



State of Wisconsin  
Governor Tony Evers

Department of Agriculture, Trade and Consumer Protection  
Secretary Randy Romanski  
Wisconsin Weights and Measures Laboratory

16

**Calibration Certificate**  
*for calibration work performed for:*  
**HAWKEYE STATE SCALE, INC.**

1357 HWY 965 NW  
SWISHER, IA 52338  
(319) 364-4173

Date Received: January 04, 2024  
Date of Calibration: January 04, 2024  
Date Issued: January 09, 2024  
Date Due:

State Test No.: W24-006

**Uncertainty Statement**

For the mass standards used in this calibration, some uncertainty components were assessed through a Type A evaluation, the method for assessing uncertainty by a statistical analysis of measured quantity values obtained under defined measurement conditions. In addition, other components were assessed from a Type B evaluation of standard uncertainty, based on scientific judgement using all of the relevant information available. The combined standard uncertainty was multiplied by a statistically determined coverage factor to provide an expanded uncertainty. The expanded uncertainty defines an interval having a level of confidence of approximately 95 percent, assuming normal distribution. The expanded uncertainty presented in this report is consistent with the ISO/IEC Guide to the Expression of Uncertainty in Measurement using the Root Sum Squares method (JCGM 100:2008).

**Traceability Statement**

The standards used by the Wisconsin State laboratory demonstrate an unbroken traceable chain to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The laboratory maintains documented calibration intervals and uses documented procedures, all under the performance of trained personnel who demonstrate suitable measurement assurance for the information listed in this calibration certificate. The laboratory test number identified above is the unique test number to be used in referencing measurement traceability for the artifacts identified in this certificate. The State Standards are traceable to the SI unit for mass, the kilogram.

**Conformity Statement**

These results relate only to the items calibrated in this certificate. Field standards and weight carts are calibrated based on guidance described in NIST Handbook 105-1 (2019) and NIST Handbook 105-8 (2019), respectively, using NISTIR 6969: Selected Laboratory Measurement Practices and Procedures to Support Basic Mass Calibrations (2019). Field standards calibrated to NIST Class F, ASTM 5, and ASTM 6 tolerances are usable for testing class III, III L, and IIII weighing devices, following NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices. Field standards calibrated to NIST Class F, ASTM 5, or ASTM 6 tolerances are not suitable for testing class I and class II weighing devices, which must be tested with field standards of higher precision than NIST Class F, ASTM 5, or ASTM 6. Weights calibrated to ASTM 7 tolerances by this laboratory cannot be used for testing commercial weighing devices. Field standards calibrated to ASTM Standard Specification E617-23 are not checked for density [Stainless steel weights are assumed 8.0 grams per cubic centimeter], or for magnetism.

**Decision Rule**

All calibrated weights and weight carts that are determined to have a mass correction such that:  $|\text{Correction}| > (\text{Tolerance} - \text{Uncertainty})$  are considered to have failed to meet the applicable tolerance. It is the decision rule of the Wisconsin State laboratory that all calibrated weights and weight carts that are determined to have a mass correction such that:  $|\text{Correction}| > (0.95 * \text{Tolerance} - \text{Uncertainty})$  will be adjusted to be closer to zero mass correction, even if the mass correction of the weights and weight carts originally met the applicable tolerance. Customers may request exceptions to this decision rule.

The following standard(s) were used: Metric Weight Set WS-2

*This report may not be reproduced, except in full, without the written approval of the Lead Metrologist or Laboratory Director.*

*Paul Masterson*

Paul Masterson, Lead Metrologist

Page 1 of 2

*Justin Lien*

Justin Lien, Laboratory Director

3601 Gallcon Run • Madison, WI 53718 • (608) 224-4910





State of Wisconsin  
Governor Tony Evers

Department of Agriculture, Trade and Consumer Protection  
Secretary Randy Romanski  
Wisconsin Weights and Measures Laboratory

## Calibration Certificate

Date Received: January 04, 2024  
Date of Calibration: January 04, 2024  
Date Issued: January 09, 2024

State Test No.: W24-006  
Item(s) Submitted: Weight Kit  
Manufacturer: Rice Lake  
Condition: Good, Acceptable for Calibration  
Tolerance Class: NIST HB 105-1 (1990), Class F  
Kit Serial #: HSS 4 g  
Balance ID#: 3,6,7  
Procedure Used: NISTIR 6969 (2019), SOP 8  
Temperature: 21.5 °C  
Relative Humidity: 47.8 %  
Pressure: 745.8 mmHg

Customer: HAWKEYE STATE SCALE, INC.  
Address: 1357 HWY 965 NW  
SWISHER, IA 52338  
Contact: ZACH KNORR  
Phone: (319) 364-4173  
PO Number: 10309

| Nominal Mass | Mass Unit | Serial No. | Conventional Mass Correction (mg) |         | NIST HB 105-1 (1990), Class F |         | Uncertainty (mg) | Coverage Factor (k) |
|--------------|-----------|------------|-----------------------------------|---------|-------------------------------|---------|------------------|---------------------|
|              |           |            | As Found                          | As Left | As Found                      | As Left |                  |                     |
| 5            | kg        |            | 143                               | 143     | Pass                          | Pass    | 59               | 2.01                |
| 2            | kg        |            | 48                                | 48      | Pass                          | Pass    | 24               | 2.01                |
| 2            | kg        | *          | 38                                | 38      | Pass                          | Pass    | 24               | 2.01                |
| 1            | kg        |            | 33                                | 33      | Pass                          | Pass    | 12               | 2.01                |
| 500          | g         |            | 24.5                              | 24.5    | Pass                          | Pass    | 8.4              | 2.01                |
| 200          | g         |            | 7.8                               | 7.8     | Pass                          | Pass    | 4.7              | 2.02                |
| 200          | g         | *          | 12.6                              | 12.6    | Pass                          | Pass    | 4.7              | 2.02                |
| 100          | g         |            | 6.2                               | 6.2     | Pass                          | Pass    | 2.4              | 2.02                |
| 50           | g         |            | 4.8                               | 4.8     | Pass                          | Pass    | 1.2              | 2.02                |
| 20           | g         |            | 0.67                              | 0.67    | Pass                          | Pass    | 0.48             | 2.02                |
| 20           | g         | *          | 1.7                               | 1.7     | Pass                          | Pass    | 0.48             | 2.02                |
| 10           | g         |            | 0.2                               | 0.2     | Pass                          | Pass    | 0.24             | 2.02                |
| 5            | g         |            | 0.54                              | 0.54    | Pass                          | Pass    | 0.18             | 2.02                |
| 2            | g         |            | 0.2                               | 0.2     | Pass                          | Pass    | 0.13             | 2.02                |
| 2            | g         | *          | 0.22                              | 0.22    | Pass                          | Pass    | 0.13             | 2.02                |
| 1            | g         |            | 0.21                              | 0.21    | Pass                          | Pass    | 0.11             | 2.02                |
| 500          | mg        |            | 0.247                             | 0.247   | Pass                          | Pass    | 0.086            | 2.03                |
| 200          | mg        |            | 0.196                             | 0.196   | Pass                          | Pass    | 0.065            | 2.04                |
| 200          | mg        | *          | 0.207                             | 0.207   | Pass                          | Pass    | 0.065            | 2.04                |
| 100          | mg        |            | 0.08                              | 0.08    | Pass                          | Pass    | 0.052            | 2.04                |
| 20           | mg        |            | 0.111                             | 0.111   | Pass                          | Pass    | 0.031            | 2.04                |
| 10           | mg        |            | 0.082                             | 0.082   | Pass                          | Pass    | 0.025            | 2.04                |

The following standard(s) were used: Metric Weight Set WS-2

This report may not be reproduced, except in full, without the written approval of the Lead Metrologist or Laboratory Director.

*Paul Masterson*

Paul Masterson, Lead Metrologist

*Justin Lien*

Justin Lien, Laboratory Director