

Vermont Weights and Measures Metrology Laboratory
Test Report

Issued To:

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

Date of Receipt: March 21, 2025

Vermont Test Number: VT25-105A

Date of Test: March 24, 2025

Report of Test for Item (Make/Model/Serial Number(s)/#Pieces):

Various/50 lb & 25 lb Cast Field Standards/See Chart/40 - 50 lb, 2 - 25 lb

The mass standards described above have been compared to the standards of the State of Vermont, by NISTIR 6969, SOP 8 (2019), and have been found at time of test, or been adjusted, to meet the maximum permissible errors stated in ASTM E617-23 Standard Specification for Laboratory Weights and Precision Mass Standards. Standards of the State of Vermont are traceable to the SI and National Institute of Standards and Technology (NIST). The Vermont Laboratory is recognized by NIST, under the Laboratory Metrology Program at Mass Echelon III. The mass standards described above were found to have a mass value at the time of test as indicated in the following tabulation. Weights 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. Weights received with a conventional mass outside the MPE show a value in the "before adjustment" column.

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

Environmental conditions at time of test:

Temperature: 21.5 °C to 21.6 °C

Relative Humidity: 44.4 % to 44.8 %

Barometric Pressure: 758.00 mmHg to 759.00 mmHg

Mass Comparator: MT XP64003L

Technician: Scott, Sumner



Nominal & Marking	Conventional Mass Correction Before Adjustment	Conventional Mass Correction As Left	Uncertainty	ASTM Class 6 MPE	Units	<i>k</i> Factor
50 lb 200		-1099	103	2300	mg	2.01
50 lb 201		-1214	103	2300	mg	2.01
50 lb 202		-1129	103	2300	mg	2.01
50 lb 203		-509	103	2300	mg	2.01
50 lb 204	-2559	-64	103	2300	mg	2.01
50 lb 205		-939	103	2300	mg	2.01
50 lb 206		-1749	103	2300	mg	2.01
50 lb 207		-1759	103	2300	mg	2.01
50 lb 208		-854	103	2300	mg	2.01
50 lb 209	-3184	-79	103	2300	mg	2.01
50 lb 210		-1459	103	2300	mg	2.01
50 lb 211	-2384	-14	103	2300	mg	2.01
50 lb 212		-1474	103	2300	mg	2.01
50 lb 213	-2444	121	103	2300	mg	2.01
50 lb 214		-1659	103	2300	mg	2.01
50 lb 215	-2974	81	103	2300	mg	2.01
50 lb 216	-2159	411	103	2300	mg	2.01
50 lb 217		-1209	103	2300	mg	2.01
50 lb 218		-734	103	2300	mg	2.01
50 lb 219		-1389	103	2300	mg	2.01
50 lb 400		-974	103	2300	mg	2.01
50 lb 401		-619	103	2300	mg	2.01
50 lb 402		126	103	2300	mg	2.01
50 lb 403	-2614	-74	103	2300	mg	2.01
50 lb 404		-1609	103	2300	mg	2.01
50 lb 405	-2039	-84	103	2300	mg	2.01
50 lb 406	-2119	-89	103	2300	mg	2.01
50 lb 407	-2559	-194	103	2300	mg	2.01
50 lb 408		-279	103	2300	mg	2.01
50 lb 409		-1909	103	2300	mg	2.01
50 lb 410		-29	103	2300	mg	2.01
50 lb 411		-799	103	2300	mg	2.01
50 lb 412		-1204	103	2300	mg	2.01
50 lb 413		-1539	103	2300	mg	2.01
50 lb 414		-414	103	2300	mg	2.01
50 lb 415	-1999	401	103	2300	mg	2.01
50 lb 416	-2034	-14	103	2300	mg	2.01
50 lb 417		-959	103	2300	mg	2.01
50 lb 418		-874	103	2300	mg	2.01
50 lb 419		-744	103	2300	mg	2.01
25 lb 460		-329	47	1100	mg	2.01
25 lb 461	-999	26	47	1100	mg	2.01

MPE: Maximum Permissible Error

In addition to meeting ASTM E617-23 Class 6 MPE, all standard also meet NIST Class F Tolerance requirements.

The following weights were adjusted: 204, 209, 211, 213, 215, 216, 403, 405, 406, 407, 415, 416, 461

Calibration Performed at:
163 Admin Drive
Randolph Center, VT 05061

Additional documentation material available on request.

Scott Dolan/Vermont Agency of Agriculture
Consumer Protection Section/Metrologist
Weights & Measures Specialist

End of Report