Ohio | Department of Agriculture

Division of Weights & Measures
8995 East Main Street, Reynoldsburg, OH 43068
Phone: 614-728-6290 • Fax: 614-728-6424
www.agri.ohio.gov • weights@agri.ohio.gov

CALIBRATION CERTIFICATE

Cast Iron Weight, NIST Class F
Contents: (21) 1000 lb, (16) 500 lb, (6) 250 kg

Customer:

Koenig Scale Co, Inc.
4779 E. Margaret Dr
Terre Haute, IN 47803
Kevin Koenig
Quality Manager

Certificate Number: 2024-0874
Date Received: 7/15/2024
Date Calibrated: 7/16/2024
Condition of Artifacts: Acceptable

Methods and Traceability:

The weights described above have been compared with the standards of the State of Ohio, which are traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST). The weights are compliant with NIST Class F specifications and tolerances from NIST Handbook 105-1 (1990). The uncertainty of the measurement is considered when making this statement of compliance. Surface finish, density and magnetism were not evaluated. It is the end user's responsibility to verify that the weights meet the accuracy requirements outlined in NIST Handbook 44 (2020), Appendix A Fundamental Considerations, when using the weights for calibration of commercial (Legal for Trade) scales. ** The laboratory calculates measurement uncertainties in accordance with NIST Standard Operating Procedure 29 (2019) ; ISO Guide to the Expression of Uncertainty in Measurement (GUM) (JCGM 100:2008, GUM 1995 with minor corrections, 2008) ; and ISO/IEC GUIDE 98-3:2008, Uncertainty of measurement — Part 3: Guide to the expression of uncertainty in measurement (GUM:1995). The combined standard uncertainty is the result of the root-sum-square of the Type A and Type B components specified in the SOP listed below. The combined standard uncertainty is multiplied by an appropriate coverage factor (k) to provide an expanded uncertainty which defines an interval having a level of confidence of approximately 95 percent. The effects of magnetism have not been considered in the measurement uncertainty. ** Conventional mass correction values are reported. These are based on the mass in air with reference conditions of air density 0.0012 g/cm³, mass density of 8 g/cm³, and a reference temperature of 20 °C. The correction is the weight's error from its nominal value. As Received values indicate the error of the items as submitted, before adjustment.

The following Standard Operating Procedure (S.O.P.) was used:

8 NIST Recommended Standard Operating Procedure for Medium Accuracy Calibration of Mass Standards by Modified Substitution. (May 2019)

Notes:

Weights & Measures Technologist Keith Crider

7/23/2024
Issue Date

NVLAP CALIBRATION
NVLAP CODE: 200420

Serving Farmers and Protecting Consumers Since 1846

07/30/24

OHIO DEPARTMENT OF AGRICULTURE

DIVISION OF WEIGHTS AND MEASURES METROLOGY LABORATORY

SUBMITTED BY:	Koenig Scale Co, Inc.	CLASS:	NIST F	Page	2
OHIO TEST NO.:	2024-0874	TEMP:	20.18	°C	
DATE:	7/16/2024	PRESS:	732.01	mm Hg	
DESCRIPTION:	Cast Iron Weight	HUMD:	51.76	% RH	

Weight Identification	Nominal Value	Units	Tolerance ± (mg)	As Received (mg)	As Left (mg)	Uncertainty ± (mg)	*k* value
1	1000	lb	45000	-1100	-1100	6200	*2.011*
2	1000	lb	45000	-4600	-4600	6200	*2.011*
3	1000	lb	45000	-900	-900	6200	*2.011*
4	1000	lb	45000	-11700	-11700	6200	*2.011*
5	1000	lb	45000	-25500	-25500	6200	*2.011*
6	1000	lb	45000	-8200	-8200	6200	*2.011*
7	1000	lb	45000	-1500	-1500	6200	*2.011*
8	1000	lb	45000	-19300	-19300	6200	*2.011*
9	1000	lb	45000	-21400	-21400	6200	*2.011*
10	1000	lb	45000	-24300	-24300	6200	*2.011*
11	1000	lb	45000	-5300	-5300	6200	*2.011*
12	1000	lb	45000	-27600	-27600	6200	*2.011*
13	1000	lb	45000	-16500	-16500	6200	*2.011*
14	1000	lb	45000	-13400	-13400	6200	*2.011*
15	1000	lb	45000	-20300	-20300	6200	*2.011*
16	1000	lb	45000	-15600	-15600	6200	*2.011*
17	1000	lb	45000	-27300	-27300	6200	*2.011*
18	1000	lb	45000	-19600	-19600	6200	*2.011*
19	1000	lb	45000	-17000	-17000	6200	*2.011*
20	1000	lb	45000	-19800	-19800	6200	*2.011*
G692	1000	lb	45000	-16200	-16200	6200	*2.011*
650L	500	lb	23000	-14900	-14900	3100	*2.023*
651L	500	lb	23000	-3500	-3500	3100	*2.023*
652L	500	lb	23000	4500	4500	3100	*2.023*
653L	500	lb	23000	-5600	-5600	3100	*2.023*
654L	500	lb	23000	-6600	-6600	3100	*2.023*
655L	500	lb	23000	-13300	-13300	3100	*2.023*
656L	500	lb	23000	-11900	-11900	3100	*2.023*
657L	500	lb	23000	11200	11200	3100	*2.023*
658L	500	lb	23000	2800	2800	3100	*2.023*
659L	500	lb	23000	-9200	-9200	3100	*2.023*
660L	500	lb	23000	11900	11900	3100	*2.023*
661L	500	lb	23000	-2200	-2200	3100	*2.023*
662L	500	lb	23000	8200	8200	3100	*2.023*
663L	500	lb	23000	0	0	3100	*2.023*
GL1	500	lb	23000	4900	4900	3100	*2.023*
GL2	500	lb	23000	7700	7700	3100	*2.023*
81	250000	g	25000	4800	4800	7800	*2.011*
82	250000	g	25000	12200	12200	7800	*2.011*
83	250000	g	25000	-9600	-9600	7800	*2.011*
84	250000	g	25000	6100	6100	7800	*2.011*
85	250000	g	25000	3200	3200	7800	*2.011*
86	250000	g	25000	-1300	-1300	7800	*2.011*

Chris D Crawford

07/30/24