



State of Wisconsin  
Governor Tony Evers

## Department of Agriculture, Trade and Consumer Protection

Wisconsin Weights and Measures Laboratory

### *Calibration Certificate*

*for calibration work performed for:*

**FOX VALLEY INDUSTRIAL SCALE, INC.**

109 FORD DR STE D  
NEW LENOX, IL 60451-3669  
(815) 463-1209

Date Received:	November 30, 2021	State Test No.:	W21-345
Date of Calibration:	November 30, 2021		
Date Issued:	December 01, 2021		
Date Due:	November 30, 2023		

#### **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 E617-18 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: Avoirdupois Weight Set WS-1

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*Paul Masterson*

Paul Masterson, Lead Metrologist

*Justin Lien*

Justin Lien, Laboratory Director



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State Test No.: W21-345  
Item(s) Submitted: Weight Kit  
Manufacturer: Rice Lake  
Condition: Good, Acceptable for Calibration  
Tolerance Class: NIST HB 105-1 (1990), Class F  
Kit Serial #: S908  
Balance ID#: 6&7  
Procedure Used: NISTIR 6969 (2019), SOP 8  
Temperature: 21.9 °C  
Relative Humidity: 49.6 %  
Pressure: 738.9 mmHg

Customer: FOX VALLEY INDUSTRIAL SCALE, INC.  
Address: 109 FORD DR STE D  
NEW LENOX, IL 60451-3669  
Contact: WENDY ECKBERG  
Phone: (815) 463-1209  
PO Number: WK053

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	lb		11	11	Pass	Pass	27	2.01
5	lb	*	23	23	Pass	Pass	27	2.01
5	lb	**	28	28	Pass	Pass	27	2.01
5	lb	***	6	6	Pass	Pass	27	2.01
5	lb	****	35	35	Pass	Pass	27	2.01
1	lb		4.3	4.3	Pass	Pass	8.3	2.01
1	lb	*	1.3	1.3	Pass	Pass	8.3	2.01
1	lb	**	1.3	1.3	Pass	Pass	8.3	2.01
1	lb	***	6.3	6.3	Pass	Pass	8.3	2.01
1	lb	****	-0.7	-0.7	Pass	Pass	8.3	2.01
0.5	lb		-0.8	-0.8	Pass	Pass	5.4	2.01
0.2	lb		14	14	Pass	Pass	2.2	2.04
0.2	lb	*	9.5	9.5	Pass	Pass	2.2	2.04
0.1	lb		7.3	7.3	Pass	Pass	1.1	2.04
0.05	lb		3.55	3.55	Pass	Pass	0.54	2.04
0.02	lb		1.58	1.07	Fail	Pass	0.22	2.04
0.02	lb	*	1.22	1.22	Pass	Pass	0.22	2.04
0.01	lb		0.23	0.23	Pass	Pass	0.18	2.04
0.005	lb		0.67	0.67	Pass	Pass	0.15	2.04
0.002	lb		0.5	0.5	Pass	Pass	0.11	2.04
0.002	lb	*	0.46	0.46	Pass	Pass	0.11	2.04
0.001	lb	1	0.137	0.137	Pass	Pass	0.094	2.04
0.001	lb	2	-0.133	-0.133	Pass	Pass	0.094	2.04
0.001	lb	3	0.137	0.137	Pass	Pass	0.094	2.04
0.001	lb	4	0.357	0.357	Pass	Pass	0.094	2.04
0.001	lb	5	-0.023	-0.023	Pass	Pass	0.094	2.04
0.001	lb	6	0.197	0.197	Pass	Pass	0.094	2.04
0.001	lb	7	0.447	0.447	Pass	Pass	0.094	2.04

The following standard(s) were used: Avoirdupois Weight Set WS-1

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			As Found	As Left	As Found	As Left		
0.001	lb	8	0.417	0.417	Pass	Pass	0.094	2.04
0.001	lb	9	0.287	0.287	Pass	Pass	0.094	2.04
0.001	lb	10	0.207	0.207	Pass	Pass	0.094	2.04
0.001	lb	11	0.317	0.317	Pass	Pass	0.094	2.04

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