



**STATE OF MAINE**  
**DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY**  
**DIVISION OF QUALITY ASSURANCE AND REGULATIONS**  
**28 STATE HOUSE STATION**  
**AUGUSTA, MAINE 04333-0028**

JANET T. MILLS  
GOVERNOR

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Commissioner

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Director

REPORT OF CALIBRATION  
**MAINE TEST NUMBER 7956ME**  
 20 kg stainless grip weight SN: 5IEM  
 10 kg stainless grip weight SN: 5IEF  
 ASTM Class 4 tolerances  
 Date of Report: October 13, 2022

SUBMITTED BY  
 Advanced Scale, Inc.  
 13 Delta Dr, Unit 6  
 Londonderry, NH 03053

The mass standards described above have been compared with standards of the State of Maine by NIST SOP 4: Weighing by Double Substitution (May 2019) and found to have mass values, at time of test, as indicated in the following tabulation. The mass standards are assumed to be stainless steel with a density of 7.84 g/cm<sup>3</sup> at 20 °C for air buoyancy correction. Measurements conducted by this laboratory are traceable to the International System of Units (S.I.). Weights were received in good condition.

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, including bias, and procedure used, 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 k (k=2.18) representing approximately a 95% confidence level. Magnetism screening was not conducted and is not represented in the uncertainty budget. All mass values have been determined as “conventional mass” with respect to stainless steel with a density of 8.0g/cm<sup>3</sup> at 20 °C. The combined measurement uncertainty and result have been taken in to account when issuing statements of compliance. Weights found in an out of tolerance condition will have conventional mass correction values in bold.

Nominal	True Mass g	True Mass correction, mg	Conventional Mass, g	Conventional Mass correction, mg	Uncertainty mg	ASTM E617 Class 4 Tolerance, mg
20000 g	20000.084	84	20000.023	23	10	400
10000 g	10000.0577	57.7	10000.0271	27.1	5.3	200



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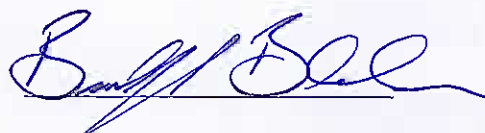
Data reduction sheets are on file at the laboratory. Values reported are "as found", no adjustments have been made. Calibrations performed by this laboratory comply with the requirements of ISO/IEC 17025:2017.

**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.

Standards of the State of Maine are traceable to the National Institute of Standards and Technology through State of Oregon Department of Agriculture State Test No: OR-18-257-C. The Maine Metrology Laboratory is recognized at mass accuracy Echelon II by NIST, OWM under the "Laboratory Metrology Program" for 2022.

Laboratory environmental range:  
Temperature: 19.75 °C to 20.46 °C  
Relative humidity: 40.89 % to 44.47 %  
Barometric pressure: 758.08 mmHg

Date Received: October 5, 2022  
Date of test: October 13, 2022  
Calibration due: October 31, 2023



Bradford Bachelder, Metrologist

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