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DIVISION OF QUALITY ASSURANCE AND REGULATIONS
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DIRECTOR

REPORT OF CALIBRATION
MAINE TEST NUMBER 8397ME

Metric Weight Kit: 5 kg to 1 mg

SN: 48545

Date of Report: January 5, 2026

SUBMITTED BY:

Maine Scale Company
4 Washington St. North
Auburn, ME 04210

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 8 (Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019), and were found to be or adjusted to within ASTM E617-23 Class 5 tolerances. Weights received in good condition.

Standards of the State of Maine are traceable to the International System of Units (S.I.) through Oregon State test number OR-24-022-C. The Maine Laboratory is recognized by NIST, OWM, under the "Laboratory Metrology Program", at Mass Echelon III for 2026. Measurements by this laboratory are traceable to the National Standards at NIST.

The mass standards described above were found to have mass values at the time of test as indicated in the tabulation on the following page. Weights received in an out of tolerance condition will show a bold value in a "before adjustment" column if required.

The uncertainties shown with reported values are calculated on the conventional mass values and expressed as the sum of the following sources of inaccuracy; (1) Type B, systematic errors relative to the reference standard and procedure used, including bias, and (2) Type A, random errors 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 2.0 ($k=2.0$) representing a 95% confidence level. All mass values have been determined as "conventional mass" with respect to stainless steel with a density of 8.0 g/cm^3 at $20 \text{ }^\circ\text{C}$. The summation value of the measurement uncertainty and measurement result is used when comparing results to specified tolerances and issuing statements of compliance.

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[https://stateofmaine-my.sharepoint.com/personal/bradford_bachelor_d_maine_gov/Documents/OldHomeDirectory/Metrology/Lab/CALIBRATIONS/Calibration 2025/Mass III Metric/Maine Scale_48545_8397ME.doc](https://stateofmaine-my.sharepoint.com/personal/bradford_bachelor_d_maine_gov/Documents/OldHomeDirectory/Metrology/Lab/CALIBRATIONS/Calibration%2025/Mass%20III%20Metric/Maine%20Scale_48545_8397ME.doc)

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Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.
 Environmental conditions at time of test:

Nominal & Marking	Correction mg	ASTM E617-23 Class 5 Tolerance mg	Uncertainty mg	Before Adjustment
5 kg	106	250	31	---
2 kg	29	100	13	---
2 kg *	35	100	13	---
1 kg	18.8	50	7.0	---
500 g	17.9	35	5.5	---
200 g *	6.6	20	4.3	---
200 g **	5.7	20	4.3	---
100 g	1.0	10	1.2	---
50 g	2.47	10	0.60	---
20 g	0.77	2.0	0.26	---
20 g *	0.60	2.0	0.26	---
10 g	0.47	1.0	0.13	---
5 g	0.15	0.75	0.11	---
2 g	0.283	0.56	0.087	---
2 g *	0.363	0.56	0.087	---
1 g	0.102	0.45	0.063	---
500 mg	0.090	0.36	0.054	---
200 mg	0.056	0.27	0.046	---
200 mg *	0.006	0.27	0.046	---
100 mg	0.249	0.22	0.037	---
50 mg	0.154	0.17	0.034	---
20 mg	0.096	0.13	0.031	---
20 mg *	0.014	0.13	0.031	---
10 mg	0.088	0.10	0.015	---
5 mg	0.015	0.083	0.013	---
2 mg	0.040	0.062	0.010	---
2 mg *	0.049	0.062	0.010	---
1 mg	0.0317	0.050	0.0096	---

Temperature: 18.5 °C
 Relative Humidity: 40.3 %
 Barometric Pressure: 748.52 mmHg.
 Data reduction sheets are on file at the laboratory.



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Magnetism, Density, & Surface Finish: The calibration performed did not include testing to determine whether the test items met the maximum susceptibility requirements for magnetism, limits for density, or maximum values for surface finish. Where applicable, our laboratory uses an assumed density which is provided by the client or weight manufacturer. It is the responsibility of the requestor of the calibration to select classifications acceptable to their needs.

Date Received: December 23, 2025
Date of Test: January 2, 2026
Calibration Due: January 31, 2028
Calibration by: Bradford Bachelder



Bradford Bachelder, Metrologist

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