

Office of Weights and Measures

Metrology Laboratory

Office: 118 West Capitol Avenue, Pierre, SD 57501

Lab: 1100 Otter Rd, Bldg D, Sturgis, SD 57785

Lab: 605-347-7541, Office: 605-773-3697, Cell: 605-280-4572

Email: ron.peterson@state.sd.us https://dps.sd.gov/inspections/weights-measures

CALIBRATION CERTIFICATE

K-Scale

SA# 90

Certificate number: M26039 Rev A

Physical Address:

Billing Address:

Rev A to separate Class 2 kit

1701 W Madison

1701 W Madison

Sioux Falls, SD 57104

Sioux Falls, SD 57104

Contact: Kevin Baumgartner

Received Date: 10/27/2025

Phone: 605-334-8003

Certificate Issued: 10/29/2025

Artifacts Submitted and Summary of Results:

Quantity	Artifact	Total Pieces	Recvd in Tol	Adjusted	Rejected	As Left In Tolerance
2	Weight Carts	2	1	2	0	2
46	Bulk Weights	46	40	8	0	46
72	50 lb Weights	72	67	27	0	72
48	25 lb Weights	48	43	13	0	48
3	Ech II Weight kit	13	13	0	0	13
4	Avoirdupois kits	60	60	0	0	60
4	Metric kits/weights	54	54	0	0	54

Uncertainty Statement: The combined standard uncertainty includes the standard uncertainty reported for the standard and the standard uncertainty for the measurement process. The combined standard uncertainty is multiplied by a coverage factor k to provide an expanded uncertainty which defines an interval having a level of confidence of approximately 95 percent. The expanded uncertainty presented in this report is consistent with the 2008 ISO/IEC Guide to the Expression of Uncertainty in Measurement. The expanded uncertainty is not to be confused with a tolerance limit for the user during application. For weight carts, factors included on the inspection checklist have not been included in the calibration uncertainty. However, factors on the checklist may contribute measurement errors that are significant if not properly maintained during use.

Conformity Statement:

The artifacts submitted for this calibration are calibrated to NIST Handbook 105-1 (1990 or 2019), NIST Handbook 105-8 (2019), NIST Handbook 105-3 (2010), or ASTM E617 (2023), Standard Specification for Laboratory Weights and Precision Mass Standards specifications. The reported test values relate only to the observations made at the time and conditions of the test. Artifacts fully comply with all requirements (both specifications and tolerances) of the applicable documentary standard unless otherwise stated. Stated expanded uncertainties are less than one-third of the specified tolerances (maximum permissible errors, m.p.e.) for mass calibrations and less than the specified tolerances for volume calibrations. The correction value plus or minus the expanded uncertainty is within the stated tolerances. It is the decision rule of the SD State Metrology Laboratory that any cast weights determined to have a correction within 66 % of the upper tolerance or 50 % of the lower tolerance will be adjusted closer to zero mass correction, even if the mass correction originally met the applicable tolerance.. SD Metrology laboratory uses an assumed density provided by the customer or weight manufacturer which could affect measurement results.

Traceability Statement:

The Standards of the SD Metrology Laboratory used for comparison are traceable to the International System of Units (SI) through the National Institute of Standards and Technology. The laboratory certificate number identified above is the unique report number to be used in referencing measurement traceability for artifacts identified in this report only.

Ron E Peterson

Wade Robbins

Ron E Peterson, Metrologist

10/29/2025

Wade Robbins, Reviewer

10/29/2025



NVLAP LAB CODE 600384-0

Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under lab code 600384-0. This certificate may not be used to claim product endorsement by NVLAP, NIST Office of Weights and Measures or any other government agency, and may not be reproduced, except in full without written approval from this laboratory.



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** Certificate Number: **M26039 Rev A**
Calibration Date: **10/28/2025** Rev A to separate Class 2 kit 0

Environmental conditions at time of test:

Temperature: 21 °C Humidity: 44.92 % Pressure: 675.06 mmhg

Test method used: SOP 33 Calibrations of Weight Carts, May 2019

Test equipment used: Recently calibrated weights and a Mettler SLS510 Load Cell with IND570 Indicator.
Vaisala PT301

Condition of Carts: Used but in good condition

Manufacturer: DunBar

SN: 11111895

Nominal (lb)	AS Found (lb)	As Found (g)	As Left (lb)	As Left (g)	Uncertainty (lb)	k	Tolerance (lb)	Condition as Left
3000	0.58	264	-0.03	-11	0.12	2.01	1.05	Adjusted

Notes:

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory.

The above weight cart was allowed to come to environmental equilibrium in the laboratory prior to calibration. The weight cart was adjusted if needed and as noted above to as close as practical to zero error. All fluid levels must be maintained as close to reference levels as possible during use. Any maintenance, repairs or damage to weight cart or its components will likely result in an out-of-tolerance condition; therefore, maintenance or replacement of components such as batteries, tires, filters, etc. will require recalibration of the weight cart prior to subsequent use.

Conformity Assessment:

The weight cart identified on this calibration certificate complies with NIST Handbook 105-8, 2019 specifications and tolerances. Additional details regarding the assessment are included in the associated checklist that is an integral part of this calibration certificate. The weight cart was found (or adjusted) to within the specified tolerances.

The above weight cart was compared with standards of the State of South Dakota, which are traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and have current calibration values. The assigned certificate number provides documented evidence for measurement traceability.

Ron E Peterson, Metrologist

10/28/2025

Wade Robbins, Reviewer

10/28/2025

Ver 20250114



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



Inspection Checklist for Weight Cart

Calibrated for: K-Scale Certificate number: M26039 Rev A
Calibration Date: 10/30/2025 Rev A to separate Class 2 kit 0

Manufacturer: **DunBar** Date of Manufacture: **2001**
Model Number: **WM20** ID/SN Number: **11111895**

☒	Nominal Mass of Weight Cart	3000 lbs	Suitably marked: Yes/No	Yes		
☒	Powered by:	Electric/generator	Diesel	☐	Gasoline	☒
☒	Fluid Levels:	Engine Oil	☒	Sealed: Yes/No	Yes	
		Hydraulic Fluid	☒	Sealed: Yes/No	Yes	
		Battery	☒	Reference Line Present: Yes/No	Yes	
		Liquid Fuel	☒			
☒	Fluid drain tubes extend beyond the body of the cart: Yes/No	Yes				
☒	Number of axles:	2				
☒	Number /Size of Tires	21x9x15				
☒	Sealed wheel bearings: Yes/No	Yes				
☒	Drain holes present in locations where water may accumulate: Yes/No	Yes				
☒	Weight restraint railing permanently fixed and solid: Yes/No	Yes				
☒	Adjusting cavity accessible: Yes/No	Yes	Approximate capacity:(lbs)	100		
☒	Adjusting cavity sealed: Yes/No	Yes				
☒	Service brakes functioning properly: Yes/No	Yes				
☒	Parking brakes functioning properly: Yes/No	Yes				
☐	Remote control functioning properly: Yes/No					

☒	General condition at time of calibration (note any accumulated dirt/debris, damage, loose parts, or evidence of tampering or unauthorized entry of seals).	
☒	List and report any repair and maintenance performed, parts replaced, etc., Leaks repaired, new battery, carburetor, exhaust system, wheels changed, welding performed, etc. Include any comments or changes since the last calibration.	

Ron E Peterson

Wade Robbins

Ron E Peterson, Metrologist

10/28/2025

Wade Robbins, Reviewer

10/28/2025

Ver

Ver 20250114



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** Certificate Number: **M26039 Rev A**
Calibration Date: **10/29/2025** Rev A to separate Class 2 kit 0

Environmental conditions at time of test:

Temperature: 20.23 °C Humidity: 44.52 % Pressure: 675.44 mmhg

Test method used: SOP 33 Calibrations of Weight Carts, May 2019

Test equipment used: Recently calibrated weights and a Mettler SLS510 Load Cell with IND570 Indicator.
Vaisala PT301

Condition of Carts: Used but in good condition

Manufacturer: B-TEK Scales

SN: 16592B

Nominal (lb)	AS Found (lb)	As Found (g)	As Left (lb)	As Left (g)	Uncertainty (lb)	k	Tolerance (lb)	Condition as Left
4000	6.92	3142	-0.12	-57	0.13	2.01	1.40	Adjusted

Notes:

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory.

The above weight cart was allowed to come to environmental equilibrium in the laboratory prior to calibration. The weight cart was adjusted if needed and as noted above to as close as practical to zero error. All fluid levels must be maintained as close to reference levels as possible during use. Any maintenance, repairs or damage to weight cart or its components will likely result in an out-of-tolerance condition; therefore, maintenance or replacement of components such as batteries, tires, filters, etc. will require recalibration of the weight cart prior to subsequent use.

Conformity Assessment:

The weight cart identified on this calibration certificate complies with NIST Handbook 105-8, 2019 specifications and tolerances. Additional details regarding the assessment are included in the associated checklist that is an integral part of this calibration certificate. The weight cart was found (or adjusted) to within the specified tolerances.

The above weight cart was compared with standards of the State of South Dakota, which are traceable to the International System of Units (SI) through the National Institute of Standards and Technology (NIST) and have current calibration values. The assigned certificate number provides documented evidence for measurement traceability.

Ron E Peterson, Metrologist

10/29/2025

Wade Robbins, Reviewer

10/29/2025

Ver 20250114



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



Inspection Checklist for Weight Cart

Calibrated for: K-Scale Certificate number: M26039 Rev A
Calibration Date: 10/30/2025 Rev A to separate Class 2 kit 0

Manufacturer: B-TEK Scales Date of Manufacture: 2018
Model Number: B54WTC-4000 ID/SN Number: 16592B

☒	Nominal Mass of Weight Cart	4000 lbs	Suitably marked: Yes/No	Yes
☒	Powered by:	Electric/generator	Diesel	Gasoline
☒	Fluid Levels:	Engine Oil	☒	☒
		Hydraulic Fluid	☒	Sealed: Yes/No
		Battery	☒	Sealed: Yes/No
		Liquid Fuel	☒	Reference Line Present: Yes/No
☒	Fluid drain tubes extend beyond the body of the cart: Yes/No	Yes		
☒	Number of axles:	2		
☒	Number /Size of Tires	21x7x15		
☒	Sealed wheel bearings: Yes/No	Yes		
☒	Drain holes present in locations where water may accumulate: Yes/No	Yes		
☒	Weight restraint railing permanently fixed and solid: Yes/No	Yes		
☒	Adjusting cavity accessible: Yes/No	Yes	Approximate capacity:(lbs)	100
☒	Adjusting cavity sealed: Yes/No	Yes		
☒	Service brakes functioning properly: Yes/No	Yes		
☒	Parking brakes functioning properly: Yes/No	Yes		
☐	Remote control functioning properly: Yes/No			

☒	General condition at time of calibration (note any accumulated dirt/debris, damage, loose parts, or evidence of tampering or unauthorized entry of seals).
☒	List and report any repair and maintenance performed, parts replaced, etc., Leaks repaired, new battery, carburetor, exhaust system, wheels changed, welding performed, etc. Include any comments or changes since the last calibration.

Ron E Peterson

Wade Robbins

Ron E Peterson, Metrologist

10/29/2025

Wade Robbins, Reviewer

10/29/2025

Ver

Ver 20250114



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg. D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: **K-Scale** Certificate number: **M26039 Rev A**

Calibration Date: **10/28/2025** Purchase Order Number: **0**

Environmental conditions at time of test: Serial#

Temperature: 21.5 °C Humidity: 47.7 % Pressure: 675.6 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, an XPE604KMC balance, and a Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): **24 1000 lb weights**

Nominal	SN/ID	Correction as Found		Correction as Left		NIST Class F Tolerance (g)	Uncertainty		Condition As Left
		lb	g	lb	g		g	k	
1000 lb	1	0.09	40.9	0.00	-0.1	45	4.7	2.0	Adjusted
1000 lb	2	0.00	-0.2	0.00	-0.2	45	4.7	2.0	In-Tolerance
1000 lb	3	-0.01	-5.4	-0.01	-5.4	45	4.7	2.0	In-Tolerance
1000 lb	5	0.16	70.4	0.00	0.2	45	4.7	2.0	Adjusted
1000 lb	6	0.02	9.7	0.02	9.7	45	4.7	2.0	In-Tolerance
1000 lb	7	-0.05	-24.2	0.00	0.1	45	4.7	2.0	Adjusted
1000 lb	8	-0.02	-10.2	-0.02	-10.2	45	4.7	2.0	In-Tolerance
1000 lb	9	0.12	52.5	0.00	0.0	45	4.7	2.0	Adjusted
1000 lb	10	-0.06	-27.4	0.00	-0.1	45	4.7	2.0	Adjusted
1000 lb	11	0.11	49.3	0.00	0.1	45	4.7	2.0	Adjusted
1000 lb	12	-0.02	-7.7	-0.02	-7.7	45	4.7	2.0	In-Tolerance
1000 lb	13	0.00	-0.9	0.00	-0.9	45	4.7	2.0	In-Tolerance
1000 lb	14	-0.03	-13.8	-0.03	-13.8	45	4.7	2.0	In-Tolerance
1000 lb	15	-0.03	-13.9	-0.03	-13.9	45	4.7	2.0	In-Tolerance
1000 lb	17	0.00	0.2	0.00	0.2	45	4.7	2.0	In-Tolerance
1000 lb	21	0.05	23.8	0.05	23.8	45	4.7	2.0	In-Tolerance
1000 lb	28	-0.02	-7.4	-0.02	-7.4	45	4.7	2.0	In-Tolerance
1000 lb	121	0.06	26.5	0.06	26.5	45	4.7	2.0	In-Tolerance
1000 lb	D	-0.02	-10.4	-0.02	-10.4	45	4.7	2.0	In-Tolerance
1000 lb	E	0.03	14.5	0.03	14.5	45	4.7	2.0	In-Tolerance
1000 lb	J	0.16	74.5	0.00	0.0	45	4.7	2.0	Adjusted
1000 lb	P	0.03	14.1	0.03	14.1	45	4.7	2.0	In-Tolerance
1000 lb	RR	0.00	0.4	0.00	0.4	45	4.7	2.0	In-Tolerance
1000 lb	W	0.12	52.4	0.00	0.2	45	4.7	2.0	Adjusted

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Ron E Peterson, Metrologist

10/28/2025

Wade Robbins, reviewer

10/28/2025





Calibrated for:	K-Scale	Certificate number:	M26039 Rev A
Calibration Date:	10/28/2025	Purchase Order Number:	0
Environmental conditions at time of test:		Serial#	
Temperature:	21.5 °C	Humidity:	47.7 %
Pressure:	675.6 mmhg		
Test method used:	SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019		
Test equipment used:	Lab standards traceable to the SI, an XPE604KMC balance, and a Vaisala PTU301		
Condition of Weights:	Suitable for use. No significant wear or damage		

	
Ron E Peterson, Metrologist	Wade Robbins, Reviewer
10/28/2025	10/28/2025



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg. D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: K-Scale

Certificate number: M26039 Rev A

Calibration Date: 10/28/2025

Purchase Order Number:

Environmental conditions at time of test:

Temperature: 21.1 °C

Humidity: 48.6 %

Pressure: 675.6 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): 20 50 lb weights

Nominal	SN/ID	Correction as Found mg	Correction as Left mg	NIST Class F Tolerance (mg)	Uncertainty mg	k	Condition As Left
50 lb	1	-853	-853	2300	200	2.02	In-Tolerance
50 lb	1	-1958	2	2300	200	2.02	Adjusted
50 lb	2	-1113	-1113	2300	200	2.02	In-Tolerance
50 lb	3	-958	-958	2300	200	2.02	In-Tolerance
50 lb	3	-2393	7	2300	200	2.02	Adjusted
50 lb	4	-338	-338	2300	200	2.02	In-Tolerance
50 lb	6	-1313	2	2300	200	2.02	Adjusted
50 lb	7	-268	-268	2300	200	2.02	In-Tolerance
50 lb	9	-643	-643	2300	200	2.02	In-Tolerance
50 lb	10	-668	-668	2300	200	2.02	In-Tolerance
50 lb	10	-1268	12	2300	200	2.02	Adjusted
50 lb	11	-873	-873	2300	200	2.02	In-Tolerance
50 lb	13	-1923	2	2300	200	2.02	Adjusted
50 lb	15	-1418	-8	2300	200	2.02	Adjusted
50 lb	15	-908	-908	2300	200	2.02	In-Tolerance
50 lb	16	-2078	7	2300	200	2.02	Adjusted
50 lb	20	-923	-923	2300	200	2.02	In-Tolerance
50 lb	20	-353	-353	2300	200	2.02	In-Tolerance
50 lb	20	-823	-823	2300	200	2.02	In-Tolerance
50 lb	21	-703	-703	2300	200	2.02	In-Tolerance

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Ron E Peterson, Metrologist

10/28/2025

Wade Robbins, Reviewer

10/28/2025



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg. D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: K-Scale

Certificate number: M26039 Rev A

Calibration Date: 10/28/2025

Purchase Order Number:

Environmental conditions at time of test:

Temperature: 19.96 °C

Humidity: 45.6 %

Pressure: 675.8 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s):

22 50 lb weights

SN Hanging Wts

Nominal	SN/ID	Correction as Found mg	Correction as Left mg	NIST Class F Tolerance (mg)	Uncertainty mg	k	Condition As Left
50 lb	1	-163	-163	2300	200	2.02	In-Tolerance
50 lb	12	-483	-483	2300	200	2.02	In-Tolerance
50 lb	13	357	357	2300	200	2.02	In-Tolerance
50 lb	21	-243	-243	2300	200	2.02	In-Tolerance
50 lb	25	342	342	2300	200	2.02	In-Tolerance
50 lb	27	-543	-543	2300	200	2.02	In-Tolerance
50 lb	31	-598	-598	2300	200	2.02	In-Tolerance
50 lb	32	-758	-758	2300	200	2.02	In-Tolerance
50 lb	33	132	132	2300	200	2.02	In-Tolerance
50 lb	34	262	262	2300	200	2.02	In-Tolerance
50 lb	35	-1438	2	2300	200	2.02	Adjusted
50 lb	36	-18	-18	2300	200	2.02	In-Tolerance
50 lb	38	-1308	-8	2300	200	2.02	Adjusted
50 lb	39	-638	-638	2300	200	2.02	In-Tolerance
50 lb	46	-923	-923	2300	200	2.02	In-Tolerance
50 lb	46	-768	-768	2300	200	2.02	In-Tolerance
50 lb	47	-323	-323	2300	200	2.02	In-Tolerance
50 lb	49	1487	1487	2300	200	2.02	In-Tolerance
50 lb	51	467	467	2300	200	2.02	In-Tolerance
50 lb	59	-508	-508	2300	200	2.02	In-Tolerance
50 lb	C	-1843	7	2300	200	2.02	Adjusted
50 lb	H	1397	1397	2300	200	2.02	In-Tolerance

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Ron E Peterson, Metrologist

10/28/2025

Wade Robbins, Reviewer

10/28/2025



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg. D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: K-Scale

Certificate number: M26039 Rev A

Calibration Date: 10/28/2025

Purchase Order Number:

Environmental conditions at time of test:

Temperature: 21.1 °C

Humidity: 48.6 %

Pressure: 675.6 mmHg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): 28 25 lb weights

Nominal	SN/ID	Correction as Found	Correction as Left	NIST Class F	Uncertainty	k	Condition As Left
		mg	mg	Tolerance (mg)	mg		
25 lb	2	-49	-49	1100	120	2.02	In-Tolerance
25 lb	10	246	246	1100	120	2.02	In-Tolerance
25 lb	56	141	141	1100	120	2.02	In-Tolerance
25 lb	1PJ5	151	151	1100	120	2.02	In-Tolerance
25 lb	1PJ5	-1119	6	1100	120	2.02	Adjusted
25 lb	1PJ6	-784	6	1100	120	2.02	Adjusted
25 lb	1PJ8	181	181	1100	120	2.02	In-Tolerance
25 lb	1PJA	-609	6	1100	120	2.02	Adjusted
25 lb	1PJI	-319	-319	1100	120	2.02	In-Tolerance
25 lb	1PJP	-319	-319	1100	120	2.02	In-Tolerance
25 lb	1PJP	-284	-284	1100	120	2.02	In-Tolerance
25 lb	1PJV	-134	-134	1100	120	2.02	In-Tolerance
25 lb	1PJX	-189	-189	1100	120	2.02	In-Tolerance
25 lb	1PK1	161	161	1100	120	2.02	In-Tolerance
25 lb	1PK11	46	46	1100	120	2.02	In-Tolerance
25 lb	1PK4	-24	-24	1100	120	2.02	In-Tolerance
25 lb	1PK5	-984	1	1100	120	2.02	Adjusted
25 lb	1PK6	-684	-4	1100	120	2.02	Adjusted
25 lb	1PK8	106	106	1100	120	2.02	In-Tolerance
25 lb	1PK9	-519	-519	1100	120	2.02	In-Tolerance
25 lb	1PKD	-479	-479	1100	120	2.02	In-Tolerance
25 lb	1PKF	-94	-94	1100	120	2.02	In-Tolerance
25 lb	1PKG	61	61	1100	120	2.02	In-Tolerance
25 lb	1PKL	-2524	6	1100	120	2.02	Adjusted
25 lb	1PKM	-449	-449	1100	120	2.02	In-Tolerance
25 lb	1PKN	-259	-259	1100	120	2.02	In-Tolerance
25 lb	1PKO	-379	-379	1100	120	2.02	In-Tolerance
25 lb	1PKW	331	331	1100	120	2.02	In-Tolerance

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Ron E Peterson, Metrologist

10/28/2025

Wade Robbins, Reviewer

10/28/2025



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg. D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: K-Scale Certificate number: M26039 Rev A
Calibration Date: 10/29/2025 Purchase Order Number:

Environmental conditions at time of test:

Temperature: 21.1 °C Humidity: 48.6 % Pressure: 675.6 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): 20 25 lb weights

Nominal	SN/ID	Correction as Found mg	Correction as Left mg	NIST Class F Tolerance (mg)	Uncertainty mg	k	Condition As Left
25 lb	1PJ1	16	16	1100	120	2.02	In-Tolerance
25 lb	1PJ2	11	11	1100	120	2.02	In-Tolerance
25 lb	1PJ9	-1029	6	1100	120	2.02	Adjusted
25 lb	1PJD	-589	-9	1100	120	2.02	Adjusted
25 lb	1PJJ	-764	11	1100	120	2.02	Adjusted
25 lb	1PJL	-184	-184	1100	120	2.02	In-Tolerance
25 lb	1PJM	-244	-244	1100	120	2.02	In-Tolerance
25 lb	1PJN	-114	-114	1100	120	2.02	In-Tolerance
25 lb	1PJT	-304	-304	1100	120	2.02	In-Tolerance
25 lb	1PJT	-424	-424	1100	120	2.02	In-Tolerance
25 lb	1PJZ	-1014	6	1100	120	2.02	Adjusted
25 lb	1PK2	-129	-129	1100	120	2.02	In-Tolerance
25 lb	1PK3	-89	-89	1100	120	2.02	In-Tolerance
25 lb	1PK7	51	51	1100	120	2.02	In-Tolerance
25 lb	1PK8	-614	-9	1100	120	2.02	Adjusted
25 lb	1PKE	966	1	1100	120	2.02	Adjusted
25 lb	1PKJ	-389	-389	1100	120	2.02	In-Tolerance
25 lb	1PKK	-139	-139	1100	120	2.02	In-Tolerance
25 lb	1PKO	-929	-9	1100	120	2.02	Adjusted
25 lb	KS-D2	-149	-149	1100	120	2.02	In-Tolerance

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Ron E Peterson, Metrologist

10/29/2025

Wade Robbins, Reviewer

10/29/2025

CALIBRATION CERTIFICATE



16 of 25



17 of 25



18 of 25



South Dakota Department of Public Safety
Office of Weights and Measures
Metrology Lab
Lab: 1100 Otter Rd, Bldg. D Sturgis, SD 57785 Phone: 605-347-7541
Office: 118 West Capitol Avenue Pierre, SD 57501 Phone: 605-773-3697



CALIBRATION CERTIFICATE

Calibrated for: K-Scale Certificate number: M26039 Rev A

Calibration Date: 10/29/2025 Purchase Order Number:

Environmental conditions at time of test:

Temperature: 21 °C

Humidity: 45.5 %

Pressure: 677.6 mmHg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s):

22 piece Metric Kit

SN 080602B

Nominal	SN/ID	Correction as Found mg	Correction as Left mg	NIST Class F Tolerance (mg)	Uncertainty mg	k	Condition As Left
2 kg	1	86	86	200	17	2.04	In-Tolerance
2 kg	2	89	89	200	17	2.04	In-Tolerance
2 kg	3	79	79	200	17	2.04	In-Tolerance
2 kg	4	90	90	200	17	2.04	In-Tolerance
2 kg	5	72	72	200	17	2.04	In-Tolerance
1 kg		41.0	41.0	100	8.7	2.04	In-Tolerance
500 g	1	34.5	34.5	70	6.1	2.04	In-Tolerance
500 g	2	31.5	31.5	70	6.1	2.04	In-Tolerance
500 g	3	14.5	14.5	70	6.1	2.04	In-Tolerance
500 g	4	30.5	30.5	70	6.1	2.04	In-Tolerance
500 g	5	32.5	32.5	70	6.1	2.04	In-Tolerance
200 g		12.9	12.9	40	3.4	2.04	In-Tolerance
200 g	.	10.7	10.7	40	3.4	2.04	In-Tolerance
100 g		10.1	10.1	20	1.7	2.04	In-Tolerance
50 g		4.05	4.05	10	0.86	2.04	In-Tolerance
20 g		1.24	1.24	4	0.34	2.04	In-Tolerance
20 g	.	1.95	1.95	4	0.34	2.04	In-Tolerance
10 g		0.98	0.98	2	0.17	2.03	In-Tolerance
5 g		0.92	0.92	1.5	0.13	2.04	In-Tolerance
2 g	.	0.491	0.491	1.1	0.095	2.04	In-Tolerance
2 g		-0.029	-0.029	1.1	0.095	2.04	In-Tolerance
1 g		-0.434	-0.434	0.9	0.078	2.04	In-Tolerance

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

Ron E Peterson, Metrologist

10/29/2025

Wade Robbins, Reviewer

10/29/2025



23 of 25



CALIBRATION CERTIFICATE

Certificate number: M26039 Rev A

Purchase Order Number:

Environmental conditions at time of test:

Temperature: 21 °C **Humidity:** 46.3 % **Pressure:** 671.8 mmhg

Test method used: SOP 8 Medium Accuracy Calibrations of Mass Standards by Modified Substitution, May 2019

Test equipment used: Lab standards traceable to the SI, XPR64003LD5C, XPR5003SC, XPR226CDR, XPR36C, Vaisala PTU301

Condition of Weights: Suitable for use. No significant wear or damage

Artifact(s): **10 piece Avoirdupois Kit** SN SD180711

[illegible]

* Adjusted artifacts are in tolerance. Rejected and Condemned artifacts were tagged and must be placed out of service.

The values reported relate only to those observations made at the time and conditions of the test. This calibration certificate, so numbered, may not be reproduced, except in full, without approval of the laboratory. These weights were not screened for magnetism or checked for density, and effects of magnetism or density are not included in the uncertainties.

Treatment of artifacts prior to testing: Thermal equilibrium was obtained by placing the artifacts in the lab overnight

None of them

Wade Robbins

Ron E Peterson, Metrologist

10/29/2025

Wade Robbins, Reviewer

10/29/2025