

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

 <p style="text-align: center;">UKAS CALIBRATION</p> <p style="text-align: center;">0015</p> <p style="text-align: center;">Accredited to ISO/IEC 17025:2005</p>	Spline Gauges	
	Issue No: 014 Issue date: 23 December 2010	
A Division of Danaher UK Ind Ltd Piccadilly Tamworth Staffordshire B78 2ER	Contact: Mr Gareth Jones Tel: +44 (0)1827-872771 Fax: +44 (0)1827-874128 E-Mail: gareth.jones@splinegauges.co.uk Website: www.splinegauges.co.uk	
Calibration performed at the above address only		

DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty (k=2)	Remarks
RANGE AND UNCERTAINTY IN INCHES UNLESS OTHERWISE STATED			
MASTER GEARS			Notes
Spur			
Bore diameter	½, ¾, 1, 1¼, 2 22 mm, 32 mm, 45 mm, 60 mm	0.000 050	1. All linear calibrations may be given in metric units. 2. For gears with odd number of teeth manufactured by organisations other than Spline Gauges, these uncertainties must be increased by 0.000 10 in.
End face squareness	1 to 12 diameter	0.000 050	
Tip diameter	1 to 4 diameter 4 to 8 8 to 12	0.000 050 0.000 15 0.000 20	
Tip radial runout	1 to 12 diameter	0.000 050	
Dimension over pins	1 to 4 diameter 4 to 8 8 to 12	0.000 20 0.000 30 0.000 40	
Tooth profile	Overworking length of tooth (Minimum base circle diameter 1)	0.000 050	
Tooth alignment	0 to 2 face width 2 to 4	0.000 050 0.000 10	
Radial runout of reference circle	1 to 12 diameter	0.000 050	
Adjacent pitch	1 to 12 reference circle diameter	0.000 050	
Two consecutive pitches	1 to 12 reference circle diameter	0.000 050	
Cumulative pitch	1 to 12 reference circle diameter	0.000 15	



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RANGE AND UNCERTAINTY IN INCHES UNLESS OTHERWISE STATED			
MASTER GEARS (cont'd)			
Helical (maximum 45°)			
Bore diameter	½, ¾, 1, 1¼, 2	0.000 050	
End face squareness	1 to 12 diameter	0.000 050	
Tip diameter	1 to 4 diameter 4 to 8 8 to 12	0.000 050 0.000 15 0.000 20] see Note 2 —
Tip radial runout	1 to 12 diameter	0.000 050	
Dimension over balls	1 to 4 diameter 4 to 8 8 to 12	0.000 20 0.000 30 0.000 40	
Tooth profile	Over working length of tooth (Minimum base circle diameter 1)	0.000 050	
Tooth lead	0 to 2 face width 2 to 4 (Minimum base circle diameter 1)	0.000 050 0.000 10	
Radial runout of reference circle	1 to 12 diameter	0.000 050	
Adjacent pitch	1 to 12 reference circle diameter	0.000 050	
Two consecutive pitches	1 to 12 reference circle diameter	0.000 050	
Cumulative pitch	1 to 12 reference circle diameter	0.000 15	
SPLINE GAUGES, INVOLUTE			
Spur external including taper masters			
Major diameter	³ / ₁₆ to 4 diameter 4 to 8 8 to 12	0.000 050 0.000 15 0.000 20] See Note 2]
Runout of major diameter with respect to reference circle diameter	³ / ₁₆ to 12 diameter	0.000 050	
Dimension over pins	³ / ₁₆ to 4 diameter 4 to 8 8 to 12	0.000 10 0.000 15 0.000 20	



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RANGE AND UNCERTAINTY IN INCHES UNLESS OTHERWISE STATED			
SPLINE GAUGES, INVOLUTE (cont'd)			
Spur external including taper masters			
Tooth profile	Over working length of tooth (Minimum base circle diameter 1)	0.000 050	
Tooth alignment	0 to 2 face width 2 to 4	0.000 050 0.000 10	
Adjacent pitch	$\frac{3}{16}$ to 12 diameter	0.000 050	
Two consecutive pitches	$\frac{3}{16}$ to 12 diameter	0.000 050	
Cumulative pitch	$\frac{3}{16}$ to 12 diameter	0.000 15	
Fillet radii and undercuts	0.5 to 5	0.001 0	
Chamfers	0.1 to 0.5	0.000 50	
Helical external			
Major diameter	$\frac{3}{16}$ to 4 diameter 4 to 8 8 to 12	0.000 050 0.000 15 0.000 20	See Note 2
Runout of major diameter with respect to reference circle diameter	$\frac{3}{16}$ to 12 diameter	0.000 050	
Dimension over balls	$\frac{3}{16}$ to 4 diameter 4 to 8 8 to 12	0.000 20 0.000 25 0.000 30	
Tooth profile	Over working length of tooth (Minimum base circle diameter 1)	0.000 050	
Tooth lead	0 to 2 face width 2 to 4 (Minimum base circle diameter 1)	0.000 050 0.000 10	
Adjacent pitch	$\frac{3}{16}$ to 12 diameter	0.000 050	
Two consecutive pitches	$\frac{3}{16}$ to 12 diameter	0.000 050	
Cumulative pitch	$\frac{3}{16}$ to 12 diameter	0.000 15	



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RANGE AND UNCERTAINTY IN INCHES UNLESS OTHERWISE STATED			
SPLINE GAUGES, INVOLUTE (cont'd)			
Fillet radii and undercuts	0.5 to 5	0.001 0	
Chamfers	0.1 to 0.5	0.001 0	
Spur internal			
Minor diameter	½ to 4 diameter	Even teeth 0.000 10 Odd teeth 0.000 15	
	4 to 8	0.000 15 0.000 20	
	8 to 12	0.000 20 0.000 30	
Runout of minor diameter with respect to reference circle diameter	½ to 12 diameter	0.000 050	
Dimension between pins	½ to 4 diameter	0.000 10	
	4 to 8	0.000 20	
	8 to 12	0.000 30	
Tooth profile	Over working length of tooth (Minimum base circle diameter 1)	0.000 050	
Tooth alignment	0 to 2 face width	0.000 050	
Adjacent pitch	½ to 12 diameter	0.000 050	
Two consecutive pitches	½ to 12 diameter	0.000 050	
Cumulative pitch	½ to 12 diameter	0.000 15	
Fillet Radii	0.5 to 5	0.001 0	
Chamfers	0.1 to 0.5	0.001 0	
Helical internal			
Minor diameter	½ to 4 diameter	Even teeth 0.00010 Odd teeth 0.000 15	
	4 to 8	0.000 15 0.000 20	
	8 to 12	0.000 20 0.000 30	
Runout of minor diameter with respect to reference circle diameter	½ to 12 diameter	0.000 10	



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RANGE AND UNCERTAINTY IN INCHES UNLESS OTHERWISE STATED			
SPLINE GAUGES, INVOLUTE (cont'd)			
Dimensions between balls	½ to 4 diameter	0.000 20	
	4 to 8	0.000 30	
	8 to 12	0.000 40	
Tooth profile	Over working length of tooth (Minimum base circle diameter ¹)	0.000 10	
Tooth lead	0 to 2 face width	0.0001 0	
Adjacent pitch	½ to 12 diameter	0.000 050	
Two consecutive pitches	½ to 12 diameter	0.000 050	
Cumulative pitch	½ to 12 diameter	0.000 15	
Fillet radii	0.5 to 5	0.001 0	
Chamfers	0.1 to 0.5	0.001 0	
SPLINE GAUGES STRAIGHT SIDED			
Plug			
Major diameter	¾ up to 4 diameter	0.000 050	See Note 2
	4 to 8	0.000 15	
Minor diameter	¾ up to 4 diameter	0.000 050	
	4 to 8	0.000 15	
Runout of major diameter with respect to minor diameter	¾ to 8 diameter	0.000 050	
Tooth alignment	0 to 2 face width	0.000 050	
	2 to 4	0.000 10	
Adjacent pitch	¾ to 8 diameter	0.000 50	
Two consecutive pitches	¾ to 8 diameter	0.000 50	
Cumulative pitch	¾ to 8 diameter	0.000 15	
Fillet radii and undercuts	0.5 to 5	0.001 0	
Chamfers	0.1 to 0.5	0.000 50	
Ring			
Major diameter	½ to 2 diameter	0.000 10	0.000 15
	2 to 4	0.000 15	0.000 20
	4 to 8	0.000 20	0.000 30



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SPLINE GAUGES STRAIGHT SIDED (cont'd)			
Ring (cont'd)			
Minor diameter	½ to 2 diameter	0.000 10 0.000 15	
	2 to 4	0.000 15 0.000 20	
	4 to 8	0.000 20 0.000 30	
Runout of major diameter with respect to minor diameter	½ to 8 diameter	0.000 10	
Tooth alignment	0 to 2 face width	0.000 050	
Adjacent pitch	½ to 8 diameter	0.000 050	
Two consecutive pitches	½ to 8 diameter	0.000 050	
Cumulative pitch	½ to 8 diameter	0.000 15	
Fillet radii	0.5 to 5	0.001 0	
Chamfers	0.1 to 0.5	0.001 0	
SERRATION GAUGES STRAIGHT SIDED			
Plug			
Major diameter	¼ to 4 diameter	0.000 050	See Note 2
	4 to 6	0.000 15	
Runout of major diameter with respect of serrations	¼ to 6 diameter	0.000 050	
Dimensions over pins	¼ to 3 diameter	0.000 10	
	3 to 6	0.000 15	
Dimensions across flats (90° serrations only)	1/8 to 4 diameter	0.000 10	
	2 to 4	0.000 20	
Angular measurement of serrations	As BS 2059:1953		
Fine serrations	½ to 1 diameter (or as former BS A19, ¼ to 2)	20 minutes of arc	
Serrations	1 to 3 diameter	15 minutes of arc	
	3 to 6	10 minutes of arc	
Tooth pitch	0 to 2 face width	0.000 050	
	2 to 4	0.000 10	



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SERRATION GAUGES STRAIGHT SIDED (cont'd)			
Adjacent pitch	¼ to 6 diameter	0.000 05	
Two consecutive pitches	¼ to 6 diameter	0.000 05	
Cumulative pitch	¼ to 6 diameter	0.000 15	
Fillet radii	0.5 to 5	0.001 0	
Ring			
Minor diameter	¼ to 4 diameter 4 to 6	Even teeth 0.000 10 Odd Teeth 0.000 15 0.000 15 0.000 20	
Dimension under pins	¼ to 4 diameter 4 to 6	0.000 10 0.000 20	
Dimensions across flats (90° serrations only and even teeth only)	¼ to 4 diameter 4 to 6	0.000 10 0.000 15	
Angular measurement of serrations	As BS 2059:1953		
Fine serrations	¼ to 1 diameter (or as former BS A19, ¼ to 2)	20 minutes of arc	
Serrations	1 to 3 diameter 3 to 6	15 minutes of arc 10 minutes of arc	
Runout of minor diameter with respect of reference band	¼ to 6 diameter	0.000 10	
Tooth alignment	Up to 2 facewidth	0.000 1	
Adjacent pitch	¼ to 6 diameter	0.000 050	
	¼ to 6 diameter	0.000 050	
Cumulative pitch	¼ to 6 diameter	0.000 15	
Fillet radii	0.5 to 5	0.001 0	
Chamfers	0.1 to 0.5	0.001 0	
END			