VERMONT

Food Safety & Consumer Protection Div [phone] 802-828-2426 *Agency of Agriculture Food & Markets*
Consumer Protection Section [fax] 802-828-5983
116 State Street
Montpelier, VT 05620
agriculture.vermont.gov

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 27, 2023
Vermont Test Number: VT23-30
Date of Test: January 30, 2023
Report of Test for Item (Make/Model/Serial Number(s)/#Pieces):

N/A/2 kg to 1 g Stainless Steel Weight Kit/VT05-381/21 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 maxium 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: 21.5 ºC to 21.9 ºC
Relative Humidity: 50.9 % to 54.7 %
Barometric Pressure: 765.00 mmHg to 766.00 mmHg
Mass Comparator: MT XP5003S, MT XP205, MT XP2U
Technician: Scott, Sumner, Ryan

Nominal & Marking	Conventional Mass Correction Before Adjustment	Conventional Mass Correction As Left	Uncertainty	ASTM Class 5 MPE	Units	*k* Factor
2 kg		5.3	5.3	100	mg	2.01
2 kg *		-16.7	5.3	100	mg	2.01
2 kg **		13.3	5.3	100	mg	2.01
2 kg ***		17.3	5.3	100	mg	2.01
2 kg ****		-19.7	5.3	100	mg	2.01
500 g		-10.8	2.3	30	mg	2.02
500 g *		10.2	2.3	30	mg	2.02
500 g **		-7.8	2.3	30	mg	2.02
500 g ***		8.2	2.3	30	mg	2.02
500 g ****		-1.8	2.3	30	mg	2.02
200 g		-1.1	1.8	15	mg	2.02
200 g *		5.9	1.8	15	mg	2.02
100 g		-1.61	0.48	9	mg	2.02
50 g		2.14	0.24	6	mg	2.02
20 g		-0.56	0.10	3.0	mg	2.02
20 g *		-1.02	0.10	3.0	mg	2.02
10 g		-0.678	0.050	2.0	mg	2.02
5 g		0.833	0.039	1.3	mg	2.02
2 g		0.422	0.027	0.8	mg	2.03
2 g *		0.470	0.027	0.8	mg	2.03
1 g		0.328	0.024	0.5	mg	2.04

MPE: Maximum Permissible Error

In addition to meeting ASTM E617-18 Class 5 MPE, all standard also meet NIST Class F Tolerance requiremnts.

The following weights were adjusted: None

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 12:55:21 -05'00'

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

End of Report