VERMONT

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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 24, 2020
Vermont Test Number: VT20-28
Date of Test: January 27, 2020
Report of Test for Item (Make/Model/Serial Number(s)/#Pieces):

N/A/2 kg to 1 g Stainless Steel Class F Weight Kit/VT05-181/21 Pieces

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 tolerances stated in NIST Handbook 105-1 (1990) Specifications and Tolerances for Reference Standards and Field Standard Weights and Measures. 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 in tolerance when the absolute value of the conventional mass correction plus the uncertainty is less than or equal to the specified tolerance. 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: 21.5 ºC to 22.3 ºC
Relative Humidity: 47.3 % to 48.8 %
Barometric Pressure: 713.60 mmHg to 713.80 mmHg
Mass Comparator: MT XP5003S, MT XP205, MT XP2U
Technician: Scott Dolan, Mike Larose, Sumner Kuehne

Nominal & Marking	Before Adjustment	Conventional Mass Correction	Uncertainty	NIST Class F Tolerance	Units	*k* Factor
2 kg		7.3	5.2	200	mg	2.02
2 kg *		-14.7	5.2	200	mg	2.02
2 kg **		16.3	5.2	200	mg	2.02
2 kg ***		18.3	5.2	200	mg	2.02
2 kg ****		-15.7	5.2	200	mg	2.02
500 g		7.2	2.1	70	mg	2.02
500 g *		11.2	2.1	70	mg	2.02
500 g **		-0.8	2.1	70	mg	2.02
500 g ***		30.2	2.1	70	mg	2.02
500 g ****		15.2	2.1	70	mg	2.02
200 g		-3.1	1.8	40	mg	2.03
200 g *		8.9	1.8	40	mg	2.03
100 g		5.69	0.48	20	mg	2.03
50 g		3.37	0.25	10	mg	2.03
20 g		2.18	0.10	4.0	mg	2.03
20 g *		2.05	0.10	4.0	mg	2.03
10 g		0.962	0.053	2.0	mg	2.03
5 g		0.933	0.042	1.5	mg	2.03
2 g		0.344	0.027	1.1	mg	2.04
2 g *		0.602	0.027	1.1	mg	2.04
1 g		0.521	0.025	0.9	mg	2.01

The following weights were adjusted: None

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

Additional documentation material available on request.

Scott Dolan

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Scott Dolan/Vermont Agency of Agriculture
Consumer Protection Section/Metrologist
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End of Report