



Receipt Date: March 4, 2016
Test Date: March 21, 2016
Report Date: March 21, 2016

State Test No.: 335655
Set Serial No.: Asset #2312
Barcode: 018130

Calibration Report

NCR
213 CIRCLE DR N
FARGO, ND 58102
Contact: JESSE SIMPSON
Phone: 770-288-1568
PO Number: NONE
SOP: 12
Technician ID: 09

Item(s) Submitted: 30 lb kit w/ decimals
Manufacturer: Troemner
ASTM E617 Type: I & II
Equipment ID#: None
Condition: Good
Temperature: 20.7 °C
Pressure: 734. mmHg
Relative Humidity: 49.0 %

Nominal Value	Serial No.	Correction (mg)		NIST HB105-1 Class		Uncertainty (mg) (k = 2)
		As Found	As Left	As Found	As Left	
10 lb		35	35	F	F	15
10 lb		34	34	F	F	15
5 lb		-13	-13	F	F	12
2 lb		-0.5	-0.5	F	F	4.8
2 lb		46.1	46.1	F	F	4.8
1 lb		-13.3	-13.3	F	F	2.8
0.3 lb		0.66	0.66	F	F	0.48
0.2 lb		-3.95	-3.95	F	F	0.37
0.2 lb		-4.91	-4.91	F	F	0.37
0.1 lb		7.43	7.43	F	F	0.30
0.1 lb		8.22	8.22	F	F	0.30
0.05 lb		-1.48	-1.48	F	F	0.30
0.02 lb		-0.73	-0.73	F	F	0.16
0.02 lb		0.01	0.01	F	F	0.16
0.01 lb		-0.06	-0.06	F	F	0.12
0.005 lb		0.73	0.73	F	F	0.10
0.002 lb		-0.120	-0.120	F	F	0.066
0.002 lb		0.110	0.110	F	F	0.066
0.001 lb		-0.430	-0.430	F	F	0.057

When used as a set these weights meet NIST HB 105-1 Class F tolerances.

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. The items listed above have been compared to 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). Results apply to items identified in this report only.

Heidi Jones
Heidi Jones
Laboratory Administrator

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Certificate of calibration
NCR Corporation

Reviewed by:
Mark Nicolle
Mark Nicolle
Quality Manager

United States Department of Commerce

Rational Institute of Standards and Technology

Certificate of Metrological Traceability For:

Minnesota

This laboratory has demonstrated evidence of an unbroken chain of metrological traceability of its standards to the international system of units (SI), documented measurement uncertainties, uses documented measurement procedures, successfully completed training and proficiency tests, documented calibration intervals, submitted a quality management system, and demonstrated suitable measurement assurance for the Scope listed on this certificate.

The Office of Weights and Measures Program assesses laboratories to NIST Handbook 143 - Program Handbook for State Weights and Measures Laboratories and ISO/IEC 17025:2005.

Scope

Mass Echelon II	Weight Carts	Volume Gravimetric, I
50 kg to 1 mg	10 000 lb to 2000 lb	20 L to 10 ml
1000 lb to 0.001 lb	Wheel Load Weighers	100 gal to 0.25 qt
4 oz to 0.03125 oz	20 000 lb to 2000 lb	Volume Transfer, II
Mass Echelon III	Railroad Test Cars	1500 gal to 5 gal
50 kg to 1 mg	110 000 lb to 80 000 lb	100 gal to 25 gal LPG
5000 lb to 0.001 lb		
4 oz to 0.03125 oz		



2016 to 2017

Carol T. Hockert, Chief
NIST Office of Weights and Measures

Effective Dates: 2016-01-01 to 2017-12-31