


## CERTIFICATE OF CALIBRATION

Issue:- Certificate Number: 97108  
97108\_10 Date of Issue: 22-Dec-23  
Approved Signatory: Mark Norfolk  
Page 1 of 2 Signed: 



### Submitter:-

Mecmesin Limited  
Newton House  
Spring Copse Business Park  
Slinfold  
West Sussex  
RH13 0SZ

### Issued by:-

Kent Scientific Services  
8 Abbey Wood Road  
Kings Hill  
West Malling  
Kent  
ME19 4YT  
Tel: 03000 415 100  
Fax: 01732 220006

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**EQUIPMENT:** Weights Set MC1  
**SERIAL NUMBER:** See Table Overleaf  
**MAKE/TYPE:** N/A  
**STANDARDS USED:** Set 12412  
**DATE RECEIVED:** 20 December 2023  
**DATE CALIBRATED:** 22 December 2023  
**DETAILS:** 4 Cast Iron

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### 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<sup>-3</sup>, which in air of density 1.2 kg.m<sup>-3</sup> 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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This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

**TABLE OF MEASUREMENT RESULTS**

<u>Identity Mark</u>	<u>Nominal Mass</u>	<u>Measured Value</u>	<u>Error from Nominal</u>	<u>Estimated Uncertainty</u>
1928	10 kg	9,999.72 g	- 280 mg	± 100 mg
1976	10 kg	9,999.49 g	- 510 mg	± 100 mg
1915	5 kg	5,000.093 g	+ 93 mg	± 50 mg
1916	5 kg	5,000.189 g	+ 189 mg	± 50 mg
1976	* 10 kg	10,000.30 g	+ 300 mg	± 100 mg

\* Denotes post adjustment calibration

END OF RESULTS

## CERTIFICATE OF CALIBRATION

Issue:- Certificate Number: 97141  
Date of Issue: 30-Jan-24  
Approved Signatory: Mark Norfolk  
Page 1 of 2 Signed:



### Submitter:-

Mecmesin Limited  
Newton House  
Spring Copse Business Park  
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West Sussex  
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Kent Scientific Services  
8 Abbey Wood Road  
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Kent  
ME19 4YT  
Tel: 03000 415 100  
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**EQUIPMENT:** Weights  
**SERIAL NUMBER:** See Table Overleaf  
**MAKE/TYPE:** N/A  
**STANDARDS USED:** Set 12412  
**DATE RECEIVED:** 17 January 2024  
**DATE CALIBRATED:** 25 January 2024  
**DETAILS:** 6 Cast Iron (5 Slotted, 1 Hanger)

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### 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<sup>-3</sup>, which in air of density 1.2 kg.m<sup>-3</sup> 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**

<u>Identity Mark</u>	<u>Nominal Mass</u>	<u>Measured Value</u>	<u>Error from Nominal</u>	<u>Estimated Uncertainty</u>
1875	10 kg	9,999.94 g	- 60 mg	± 100 mg
1921	10 kg	10,000.10 g	+ 100 mg	± 100 mg
1936	2 kg	1,999.932 g	- 68 mg	± 20 mg
1939	2 kg	1,999.970 g	- 30 mg	± 20 mg
1912	1 kg	1,000.018 g	+ 18 mg	± 10 mg
1942	1 kg	999.999 g	- 1 mg	± 10 mg

END OF RESULTS

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k=2$  providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.