

Vermont Weights and Measures Metrology Laboratory
Test Report

Issued To:

Advanced Scale
13 Delta Drive Unit 6
Londonderry, NH 03053-2372
603-626-0242Date of Receipt: January 27, 2023
Vermont Test Number: VT23-23
Date of Test: January 30, 2023
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 E617-18 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: 22.3 °C to 22.5 °C
Relative Humidity: 47.9 % to 48.9 %
Barometric Pressure: 724.95 mmHg to 725.65 mmHg
Mass Comparator: MT XP64003L
Technician: Scott, Sumner, Ryan

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	-2397	88	79	2300	mg	2.01
50 lb 101	-3162	673	79	2300	mg	2.01
50 lb 102		-1562	79	2300	mg	2.01
50 lb 103		-1252	79	2300	mg	2.01
50 lb 104		-1007	79	2300	mg	2.01
50 lb 105		-777	79	2300	mg	2.01
50 lb 106	-2442	53	79	2300	mg	2.01
50 lb 107		408	79	2300	mg	2.01
50 lb 108	-2237	253	79	2300	mg	2.01
50 lb 109		-1947	79	2300	mg	2.01
50 lb 110		-1987	79	2300	mg	2.01
50 lb 111	-3067	273	79	2300	mg	2.01
50 lb 112		-267	79	2300	mg	2.01
50 lb 113	-2412	1218	79	2300	mg	2.01
50 lb 114		-387	79	2300	mg	2.01
50 lb 115		-1982	79	2300	mg	2.01
50 lb 116	-2582	503	79	2300	mg	2.01
50 lb 117		-867	79	2300	mg	2.01
50 lb 118	-2102	398	79	2300	mg	2.01
50 lb 119	-2572	648	79	2300	mg	2.01
50 lb 300	-2707	18	79	2300	mg	2.01
50 lb 301	-3512	18	79	2300	mg	2.01
50 lb 302		-1357	79	2300	mg	2.01
50 lb 303		-992	79	2300	mg	2.01
50 lb 304	-2402	243	79	2300	mg	2.01
50 lb 305		-1237	79	2300	mg	2.01
50 lb 306	-2912	383	79	2300	mg	2.01
50 lb 307		278	79	2300	mg	2.01
50 lb 308		-1432	79	2300	mg	2.01
50 lb 309		-622	79	2300	mg	2.01
50 lb 310		-1227	79	2300	mg	2.01
50 lb 311		-1562	79	2300	mg	2.01
50 lb 312	-2902	-167	79	2300	mg	2.01
50 lb 313	-3477	-182	79	2300	mg	2.01
50 lb 314	-2372	188	79	2300	mg	2.01
50 lb 315		-127	79	2300	mg	2.01
50 lb 316		153	79	2300	mg	2.01
50 lb 317	-2287	233	79	2300	mg	2.01
50 lb 318		-1442	79	2300	mg	2.01
50 lb 319		-972	79	2300	mg	2.01
25 lb 160	-1378	402	41	1100	mg	2.02
25 lb 161		-328	41	1100	mg	2.02
25 lb 260	-1233	577	41	1100	mg	2.02
25 lb 261	-1023	87	41	1100	mg	2.02
25 lb 360	-983	77	41	1100	mg	2.02

25 lb 361	-1578	-328	41	1100	mg	2.02
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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: 100, 101, 106, 108, 111, 113, 116, 118, 119, 160, 260, 261, 300, 301, 304, 306, 312, 313, 314, 317, 360, 361

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

Additional documentation material available on request.

Scott Dolan

Digitally signed by Scott Dolan
Date: 2023.01.30 12:52:43 -05'00'

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

End of Report