

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 19, 2021

Vermont Test Number: VT21-97

Date of Test: March 22, 2021

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

Various/50 lb & 25 lb Cast Field Standards/See Chart/47 - 50 lb, 10 - 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: 21.6 °C to 21.6 °C

Relative Humidity: 45.1 % to 464.0 %

Barometric Pressure: 735.90 mmHg to 736.00 mmHg

Mass Comparator: MT XP64003L

Technician: Scott Dolan, Sumner Kuehne



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		-512	80	2300	mg	2.02
50 lb 201		-1857	80	2300	mg	2.02
50 lb 202		-582	80	2300	mg	2.02
50 lb 203		63	80	2300	mg	2.02
50 lb 204		-1192	80	2300	mg	2.02
50 lb 205		-1462	80	2300	mg	2.02
50 lb 206		-1197	80	2300	mg	2.02
50 lb 207		-1722	80	2300	mg	2.02
50 lb 208		453	80	2300	mg	2.02
50 lb 209	-2082	203	80	2300	mg	2.02
50 lb 210		-1707	80	2300	mg	2.02
50 lb 211		-1317	80	2300	mg	2.02
50 lb 212	-2517	88	80	2300	mg	2.02
50 lb 213		-822	80	2300	mg	2.02
50 lb 214		-377	80	2300	mg	2.02
50 lb 215		-1522	80	2300	mg	2.02
50 lb 216		-1642	80	2300	mg	2.02
50 lb 217		-1147	80	2300	mg	2.02
50 lb 218		-962	80	2300	mg	2.02
50 lb 219		-1772	80	2300	mg	2.02
50 lb 400		-1827	80	2300	mg	2.02
50 lb 401		-1727	80	2300	mg	2.02
50 lb 402		-857	80	2300	mg	2.02
50 lb 403		-1182	80	2300	mg	2.02
50 lb 404		-1757	80	2300	mg	2.02
50 lb 405		-1492	80	2300	mg	2.02
50 lb 406		-1837	80	2300	mg	2.02
50 lb 407		-97	80	2300	mg	2.02
50 lb 408		-1192	80	2300	mg	2.02
50 lb 409		-1227	80	2300	mg	2.02
50 lb 410		-1042	80	2300	mg	2.02
50 lb 411		-272	80	2300	mg	2.02
50 lb 412		-452	80	2300	mg	2.02
50 lb 413		-177	80	2300	mg	2.02
50 lb 414		-1012	80	2300	mg	2.02
50 lb 415		-1882	80	2300	mg	2.02
50 lb 416	-2977	-132	80	2300	mg	2.02
50 lb 417		-682	80	2300	mg	2.02
50 lb 418		-252	80	2300	mg	2.02
50 lb 419		-1372	80	2300	mg	2.02
50 lb 420		-32	80	2300	mg	2.02
50 lb 421		-642	80	2300	mg	2.02
50 lb 422		-907	80	2300	mg	2.02
50 lb 423	-3042	298	80	2300	mg	2.02
50 lb 424		-1032	80	2300	mg	2.02

50 lb 425		-1002	80	2300	mg	2.02
50 lb 426		-747	80	2300	mg	2.02
25 lb 460		417	33	1100	mg	2.02
25 lb 461		-88	33	1100	mg	2.02
25 lb 462		147	33	1100	mg	2.02
25 lb 463		-783	33	1100	mg	2.02
25 lb 464		-683	33	1100	mg	2.02
25 lb 465	-1273	152	33	1100	mg	2.02
25 lb 466		-208	33	1100	mg	2.02
25 lb 467		22	33	1100	mg	2.02
25 lb 468		67	33	1100	mg	2.02
25 lb 469		-283	33	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: 209, 212, 416, 423, 465

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

Additional documentation material available on request.

Scott Dolan

Digitally signed by Scott Dolan
Date: 2021.03.22 13:55:46 -04'00'

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

End of Report