


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

| | | |
|--|--|---|
|  0224 Accredited to ISO/IEC 17025:2017 | Aspland Gauge Co Ltd Issue No: 032 Issue date 27 August 2021 | |
| | Broadway Industrial Estate Dukinfield Road Hyde Cheshire SK14 4QF | Contact: Simon Freear Tel: +44 (0)161 368 3432 Fax: +44 (0)161 367 8426 E-Mail: sales@aspland.co.uk Website: www.aspland.co.uk |

Calibrations performed by the Organisation at the locations specified below

Locations covered by the organisation and their relevant activities

Laboratory locations:

| Location details | Activity | Location code |
|---|--------------------------------------|----------------------|
| Address Broadway Industrial Estate Dukinfield Road Hyde Cheshire SK14 4QF | Local contact Simon Freear | Dimensional A |

Site activities performed away from the locations listed above:

| Location details | Activity | Location code |
|-----------------------|--------------|----------------------|
| At customers premises | Simon Freear | Dimensional B |



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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 | | | NOTES | |
| Plain plug gauges (parallel) cylindrical setting standards and rollers | 1 to 50 diameter 50 to 100 100 to 150 150 to 200 | 0.80 1.0 on diameter 1.5 2.0 | Procedure 05.7.06 Comparison to gauge blocks using a length measuring machine | A |
| Plain ring gauges (parallel) and setting standards | 2 to 10 diameter 10 to 50 50 to 100 100 to 200 | 1.5 1.0 on diameter 1.6 2.5 | Procedure 05.27 Comparison to gauge blocks using a length measuring machine | A |
| Vee blocks | 20 to 150 | 2.5 to 5.0 | BS 3731:1987 Comparison to datum surfaces | A |
| Length gauge, flat and spherical ended (excluding length bars) | 0 to 1000 | 1.0 + (8.0 x length in m) | BS 870:2008 Comparison to length standards | A |
| Thread measuring cylinders (including specials) | 0.1 to 5 | 0.50 | BS 5590:1978 & BS 3777:1964 Comparison to gauge blocks using a length measuring machine | A |
| Plain gap gauges (parallel) | 2 to 100 100 to 200 200 to 300 | 3.0 5.0 8.0 | BS 969:2008 Comparison to gauge blocks and using a length measuring machine | A |



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| RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED | | | | |
| LENGTH (cont'd) | | | | |
| Feeler Gauges | 0.025 to 1 | 3.0 | BS 957:2008 Length measuring machine | A |
| Parallels | 5 to 50 x 100 x 400 | 1.5 to 5.0 | BS 906:1972 Comparison to gauge blocks and datum surface | A |
| Receiver, position and profile gauges, jigs and fixtures | 0 to 600 x 600 x 300 | Length and diameter $3.0 + (20 \times \text{length in m})$ Angle 1.0 minute of arc See Note 2 | Procedure 05.17 Note 2. Features and associated parts of these gauges / fixtures can be measured to the uncertainties given for equivalent items listed in this schedule. | A |
| Rule – steel | 0 to 1000 1000 up to 2000 | $5.0 + (20 \times \text{length in m})$ $10 + (50 \times \text{length in m})$ | BS 4372:1968 Comparison to length measuring machine | A |
| ANGLE | | | | |
| Squares Blade type | 50 to 300 300 to 600 | 3.0 On squareness 5.0 See Note 1 | BS 939:2007 Comparison to master square | A |
| Squares Cylindrical type | 75 to 300 300 to 600 | 2.0 On squareness 4.0 See Note 1 | BS 939:2007 Reversal technique | A |
| Sine bars | 0 to 500 | Linear dimensions $1.0 + (10 \times \text{length in m})$ Overall performance 3.0 seconds of arc | BS 3064:1978 Comparison to gauge blocks and datum surface | A |
| Clinometers | 0 to 90 degrees | 10 seconds of arc | Procedure 05.21 Comparison to known angle | A |



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| FORM | | | Note 1. The uncertainty quoted is for the departure from flatness, straightness, parallelism, or squareness, i.e. the distance separating the two parallel planes which just enclose the surface under consideration. | |
| Surface plates Granite Cast iron | 160 x 100 to 2500 x 1600 | 1.5 + (0.80 x diagonal in m) See Note 1 | BS 817:2008 Using an electronic level | A, B |
| Straightedges Cast iron, Steel, Granite | 0 to 2000 | 1.0 + (2.0 x length in m) See Note 1 | BS 5204:Part 1:1975 BS 5204:Part 2:1977 Using an electronic level or comparison to datum surface | A, B |
| MEASURING INSTRUMENTS AND MACHINES | | | | |
| Micrometers | | | Comparison to length standards | |
| External | 0 to 1000 | Heads 2.0 between any two points | BS 870:2008 | A |
| Internal Micrometers | 0 to 900 | Setting and extension rods | BS 959:2008 | A |
| Depth Micrometers | 0 to 300 | 1.0 + (8.0 x length in m) | BS 6468:2008 | A |
| Micrometers Height Setting | 0 to 300 | 3.0 | Procedure 05.34 Comparison to length standards | A |
| Riser blocks for above item | 150 300 | 2.5 5.0 | Procedure 05.34 Comparison to length standards | A |
| Vernier, dial and digital type gauges | | | Comparison to length standards | |
| Calliper | 0 to 1000 | Overall performance 10 + (30 x length in m) | As BS 887:2008 | A |
| Height | 0 to 1000 | Overall performance 15 + (10 x length in m) | ISO13225:2012 and BS 1643:2008 | A |
| Depth | 0 to 600 | Overall performance 10 + (30 x length in m) | As BS 6365:2008 | A |



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| MEASURING INSTRUMENTS AND MACHINES (Cont'd) | | | | |
| Dial gauges and dial test indicators | 0 to 50 | 1.0 | BS 907:2008 and BS 2795:1981 Using a length measuring machine or comparison to gauge blocks | A |
| Comparators (external) Mechanical and electronic types | 250 to 10 000 magnifications | 1.0 % of range Minimum 0.20 | BS 1054:1975 Using a length measuring machine or comparison to gauge blocks | A |
| Electronic height gauges | 0 to 1000 | 1.0 + (5.0 x length in m) | Procedure 05.12.4 Comparison to length standards | A, B |
| Bore micrometer (three point) | 0 to 150 diameter | 5.0 | Procedure 05.2 Comparison to master setting ring gauges or fixture | A |
| Bevel protractors | 0° to 360° | 6.0 minutes of arc | BS 1685:2008 Comparison to known angle | A |
| Spirit levels | 5 seconds of arc to 60 minutes of arc nominal sensitivity | Mean sensitivity 10 % of nominal Minimum 0.50 seconds of arc | BS 3509:1962 and BS 958:1968 Using a small angle generator | A |
| Electronic levels | | | | A |
| Micrometer heads | 0 to 100 | 1.0 | BS 1734:1951 Using a length measuring machine | A |
| END | | | | |



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