

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: January 26, 2024

Vermont Test Number: VT24-13

Date of Test: January 29, 2024

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

Various/Cast Field Standards/See Chart/40 - 50 lb, 6 - 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: 48.1 % to 50.4 %

Barometric Pressure: 759.00 mmHg to 760.00 mmHg

Mass Comparator: MT XP64003L

Technician: Scott/Stanley



Nominal & Marking	Conventional Mass Correction Before Adjustment	Conventional Mass Correction As Left	Uncertainty	ASTM Class 6 MPE	Units	<i>k</i> Factor
50 lb 100		-1367	78	2300	mg	2.01
50 lb 101		-1122	78	2300	mg	2.01
50 lb 102	-2957	68	78	2300	mg	2.01
50 lb 103		-1807	78	2300	mg	2.01
50 lb 104	-2402	353	78	2300	mg	2.01
50 lb 105	-2212	248	78	2300	mg	2.01
50 lb 106		-1937	78	2300	mg	2.01
50 lb 107		-1197	78	2300	mg	2.01
50 lb 108		-1142	78	2300	mg	2.01
50 lb 109	-3812	173	78	2300	mg	2.01
50 lb 110	-3052	-17	78	2300	mg	2.01
50 lb 111		-1147	78	2300	mg	2.01
50 lb 112	-2442	-127	78	2300	mg	2.01
50 lb 113		-522	78	2300	mg	2.01
50 lb 114		-1567	78	2300	mg	2.01
50 lb 115		-132	78	2300	mg	2.01
50 lb 116		-1017	78	2300	mg	2.01
50 lb 117		-1582	78	2300	mg	2.01
50 lb 118		-432	78	2300	mg	2.01
50 lb 119		-922	78	2300	mg	2.01
50 lb 300		-1302	78	2300	mg	2.01
50 lb 301		-1522	78	2300	mg	2.01
50 lb 302	-2112	48	78	2300	mg	2.01
50 lb 303	-2227	248	78	2300	mg	2.01
50 lb 304		-277	78	2300	mg	2.01
50 lb 305		-1582	78	2300	mg	2.01
50 lb 306		-27	78	2300	mg	2.01
50 lb 307		-622	78	2300	mg	2.01
50 lb 308	-2117	138	78	2300	mg	2.01
50 lb 309		-1262	78	2300	mg	2.01
50 lb 310		-797	78	2300	mg	2.01
50 lb 311	-2492	93	78	2300	mg	2.01
50 lb 312		-1362	78	2300	mg	2.01
50 lb 313		-1062	78	2300	mg	2.01
50 lb 314		-502	78	2300	mg	2.01
50 lb 315		-1227	78	2300	mg	2.01
50 lb 316		-827	78	2300	mg	2.01
50 lb 317		63	78	2300	mg	2.01
50 lb 318	-2282	38	78	2300	mg	2.01
50 lb 319	-2222	58	78	2300	mg	2.01
25 lb 160		-573	41	1100	mg	2.02
25 lb 161	-1158	47	41	1100	mg	2.02
25 lb 260		97	41	1100	mg	2.02
25 lb 261		-233	41	1100	mg	2.02
25 lb 360		-768	41	1100	mg	2.02

25 lb 361	-1588	217	41	1100	mg	2.02
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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: 102, 104, 105, 109, 110, 112, 302, 303, 308, 311, 318, 319, 161, 361

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