Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

UKAS CALIBRATION 0307 Accredited to ISO/IEC 17025:2017	**Correct Gauge and Tool Services** **Issue No:** 031 **Issue date:** 21 February 2022	
	No 7 Buffalo Road **Lancashire Enterprises Business Park** **Centurian Way** **Leyland** **Near Preston** **PR26 6TZ**	**Contact: Mr P Duffy** **Tel: +44 (0)1772-422452** **Fax: +44 (0)1772 422124** **E-Mail: enquiries@correctgauge.co.uk** **Website: www.correctgauge.co.uk**
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 No 7 Buffalo Road Lancashire Enterprises Business Park Centurian Way Leyland Near Preston PR26 6TZ	**Local contact** Mr P Duffy	Dimensional	A

Site activities performed away from the locations listed above:

Location details		Activity	Location code
At customers premises	Mr P Duffy	Dimensional	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				
Gauge blocks		Class C (see note 2)		
Inch (Steel & tungsten carbide)	As BS 4311-1:2007 0.01 inch to 0.4 inch. 0.4 inch to 1 inch 2 inch 3 inch 4 inch variation in length	 3.0 µ inch 4.0 µ inch 5.0 µ inch 6.0 µ inch 7.0 µ inch 2.8 µ inch	Note 2. **Class C** uncertainties apply to the measurement of length of steel gauges by comparison with grade K standards of length of a similar material	A
Millimetre (Steel, tungsten carbide)	As BS EN ISO 3650:1999 0.5 to 10 10 to 25 30, 40, 50 60, 70, 75 80, 90, 100 variation in length	 0.080 0.10 0.12 0.15 0.18 0.070	Class C uncertainties apply to grade 0,1 & 2 gauges to BS EN ISO 3650:1999 and BS 4311:2007	A
Plain plug gauges (parallel)	1 to 50 diameter 50 to 100 100 to 150 150 to 200 200 to 300	0.80 on diameter 1.0 1.5 2.0 2.5	By comparison to end standards using a length measuring instrument	A
Plain ring gauges (parallel)	2 to 10 diameter 10 to 25 25 to 50 50 to 100 100 to 150 150 to 250	1.0 on diameter 0.80 1.0 1.5 2.1 3.0	By comparison to master setting ring gauges using a length measuring instrument	A
Length gauges, flat and spherical ended (excluding length bars)	25 to 1000	1.0 + (8.0 x length in m)	By comparison to end standards	A
Plain gap gauges (parallel)	0.5 to 100 100 to 200 200 to 300	3.0 5.0 8.0	By comparison to end standards	A
Parallels	5 to 50 x 100 x 400	1.2 to 5.0	BS 906:1972 By comparison to end standards and reference datums	A
Feeler Gauges	0.02 to 1.00	3.0	BS 957:2008 By comparison to reference standards and reference datums	A

Measured Quantity Intrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
	RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED			
LENGTH (cont'd)				
Screw plug gauges (parallel) including check and setting plugs. (See note 5)	1 to 100 diameter 100 to 150	3.0 on pitch diameter 4.0	By comparison to cylindrical setting standards using a length measuring instrument, and thread measuring cylinders	A
Screw plug gauges (taper) including check plugs. (See note 5)	5 to 100 diameter 100 to 150	5.0 on pitch diameter 8.0	By comparison to cylindrical setting standards using a length measuring instrument, and thread measuring cylinders	A
Screw ring gauges (parallel) (See notes 4 and 5)	1 to 100 diameter 100 to 150	5.0 on pitch diameter 6.0	By comparison to cylindrical vee standards using a length measuring instrument	A
Screw ring gauges (taper) (See note 5)	5 to 100 diameter 100 to 150	5.0 on pitch diameter 8.0	By comparison to cylindrical vee standards using a length measuring instrument and	A
Screw thread flank angles	0° to 52°	5.0 minutes of arc	Using optical projection	A
Screw thread pitch	0.2 to 8	1.5	Using a pitch measuring instrument	A
Screw thread adjustable calliper gauges (parallel) (See note 7)	3 to 50 diameter	See note 7	Using setting plugs	A
Thread measuring cylinder and specials	0.1 to 5.0 diameter	0.50	BS3777:1964 and BS 5590:197using a length measuring instrument	A
Vee blocks	20 to 150 diameter, vee capacity	2.5 to 5.0	BS 3731:1987 by comparison to reference datums and cylinders	A
Receiver, gauges, jigs fixtures	0 to 600 x 300 x 300	Length and diameter: 3.0 + (10 x length in m) Angle: 1.0 minute of arc See note 6	Comparison to reference datums and end standards	A
ANGLE				
Squares Blade type	50 to 300 300 to 600	3.0 on squareness 5.0 See note 3	BS 939:2007 comparison to reference squares and datums	A

Measured Quantity Intrument or Gauge	Range	Expanded Measurement Uncertainty ($k = 2$)	Remarks	Location Code
	RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED			
ANGLE (cont'd)				
Square Block type	50 to 300 300 to 600	3.0 on squareness 5.0 See note 3	BS 939:2007 comparison to reference squares and datums	A
Angle plates and box angle plates	50 to 600	Squareness: 3.0 + (1.0 per 100 mm) Parallelism: 1.0 + (1.0 per 100 mm) See note 3	BS 5535:1978 comparison to reference squares and datums	A
Sine bars	100 to 300	Linear dimensions: 1.0 + (10 x length in m) Overall Performance: 3.0 Seconds of arc	BS 3064 Comparison to reference datums	A
Sine tables	100 to 500	Linear dimensions: 1.0 + (10 x length in m) Overall Performance: 3.0 Seconds of arc	BS 3064 Comparison to reference datums	A
MEASURING INSTRUMENTS AND MACHINES				
Micrometers			Comparison to end standards	
External	0 to 600	Heads 2.0 between any two points. Setting and extension rods 1.0 + (8.0 x length in m)	BS 870:2008	A
Internal Internal	0 to 900		BS 959:2008	A
Depth	0 to 300		BS 6468:2008	A
Micrometer heads	0 to 100	1.6	BS 1734:1954 comparison to end standard	A
Bench micrometer	0 to 100	Overall performance 2.0	NPL MOY/SCMI 22 comparison to end standard	A
Height gauges - (Simple) including vernier, dial and digital types (See note 8 and note 9)	0 to 1000	Length measurement error (E): 10 + (30 x length in metres)	BS EN ISO 13225:2012 Comparison to end standards	A
Vernier, dial and digital type gauges			Comparison to end standards	
Caliper	0 to 1000	Overall performance 10 + (30 x length in m)	BS 887:2008	A
Height	0 to 1000	Overall performance 10 + (30 x length in m)	BS 1643:2008	A
Depth	0 to 600	Overall performance 10 + (30 x length in m)	BS 6365:2008	A

Measured Quantity Intrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks	Location Code
	RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED			
MEASURING INSTRUMENTS AND MACHINES (cont'd)				
Dial gauges and dial test indicators	0 to 50	1.0	BS 907:2008 and BS 2795:1981 Comparisons to length measuring instrument	A
Height setting micrometer	0 to 300	Heads 1.0 Stepped column 1.6 Overall performance 2.0	Comparison to end standards	A
Riser blocks for above	150 300	1.0 2.0	Comparison to end standards	A
Bevel protractors	0 to 360 degrees	6.0 minutes of arc	BS 1685:2008 Comparison to reference angles and datums	A
Comparators (external)	250 to 20 000 magnifications	1.0 % of range Minimum 0.20	BS 1054:1975 Comparison to end standards	A
Profile projectors	10 to 100 magnifications	125 at the screen 3.0 linear 3.0 minutes of arc	Comparison to reference scales and angles	A,B
Spirit levels	5 seconds of arc to 60 minutes of arc nominal sensitivity	Mean sensitivity 10 % of nominal Minimum of 0.50 seconds of arc	BS 3509:1962 and BS 958:1968 By comparison to a small angle generator	A
Electronic indicating levels	0 to 10 minutes of arc	1.0 % of range Minimum 0.50 seconds of arc	By comparison to a small angle generator	A
FORM				
Surface plates Granite and Cast iron	160 x 100 to 6000 x 4000 Flatness of working surface Local variation of working surface	 1.5 + (0.80 x diagonal in m) See Note 3 2.0	BS 817:2008 and above using an electronic level and local variation gauge.	A & B
Straight edges				
Cast iron	300 to 2000	2.0 + (3.0 x length in m) See note 3	BS 5204:Part 1:1975 using an electronic level	A
Steel, Granite	300 to 2000	2.0 + (3.0 x length in m) See note 3	BS 5204:Part 2:1977 using an electronic level	A
Radius Gauges	0.1 to 250	0.20 %, minimum 3.0	Using optical methods	A

Notes
1. All linear calibrations may be given in inch units.

2. Class C uncertainties apply to the measurement of length of steel gauges by comparison with grade K standards of length of a similar material. Class C uncertainties apply to grade 0,1 & 2 gauges to BS EN ISO 3650:1999 and BS 4311:2007

3 The uncertainty quoted is for the departure from flatness, straightness, or squareness, i.e. the distance separating the two parallel planes, which just enclose the surface under consideration.

4. 1 mm to 6 mm diameter range relates to functional test of size using check plugs.

5. Single start, symmetrical thread forms only.

6. Features and associated parts of these gauges / fixtures can be measured to the uncertainties given for equivalent items listed in this schedule.

7. Functional test of size using setting plugs.

8. Simple height gauges - vernier, dial and digital instruments designed only for measuring distances parallel to the beam.

9. Conformance statements cannot be made against specifications whose magnitudes are smaller than the specified CMC values

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: $Q[a, b] = [a^2 + b^2]^{1/2}$