

CERTIFICATE OF CALIBRATION		
Issue:-	Certificate Number:	96291
96291_10	Date of Issue:	05-Jan-23
Approved Signatory:		Tom Williams
Page 1 of 2	Signed:	<i>T. Williams</i>



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EQUIPMENT: Weights Set MS2

SERIAL NUMBER: 1 to 25, 2327, 2328

MAKE/TYPE: N/A

STANDARDS USED: Set 12412

DATE RECEIVED: 23 December 2022

DATE CALIBRATED: 30 December 2022

DETAILS: 26 Stainless Steel

MEASUREMENTS:

Kent Scientific Services method used: CAL SMALL, Calibration of Small Masses.

The calibrations took place in a controlled environment with the temperature held between 18°C and 22°C, and with the relative humidity held between 40% and 60%.

The measurement results obtained in the table, where each measured value given represents not the true mass, but the mass of a hypothetical weight of density 8,000 kg.m⁻³, which in air of density 1.2 kg.m⁻³ would balance the corresponding weight identified in the first column at 20°C.

The method of weighing was by substitution (Borda's method). In each instance the standard weight used had been calibrated by UKAS Calibration Laboratory number 0474, 0260 or 0352 within the previous three years. The uncertainty of measurements for each of the different denominations is listed in the last column of the table. Duplicate weights, where present, are indicated by a dot or dots.

Customer supplied information is notated with a ~, and results relate only to the item(s) calibrated.

Unless otherwise notated, samples are tested in as received condition at Kent Scientific Services.

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TABLE OF MEASUREMENT RESULTS

Identity Mark	Nominal Mass	Measured Value	Error from Nominal	Estimated Uncertainty
1	100 N	10192.46 g	+ 300 mg	± 110 mg
2	100 N	10192.49 g	+ 330 mg	± 110 mg
3	100 N	10192.40 g	+ 240 mg	± 110 mg
4	100 N	10192.23 g	+ 70 mg	± 110 mg
5	100 N	10192.39 g	+ 220 mg	± 110 mg
6	100 N	10192.24 g	+ 80 mg	± 110 mg
7	100 N	10192.35 g	+ 180 mg	± 110 mg
8	100 N	10192.36 g	+ 200 mg	± 110 mg
9	100 N	10192.51 g	+ 350 mg	± 110 mg
10	100 N	10192.47 g	+ 310 mg	± 110 mg
11	100 N	10192.37 g	+ 210 mg	± 110 mg
12	100 N	10192.41 g	+ 240 mg	± 110 mg
13	100 N	10192.32 g	+ 150 mg	± 110 mg
14	100 N	10192.27 g	+ 110 mg	± 110 mg
15	100 N	10192.54 g	+ 380 mg	± 110 mg
16	100 N	10192.35 g	+ 190 mg	± 110 mg
17	100 N	10192.24 g	+ 70 mg	± 110 mg
18	100 N	10192.10 g	- 60 mg	± 110 mg
19	100 N	10192.33 g	+ 160 mg	± 110 mg
20	100 N	10192.17 g	0 mg	± 110 mg
22	100 N	10192.38 g	+ 220 mg	± 110 mg
23	100 N	10192.49 g	+ 330 mg	± 110 mg
24	100 N	10192.31 g	+ 150 mg	± 110 mg
25	100 N	10189.27 g	- 2890 mg	± 110 mg
2327	50 N	5096.227 g	+ 146 mg	± 52 mg
2328	50 N	5096.132 g	+ 51 mg	± 52 mg
25	* 100 N	10192.00 g	- 160 mg	± 110 mg

* Denotes Post Adjustment Calibration.

The basis for conversion between force units and mass units is that a 1kg mass will experience a force of g newtons where g is the strength of the local gravitational field. At Kent Scientific Services the estimated local $g = 9.81146 \text{ ms}^{-2}$.

END OF RESULTS