

CERTIFICATE OF CALIBRATION

Issue:- Certificate Number: **98536**
98536_10 Date of Issue: **17-Dec-25**
Approved Signatory: **Thomas Herrington**
Page 1 of 3 Signed: *[Signature]*



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

EQUIPMENT: Weights Set MC3
SERIAL NUMBER: See table overleaf
MAKE/TYPE: N/A
STANDARDS USED: Set 12412
DATE RECEIVED: 5 December 2025
DATE CALIBRATED: 15 December 2025
DETAILS: 54 Cast Iron

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 $8,000 \text{ kg.m}^{-3}$, 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 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.

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

Identity Mark	Nominal Mass	Measured Value	Error from Nominal	Estimated Uncertainty
2001	1N	101.920 1 g	- 1.5 mg	± 1.0 mg
2002	1N	101.919 1 g	- 2.5 mg	± 1.0 mg
2003	1N	101.923 0 g	+ 1.4 mg	± 1.0 mg
2004	1N	101.920 1 g	- 1.5 mg	± 1.0 mg
2006	1N	101.926 5 g	+ 4.9 mg	± 1.0 mg
2009	1N	101.928 2 g	+ 6.6 mg	± 1.0 mg
2012	1N	101.919 7 g	- 2.0 mg	± 1.0 mg
2013	1N	101.922 5 g	+ 0.8 mg	± 1.0 mg
2016	1N	101.922 2 g	+ 0.6 mg	± 1.0 mg
2020	1N	101.925 2 g	+ 3.6 mg	± 1.0 mg
3508	1N	101.920 5 g	- 1.1 mg	± 1.0 mg
3509	1N	101.925 6 g	+ 4.0 mg	± 1.0 mg
3510	1N	101.918 1 g	- 3.5 mg	± 1.0 mg
3511	1N	101.928 7 g	+ 7.0 mg	± 1.0 mg
3514	1N	101.926 5 g	+ 4.9 mg	± 1.0 mg
2023	5N	509.618 7 g	+ 10.5 mg	± 5.1 mg
2025	5N	509.615 8 g	+ 7.6 mg	± 5.1 mg
2027	5N	509.627 0 g	+ 18.9 mg	± 5.1 mg
2028	5N	509.596 3 g	- 11.8 mg	± 5.1 mg
2029	5N	509.615 3 g	+ 7.1 mg	± 5.1 mg
3500	5N	509.595 0 g	- 13.1 mg	± 5.1 mg
3502	5N	509.606 3 g	- 1.9 mg	± 5.1 mg
3503	5N	509.598 5 g	- 9.7 mg	± 5.1 mg
3362L	5N	509.579 0 g	- 29.2 mg	± 5.1 mg
3025	10N	1019.162 g	- 54.4 mg	± 10.2 mg
1963	10N	1019.224 g	+ 7.7 mg	± 10.2 mg
2031	10N	1019.241 g	+ 24.4 mg	± 10.2 mg
2033	10N	1019.291 g	+ 75.0 mg	± 10.2 mg
2035	10N	1019.269 g	+ 53.0 mg	± 10.2 mg
2036	10N	1019.221 g	+ 4.6 mg	± 10.2 mg
3362E	10N	1019.233 g	+ 16.6 mg	± 10.2 mg
1960	20N	2038.509 g	+ 76.0 mg	± 20.4 mg
1961	20N	2038.435 g	+ 2.4 mg	± 20.4 mg
2040	20N	2038.547 g	+ 114.1 mg	± 20.4 mg
2046	20N	2038.494 g	+ 61.1 mg	± 20.4 mg
3022	20N	2038.527 g	+ 94.6 mg	± 20.4 mg
3515	20N	2038.441 g	+ 8.4 mg	± 20.4 mg
3517	20N	2038.478 g	+ 45.0 mg	± 20.4 mg
3518	20N	2038.536 g	+ 103.2 mg	± 20.4 mg
3362A	20N	2038.439 g	+ 6.8 mg	± 20.4 mg
3362C	20N	2038.443 g	+ 10.7 mg	± 20.4 mg
3362D	20N	2038.506 g	+ 73.2 mg	± 20.4 mg
2047	50N	5096.271 g	+ 189 mg	± 51 mg
2050	50N	5096.218 g	+ 137 mg	± 51 mg
2051	50N	5096.293 g	+ 212 mg	± 51 mg
2052	50N	5096.351 g	+ 269 mg	± 51 mg
3362F	50N	5096.293 g	+ 212 mg	± 51 mg
3362G	50N	5096.301 g	+ 219 mg	± 51 mg
2055	100N	10192.56 g	+ 400 mg	± 103 mg
2056	100N	10192.56 g	+ 400 mg	± 103 mg
2057	100N	10192.60 g	+ 430 mg	± 103 mg
2058	100N	10192.47 g	+ 310 mg	± 103 mg
2062	100N	10192.36 g	+ 190 mg	± 103 mg
3020	100N	10192.00 g	- 160 mg	± 103 mg

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.

TABLE OF MEASUREMENT RESULTS contd.


Identity Mark	Nominal Mass	Measured Value	Error from Nominal	Estimated Uncertainty
3362L	* 5N	509.610 5 g	+ 0.5 mg	± 5.1 mg
3025	* 10N	1019.219 g	- 1.3 mg	± 10.2 mg
2033	* 10N	1019.214 g	- 5.6 mg	± 10.2 mg
2035	* 10N	1019.215 g	- 5.1 mg	± 10.2 mg
1960	* 20N	2038.431 g	+ 31.1 mg	± 20.4 mg
2040	* 20N	2038.427 g	+ 27.4 mg	± 20.4 mg
2022	* 20N	2038.430 g	+ 30.0 mg	± 20.4 mg
3518	* 20N	2038.432 g	+ 32.1 mg	± 20.4 mg
3362D	* 20N	2038.428 g	+ 27.7 mg	± 20.4 mg
2006	* 1N	101.921 2 g	+ 1.2 mg	± 1.0 mg
2009	* 1N	101.920 7 g	+ 0.7 mg	± 1.0 mg
2020	* 1N	101.920 9 g	+ 0.9 mg	± 1.0 mg
3509	* 1N	101.920 1 g	+ 0.1 mg	± 1.0 mg
3511	* 1N	101.920 8 g	+ 0.8 mg	± 1.0 mg
3514	* 1N	101.922 1 g	+ 2.1 mg	± 1.0 mg
2027	* 5N	509.615 7 g	+ 5.7 mg	± 5.1 mg
2051	* 50N	5096.171 g	+ 71 mg	± 51 mg
2052	* 50N	5096.198 g	+ 98 mg	± 51 mg
3362F	* 50N	5096.051 g	- 49 mg	± 51 mg
3362G	* 50N	5096.081 g	- 19 mg	± 51 mg
2057	* 100N	10192.34 g	+ 144 mg	± 103 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

CERTIFICATE OF CALIBRATION

Issue:- Certificate Number: **98595**
98595_10 Date of Issue: **14-Jan-26**
Approved Signatory: **Thomas Herrington**
Page 1 of 3 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

EQUIPMENT: Weights Set MC3
SERIAL NUMBER: See table overleaf
MAKE/TYPE: N/A
STANDARDS USED: Set 12412
DATE RECEIVED: 19 December 2025
DATE CALIBRATED: 9 January 2026
DETAILS: 57 Cast Iron

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 $8,000 \text{ kg.m}^{-3}$, 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 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.

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

Identity Mark	Nominal Mass	Measured Value	Error from Nominal	Estimated Uncertainty
2005	1N	101.920 0 g	- 1.6 mg	± 1.0 mg
2007	1N	101.923 9 g	+ 2.2 mg	± 1.0 mg
2008	1N	101.930 7 g	+ 9.0 mg	± 1.0 mg
2010	1N	101.920 3 g	- 1.3 mg	± 1.0 mg
2011	1N	101.922 7 g	+ 1.1 mg	± 1.0 mg
2014	1N	101.926 1 g	+ 4.5 mg	± 1.0 mg
2015	1N	101.920 8 g	- 0.8 mg	± 1.0 mg
2017	1N	101.923 4 g	+ 1.8 mg	± 1.0 mg
2018	1N	101.919 4 g	- 2.2 mg	± 1.0 mg
2019	1N	101.926 4 g	+ 4.8 mg	± 1.0 mg
3506	1N	101.922 4 g	+ 0.7 mg	± 1.0 mg
3507	1N	101.919 0 g	- 2.7 mg	± 1.0 mg
3512	1N	101.925 8 g	+ 4.2 mg	± 1.0 mg
3513	1N	101.925 4 g	+ 3.7 mg	± 1.0 mg
TB4	1N	101.929 1 g	+ 7.5 mg	± 1.0 mg
2021	5N	509.617 1 g	+ 8.9 mg	± 5.1 mg
2022	5N	509.602 1 g	- 6.1 mg	± 5.1 mg
2024	5N	509.606 5 g	- 1.7 mg	± 5.1 mg
2026	5N	509.627 8 g	+ 19.7 mg	± 5.1 mg
2030	5N	509.628 4 g	+ 20.2 mg	± 5.1 mg
3501	5N	509.600 0 g	- 8.2 mg	± 5.1 mg
3504	5N	509.593 9 g	- 14.3 mg	± 5.1 mg
3026	5N	509.612 0 g	+ 3.8 mg	± 5.1 mg
3362I	5N	509.612 0 g	+ 3.8 mg	± 5.1 mg
1964	10N	1019.159 g	- 56.9 mg	± 10.2 mg
3362J	10N	1019.170 g	- 46.1 mg	± 10.2 mg
3362K	10N	1019.222 g	+ 6.1 mg	± 10.2 mg
1962	10N	1019.226 g	+ 9.8 mg	± 10.2 mg
2032	10N	1019.242 g	+ 25.9 mg	± 10.2 mg
2034	10N	1019.272 g	+ 55.3 mg	± 10.2 mg
2037	10N	1019.245 g	+ 28.9 mg	± 10.2 mg
2038	10N	1019.255 g	+ 38.7 mg	± 10.2 mg
3024	10N	1019.218 g	+ 1.2 mg	± 10.2 mg
2039	20N	2038.513 g	+ 80.3 mg	± 20.4 mg
2041	20N	2038.464 g	+ 31.6 mg	± 20.4 mg
2042	20N	2038.542 g	+ 109.5 mg	± 20.4 mg
2043	20N	2038.456 g	+ 23.0 mg	± 20.4 mg
2044	20N	2038.485 g	+ 52.0 mg	± 20.4 mg
2045	20N	2038.558 g	+ 125.7 mg	± 20.4 mg
3023	20N	2038.541 g	+ 108.7 mg	± 20.4 mg
3362B	20N	2038.426 g	- 6.3 mg	± 20.4 mg
3362M	20N	2038.443 g	+ 10.0 mg	± 20.4 mg
3516	20N	2038.405 g	- 27.8 mg	± 20.4 mg
3519	20N	2038.497 g	+ 64.9 mg	± 20.4 mg
3520	20N	2038.529 g	+ 96.8 mg	± 20.4 mg
3521	20N	2038.460 g	+ 27.1 mg	± 20.4 mg
2048	50N	5096.302 g	+ 221 mg	± 51 mg
2049	50N	5096.293 g	+ 211 mg	± 51 mg
2053	50N	5096.257 g	+ 176 mg	± 51 mg
2054	50N	5096.079 g	- 3 mg	± 51 mg
3021	50N	5096.235 g	+ 153 mg	± 51 mg

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.

TABLE OF MEASUREMENT RESULTS contd.

<u>Identity Mark</u>	<u>Nominal Mass</u>	<u>Measured Value</u>	<u>Error from Nominal</u>	<u>Estimated Uncertainty</u>
1957	100N	10192.08 g	- 80 mg	± 103 mg
1958	100N	10191.67 g	- 490 mg	± 103 mg
2059	100N	10192.48 g	+ 320 mg	± 103 mg
2060	100N	10192.18 g	+ 20 mg	± 103 mg
2061	100N	10192.24 g	+ 70 mg	± 103 mg
3362H	100N	10191.69 g	- 470 mg	± 103 mg
2008	* 1N	101.921 9 g	- 0.1 mg	± 1.0 mg
2014	* 1N	101.923 0 g	+ 1.0 mg	± 1.0 mg
2019	* 1N	101.923 0 g	+ 1.0 mg	± 1.0 mg
3512	* 1N	101.920 2 g	- 1.8 mg	± 1.0 mg
3513	* 1N	101.922 1 g	+ 0.1 mg	± 1.0 mg
TB4	* 1N	101.921 2 g	- 0.8 mg	± 1.0 mg
2026	* 5N	509.605 7 g	- 2.3 mg	± 5.1 mg
2030	* 5N	509.610 1 g	+ 2.1 mg	± 5.1 mg
1964	* 10N	1019.212 g	- 7.6 mg	± 10.2 mg
3362J	* 10N	1019.222 g	+ 1.7 mg	± 10.2 mg
2034	* 10N	1019.211 g	- 9.3 mg	± 10.2 mg
2038	* 10N	1019.215 g	- 4.7 mg	± 10.2 mg
2039	* 20N	2038.423 g	- 6.9 mg	± 20.4 mg
2042	* 20N	2038.434 g	+ 3.6 mg	± 20.4 mg
2045	* 20N	2038.431 g	+ 1.5 mg	± 20.4 mg
3023	* 20N	2038.434 g	+ 4.4 mg	± 20.4 mg
3519	* 20N	2038.400 g	- 29.5 mg	± 20.4 mg
3520	* 20N	2038.428 g	- 1.9 mg	± 20.4 mg
2048	* 50N	5096.132 g	+ 52 mg	± 51 mg
2049	* 50N	5096.164 g	+ 84 mg	± 51 mg
1958	* 100N	10192.19 g	- 10 mg	± 103 mg
3362H	* 100N	10192.25 g	+ 50 mg	± 103 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