



Receipt Date: July 16, 2018
Cal. Date: July 17, 2018
Report Date: July 17, 2018

Report No.: 339658
Set Serial No.: 4 01 thru 4 20
Barcode: 201345

Calibration Certificate

HAWKEYE STATE SCALE
5040 BLAIRS FOREST WAY NE
CEDAR RAPIDS, IA 52402
Contact: DUANE SYTSMA
Phone: 319-364-4173
PO Number: NONE
Procedure: NIST SOP 8
Technician ID: 11

Item(s) Submitted: Cast Cube Weights
Manufacturer: Rice Lake
Weight Type: II
Equipment ID: None
Condition: Good
Temperature: 20.7 °C
Pressure: 740.4 mmHg
Relative Humidity: 49.6 %

Nominal Value	Serial No.	CM Correction (g)		NIST HB105-1 Class		k	U (g)
		As Found	As Left	As Found	As Left		
1000 lb	4 01	-21.6	-21.6	F	F	2.01	1.6
1000 lb	4 02	-49.6	0.5	*	F	2.01	1.6
1000 lb	4 03	-53.6	6.5	*	F	2.01	1.6
1000 lb	4 04	-57.6	5.5	*	F	2.01	1.6
1000 lb	4 05	-41.6	-41.6	F	F	2.01	1.6
1000 lb	4 06	-34.6	-34.6	F	F	2.01	1.6
1000 lb	4 07	-9.6	-9.6	F	F	2.01	1.6
1000 lb	4 08	-58.6	2.5	*	F	2.01	1.6
1000 lb	4 09	-30.6	-30.6	F	F	2.01	1.6
1000 lb	4 10	-73.6	1.5	*	F	2.01	1.6
1000 lb	4 11	-17.6	-17.6	F	F	2.01	1.6
1000 lb	4 12	-67.6	5.5	*	F	2.01	1.6
1000 lb	4 13	28.5	28.5	F	F	2.01	1.6
1000 lb	4 14	-22.6	-22.6	F	F	2.01	1.6
1000 lb	4 15	-61.6	1.5	*	F	2.01	1.6
1000 lb	4 16	-74.6	4.5	*	F	2.01	1.6
1000 lb	4 17	-30.6	-30.6	F	F	2.01	1.6
1000 lb	4 18	-48.6	1.5	*	F	2.01	1.6
1000 lb	4 19	-28.6	-28.6	F	F	2.01	1.6
1000 lb	4 20	-52.6	3.5	*	F	2.01	1.6

* Weight(s) as found exceed NIST HB105-1 Class F tolerance.

The resulting tolerance class of the weight is determined by combining the correction of the weight and the uncertainty of the measurement. The corrections given above correlate to a conventional mass scale versus 8.0 g/cm³ density and an air density of 1.2 mg/cm³ at 20 °C. The items listed above have been calibrated using the Standards of the State of Minnesota which are currently in control. These standards are traceable to the SI through NIST. Calibration processes were monitored and found to be in control. All of the tolerances and specifications were evaluated according to NIST Handbook 105-1 (1990). Uncertainty calculations contain the components in NIST SOP 8 and conform to the ISO/IEC Guide to the Expression of Uncertainty in Measurement (2008), including coverage factors (k) calculated at the approximate 95.45 % confidence level. Results apply to items identified in this report only.

Pete Whobbe

Metrologist

Reviewed by:
Erik Alfvin

Metrologist