Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

4505

Accredited to ISO/IEC 17025:2017

J K Metrology & Quality Services (a division of William Hughes Limited)

Issue No: 012 **Issue date:** 03 September 2021

Station Road **Stalbridge** **Dorset** **DT10 2RZ**	**Contact: John Kelly** **Tel: +44 (0) 1963 363377** **E-Mail: metrology@wmhughes.co.uk** **Website: www.jkmetrology.com**

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 Station Road Stalbridge Dorset DT10 2RZ	**Local contact** John Kelly / Matt Roberts Tel: +44 (0)1963 548815	Dimensional	A

Site activities performed away from the locations listed above:

Location details		Activity	Location code
At customers premises	**Contact** John Kelly / Matt Roberts Tel: +44 (0)1963 548815	Dimensional	B

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

4505
Accredited to
ISO/IEC 17025:2017

J K Metrology & Quality Services
(a division of William Hughes Limited)

Issue No: 012 **Issue date:** 03 September 2021

Calibration performed by the Organisation at the locations specified

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 Gauge blocks			NOTES	
Millimetre (Steel, tungsten carbide & ceramic)	As BS EN ISO 3650:1999 0.1 to 10 10 to 25 30, 40, 50 60, 70, 75 80, 90, 100 100 to 1000	Class (see notes below) A B C D .030 .050 .080 .10 .040 .060 .10 .13 .060 .090 .12 .17 .070 .11 .15 .21 .090 .13 .18 .25 0.20 + (1.0 x length in m)	1. All linear calibrations may be given in inch units. 2. The uncertainty quoted is for the departure from flatness, straightness, or squareness, ie, the distance separating the two parallel planes which just enclose the surface under consideration.	A
Inch (Steel, tungsten carbide & ceramic)	As BS 4311-1:2007 0.01 Inch to 0.4 inch 0.4 Inch to 1 inch 2 inch 3 inch 4 inch	Class (see notes below) A B C D 1.0 2.0 3.0 4.0 1.5 2.5 4.0 5.0 2.5 3.5 5.0 7.0 µinch 3.0 4.5 6.0 8.0 3.5 5.0 7.0 10		A
Interferometry **Class A** uncertainties apply to the measurement of length by interferometry of grade K standards of length to BS 4311:2007 and BS EN ISO 3650:1999 when they are measured twice, wrung to a platen by each of the two measuring faces in turn, and the mean of these two measurements stated. **Class B** uncertainties apply to the measurement of length by interferometry of grade K standards of length to BS 4311:2007 and BS EN ISO 3650:1999 when they are measured once, wrung to a platen by, if not otherwise specified, the left hand (unmarked) measuring face. **Comparison** **Class C** uncertainties apply to the measurement of length of gauges by comparison with grade K standards of length of a similar material. Class C uncertainties apply to new and used grade 0, 1 and 2 gauges to BS 4311:2007 and BS EN ISO 3650:1999. **Class D** uncertainties represent the best capability for the measurement of length of gauges by comparison with K grade standards of length of a dissimilar material.				
Gauge block accessories	BS 4311-2:2009 0 to 100	0.30	By comparison	A
Length bars Grades 1 and 2 Inspection and workshop	BS 5317:1976 and BS 1790:1961 10 to 1000	0.20 + (1.0 x length in m)	Using a laser interferometer	A

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
LENGTH (cont'd)				
Length bar accessories	BS 5317:1976 and BS 1790:1961 0 to 100	0.30	By comparison	A
FORM				
Surface plates			Using an electronic level	A & B
Granite Cast iron	BS 817:2008 160 x 100 to 4000 x 4000	1.5 + (0.80 x diagonal in m) See Note 2		
Optical flats	10 to 100 diameter	0.050 See Note 2	By comparison	**A**
Optical parallels	10 to 100 diameter	0.050 on flatness and parallelism 0.10 on length See Note 2	By comparison	**A**
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: $Q[a, b] = [a^2 + b^2]^{1/2}$