

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: VT18-21

Date of Test: January 29, 2018

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

NA/Stainless Steel Metric 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 (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: 53.6 %

Mass Comparator: MT XP5003S, MT XP205



Weight	Nominal	Before Adjustment	Correction	Uncertainty	NIST Class F Tolerance	Units	k Factor
2000 g	2 kg		9.9	5.5	200	mg	2.04
2000 g *	2 kg		-11.1	5.5	200	mg	2.04
2000 g **	2 kg		18.9	5.5	200	mg	2.04
2000 g ***	2 kg		21.9	5.5	200	mg	2.04
2000 g ****	2 kg		-12.1	5.5	200	mg	2.04
500 g	500 g		8.0	3.4	70	mg	2.04
500 g *	500 g		12.0	3.4	70	mg	2.04
500 g **	500 g		0.0	3.4	70	mg	2.04
500 g ***	500 g		32.0	3.4	70	mg	2.04
500 g ****	500 g		16.0	3.4	70	mg	2.04
200 g	200 g		-4.2	2.7	40	mg	2.04
200 g *	200 g		9.8	2.7	40	mg	2.04
100 g	100 g		5.80	0.49	20	mg	2.05
50 g	50 g		3.60	0.27	10	mg	2.05
20 g	20 g		2.21	0.11	4.0	mg	2.05
20 g *	20 g		2.12	0.11	4.0	mg	2.05
10 g	10 g		1.008	0.074	2.0	mg	2.05
5 g	5 g		0.983	0.067	1.5	mg	2.05
2 g	2 g		0.335	0.062	1.1	mg	2.05
2 g *	2 g		0.585	0.062	1.1	mg	2.05
1 g	1 g		0.525	0.088	0.9	mg	2.05

Additional documentation material available on request.  
The following weights were adjusted:                   None

**Scott Dolan** Digitally signed by Scott Dolan  
DN: cn=Scott Dolan, o=State of Vermont Agency of  
Agriculture Food & Markets, ou=Consumer Protection  
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Date: 2018.01.29 14:17:04 -05'00'

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