 mg	20 μ g	Echelon III ^{note 3}
200 mg	19 μ g	Echelon III ^{note 3}
100 mg	19 μ g	Echelon III ^{note 3}
50 mg	18 μ g	Echelon III ^{note 3}
30 mg	18 μ g	Echelon III ^{note 3}
20 mg	19 μ g	Echelon III ^{note 3}
10 mg	19 μ g	Echelon III ^{note 3}
5 mg	19 μ g	Echelon III ^{note 3}
3 mg	18 μ g	Echelon III ^{note 3}
2 mg	19 μ g	Echelon III ^{note 3}
1 mg	19 μ g	Echelon III ^{note 3}
Mass – Avoirdupois		
10 000 lb	0.083 lb	Echelon III
9000 lb	0.082 lb	Echelon III
8000 lb	0.080 lb	Echelon III
7000 lb	0.079 lb	Echelon III
6000 lb	0.078 lb	Echelon III
5000 lb	0.077 lb	Echelon III
4000 lb	0.076 lb	Echelon III

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<i>Range</i>	<i>Best Uncertainty (\pm) ^{note 1}</i>	<i>Remarks</i>
3000 lb	0.075 lb	Echelon III
2500 lb	0.011 lb	Echelon III
2000 lb	0.0096 lb	Echelon III
1000 lb	0.0029 lb	Echelon III
500 lb	0.0016 lb	Echelon III
50 lb	180 μ lb	Echelon III
30 lb	160 μ lb	Echelon III
25 lb	120 μ lb	Echelon III
20 lb	140 μ lb	Echelon III
10 lb	31 μ lb	Echelon III
5 lb	25 μ lb	Echelon III
3 lb	23 μ lb	Echelon III
2 lb	23 μ lb	Echelon III
1 lb	18 μ lb	Echelon III
0.5 lb	15 μ lb	Echelon III
0.3 lb	0.47 μ lb	Echelon III
0.2 lb	0.19 μ lb	Echelon III
0.1 lb	0.15 μ lb	Echelon III
0.05 lb	0.14 μ lb	Echelon III
0.03 lb	0.14 μ lb	Echelon III
0.02 lb	0.14 μ lb	Echelon III
0.01 lb	0.14 μ lb	Echelon III
0.005 lb	0.20 μ lb	Echelon III
0.003 lb	0.18 μ lb	Echelon III
0.002 lb	0.13 μ lb	Echelon III
0.001 lb	0.12 μ lb	Echelon III
4 oz	0.49 μ lb	Echelon III
2 oz	0.18 μ lb	Echelon III
1 oz	0.14 μ lb	Echelon III
0.5 oz	0.14 μ lb	Echelon III
0.25 oz	0.14 μ lb	Echelon III
0.125 oz	0.14 μ lb	Echelon III
0.0625	0.14 μ lb	Echelon III

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<i>Range</i>	<i>Best Uncertainty (±) ^{note 1}</i>	<i>Remarks</i>
0.03125 oz	0.12 µlb	Echelon III

NVLAP Code: 20/M12
Volume

100 gal	1.9 in ³	Gravimetric
50 gal	1.3 in ³	Gravimetric
120 L	9.5 mL	Gravimetric
60 L	5.4 mL	Gravimetric
5 gal (U.S.)	0.12 in ³	Gravimetric
1 gal (U.S.)	5.2 minims (Apothecaries)	Gravimetric
1/2 gal (U.S.)	3.2 minims	Gravimetric
1 quart (U.S. liquid)	2.5 minims	Gravimetric
1 pint (U.S. liquid)	1.6 minims	Gravimetric
1/2 pint (U.S. liquid)	0.72 minim	Gravimetric
1 gill (U.S.)	0.71 minim	Gravimetric
2 ounces (U.S. fluid)	1.9 minims	Gravimetric
1800 gal (U.S.)	50 in ³	Volume Transfer
1500 gal (U.S.)	44 in ³	Volume Transfer
1480 gal (U.S.)	42 in ³	Volume Transfer
1000 gal (U.S.)	30 in ³	Volume Transfer
800 gal (U.S.)	23 in ³	Volume Transfer
740 gal (U.S.)	23 in ³	Volume Transfer
500 gal (U.S.)	17.0 in ³	Volume Transfer
300 gal (U.S.)	11.0 in ³	Volume Transfer
200 gal (U.S.)	6.1 in ³	Volume Transfer
185 gal (U.S.)	8.0 in ³	Volume Transfer
100 gal (U.S.)	3.2 in ³	Volume Transfer
53 gal (U.S.)	3.3 in ³	Volume Transfer
50 gal (U.S.)	2.7 in ³	Volume Transfer
25 gal (U.S.)	1.9 in ³	Volume Transfer
20 gal (U.S.)	1.4 in ³	Volume Transfer

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5 gal (U.S.)	0.49 in ³	Volume Transfer
105 gal (U.S.)	10.0 in ³	Liquefied Petroleum Gas Prover (LPG)
103 gal (U.S.)	10.0 in ³	Liquefied Petroleum Gas Prover (LPG)
100 gal (U.S.)	10.0 in ³	Liquefied Petroleum Gas Prover (LPG)
53 gal (U.S.)	9.5 in ³	Liquefied Petroleum Gas Prover (LPG)
50 gal (U.S.)	9.3 in ³	Liquefied Petroleum Gas Prover (LPG)
25 gal (U.S.)	5.4 in ³	Liquefied Petroleum Gas Prover (LPG)
20 gal (U.S.)	5.2 in ³	Liquefied Petroleum Gas Prover (LPG)

1. Represents an expanded uncertainty using a coverage factor, $k = 2$, at an approximate level of confidence of 95 %.
2. High precision balances providing 0.7 $\mu\text{g/g}$ to 7 $\mu\text{g/g}$ accuracy within range from 1000 g to 1 g.
3. Precision balances providing 8 $\mu\text{g/g}$ to 70 $\mu\text{g/g}$ accuracy range from 1000 g to 1 g.

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