

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 21, 2022

Vermont Test Number: VT22-23

Date of Test: January 24, 2022

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: 22.1 °C to 22.2 °C

Relative Humidity: 45.7 % to 48.6 %

Barometric Pressure: 722.15 mmHg to 722.35 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		-1282	80	2300	mg	2.01
50 lb 101		-1692	80	2300	mg	2.01
50 lb 102		-237	80	2300	mg	2.01
50 lb 103		-787	80	2300	mg	2.01
50 lb 104		-292	80	2300	mg	2.01
50 lb 105	-2197	103	80	2300	mg	2.01
50 lb 106		-1287	80	2300	mg	2.01
50 lb 107	-2442	933	80	2300	mg	2.01
50 lb 108		-607	80	2300	mg	2.01
50 lb 109		-347	80	2300	mg	2.01
50 lb 110		-872	80	2300	mg	2.01
50 lb 111		-867	80	2300	mg	2.01
50 lb 112	-2352	1053	80	2300	mg	2.01
50 lb 113		-912	80	2300	mg	2.01
50 lb 114	-2172	753	80	2300	mg	2.01
50 lb 115		-1352	80	2300	mg	2.01
50 lb 116		-947	80	2300	mg	2.01
50 lb 117	-2372	173	80	2300	mg	2.01
50 lb 118		-1297	80	2300	mg	2.01
50 lb 119		-1162	80	2300	mg	2.01
50 lb 300	-3002	-1742	80	2300	mg	2.01
50 lb 301		-1697	80	2300	mg	2.01
50 lb 302	-4132	123	80	2300	mg	2.01
50 lb 303	-2132	508	80	2300	mg	2.01
50 lb 304		-1192	80	2300	mg	2.01
50 lb 305		-467	80	2300	mg	2.01
50 lb 306		-1857	80	2300	mg	2.01
50 lb 307	-2237	778	80	2300	mg	2.01
50 lb 308	-3477	-27	80	2300	mg	2.01
50 lb 309	-5859	888	80	2300	mg	2.01
50 lb 310	-3572	-252	80	2300	mg	2.01
50 lb 311	-3632	-157	80	2300	mg	2.01
50 lb 312		-1377	80	2300	mg	2.01
50 lb 313		-1552	80	2300	mg	2.01
50 lb 314	-2697	-247	80	2300	mg	2.01
50 lb 315	-2500	1553	80	2300	mg	2.01
50 lb 316	-2902	1303	80	2300	mg	2.01
50 lb 317		-1057	80	2300	mg	2.01
50 lb 318	-2647	-622	80	2300	mg	2.01
50 lb 319	-2891	783	80	2300	mg	2.01
25 lb 160	-1513	-28	40	1100	mg	2.02
25 lb 161	-1358	422	40	1100	mg	2.02
25 lb 260		-888	40	1100	mg	2.02
25 lb 261		-653	40	1100	mg	2.02
25 lb 360	-1683	-143	40	1100	mg	2.02

25 lb 361		-713	40	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 requiremnts.

The following weights were adjusted: 105, 107, 112, 114, 117, 300, 302, 303, 307, 308, 309, 310, 311, 314, 315, 316, 318, 319, 160, 161, 360

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

Additional documentation material available on request.

Scott Dolan



Digitally signed by Scott Dolan
Date: 2022.01.24 13:44:50 -05'00'

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

End of Report