

Vermont Weights and Measures Metrology Laboratory
Test Report

Issued To:

Advanced Scale
13 Delta Drive Unit #6
Londonderry, NH 03053-2372
603-626-0242

Vermont Test Number: VT18-24

Date of Test: January 31, 2018

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

Various/Cast Iron Field Standards/See Chart/40 - 50 lb, 6 - 25 lb, 2 - 20 kg, 3 - 10 kg

The mass standards described above have been compared to the standards of the State of Vermont, by NISTIR 6969, SOP 8 (2016), and have been found at time of test, or been adjusted, to meet the requirements stated in NIST Handbook 105-1 Specifications and Tolerances for Reference Standards and Field Standard Weights and Measures (1990) (Class F). 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 received in an out of tolerance condition 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: 21.2 °C

Relative Humidity: 48.1 %

Mass Comparator: MT XP64003L



Weight	Nominal	Before Adjustment	Correction	Uncertainty	NIST Class F Tolerance	Units	k Factor
100	50 lb		-979	87	2300	mg	2.03
101	50 lb	-3369	26	87	2300	mg	2.03
102	50 lb		-1734	87	2300	mg	2.03
103	50 lb		-1399	87	2300	mg	2.03
104	50 lb	-2594	831	87	2300	mg	2.03
105	50 lb		-1669	87	2300	mg	2.03
106	50 lb	-4234	496	87	2300	mg	2.03
107	50 lb	-2289	51	87	2300	mg	2.03
108	50 lb	-3090	311	87	2300	mg	2.03
109	50 lb	-2379	100	87	2300	mg	2.03
110	50 lb		-1749	87	2300	mg	2.03
111	50 lb		-909	87	2300	mg	2.03
112	50 lb	-2114	171	87	2300	mg	2.03
113	50 lb	-2509	101	87	2300	mg	2.03
114	50 lb	-4194	391	87	2300	mg	2.03
115	50 lb		-1104	87	2300	mg	2.03
116	50 lb		-424	87	2300	mg	2.03
117	50 lb	-3354	61	87	2300	mg	2.03
118	50 lb	-2334	-14	87	2300	mg	2.03
119	50 lb		-1421	87	2300	mg	2.03
300	50 lb	-2699	466	87	2300	mg	2.03
301	50 lb	-3809	866	87	2300	mg	2.03
302	50 lb	-5194	721	87	2300	mg	2.03
303	50 lb	-3869	76	87	2300	mg	2.03
304	50 lb		-1439	87	2300	mg	2.03
305	50 lb	-2269	486	87	2300	mg	2.03
306	50 lb		-1824	87	2300	mg	2.03
307	50 lb		-1089	87	2300	mg	2.03
308	50 lb	-2694	66	87	2300	mg	2.03
309	50 lb	-2399	486	87	2300	mg	2.03
310	50 lb		-989	87	2300	mg	2.03
311	50 lb	-3564	366	87	2300	mg	2.03
312	50 lb	-2399	-34	87	2300	mg	2.03
313	50 lb	-4874	-199	87	2300	mg	2.03
314	50 lb	-3219	241	87	2300	mg	2.03
315	50 lb		576	87	2300	mg	2.03
316	50 lb		1006	87	2300	mg	2.03
317	50 lb	-3224	1076	87	2300	mg	2.03
318	50 lb	-2814	471	87	2300	mg	2.03
319	50 lb		-994	87	2300	mg	2.03
160	25 lb	-1624	122	66	1100	mg	2.04
161	25 lb		-709	66	1100	mg	2.04
260	25 lb	-999	367	66	1100	mg	2.04
261	25 lb	-1019	407	66	1100	mg	2.04
360	25 lb	-1214	427	66	1100	mg	2.04
361	25 lb	-1839	577	66	1100	mg	2.04
431	20 kg	-2212	293	82	2000	mg	2.04
432	20 kg		-1407	82	2000	mg	2.04

