



State of Wisconsin
Governor Scott Walker

Department of Agriculture, Trade and Consumer Protection
Sheila E. Harsdorf, Secretary

Wisconsin Weights and Measures Laboratory

Calibration Certificate
Statement of
Uncertainty, Traceability, Limitations, and Conditions
for calibration work performed for:

HAWKEYE STATE SCALE, INC

5040 BLAIRS FOREST WAY, SUITE F
CEDAR RAPIDS
IA
52402
(319)-364-4173

Date Received: 12/8/2017
Date of Test: 12/8/2017
Date Due:

State Test No.: W17-376

Uncertainty Statement

For the weights used in this calibration, some components can be 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 uncertainties multiplied by those coverage factors specified in our standard calibration records, to provide an expanded uncertainty. This uncertainty defined an interval having a level of confidence of approximately 95 per cent, 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 method Root Sum Squares (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 report. The laboratory test number identified above is the unique report number to be used in referencing measurement traceability for the artifacts identified in this report. The State Standards are traceable to the SI unit for mass, the kilogram.

Limitations and Conditions Statement

These results relate only to the items calibrated in this report. Weights and weight carts are calibrated to NIST Handbook 105-1 (1990) and NIST Handbook 105-8 (2003), respectively, using NISTIR 6969: Selected Laboratory Measurement Practices and Procedures to Support Basic Mass Calibrations (2014). Class F tolerances are usable for testing commercial weighing devices in Wisconsin, following NIST Handbook 44, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices. Weights calibrated to ASTM tolerance 7 by this laboratory cannot be used for testing commercial weighing devices in Wisconsin, by definition (See NIST Handbook 105-1, Specification 1). Weight calibrated by ASTM Standard Specification E617-13 are not checked for density [Stainless steel weights are assumed 8.0 g/cm³], or for magnetism.

The following standard(s) were used: 50 lb: W50LB

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Paul Masterson, Chief Metrologist

Justin Lien, Laboratory Director



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Calibration Certificate

Date Received: December 08, 2017
Date of Test: December 08, 2017

State Test No.: W17-376
Item(s) Submitted: Cast Weight
Manufacturer: Various
Condition: Good
Tolerance Class: NIST HB 105-1 (1990), Class F
Kit Serial #:
Balance ID#: 8
Procedure Used: NISTIR 6969 (2014), SOP 8
Temperature: 22.1 °C
Relative Humidity: 44.4 %
Pressure: 734.7 mmHg

Customer: HAWKEYE STATE SCALE, INC
Address: 5040 BLAIRS FOREST WAY, SUITE F
CEDAR RAPIDS, IA 52402
Contact: NATE SYTSMA
Phone: (319)-364-4173
PO Number: 2013

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	5-22	-395	-395	Pass	Pass	280	2.00
50	lb	5-35	-4,965	125	Fail	Pass	280	2.00
50	lb	5-38	-4,305	105	Fail	Pass	280	2.00
50	lb	5-30	-1,355	-1,355	Pass	Pass	280	2.00
50	lb	5-21	275	275	Pass	Pass	280	2.00
50	lb	5-34	-2,295	95	Fail	Pass	280	2.00
50	lb	5-40	315	315	Pass	Pass	280	2.00
50	lb	5-28	-2,275	-105	Fail	Pass	280	2.00
50	lb	5-23	795	795	Pass	Pass	280	2.00
50	lb	5-24	1,035	1,035	Pass	Pass	280	2.00
50	lb	5-25	845	845	Pass	Pass	280	2.00
50	lb	5-26	1,005	1,005	Pass	Pass	280	2.00
50	lb	5-27	805	805	Pass	Pass	280	2.00
50	lb	5-29	865	865	Pass	Pass	280	2.00
50	lb	5-31	715	715	Pass	Pass	280	2.00
50	lb	5-32	945	945	Pass	Pass	280	2.00
50	lb	5-33	835	835	Pass	Pass	280	2.00
50	lb	5-36	845	845	Pass	Pass	280	2.00
50	lb	5-37	1,085	1,085	Pass	Pass	280	2.00
50	lb	5-39	935	935	Pass	Pass	280	2.00

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Paul Masterson, Chief Metrologist

Justin Lien, Laboratory Director