

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 24, 2023

Vermont Test Number: VT23-99

Date of Test: March 27, 2023

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

Various/50 lb & 25 lb Cast Field Standards/See Chart/47 - 50 lb, 12 - 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 E617-18 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: 22.2 °C to 22.2 °C

Relative Humidity: 46.2 % to 49.6 %

Barometric Pressure: 722.55 mmHg to 722.85 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		-1792	79	2300	mg	2.01
50 lb 201		-1672	79	2300	mg	2.01
50 lb 202		-1427	79	2300	mg	2.01
50 lb 203		-1737	79	2300	mg	2.01
50 lb 204	-2362	108	79	2300	mg	2.01
50 lb 205		-1082	79	2300	mg	2.01
50 lb 206		-297	79	2300	mg	2.01
50 lb 207		43	79	2300	mg	2.01
50 lb 208		-417	79	2300	mg	2.01
50 lb 209	-2132	-77	79	2300	mg	2.01
50 lb 210		-1382	79	2300	mg	2.01
50 lb 211		-372	79	2300	mg	2.01
50 lb 212	-2512	258	79	2300	mg	2.01
50 lb 213	-2147	-297	79	2300	mg	2.01
50 lb 214		-907	79	2300	mg	2.01
50 lb 215		-512	79	2300	mg	2.01
50 lb 216	-3762	943	79	2300	mg	2.01
50 lb 217		-1897	79	2300	mg	2.01
50 lb 218	-2122	-382	79	2300	mg	2.01
50 lb 219		-1192	79	2300	mg	2.01
50 lb 400	-2367	353	79	2300	mg	2.01
50 lb 401	-2127	268	79	2300	mg	2.01
50 lb 402	-2127	863	79	2300	mg	2.01
50 lb 403		-1317	79	2300	mg	2.01
50 lb 404		128	79	2300	mg	2.01
50 lb 405		-1727	79	2300	mg	2.01
50 lb 406		-1857	79	2300	mg	2.01
50 lb 407		-1377	79	2300	mg	2.01
50 lb 408		-1447	79	2300	mg	2.01
50 lb 409		-1457	79	2300	mg	2.01
50 lb 410		-1702	79	2300	mg	2.01
50 lb 411		-1247	79	2300	mg	2.01
50 lb 412	-2192	48	79	2300	mg	2.01
50 lb 413		-412	79	2300	mg	2.01
50 lb 414		-1287	79	2300	mg	2.01
50 lb 415		-782	79	2300	mg	2.01
50 lb 416		-902	79	2300	mg	2.01
50 lb 417		-662	79	2300	mg	2.01
50 lb 418		-927	79	2300	mg	2.01
50 lb 419	-2037	128	79	2300	mg	2.01
50 lb 420		-1107	79	2300	mg	2.01
50 lb 421		-862	79	2300	mg	2.01
50 lb 422		-1647	79	2300	mg	2.01
50 lb 423		123	79	2300	mg	2.01
50 lb 424		-1462	79	2300	mg	2.01

50 lb 425		-1527	79	2300	mg	2.01
50 lb 426		-1147	79	2300	mg	2.01
25 lb 260		682	41	1100	mg	2.02
25 lb 261		252	41	1100	mg	2.02
25 lb 460		37	41	1100	mg	2.02
25 lb 461		-503	41	1100	mg	2.02
25 lb 462		-268	41	1100	mg	2.02
25 lb 463		232	41	1100	mg	2.02
25 lb 464		-318	41	1100	mg	2.02
25 lb 465		147	41	1100	mg	2.02
25 lb 466		-338	41	1100	mg	2.02
25 lb 467		-93	41	1100	mg	2.02
25 lb 468		-493	41	1100	mg	2.02
25 lb 469		-433	41	1100	mg	2.02

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: 204, 209, 212, 213, 216, 218, 400, 401, 402, 412, 419

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

Additional documentation material available on request.

Scott Dolan Digitally signed by Scott Dolan
 Date: 2023.03.27 14:30:20 -04'00'

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

End of Report