

# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 <p><b>UKAS</b> TESTING <b>0067</b></p> <p>Accredited to <b>ISO/IEC 17025:2017</b></p>	<p><b>Smithers MSE Limited</b></p> <p><b>Issue No: 058    Issue date: 26 January 2024</b></p>	
	<p><b>Shawbury</b> <b>Shrewsbury</b> <b>Shropshire</b> <b>SY4 4NR</b></p>	<p><b>Contact: Richard Barlow</b> <b>Tel: +44 (0)1939 250383</b> <b>E-Mail: rbarlow@smithers.com</b> <b>Website: www.smithers.com</b></p>
<p><b>Testing performed at the above address only</b></p>		

### DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
PLASTICS, RUBBER and COMPOSITE MATERIALS	<p><u>Chemical Analysis</u></p> <p>Comparison of Molecular weight distribution by GPC</p> <p>Identification of rubbers by infrared spectroscopy</p> <p>Determination of solvent extract</p>	<p>In-House procedures numbered: RT011.71.01 HTGPC of PEEK RT011.71.05 GPC with THF or Chloroform RT011.71.06 HTGPC of Polyolefins RT011.71.07 GPC with HFIP</p> <p>In house method RT011.48 based on BS ISO 4650:2012</p> <p>In house method RT011.42 based on ISO 1407:2011 (equivalent to BS 7164:Part 3:1992 (withdrawn))</p>
FOOD CONTACT TESTS	<p>Overall migration into aqueous simulants</p> <p>Overall migration into iso-octane and ethanol</p> <p>Overall migration (levels of extractables) from elastomeric materials</p>	<p>In house method RT011.49 based on BS EN 1186-3:2022 (total immersion)</p> <p>In house method RT011.52 based on BS EN 1186-9:2022 (article filling)</p> <p>In house method RT011.38 based on BS EN 1186-14:2022</p> <p>In house method RT011.27 based on FDA Regulations Chapter 21, Section 177.2600 for Repeat use rubber articles</p>



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PLASTICS, RUBBER and COMPOSITE MATERIALS	<u>Mechanical and Physical Tests</u>	
	Density	BS ISO 2781:2018 BS EN ISO 1183-1:2019:Method A
	Hardness	BS ISO 48-2:2018
	Indentation hardness	BS ISO 48-4:2018 BS EN ISO 868:2003
	Tensile properties (forces up to $\pm 200$ kN)	BS ISO 37:2017 (Dumb-bells only)
	Compressive properties (forces up to $\pm 200$ kN and $-40^{\circ}\text{C}$ to $+200^{\circ}\text{C}$ )	BS ISO 7743:2017 BS EN ISO 604:2003
	Tensile strength, elongation, Poisson's ratio and elastic modulus (forces up to $\pm 200$ kN and $-40^{\circ}\text{C}$ to $+200^{\circ}\text{C}$ )	BS EN ISO 527-1: 2019 BS EN ISO 527-2: 2012 BS EN ISO 527-3: 2018
	Flexural properties	BS EN ISO 178:2019
	Izod impact strength	BS EN ISO 180:2023
	Charpy impact strength	BS EN ISO 179-1:2023
	Falling weight impact resistance	BS 2782:Part 3:Method 352D:1979 (withdrawn)
	Impact brittleness	BS ISO 812:2017
	Stress relaxation	BS ISO 3384-1:2019
	Low temperature crystallization effects	BS ISO 3387:2020
	Low temperature stiffness (Static Gehman test)	BS ISO 1432:2021
	Standard atmospheres	BS ISO 23529:2016
Elmendorf tear test	BS EN ISO 6383-2:2004	
Modulus in shear (Quad Shear)	BS ISO 1827:2022	
Tear strength	BS ISO 34-1:2022	



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PLASTICS, RUBBER and COMPOSITE MATERIALS (cont'd)	<u>Mechanical and Physical Tests (cont'd)</u>  Compression set  Rebound resilience (Lupke) temperature range -10°C to 50°C  Abrasion resistance	BS ISO 815-1:2019 BS ISO 815-2:2019: Method 1 only  BS ISO 4662 2017  BS ISO 4649:2017 (excluding 20 N load & Method B)
ENVIRONMENTAL TESTING	Resistance to ozone cracking (static)  Heat resistance  Salt spray (fog) corrosion	BS ISO 1431-1:2022 Excluding clause 11  BS ISO 188:2023  ASTM B117-19 ISO 9227:2017 (Conditioning)
THERMAL PROPERTIES and ANALYSIS	<u>Differential Scanning Calorimetry</u>  General Principles  Glass transition temperature (T <sub>g</sub> )  Temperature and Enthalpy of melting and crystallization	BS EN ISO 11357-1:2023  BS EN ISO 11357-2:2020  BS EN ISO 11357-3:2018
CHEMICAL RESISTANCE	Effect of liquids  Fluid Contamination	BS ISO 1817:2022  MIL-STD-810G:CN1 Method 504.1 2008 MIL-STD-810H: Method 504.3 2019 DEF STAN 00-035: Part 3 Iss 5:Chapter 4-04 Test CN4 2017 BS 3G100:Part 2:Section 3:1991 Sub-section 3.12 RTCA/DO-160F:2007 RTCA/DO-160G:2010



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DIMENSIONAL MEASUREMENTS	Thickness	BS 2782:Part 6:Method 630A:1994 ISO 4593:1993
PRODUCT TESTING		
Elastomeric seals for pipe joints	Physical properties	BS EN 681-1:1996 BS EN 681-2, -3 and -4:2000 BS EN 682:2002
Cast acrylic sheet for baths and shower trays	Tensile Testing	BS EN 263:2008
Lay-Flat Fire Hoses of Type 1, Type 2, and Type 3 Construction Semi-Rigid Fire Hoses of Type A and Type B Construction	Hot Surface Resistance Test	BS 6391:2009 Chapter 8.6 and Annex G BS EN 694:2014 Chapter 6.5 and BS EN 15889:2011 Annex H
END		