State of Wisconsin
Governor Tony Evers

Department of Agriculture, Trade and Consumer Protection
Secretary Randy Romanski

Wisconsin Weights and Measures Laboratory

Calibration Certificate

for calibration work performed for:

HAWKEYE STATE SCALE, INC.

1357 HWY 965 NW
SWISHER, IA 52338
(563) 554-1406

Date Received:	January 10, 2025	State Test No.:	W25-007
Date of Calibration:	January 10, 2025		
Date Issued:	January 15, 2025		

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: |Correction| > (Tolerance - 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: |Correction| > (0.95*Tolerance - 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: 50 lb: W50LB, 20 lb: W20

Paul Masterson

Paul Masterson, Lead Metrologist

Justin Lien, Laboratory Director

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State Test No.: W25-007
Item(s) Submitted: Cast Weight
Manufacturer: Various
Condition: Good, Acceptable for Calibration
Tolerance Class: NIST HB 105-1 (1990), Class F

Customer: HAWKEYE STATE SCALE, INC.
Address: 1357 HWY 965 NW
SWISHER, IA 52338
Contact: ANTHONY KRUSE
Phone: (563) 554-1406

Balance ID#: 8
Procedure Used: NISTIR 6969 (2019), SOP 8
Temperature: 20.1 °C
Relative Humidity: 47.2 %
Pressure: 734.9 mmHg

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		
50	lb	5-23	-2,820	120	*Fail*	Pass	280	2.00
50	lb	5-26	-1,210	-1,210	Pass	Pass	280	2.00
50	lb	5-38	-4,430	50	*Fail*	Pass	280	2.00
50	lb	5-36	-6,100	50	*Fail*	Pass	280	2.00
50	lb	5-35	-10,170	90	*Fail*	Pass	280	2.00
50	lb	5-40	-5,160	100	*Fail*	Pass	280	2.00
50	lb	5-29	-4,960	80	*Fail*	Pass	280	2.00
50	lb	5-30	-10,060	140	*Fail*	Pass	280	2.00
50	lb	5-25	-4,730	30	*Fail*	Pass	280	2.00
50	lb	5-22	-8,820	150	*Fail*	Pass	280	2.00
50	lb	5-39	-6,190	30	*Fail*	Pass	280	2.00
50	lb	5-31	-7,330	70	*Fail*	Pass	280	2.00
50	lb	5-24	-4,410	70	*Fail*	Pass	280	2.00
50	lb	5-28	-7,860	60	*Fail*	Pass	280	2.00
50	lb	5-33	-6,410	70	*Fail*	Pass	280	2.00
50	lb	5-21	-12,110	50	*Fail*	Pass	280	2.00
50	lb	5-27	-4,290	50	*Fail*	Pass	280	2.00
50	lb	5-32	-6,250	110	*Fail*	Pass	280	2.00
50	lb	5-37	-2,890	90	*Fail*	Pass	280	2.00
50	lb	5-34	13,690	70	*Fail*	Pass	280	2.00
20	lb	5-41	-460	-460	Pass	Pass	110	2.03

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