

Agency of Agriculture Food & Markets  
Consumer Protection Section  
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Vermont Agriculture & Environmental Laboratory  
Vermont Metrology Laboratory  
163 Admin Drive  
Randolph Center, VT 05061  
802-828-2426

## Vermont Metrology Laboratory Calibration Certificate

**Submitted by:**

Advanced Scale  
13 Delta Drive Unit 6  
Londonderry, NH 03053-2372  
603-626-0242

Calibration Date: January 26, 2026  
Date Received: January 23, 2026  
Calibration Due: Not Specified  
Manufacturer: N/A  
Serial Number: VT05-380  
Material: Stainless Steel  
Number of Pieces: 17  
Description: 10 lb to 1/4 oz Weight kit

The mass standard(s) described herein have been compared to the standards of the State of Vermont by NISTIR 6969, SOP 8 (2019), and have been found at time of calibration, or been adjusted, to meet the maximum permissible errors in ASTM E617-23 Standard Specification for Laboratory Weights and Precision Mass Standards. These mass standard(s) were found to have a conventional mass correction at the time of calibration as indicated in the following tabulation. Mass standards are considered within the MPE when the absolute value of the conventional mass correction plus the uncertainty is less than or equal to the specified MPE. Standards received with a conventional mass outside the MPE show a value in the "before adjustment" column.

Standards of the State of Vermont are metrologically traceable to the International System of Units (SI) and the National Institute of Standards and Technology (NIST). The Vermont Laboratory is recognized by NIST under the Laboratory Metrology Program at Mass Echelon III. SI conversion - 1 lb is equal to 0.453 592 37 kg

The uncertainties shown are expressed as the sum of the following sources; (1) Type A, random uncertainties determined by the standard deviation of the measurement process, and (2) Type B, systematic uncertainties relative to the reference standard and procedure used. Type A and Type B uncertainties are combined by the root sum squared method and multiplied by a coverage factor ( $k$ ) for an approximate 95 % confidence interval.

Technician: Scott Dolan  
Mass Comparator(s): MT XP64003L, MT XP5003S, MT XP205

**Environmental Conditions During Calibration**

Temperature: 21.7 °C to 21.7 °C  
Relative Humidity: 43.4 % to 44.8 %  
Barometric Pressure: 752 mmHg to 752 mmHg

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Scott Dolan, Weights & Measures Specialist



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Nominal & Marking	Conventional Mass Correction Before Adjustment	Conventional Mass Correction As Left	Uncertainty	ASTM Class 5 MPE	Units	k Factor
10 lb		20	23	230	mg	2.01
10 lb *		-15	23	230	mg	2.01
5 lb		52.2	8.5	110	mg	2.01
1 lb		-13.4	2.5	35	mg	2.01
1 lb *		-4.4	2.5	35	mg	2.01
1 lb **		5.6	2.5	35	mg	2.01
1 lb ***		-15.4	2.5	35	mg	2.01
1 lb ****		-2.4	2.5	35	mg	2.01
4 oz		2.16	0.56	11	mg	2.01
4 oz *		1.96	0.56	11	mg	2.01
4 oz **		-0.10	0.56	11	mg	2.01
1 oz		2.31	0.14	2.8	mg	2.01
1 oz *		1.46	0.14	2.8	mg	2.01
1 oz **		1.26	0.14	2.8	mg	2.01
1/2 oz		0.652	0.081	1.4	mg	2.01
1/2 oz *		1.162	0.081	1.4	mg	2.01
1/4 oz		0.605	0.060	0.8	mg	2.04

MPE: Maximum Permissible Error

In addition to meeting ASTM E617-23 Class 5 MPE, all standard also meet NIST Class F Tolerance requirements.

The following weights were adjusted:           None



End of Certificate

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