Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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0583

Accredited to ISO/IEC 17025:2017

Western Pegasus Ltd

Issue No: 016 **Issue date:** 11 March 2022

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Calibration performed at the above address only

DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k=2)	Remarks
RANGE IN MILLIMETERS AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED			
SPUR/HELICAL MASTER GEARS			
Bore Diameter	11 to 50 50 to 100	1.0 2.5	Horizontal measuring machine and reference setting standards.
Tip Diameter	25 to 100 100 to 200	1.0 3.5	Horizontal measuring machine and reference setting standards.
Dimension Over/Pins (Mdr)	25 to 100 100 to 200	5.0 7.5	Horizontal measuring machine or floating carriage micrometer and reference setting standards.
Profile total deviation(F_α)	Overworking length of tooth	1.5 to 2.5 depending upon size	CNC gear measuring machine
Helix (Lead) total deviation(F_β)	0 to 50 face width 50 to 100 face width	1.5 2.5	CNC gear measuring machine (with a maximum of 45° helix angle)
Radial Runout of Tooth Space (F_r)	50 to 100	1.0	CNC gear measuring machine
Single pitch (f_p)	25 to 200 reference circle diameter	1.0	CNC gear measuring machine
Pitch difference (f_u)	25 to 200	1.0	CNC gear measuring machine
Cumulative pitch (F_p)	25 to 200 reference circle diameter	3.5	CNC gear measuring machine

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k=2)	Remarks
RANGE IN MILLIMETERS AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED			
SPLINE GAUGES, INVOLUTE			
Spur and helical external including Taper Masters			
Major Diameter	5 to 100 100 to 200	1.0 3.5	Horizontal measuring machine and reference setting standards.
Dimensions over pins- spur gauges (Mdr)	From 5 up to 100 Above 100 up to 200	2.7 3.5	Horizontal measuring machine or floating carriage micrometer and reference setting standards.
Profile total deviation(F_α)	Over working Length of Tooth	1.5 to 2.5 depending upon size	CNC gear measuring machine
Helix (Lead) total deviation(F_β)	50 face width 50 up to 100 face width	1.5 2.5	CNC gear measuring machine
Single Pitch (f_p)	5 to 200 diameter	1.0	CNC gear measuring machine
Pitch difference (f_u)	5 to 200 diameter	1.0	CNC gear measuring machine
Cumulative Pitch (F_p)	5 to 200 diameter	3.5	CNC gear measuring machine
Spur and helical Internal		Even teeth Odd teeth	
Minor diameter	12 to 100 100 to 200	2.5 3.5 3.5 5.0	Horizontal measuring machine or floating carriage micrometer and reference setting standards.
Dimension between pins- spur (Mdk)	12 to 100 100 to 200	2.7 5.0	Horizontal measuring machine and reference setting standards.
Dimension between balls- helical (Mdr)	12 to 100 diameter 100 to 200 diameter	5.0 7.5	Horizontal measuring machine and reference setting standards.
Profile total deviation(F_α)	Over working length of tooth	1.5 to 2.5 depending upon size	CNC gear measuring machine
Helix (Lead) total deviation(F_β)	0 to 50 face width	1.5 to 2.5 depending upon size	CNC gear measuring machine
Single pitch (f_p)	12 to 200 diameter	1.0	CNC gear measuring machine
Pitch difference (f_u)	12 to 200 diameter	1.0	CNC gear measuring machine
Cumulative pitch (F_p)	12 to 200 diameter	3.5	CNC gear measuring machine

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k=2)	Remarks
RANGE IN MILLIMETERS AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED			
SPLINE GAUGES STRAIGHT SIDED			
Plugs and rings			
Major diameter (plug)	10 to 100 diameter 100 to 200 diameter	1.0 3.5	Horizontal measuring machine and reference setting standards.
Minor diameter (plug)	10 to 100 diameter 100 to 200 diameter	1.0 3.5	Horizontal measuring machine and reference setting standards.
		Even Teeth / Odd Teeth	
Major Diameter (ring)	12 to 50 diameter 50 to 100 diameter 100 to 200 diameter	2.5 / 3.5 3.5 / 5.0 5.0 / 7.5	Horizontal measuring machine and reference setting standards.
Minor Diameter (ring)	12 to 50 diameter 50 to 100 diameter 100 to 200 diameter	2.5 / 3.5 3.5 / 5.0 5.0 / 7.5	Horizontal measuring machine and reference setting standards.
Spline Width	2 to 20	1.0	Gauge blocks
Helix (Lead) total deviation(F_β)	0 to 50 face width 50 up to 100 face width	1.5 2.5	CNC gear measuring machine
Single pitch (f_p)	30 to 200	1.0	CNC gear measuring machine
Pitch difference (f_u)	30 to 200	1.0	CNC gear measuring machine
Cumulative pitch (F_p)	30 to 200	3.5	CNC gear measuring machine

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k=2)	Remarks
RANGE IN MILLIMETERS AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED			
SERRATION GAUGES STRAIGHT SIDED as BS 2059 (excluding taper serrations) **Plugs and rings**			
Major diameter (plug)	6 to 100 diameter 100 to 150 diameter	1.0 3.5	Horizontal measuring machine or floating carriage micrometer and reference setting standards.
		Even Teeth Odd Teeth	
Minor diameter (ring)	6 to 100 diameter 100 to 150 diameter	2.5 3.5 3.5 5.0	Horizontal measuring machine and reference setting standards.
Dimension over pins (Mdk)	6 to 75 diameter 75 to 150 diameter	1.0 3.5	Horizontal measuring machine and reference setting standards.
Dimension under pins (Mdk)	6 to 100 diameter 100 to 150 diameter	2.5 5.0	Horizontal measuring machine and reference setting standards.
Serration angle	13 to 25 diameter 25 to 75 diameter 75 to 150 diameter	20 minutes of arc 15 minutes of arc 10 minutes of arc	CNC gear measuring machine
Single pitch (f_p)	0 to 50 face width 50 to 100 face width	1.0 2.5	CNC gear measuring machine
Pitch difference (f_u)	6 to 150 diameter	1.0	CNC gear measuring machine
Cumulative pitch (F_p)	6 to 150 diameter	3.5	CNC gear measuring machine
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: $Q[a, b] = [a^2 + b^2]^{1/2}$