Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

0386

Accredited to ISO/IEC 17025:2005

Institute of Spring Technology

Issue No: 028 **Issue date:** 24 April 2012

Henry Street
Sheffield
South Yorkshire
S3 7EQ

Contact: Mr L Peel
Tel: +44 (0)114 276 0771
Fax: +44 (0)114 272 7997
E-Mail: l.peel@ist.org.uk
Website: www.ist.org.uk

Testing performed at the above address only

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS	<u>Metallurgical Tests</u>	
	Depth of decarburisation	BS EN ISO 3887:2003 (Microscopic methods only) Documented In-house Method OI 37
	Grain size	BS EN ISO 643:2003
	Non metallic inclusions/cleanness - particle size and number	Documented In-house Method OI 37
	Identification of microstructure phases	Documented In-house Method OI 37 ASM Handbook No 8 (8th Edition)
	Measurement of depth of surface defects and corrosion pits	Documented In-house Method OI 37
	Metallic coatings - Uniformity of plating	BS EN ISO 1463:2004 BS EN ISO 3882:2003 Documented In-house Method OI 37
	Measurement of fracture surface features and determination of fracture mode (at magnifications of X25 to X10000)	Documented In-house Method OI 19 ASM Handbook No 9 (8th Edition)
	Visual examination of surface features	Documented In-house Method OI 35

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	Mechanical Tests	
	Torsion/torque testing within the ranges of 0.5Nm to 1000Nm (ambient temperature)	Documented In-House Methods developed using Section D3 of the Quality Manual
	Tensile testing and proof load tests, and any combination of the above within the ranges of 5N to 100kN at temperatures in the range of -60ºC to 1000ºC	Documented In-House Methods developed using Section D3 of the Quality Manual
	Compression tests within the range of 5N to 50kN at temperatures in the range of -60ºC to 300ºC	Documented In-House Methods developed using Section D3 of the Quality Manual
	Tensile strength (UTS only) at ambient temperature (forces up to 100 kN)	BS EN ISO 6892-1:2009 BS 4A4 Part 1:Section 1:1966 (2009) BS EN 10218-1:1994
	Bend	BS EN ISO 7438:2005
	Simple torsion	BS EN 10218-1:1994 BS ISO 7800:2003
	Wrapping	ISO 7802:1983
	Vickers hardness (5kg, 10kg & 30kg)	BS EN ISO 6507-1:2005
As received wires and related products	Torsion Fatigue (torques up to 100 Nm)	BS 3518:Part 1:1993(2009) To documented plans agreed with customers
	Relative Coilability and Surface Friction (Fracmat Test)	Documented In-house Method OI 58
	Torsion stress/strain & rigidity modulus(G) at ambient temperature (torque up to 1350 Nm)	Documented In-house Method OI 56

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
Stainless steel and coatings	Corrosion Tests	
	Neutral Salt Spray (pH values in range 6.5 to 7.2)	Documented In-house Method OI 29
	100% Humidity	Documented In-house Method OI 46
SPRINGS and SPRING ASSEMBLIES Compression, Extension, Torsion, Disc, Flat and Wireforms	Mechanical Tests	
	Load and Rate tests: -	
	Compression springs (forces up to 50 kN)	BS 1726-1:2010 BS 8726:Part 1:2002 (2009) BS EN 15800:2008 DIN 2096:Part 1:1981 DIN 2096:Part 2:1979
	Compression springs, non-axial force measurement (forces up to 2 kN)	Documented In-house Method OI 54 and documented plans agreed with customers.
	Extension springs (forces up to 100 kN)	BS 1726-2:2002 (2009) DIN 2097:1973
	Torsion springs (torque up to 1350 Nm)	BS 1726-3:2002 BS 8726-2:2002 (2009)
	Disc springs (forces up to 50 kN)	DIN 2093:2006
	Flat springs (forces up to 50 kN)	Documented In-house Methods OI 28, OI 39 and documented plans agreed with customers
	Wireforms (forces up to 50 kN) (torque up to 1350 Nm)	Documented In-house Methods OI 24, 27, 28, 39, 62 and documented plans agreed with customers

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SPRINGS and SPRING ASSEMBLIES Compression, Extension, Torsion, Disc, Flat and Wireforms (cont'd)	Mechanical Tests (cont'd)	
	Fatigue at ambient and elevated temperatures up to 673K:-	
	Compression springs (forces up to 50 kN, strokes up to 250 mm)	BS 3518:Part 1:1993 (2009) BS ISO 12107:2003 BS 1726-1:2010 BS 8726-1:2002 Documented In-house Methods OI 23, 25, 26, 33, 42 and 50 and documented plans agreed with customers
	Extension springs (forces up to 50 kN, strokes up to 350 mm)	BS 3518:Part 1:1993 (2009) BS ISO 12107:2003 BS 1726-2:2002 Documented In-house Methods OI 23, 26, 33,42 and 50 and documented plans agreed with customers
	Torsion springs (torque up to 100 Nm)	BS 3518:Part 1:1993 (2009) BS ISO 12107:2003 BS 1726-3:2002 BS 8726-2:2002
	Disc springs (forces up to 50 kN)	DIN 2092: 2006
	Relaxation at ambient and elevated temperatures:-	
	Static, up to 923 K (forces up to 50 kN)	Documented In-house Method OI 57 and documented plans agreed with customers
	Dynamic, up to 673 K (forces up to 1000 N)	Documented In-house Method OI 57 and documented plans agreed with customers

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
SPRINGS and SPRING ASSEMBLIES Compression, Extension, Torsion, Disc, Flat and Wireforms (cont'd)	<u>Dimensional Measurements</u>	
	Compression springs	BS 1726-1:2010 BS 8726-1:2002 BS EN 15800:2008 DIN 2096:Part 1:1981 DIN 2096:Part 2:1979 Documented In-House Method OI 64
	Extension springs	BS 1726-2:2002 DIN 2097:1973 Documented In-House Method OI 64
	Torsion springs	BS 1726-3:2002 BS 8726-2:2002 Documented In-House Method OI 64
	Disc springs	DIN 2093:2006
	Flat springs and Wireforms	Documented In-house Method OI 47
END		