

Agency of Agriculture Food & Markets
Consumer Protection Section
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Montpelier, VT 05620
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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: October 27, 2025
Date Received: October 24, 2025
Calibration Due: Not Specified
Manufacturer: Various
Serial Number: See Chart
Material: Cast Steel
Number of Pieces: 20 - 20 kg, 3 - 10 kg
Description: Gript Weights

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: Dolan, Kuehne
Mass Comparator(s): MT XP64003L

Environmental Conditions During Calibration

Temperature: 20.8 °C to 21.5 °C
Relative Humidity: 47.3 % to 51.3 %
Barometric Pressure: 70 mmHg to 771 mmHg

Scott Dolan

Digitally signed by Scott Dolan
Date: 2025.10.27 11:37:04
-04'00'

Scott Dolan, Weights & Measures Specialist



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Nominal & Marking	Conventional Mass Correction Before Adjustment	Conventional Mass Correction As Left	Uncertainty	ASTM Class 6 MPE	Units	k Factor
20 kg 430		1609	74	2000	mg	2.01
20 kg 431		-241	74	2000	mg	2.01
20 kg 432	-3671	214	74	2000	mg	2.01
20 kg 433	2649	329	74	2000	mg	2.01
20 kg 434	2429	259	74	2000	mg	2.01
20 kg 435		294	74	2000	mg	2.01
20 kg 436		49	74	2000	mg	2.01
20 kg 437		-996	74	2000	mg	2.01
20 kg 438		-571	74	2000	mg	2.01
20 kg 439		-396	74	2000	mg	2.01
20 kg 440		49	74	2000	mg	2.01
20 kg 441		834	74	2000	mg	2.01
20 kg 442		-11	74	2000	mg	2.01
20 kg 443	1774	559	74	2000	mg	2.01
20 kg 444		-141	74	2000	mg	2.01
20 kg 445		1299	74	2000	mg	2.01
20 kg 446		-931	74	2000	mg	2.01
20 kg 447		274	74	2000	mg	2.01
20 kg 448	1779	339	74	2000	mg	2.01
20 kg 449	1799	574	74	2000	mg	2.01
10 kg 1430		443	41	1000	mg	2.01
10 kg 1433		408	41	1000	mg	2.01
10 kg 1434		-467	41	1000	mg	2.01

MPE: Maximum Permissible Error

In addition to meeting ASTM E617-18 Class 6 MPE, all standard also meet NIST Class F Tolerance requirements.

The following weights were adjusted: 432, 433, 434, 443, 448, 449



End of Certificate

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