

Accreditation Certificate

Mason Technology Ltd

228 South Circular Road, Dublin 8

Calibration Laboratory

Registration number: **043C**

is accredited by the Irish National Accreditation Board (INAB) to undertake calibration as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard **ISO/IEC 17025:2005 2nd Edition**

“General Requirements for the Competence of Testing and Calibration Laboratories”

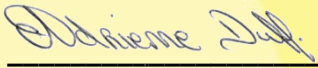
(This Certificate should only be read in conjunction with the annexed Schedule of Accreditation)

Date of award of accreditation: **09:05:2002**

Date of last renewal of accreditation: **28:11:2016**

Expiry date of this certificate of accreditation: **28:11:2021**

This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: 

Dr Adrienne Duff

Chairperson: 

Ms Ita Kinahan

Issued on 28 November 2016

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate, please contact the Irish National Accreditation Board.

INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

Schedule of Accreditation



(Annex to Accreditation Certificate)

Category A, B.

MASON TECHNOLOGY LTD.

Balance, Temperature, Hygrometry and Speed Measuring Devices Calibration Laboratory

Initial Accreditation Date : 26-July-1994

Postal Address: 228 South Circular Road, Dublin 8
Acorn Business Campus, Mahon Industrial Estate, Co. Cork (Site-office)

Telephone: +353 (0)1 4534422

Fax: +353 (0)1 4154492

E-mail: mnolan@masontec.ie

Contact Name: Ms Mandy Nolan

Facilities: Public calibration service

Schedule of Accreditation



Category A, B.

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish body for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation involved in testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

Calibration Categories:

- Category A:** Permanent calibration laboratory where the laboratory is erected on a fixed location for a period expected to be greater than three years.
- Category B:** Site calibration that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.
- Category C:** Site calibration that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.
- Category D:** Site calibration that is performed on site by individuals and organisations that do not have a permanent calibration laboratory. Calibration may be performed using
- (a) portable test equipment
 - (b) a site laboratory
 - (c) a mobile laboratory or
 - (d) equipment from a mobile or site laboratory

Standard Specification or Calibration Procedure Used:

The standard specification or calibration procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

Glossary of Terms

Facilities:

- Public calibration service:** Commercial operations which actively seek work from others.
- Conditionally available for public calibration:** Established for another primary purpose but, more commonly than not, is available for outside work.
- Normally not available for public calibration:** Unavailable for public calibration more often than not.

Laboratory users wishing to obtain assurance that calibration results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate. Users should contact the laboratory directly to ensure that this schedule of accreditation is current. INAB will on request verify the status and scope.

Scope of Accreditation



Mason Technology Ltd.

Permanent Laboratory:

Category A

Mass Calibration Laboratory

(Nominal temperature for calibration work: 20 ± 2 °C for F Class weights)

(Nominal temperature for calibration work : 22.5 ± 3.5 °C for M Class weights)

INAB Classification number (P9) Measured quantity	Range of measurement	Calibration and measurement capability expressed as an uncertainty *	Method and remarks
120 Masses	Range-Nominal value	(mg)	Documented in-house methods: SOP MS1/MS2/MS4
.01 Industrial mass standards	25000g	± 25	
	20000g	± 20	
	10000g	± 10	
M Class weights	5000g	± 8.3	
	1mg to 25kg	± 2.0	
	1000g	±1.0	
F Class weights	500g	±0.50	
	1mg to 20kg	±0.20	
	200g	±0.12	
	100g	±0.060	
	50g	±0.050	
	20g	±0.040	
	10g	±0.030	
	5g	±0.024	
	2g	±0.020	
1g	±0.016		
0.5g	±0.012		
0.2g	±0.012		

* Notes:

1. Intermediate values can be calibrated with an uncertainty interpolated from the next higher and lower values in the table above.
2. Calibration can be given in other units as required.
3. In accordance with INAB policy, uncertainties are calculated for an estimated confidence level of not less than 95%.
4. Calibration and measurement capability expressed as an uncertainty (\pm) to be reported in compliance with EA-4/02, "Expression of the Uncertainty of Measurement in Calibration".

Scope of Accreditation



Mason Technology Ltd.

Permanent Laboratory:

Category A

Mass Calibration Laboratory

(Nominal temperature for calibration work: $20 \pm 2^\circ\text{C}$ for F Class weights)

(Nominal temperature for calibration work : $22.5 \pm 3.5^\circ\text{C}$ for M Class weights)

INAB Classification number (P9) Measured quantity	Range of measurement	Calibration and measurement capability expressed as an uncertainty *	Method and remarks
120 Masses	Range-Nominal value	(mg)	Documented in-house methods: SOP MS1/MS2/MS4
.01 Industrial mass standards	0.1g	± 0.010	
M Class weights	0.05g	± 0.0080	
1mg to 25kg	0.02g	± 0.0060	
F Class weights	0.01g	± 0.0050	
1mg to 20kg	0.005g	± 0.0040	
	0.002g	± 0.0040	
	0.001g	± 0.0048	

* Notes:

1. Intermediate values can be calibrated with an uncertainty interpolated from the next higher and lower values in the table above.
2. Calibration can be given in other units as required.
3. In accordance with INAB policy, uncertainties are calculated for an estimated confidence level of not less than 95%.
4. Calibration and measurement capability expressed as an uncertainty (\pm) to be reported in compliance with EA-4/02, "Expression of the Uncertainty of Measurement in Calibration".

Scope of Accreditation



Mason Technology Ltd.

Permanent Laboratory:

Category A, B

Balance Calibration Laboratory

(Nominal temperature for calibration work: 20±2 °C)

INAB Classification number (P9) Measured quantity	Range of measurement	Calibration and measurement capability expressed as an uncertainty *	Method and remarks
121 Calibration of Weighing Devices			Documented in-house method: SOP W1, SOP W2
.01 Precision laboratory balances	1 mg - 5 g 5 g - 22 g 22 g - 100 g	±0.020mg ±0.026mg ±0.051mg	OIML Class E2 Weights OIML Class F1 Weights
.02 Industrial balances	100 g - 600 g 600 g - 1000 g	±0.14mg ±1.0mg	
.03 Industrial weighing appliances	1000 g - 8100 g 20 g - 600 g 600 g - 1000 g 1 kg - 5 kg 5 kg - 20 kg 20 kg - 60 kg	±1.4mg ±0.60mg ±2.5mg ±6.0mg ±10mg ±65mg	

* Notes:

- Intermediate values can be calibrated with an uncertainty interpolated from the next higher and lower values in the table above.
- Calibration can be given in other units as required.
- In accordance with INAB policy, uncertainties are calculated for an estimated confidence level of not less than 95%.
- Calibration and measurement capability expressed as an uncertainty (±) to be reported in compliance with EA-4/02, "Expression of the Uncertainty of Measurement in Calibration".

Scope of Accreditation



Mason Technology Ltd.

Category A, B.

Speed Measuring Device Calibration Laboratory

(Nominal temperature for calibration work: 20±15 °C)

INAB Classification number (P9)	Measured quantity	Range of measurement	Calibration and Measurement Capability expressed As an uncertainty (see note)	Method and remarks
151	Speed measuring devices			Documented in-house method: SOP SMD1, SOP SMD2
.99	Other devices - including centrifuges	0 to 599.9 rpm	± 2.2 rpm	
		599.9 to 9,999.9 rpm	± 2.9 rpm	
		10,000 to 50,000 rpm	± 13 rpm	
		Elapsed time		
		1 second to 1 hour	± 0.18 seconds	

* Notes:

1. Intermediate values can be calibrated with an uncertainty interpolated from the next higher and lower values in the table above.
2. Calibration can be given in other units as required.
3. In accordance with INAB policy, uncertainties are calculated for an estimated confidence level of not less than 95%.
4. Calibration and measurement capability expressed as an uncertainty (±) to be reported in compliance with EA-4/02, "Expression of the Uncertainty of Measurement".

Scope of Accreditation



Mason Technology Ltd.

Category A, B.

Temperature Calibration Laboratory

(Nominal temperature for calibration work: $20 \pm 10^{\circ}\text{C}$)

INAB Classification number (P9)	Measured quantity	Range of measurement	Calibration and measurement capability expressed as an uncertainty (see note)	Method and remarks					
501	Calibration of temperature measuring equipment								
					.41	Digital temperature indicator system	Permanent -86°C to 0 °C 0°C to +125 °C +125°C to +300 °C	0.22°C + Unit Resolution 0.21°C + Unit Resolution 0.24°C + Unit Resolution	SOP TS1
						Thermocouples	Site -80°C to -30 °C -30°C to +140 °C +140°C to +250 °C	0.59°C + Unit Resolution 0.30°C + Unit Resolution 0.39°C + Unit Resolution	SOP TS1
						All other probes	Permanent -86°C to 0 °C 0°C to +125 °C +125°C to +300 °C	0.084°C + Unit Resolution 0.048°C + Unit Resolution 0.115°C + Unit Resolution	SOP TS1
							Site -80°C to -30 °C -30°C to +140 °C +140°C to +250 °C	0.55°C + Unit Resolution 0.22°C + Unit Resolution 0.33°C + Unit Resolution	SOP TS1
		Permanent (Temperature sensors incorporated in humidity instruments) 0 °C to 15 °C 15 °C to 30 °C 30 °C to 60 °C	0.14 °C + Unit Resolution 0.11 °C + Unit Resolution 0.14 °C + Unit Resolution	SOP RH1					

* Notes:

1. Intermediate values can be calibrated with an uncertainty interpolated from the next higher and lower values in the table above.
2. Calibration can be given in other units as required.

Scope of Accreditation



Mason Technology Ltd.

Category A, B.

Temperature Calibration Laboratory

(Nominal temperature for calibration work: $20 \pm 10^\circ\text{C}$)

INAB Classification number (P9) Measured quantity	Range of measurement	Calibration and measurement capability expressed as an uncertainty (see note)	Method and remarks
			<ol style="list-style-type: none">3. In accordance with INAB policy, uncertainties are calculated for an estimated confidence level of not less than 95%.4. Calibration and measurement capability expressed as an uncertainty (\pm) to be reported in compliance with EA-4/02, "Expression of the Uncertainty of Measurement".

Scope of Accreditation



Mason Technology Ltd.

Category A, B.

Temperature Calibration Laboratory

(Nominal temperature for calibration work: 20±15 °C)

INAB Classification number (P9) Measured quantity		Range of measurement	Calibration and measurement capability expressed as an uncertainty (see note)	Method and remarks
510	Temperature control enclosures			Documented in-house methods:
.01	Ovens, refrigerators, freezers and baths	-80°C to 0 °C (WS) 0 °C to + 140 °C (WS) +140°C to +300 °C (WS) -80°C to +75°C (Veriteq)	±0.48°C ±0.18°C ±0.48°C ±0.32 °C	SOP T1, SOP T2
.02	Incubators	-10°C to +100 °C (WS) -10°C to 75°C (Veriteq)	±0.18°C ±0.32 °C	SOP T3
.03	Autoclaves & sterilising ovens <i>Including time interval</i>	Autoclaves: +80 °C to +140 °C 5 mins. to 24 hrs. time interval Sterilising Ovens: +80°C to + 140 °C 5 mins. to 24 hrs. time interval	±0.18°C ± 1.6 sec's per 1 hour ±0.18°C ± 1.6 sec's per 1 hour	SOP T6 SOP T1
.04	Industrial Freezers	-80°C to 0 °C (WS) -80°C to 0°C (Veriteq)	±0.48 °C ±0.32 °C	SOP T1

* Notes:

1. Intermediate values can be calibrated with an uncertainty interpolated from the next higher and lower values in the table above.
2. Calibration can be given in other units as required.
3. In accordance with INAB policy, uncertainties are calculated for an estimated confidence level of not less

Scope of Accreditation



Mason Technology Ltd.

Category A, B.

Temperature Calibration Laboratory

(Nominal temperature for calibration work: $20 \pm 15^\circ\text{C}$)

INAB Classification number (P9) Measured quantity	Range of measurement	Calibration and measurement capability expressed as an uncertainty (see note)	Method and remarks
			than 95%. 4. Calibration and measurement capability expressed as an uncertainty (\pm) to be reported in compliance with EA-4/02, "Expression of the Uncertainty of Measurement in Calibration".

Scope of Accreditation



Mason Technology Ltd.

Category A, B.

Temperature Calibration Laboratory

(Nominal temperature for calibration work: 20±15 °C)

INAB Classification number (P9) Measured quantity	Range of measurement	Calibration and Measurement Capability expressed As an uncertainty (see note)	Method and remarks
560 .10 Hygrometry Calibration of humidity measuring devices	Permanent lab only 0 °C to 15 °C 5% RH to 90% RH	0.22% RH to 1.9% RH	SOP RH1
	15 °C to 45 °C 5% RH to 95% RH	0.17% RH to 1.2% RH	
	45 °C to 60 °C 5% RH to 90% RH	0.15% RH to 1.0% RH	
	Temperature sensors incorporated in humidity instruments. 0 °C to 15 °C 15 °C to 30 °C 30 °C to 60 °C	0.14 °C + Unit Resolution 0.11 °C + Unit Resolution 0.14 °C + Unit Resolution	
560 .30 Hygrometry Testing of environmental chambers: <i>Stability Cabinets</i> <i>Climatic Cabinets</i> <i>Environment Cabinets</i>	10°C to 60°C 20% RH to 85% RH	± 0.32°C ± 3.3%	SOP T7
* Notes: 1. Intermediate values can be calibrated with an uncertainty interpolated from the next higher and lower values in the table above.			

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Category A, B.

Temperature Calibration Laboratory

(Nominal temperature for calibration work: 20 ± 15 °C)

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| <ol style="list-style-type: none">2. Calibration can be given in other units as required.3. In accordance with INAB policy, uncertainties are calculated for an estimated confidence level of not less than 95%.4. Calibration and measurement capability expressed as an uncertainty (\pm) to be reported in compliance with EA-4/02, "Expression of the Uncertainty of Measurement in Calibration". |
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