

Traceable Certificate Number: 3759597
Contractor: ADVANCED SCALE INC
 13 DELTA DR UNIT 6
 LONDONDERRY, NH 03053-2372

Purchase Order Number: 10458
Client: ADVANCED SCALE INC
 13 DELTA DR UNIT 6
 LONDONDERRY, NH 03053-2372

Date Received: 23 Aug 2024
Date Calibrated: 26 Aug 2024 to 04 Sep 2024
Recalibration Date: 31 Aug 2025
NIST Certificate Number: 684/O-0000046697

If there are two NIST numbers, one or both may apply

Calibrated By: 28, 17
Procedure: WI05-0095 Rev. E
Condition of Weights: Acceptable for Calibration
Description of Weights: 2 mg to 100 g Polished Weights, ASTM Class 1, S/N N473
Comments:



Key Notes

- Finish Indicates the weight does not meet the finish requirements
- Material Indicates the weight does not meet the material requirements
- New Wt Indicates new weight
- Missing Wt Indicates replaced missing weight with new weight
- Damaged Wt Indicates replaced damaged weight
- Replaced OOT Indicates replaced out of tolerance weight
- OOT Indicates correction plus or minus Uncertainty greater than or equal to MPE
- Magnetic Wt Indicates replaced magnetic weight
- Design Indicates the weight does not meet the design or shape requirements
- Repainted Indicates the weight was repainted after As Found obtained
- Other See comments above

Cleaning Levels

- A Dusted with brush or cloth
- B Spot cleaned with ethyl alcohol
- C Full surface cleaned with ethyl alcohol
- D Spot cleaned with non-alcohol solvent followed by ethyl alcohol
- E Full surface cleaned with non-alcohol solvent followed by ethyl alcohol
- F No cleaning performed

Material Abbreviations

AL	Aluminum	TA	Tantalum
SS	Stainless Steel	BR	Brass
CI	Cast Iron	PL	Platinum
IR	Iron	NS	Nickel Silver
MS	Mild Steel	OR	Other/Unknown

Check with your local state agency for certification of compliance on Legal-for-Trade items. The weight accuracy class is referenced in the Description of Weights. Unless otherwise noted, the weights calibrated meet the requirements of the accuracy class. Results relate only to weights calibrated. The Surface Finishes of weights are evaluated visually. Weights are screened for magnetism using work instruction WI05-0035 when they are new, when requested by the customer or when weights are suspected of not meeting specifications. Density if measured is measured using OIML R111-1 (2004) method A2. Conventional Mass is reported based on a reference density of 8.0 g/cm³. The Uncertainty of Measurement is included in the determination of Maximum Permissible Error (MPE) Pass/Fail Criteria. The specifications for Maximum Permissible Error (MPE) can be found in NIST Handbook 105-1 (2019), NIST Handbook 105-1 (1990), ASTM E617-23 or OIML R111-1 (2004), manufacturer specifications or customer specifications.

The Uncertainty assigned to the Conventional Mass values are the result of the root-sum-square of the type A and type B components, calculated in accordance with NIST SOP 29 and the Guide to the expression of uncertainty in measurement, with coverage factor (k=2), to express the expanded uncertainty with an approximate 95.45% confidence level. This report is not to be used to claim product certification, approval, or endorsement by NVLAP, NIST, A2LA, or any government agency. **This document and all data within, shall not be reproduced, except in full, without the written approval of Rice Lake Weighing Systems.**

Dan Demers, Metrologist

04 Sep 2024
 Issued Date:



Prepared By:
Rice Lake Weighing Systems® • PN 64784 • 1/24
 230 West Coleman Street • Rice Lake, WI 54868 • USA
 TEL: 715-234-9171 • FAX: 715-234-6967
 Definitions: <http://certs.ricelake.com/certs/DefinitionsV2.docx>
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Certificate of Weight Calibration

ISO/IEC 17025:2017 & ANSI/NCSL-Z540-1-1994 ACCREDITED

Traceable Certificate Number: 3759597
 Client: ADVANCED SCALE INC
 Date Calibrated: 26 Aug 2024 to 04 Sep 2024

Temperature Range: 21.43 °C to 21.64 °C
 Pressure Range: 731.53 mmHg to 734.81 mmHg
 Relative Humidity Range: 52 % to 57 %

As Left Data (As Found Data is undifferentiated from As Left Data unless listed in As Found Data table)

Nominal Value	Unique ID	True Mass (Same UOM as Nom.)	True Mass Corr. (mg)	Conv. Mass (Same UOM as Nom.)	Conv. Mass Corr. (mg)	(k=2) Unc. (± mg)	MPE (± mg)	MPE Pass (Y=Pass N=Fail)	Assumed Density (g/cm ³)	Assumed Material	Const. Type	Balance Used	Reference Standard Set Used	Air Density (mg/cm ³)	Clean Level
2 mg	N473	2.0030	0.0030	2.0030	0.0030	0.0011	0.010	Y	7.95	SS	I	503Q	L595Q	1.1475	A
2 mg	N473.	2.0033	0.0033	2.0033	0.0033	0.0011	0.010	Y	7.95	SS	I	503Q	L595Q	1.1475	A
5 mg	N473	4.9992	-0.0008	4.9992	-0.0008	0.0010	0.010	Y	7.95	SS	I	503Q	L595Q	1.1481	A
10 mg	N473	10.0006	0.0006	10.0006	0.0006	0.0012	0.010	Y	7.95	SS	I	503Q	L595Q	1.1484	A
◇ 20 mg	N473	20.0049	0.0049	20.0049	0.0049	0.0011	0.010	Y	7.95	SS	I	503Q	L595Q	1.1479	A
20 mg	N473.	20.0062	0.0062	20.0062	0.0062	0.0011	0.010	Y	7.95	SS	I	503Q	L595Q	1.1483	A
50 mg	N473	49.99986	-0.00014	49.99981	-0.00019	0.00078	0.010	Y	7.95	SS	I	2022Q	L595Q	1.1474	A
100 mg	N473	99.99933	-0.00067	99.99924	-0.00076	0.00090	0.010	Y	7.95	SS	I	2022Q	L595Q	1.1474	A
200 mg	N473	200.00083	0.00083	200.00064	0.00064	0.00078	0.010	Y	7.95	SS	I	2022Q	L595Q	1.1474	A
200 mg	N473.	199.99141	-0.00859	199.99122	-0.00878	0.00078	0.010	Y	7.95	SS	I	2022Q	L595Q	1.1474	A
500 mg	N473	499.99586	-0.00414	499.99539	-0.00461	0.00096	0.010	Y	7.95	SS	I	2022Q	L595Q	1.1474	A
1 g	N473	1.0000097	0.0097	1.0000087	0.0087	0.0013	0.034	Y	7.95	SS	I	2022Q	L595Q	1.1474	A
2 g	N473	1.9999915	-0.0085	1.9999896	-0.0104	0.0015	0.034	Y	7.95	SS	II	2022Q	L595Q	1.1474	A
2 g	N473.	1.9999920	-0.0080	1.9999902	-0.0098	0.0015	0.034	Y	7.95	SS	II	2022Q	L595Q	1.1474	A
5 g	N473	5.0000137	0.0137	5.0000090	0.0090	0.0033	0.034	Y	7.95	SS	II	2022Q	L595Q	1.1474	A
★★ 10 g	N473	10.0000331	0.0331	10.0000237	0.0237	0.0057	0.050	Y	7.95	SS	II	2060Q	U520Q	1.1525	A
20 g	N473	20.0000624	0.0624	20.0000435	0.0435	0.0060	0.074	Y	7.95	SS	II	2060Q	U520Q	1.1527	A
20 g	N473.	19.9999962	-0.0038	19.9999773	-0.0227	0.0060	0.074	Y	7.95	SS	II	2060Q	U520Q	1.1479	A
50 g	N473.	50.000089	0.089	50.000041	0.041	0.012	0.12	Y	7.95	SS	II	2060Q	U520Q	1.1527	A
100 g	N473	99.999982	-0.018	99.999888	-0.112	0.024	0.25	Y	7.95	SS	II	2060Q	U520Q	1.1479	A

As Found Data

Nominal Value	Unique ID	True Mass (Same UOM as Nom.)	True Mass Corr. (mg)	Conv. Mass (Same UOM as Nom.)	Conv. Mass Corr. (mg)	(k=2) Unc. (± mg)	MPE (± mg)	MPE Pass (Y=Pass N=Fail)	Assumed Density (g/cm ³)	Assumed Material	Const. Type	Balance Used	Reference Standard Set Used	Air Density (mg/cm ³)	Clean Level
★★ 10 g	N473	9.9999595	-0.0405	9.9999501	-0.0499	0.0057	0.050	N <input checked="" type="checkbox"/>	7.95	SS	II	2060Q	U520Q	1.1479	A
20 g	N473	19.9999444	-0.0556	19.9999256	-0.0744	0.0060	0.074	N <input checked="" type="checkbox"/>	7.95	SS	II	2060Q	U520Q	1.1479	A
50 g	N473.	49.999869	-0.131	49.999822	-0.178	0.012	0.12	N <input checked="" type="checkbox"/>	7.95	SS	II	2060Q	U520Q	1.1479	A