Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

0268

Accredited to ISO/IEC 17025:2017

Bowers Metrology Ltd

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Calibration performed by the Organisations at the locations specified below

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details		Activity	Location code
Address 32 Leeds Old Road Bradford West Yorkshire BD3 8HU	**Local contact** Mr S Devine	Dimensional	A

Site activities performed away from the locations listed above:

Location details		Activity	Location code
Address Customers site	**Local contact** Mr S Devine	Profile projectors	B

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED				
LENGTH				
Plain ring gauges (parallel) and setting standards	1.5 to 25 25 to 64 64 to 100 100 to 150 150 to 300	0.80 1.0 1.5 2.0 2.5	By comparison to master setting ring gauges and gauge blocks	A
MEASURING INSTRUMENTS				
Micrometers Micrometers, 3 point bore (including 2 point bore)	2 to 50 Above 50 to 100 Above 100 to 308	3.0 4.0 5.0	By comparison to master setting ring gauges	A
External micrometers (digital)	0 to 305	Heads 2.0 between any two points. Setting 1.0 + (8.0 x length in m)	Based on BS 870:2008 by comparison to length standards	A
Profile projectors	5 to 100 magnifications Linear 0 mm to 300 mm Angular 0° to 360°	100 µm at the screen Linear: 5.0 µm Angular: 5.0 minutes of arc	By comparison to line standards and angle artefacts	B
HARDNESS				
Calibration of Shore Hardness Meters (Durometers) Scales A and D			BS ISO 48-9:2018	A
Length	0.10 mm to 2.5 mm	2.0 µm	Indenters by optical projection methods	
Angle	30º to 35º	0.12º		
Radius	0.90 mm to 1.10 mm	2.0 µm	Force by comparison to reference force indicating device	
Force	1 N to 50 N	0.035 N		
END				

Appendix - Calibration and Measurement Capabilities

Introduction

The definitive statement of the accreditation status of a calibration laboratory is the Accreditation Certificate and the associated Schedule of Accreditation. This Schedule of Accreditation is a critical document, as it defines the measurement capabilities, ranges and boundaries of the calibration activities for which the organisation holds accreditation.

Calibration and Measurement Capabilities (CMCs)

The capabilities provided by accredited calibration laboratories are described by the Calibration and Measurement Capability (CMC), which expresses the lowest measurement uncertainty that can be achieved during a calibration. If a particular device under calibration itself contributes significantly to the uncertainty (for example, if it has limited resolution or exhibits significant non-repeatability) then the uncertainty quoted on a calibration certificate will be increased to account for such factors.

The CMC is normally used to describe the uncertainty that appears in an accredited calibration laboratory's schedule of accreditation and is the uncertainty for which the laboratory has been accredited using the procedure that was the subject of assessment. The measurement uncertainty is calculated according to the procedures given in the GUM and is normally stated as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k = 2$. An accredited laboratory is not permitted to quote an uncertainty that is smaller than the published measurement uncertainty in certificates issued under its accreditation.

Expression of CMCs - symbols and units

It should be noted that the percentage symbol (%) represents the number 0.01. In cases where the measurement uncertainty is stated as a percentage, this is to be interpreted as meaning percentage of the measurand.
Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \times 0.01 \times q$, where q is the quantity value.

The notation Q[a, b] stands for the root-sum-square of the terms between brackets: $Q[a, b] = [a^2 + b^2]^{1/2}$