Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

22261

Accredited to ISO/IEC 17025:2017

OGC Master Gear & Gauge Company Limited

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Unit 11, Fortnum Close
Kitts Green
Birmingham
B33 0LG
United Kingdom

Contact: Dorian Hatfield
Tel: +44 (0) 121 289 4430
E-Mail: dorian@mastergearandgauge.com

Calibration performed at the above address only

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
RANGE IN MILLIMETERS AND UNCERTAINTY IN MICROMETERS UNLESS OTHERWISE STATED			
MASTER GEARS AND INVOLUTE SPLINE GAUGES			
Bore diameter	10 to 50 diameter 50 to 150 diameter	1.0 2.5	Horizontal measuring machine or floating carriage micrometer and reference setting standards.
Tip diameter	10 to 100 diameter 100 to 200 diameter	1.0 3.5	Horizontal measuring machine or floating carriage micrometer and reference setting standards.
Dimension over pins or rollers Spur gears	10 to 50 diameter 50 to 200 diameter	2.8 3.5	Horizontal measuring machine or floating carriage micrometer and reference setting standards.
Dimension over pins or rollers Helical gears	10 to 50 diameter 50 to 200 diameter	5.5 7.8	Horizontal measuring machine or floating carriage micrometer and reference setting standards.
Tooth profile total deviation ($F\alpha$)	200 diameter maximum	2.5	CNC gear measuring machine
Tooth helix (lead) total deviation (F_β)	Max 200 diameter, 150 face width and 45° helix angle	2.5	CNC gear measuring machine
Radial runout of tooth space (F_r)	200 diameter maximum	3.3	CNC gear measuring machine
Single pitch (f_p)	200 diameter maximum	1.8	CNC gear measuring machine
Adjacent pitch difference (f_u)	200 diameter maximum	1.8	CNC gear measuring machine
Cumulative pitch (F_p)	200 diameter maximum	3.0	CNC gear measuring machine
Root radii, undercuts	0.5 to 5	25.0	

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
MASTER GEARS AND INVOLUTE SPLINE GAUGES (continued)			
Tip diameter, spur internal gears	11 to 50 diameter Even tooth numbers Odd tooth numbers	 2.5 3.5	Horizontal measuring machine and reference setting standards.
	50 to 200 diameter Even tooth numbers Odd tooth numbers	 3.5 5.0	Horizontal measuring machine and reference setting standards.
Runout of tip diameter, internal gear with respect to reference surface	11 to 200 diameter	2.5	
Dimension between pins, spur internal gears	12 to 100 diameter 100 to 200 diameter	3.0 4.5	Horizontal measuring machine and reference setting standards.
Straight sided spline, spline width	150	1.0	
Straight sided internal spline, spline width	150	1.0	
SERRATION GAUGES			
Dimension across flats 90° serrations	3 to 50 diameter 50 to 100 diameter	2.5 5.0	Horizontal measuring machine and reference setting standards.
Angular measurement of serrations	12 to 25 diameter 25 to 75 diameter 75 to 150 diameter	20 minutes of arc	Horizontal measuring machine or floating carriage micrometer and reference setting standards.

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