

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>0306</p> <p>Accredited to ISO/IEC 17025:2005</p>	<p>Smithers Rapra Ltd</p> <p>Issue No: 023 Issue date: 07 May 2008</p>	
	<p>Shawbury Shrewsbury Shropshire SY4 4NR</p>	<p>Contact: Mr G Bright Tel: +44 (0)1939-250383 Fax: +44 (0)1939-251118 E-Mail: gbright@rapra.net Website: www.rapra.net</p>
<p>Calibration performed at the above address only</p>		

DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Best Measurement Capability Expressed as an Expanded Uncertainty (k=2)	Remarks
<p>RANGE IN METRES AND UNCERTAINTY IN MILLIMETRES UNLESS OTHERWISE STATED</p>			
MEASURING INSTRUMENTS			NOTES
Micrometers (External) Micrometer Heads	Accuracy of Traverse up to 100 mm	0.005 between any two points	<p>1 All items are calibrated strictly in accordance with procedures agreed by UKAS and which may not necessarily comply with all requirements of a relevant British Standard.</p> <p>2 The calibration undertaken will have associated uncertainties of measurement commensurate with the general levels of tolerance prevailing in the Rubber, Plastics and allied industries. Such calibrations will result in the performance of these instruments being determined to an order of accuracy suitable for use in the Rubber, Plastics and allied industries, but not for industries where a high level of precision is required.</p> <p>3 Linear calibrations may be made and reported in Inch units.</p>
Caliper Gauges Vernier Dial Digital	Up to 1	$0.01 + (0.03 \times L)$	
Steel Rules	Up to 1	$0.25 + (0.25 \times L)$	
Steel Tape Measure	Up to 3	$0.25 + (0.25 \times L)$	
Dial Test Indicators and Linear Transducers	Up to 30 mm	0.002	
Extensometers	As BS 5214 and ISO 5893 Video Laser	4 + (0.16 μ m per mm) 0.3% (absolute)	
Displacement Transducers	Up to 100 mm	0.002	
MASS			
Weights and Artefacts	Up to 100g 100g to 400g 400g to 5 kg Above 5 kg to 34 kg	0.005 g 0.010 g 0.200 g 1.000 g	



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TEST EQUIPMENT (Machines which determine the various mechanical properties of plastics and rubbers as listed can be calibrated)			
Abrasion	Calibrations in accordance with BS 7825:Part 3:1996 and equivalent national standards	The calibration of these equipments embodies one or more of the elements listed below together with their best measurement capabilities:- Length 0.003 Diameter 0.003 Angle 5 minutes of arc Mass 0.2 g Time 0.1 sec Temperature 0.2 °C The overall uncertainty for the resulting derived measurement for an item of test equipment shall be determined in each case.	
Flexural			
Hardness			
Impact			
Cracking			
Tearing			
Brittleness			
Rebound			
Friction			
Creep, Relaxation and Set			
Stress/Strain			
Sample Preparation Equipment			
Melt Flow Index			
PRESSURE			
<u>Gas pressure (gauge)</u>			
Calibration of pressure indicating instruments and gauges	-100 kPa to -10 kPa 0 to 2.48 MPa	0.1 kPa 0.2% + 0.1 kPa	
<u>Hydraulic pressure (gauge)</u>			
Calibration of pressure indicating instruments and gauges	621 kPa to 110.4 MPa	0.05%	
TEMPERATURE			
Liquid-in-glass thermometers	-80 to -20 °C -20 to 300 °C	0.3 °C 0.05 °C	
Thermocouples	-80 °C to -20 °C -20 °C to 100 °C 100 °C to 300 °C 300 °C to 1100 °C	0.3 °C 0.2 °C 0.3 °C 3 °C	
Electronic thermometers with sensors	-80 to -20 °C -20 to 300 °C 300 °C to 1100 °C	0.3 °C 0.05 °C 3 °C	
END			