


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <p>Accredited to ISO/IEC 17025:2005</p>	<h3>National Gear Metrology Laboratory</h3> <p>Issue No: 005    Issue date: 21 October 2010</p>	
	<p>Design Unit University of Newcastle upon Tyne Stephenson Building Claremont Road Newcastle upon Tyne NE1 7RU</p>	<p>Contact: Dr R Frazer Tel: +44 (0)191 222-6192 Fax: +44 (0)191 222-6194 E-Mail: r.c.frazer@ncl.ac.uk Website: www.ncl.ac.uk/gears</p>
Testing performed at the above address only		

### DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Measurement Capability Expressed as an Expanded Uncertainty ( $k=2$ )
RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES UNLESS OTHERWISE STATED		
GEARS, GEAR ARTEFACTS, SPLINE GAUGES (see notes)		
<b>External</b>		
Profile total error ( $F_\alpha$ )	} Helix angle 0 to 55°	1.7
Profile slope error ( $f_{H\alpha}$ )		1.5
Profile form error ( $f_{r\alpha}$ )		1.7
Helix (alignment) total error ( $F_\beta$ )	} 0.15 to 25 Module	1.7
Helix (alignment) slope error ( $f_{H\beta}$ )		1.5
Helix (alignment) form error ( $f_{\beta t}$ )		1.7
Adjacent pitch ( $f_p$ )		1.5
Adjacent pitch difference ( $f_u$ )		1.5
Cumulative pitch ( $F_p$ )		1.8
Radial runout of tooth space ( $F_r$ )		3.3
Normal circular tooth thickness ( $S_n$ )		2.2
Dimension over/pins or balls (Mdr or Mdk)	5 to 250 diameter	2.2



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**National Gear Metrology Laboratory**  
**Issue No: 005    Issue date: 21 October 2010**

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RANGE IN MILLIMETRES AND UNCERTAINTY IN MICROMETRES  
UNLESS OTHERWISE STATED

GEARS, GEAR ARTEFACTS, SPLINE GAUGES (see notes) (cont'd)

Parameter	Range / Notes	Uncertainty (micrometres)
<b>Internal</b>		
Profile total error ( $F_\alpha$ )	}	1.7
Profile slope error ( $f_{H\alpha}$ )		1.5
Profile form error ( $f_{r\alpha}$ )		1.7
Helix (alignment) total error ( $F_\beta$ )	Helix angle 0 to 55°	1.7
Helix (alignment) slope error ( $f_{H\beta}$ )		1.5
Helix (alignment) form error ( $f_{r\beta}$ )		1.7
Adjacent pitch ( $f_p$ )	0.15 to 25 Module	1.5
Adjacent pitch difference ( $f_u$ )		1.5
Cumulative pitch ( $F_p$ )		1.8
Radial runout of tooth space ( $F_r$ )		3.3
Normal circular tooth thickness ( $S_n$ )		2.5
Dimension between pins or balls (Mdr or Mdk)	15 to 250 diameter	2.2

NOTES

- Gears of the following capacities may be calibrated: Maximum diameter 650 mm, Maximum length 1000 mm, Max Weight 800 kg.
- The uncertainties stated assume that journal diameters or reference surfaces have been used to define the measurement axis.

END