

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>2594</p> <p>Accredited to ISO/IEC 17025:2017</p>	<p align="center">R-TECH Services Ltd trading as R-TECH Materials</p> <p align="center">Issue No: 039 Issue date: 20 March 2025</p> <table border="1"> <tr> <td data-bbox="403 450 842 678"> Testing House Kenfig Industrial Estate Margam Port Talbot SA13 2PE </td><td data-bbox="842 450 1477 678"> Contact: Dave Mumford Tel: +44 (0)1656 748000 Fax: +44 (0)1656 670130 E-Mail: dave.mumford@r-techmaterials.com Website: www.rtech-materials.com </td></tr> </table>	Testing House Kenfig Industrial Estate Margam Port Talbot SA13 2PE	Contact: Dave Mumford Tel: +44 (0)1656 748000 Fax: +44 (0)1656 670130 E-Mail: dave.mumford@r-techmaterials.com Website: www.rtech-materials.com
Testing House Kenfig Industrial Estate Margam Port Talbot SA13 2PE	Contact: Dave Mumford Tel: +44 (0)1656 748000 Fax: +44 (0)1656 670130 E-Mail: dave.mumford@r-techmaterials.com Website: www.rtech-materials.com		
Testing performed at the above address only			

R-Tech Materials is accredited for a limited flexible scope that enables the laboratory to conduct accredited testing through the modification of existing test methods, inclusion of technically equivalent standard methods and inclusion of revised standard methods to activities detailed below, in accordance with their documented in-house procedure RT 08.

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<p>METALS, ALLOYS and METAL PRODUCTS</p> <p>Plain carbon and low alloy steels</p> <p>Plain carbon, low alloy and stainless steels</p> <p>Plain carbon, low alloy and stainless steels</p> <p>WELDMENTS</p>	<p><u>Chemical Tests</u></p> <p>Elemental Analysis C, Si, Mn, P, S, Cr, Mo, Ni, Al, B, Co, Cu, Nb, Sn, Ti, V, N</p> <p>Carbon and Sulphur</p> <p>Nitrogen</p> <p><u>Mechanical Tests</u></p> <p>Tensile (Forces up to 1500 kN)</p> <p>Vickers hardness (HV0.5, HV1, HV10 & HV30)</p> <p>Tests designated in specified welding codes, as detailed below</p> <p>Hardness, Tensile and Visual Examination</p>	<p>Documented In-House method APM03 using OES (Spectromax – X)</p> <p>Documented In-House method APM 04 using Leco CS 744 analyser</p> <p>Documented In-House method APM 05 using Leco N 736 analyser</p> <p>BS EN ISO 6892-1 (Method B) excluding annex G ASTM A370</p> <p>BS EN ISO 6507-1</p> <p>BS EN ISO 15614-1 BS EN ISO 9015-1 BS EN ISO 4136 BS EN ISO 17637</p>



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<p>METALS, ALLOYS and METAL PRODUCTS (cont'd)</p> <p>Carbon steel, stainless steel & stainless steel clad reinforcing bars, wire rod, wires, welded fabrics for the reinforcement of concrete, and steel bars, and wire for the pre-stressing of concrete</p>	<p><u>Mechanical Tests</u> (cont'd)</p> <p>Bend</p> <p>Re-bend</p> <p>Reverse bend</p> <p>Tensile (Forces up to 1500 kN)</p> <p>Fatigue (Forces up to 400 kN)</p>	<p>BS 6744 BS EN 10080 ASTM A615/A615M ASTM A706/A706M</p> <p>BS 4482:1985 (Withdrawn) BS 4482 BS 4449:1997 (Superseded) BS 4449 + A3 BS EN ISO 15630-1 BS EN ISO 15630-2 BS EN ISO 15630-3</p> <p>ISO 7801</p> <p>BS 4449:1997 (Superseded) BS 4449 +A3 BS 4482:1985 (Withdrawn) BS 4482 BS 4483:1998 (Withdrawn) BS 4483 BS 4486 BS 6744 BS EN ISO 6892-1 (Method B) excluding Annex G BS EN ISO 15630-1 BS EN ISO 15630-2 BS EN ISO 15630-3 ASTM A615/A615M ASTM A706/A706M</p> <p>BS 4449:1997 (Superseded) BS 4449 + A3 BS EN ISO 15630-2:2002 (withdrawn) BS EN ISO 15630-1 BS EN ISO 15630-2 BS EN ISO 15630-3</p>



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<p>METALS, ALLOYS and METAL PRODUCTS (cont'd)</p> <p>Carbon steel, stainless steel & stainless steel clad reinforcing bars, wire rod, wires, welded fabrics for the reinforcement of concrete, and steel bars, and wire for the pre-stressing of concrete (cont'd)</p>	<p><u>Mechanical Tests</u> (cont'd)</p> <p>Tensile (Forces up to 1500 kN)</p> <p>Weld shear</p> <p><u>Dimensional Tests</u></p> <p>Determination of geometrical characteristics Indentation measurements Relative rib area Deviation from nominal mass per metre</p> <p>Determination of geometrical characteristics Relative rib area</p> <p>Effective cross sectional area Projected and relative rib area</p> <p>Measurement of Deformations</p>	<p>BS 4449:1997 (Superseded) BS 4449 +A3 BS 4482:1985 (Withdrawn) BS 4482 BS 4483:1998 (Withdrawn) BS 4483 BS 4486 BS 6744 BS EN ISO 6892-1 (Method B) excluding Annex G BS EN ISO 15630-1 BS EN ISO 15630-2 BS EN ISO 15630-3 ASTM A615/A615M ASTM A706/A706M</p> <p>BS 4483:1998 (withdrawn) BS 4483 BS EN ISO 15630-2</p> <p>BS EN ISO 15630-1 BS EN ISO 15630-2 BS EN ISO 15630-3</p> <p>BS 6744</p> <p>BS 4449:1997 (Superseded) BS 4449 + A3</p> <p>ASTM A615/A615M ASTM A706/A706M</p>



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METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Metallurgical Tests</u>	
Carbon steel, stainless steel & stainless steel clad reinforcing bars, wire rod, wires, welded fabrics for the reinforcement of concrete, and steel bars, and wire for the pre-stressing of concrete (cont'd)	Macro examination	Documented In-House Method PM23
Welded carbon & stainless steel reinforcing bars	<u>Mechanical Tests</u>	
	Bend	BS EN ISO 17660-1
	Tensile (Forces up to 1500 kN)	BS 4449:1997 (Superseded) BS 4449 + A3 BS 6744 BS 7123:1989 (Superseded) BS EN ISO 17660-1
	Hardness survey (HV30, HV10 & HV1.0)	BS EN ISO 9015-1 BS EN ISO 15614-1
	Weld shear (Forces up to 900 kN)	BS EN ISO 15630-2 BS EN ISO 17660-1
	<u>Metallurgical</u>	
	Macro examination	BS 7123:1989 (Superseded) BS EN ISO 17660-1 BS EN ISO 17660-2 Documented In-House Method PM25
Mechanical splices, (couplers) for reinforcement of concrete	<u>Mechanical Tests</u>	
	Tensile (Forces up to 1500 kN)	BS 4449:1997 (Superseded) BS 4449 + A3 BS EN ISO 15630-1 BS 8597 Sellafield Engineering Standard ES_0_3110_2
	Compression (Forces up to 1500 kN)	Documented In-House Method PM51 Sellafield Engineering Standard ES_0_3110_2



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<p>METALS, ALLOYS and METAL PRODUCTS (cont'd)</p> <p>Mechanical splices, (couplers) for reinforcement of concrete (cont'd)</p>	<p><u>Mechanical Tests</u> (cont'd)</p> <p>Cyclic tensile (Forces up to 1500 kN)</p> <p>Low cycle reverse loading tests, S1, S2 and S</p> <p>Fatigue (Forces up to 400 kN)</p> <p>Slip test</p> <p>Tensile (Temperature $\leq -7^{\circ}\text{C}$) (Forces up to 1200 kN)</p> <p>Determination of permanent offset (elongation / slip)</p>	<p>Documented In-House Methods PM50 & PM 58 Sellafield Engineering standard ES0_3110_2</p> <p>ISO 15835-2:2009 (superseded) ISO 15835-2</p> <p>BS 8597 BS EN ISO 15630-1</p> <p>BS 8597 ISO 15835-2:2009 (superseded) ISO 15835-2</p> <p>Documented In-House Method PM49 Sellafield Engineering standard ES_0_3110_2</p> <p>BS 8110-1:1997 (Withdrawn) Documented In-House Method PM18 & PM45 Sellafield Engineering Standard ES_0_3110_2</p>
<p>Headed anchors for reinforcing steel</p>	<p>Tensile (Forces up to 1500 kN)</p> <p>Load Transfer in air (tensile test)</p> <p>Robustness Test (wedge tensile test)</p> <p>Permanent elongation / slip in tension or compression (Forces up to 1500 kN)</p>	<p>Documented In-House Methods PM61 & PM62 Sellafield Engineering Standard ES_0_3110_2</p> <p>ISO 15698-2</p> <p>ISO 15698-2</p> <p>Documented In-House Methods PM61 & PM62 Sellafield Engineering Standard ES_0_3110_2</p>



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METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Mechanical Tests</u> (cont'd)	
Headed anchors for reinforcing steel (cont'd)	Tensile (Temperature $\leq -7^{\circ}\text{C}$) (Forces up to 1500 kN)	Documented In-House Method PM62 Sellafield Engineering Standard ES_0_3110_2
	Cyclic Tensile (Forces up to 1500 kN)	Documented In-House Method PM63 Sellafield Engineering Standard ES_0_3110_2
Bar, wire and strand for the pre-stressing of concrete	Modulus of elasticity (Forces up to 1000 kN)	BS EN ISO 15630-3



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PLASTICS, INCLUDING REINFORCED PLASTICS, FIBRE REINFORCED PLASTIC COMPOSITES, LAMINATES and RESINS	<u>Physical Tests</u>	
	Glass Content	BS EN ISO 1172 Method A
	Resin, Fibre and Void Content	BS ISO 14127 Procedure A3
	Density and Specific Gravity (Relative Density)	ASTM D792
	Water absorption	BS EN ISO 62
	<u>Thermal Properties Analysis</u>	
	Glass transition temperature by dynamic mechanical analysis (DMA)	BS ISO 6721-11 ASTM D7028
	Coefficient of thermal expansion by thermomechanical analysis (TMA)	BS ISO 11359-1 BS ISO 11359-2 ASTM E831
	Glass transition temperature By Differential Scanning Calorimeter (DSC)	BS EN ISO 11357-2
	<u>Mechanical Tests</u> (Performed in an environment of controlled temperature and relative humidity)	
	Tensile properties (Forces up to 250 kN)	BS EN ISO 527-2 BS EN ISO 527-4 BS EN ISO 527-5 ASTM D3039/D3039M
	Shear properties V-Notched Rail Shear Method	ASTM D7078/D7078M
	Shear properties V-Notched Beam Method	ASTM D5379/D5379M
	Apparent interlaminar shear strength (Short Beam) (Forces up to 10 kN)	BS EN ISO 14130 ASTM D2344/D2344M



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PLASTICS, INCLUDING REINFORCED PLASTICS, FIBRE REINFORCED PLASTIC COMPOSITES, LAMINATES and RESINS (cont'd)	<u>Mechanical Tests</u> (Performed in an environment of controlled temperature and relative humidity) (cont'd) Barcol hardness Compressive properties (Forces up to 250 kN) Compressive modulus and strength Determination of heat deflection temperature Flexural properties (Forces up to 10 kN & 100 kN) In-plane shear strength at 5%/shear strain/shear modulus by tensile test of a $\pm 45^\circ$ laminate (Forces up to 250 kN)	BS 2782-10: Method 1001:1977 (Withdrawn) BS EN ISO 604 ASTM D6641/D6641M BS EN 2850:2017 BS EN ISO 75-1 BS EN ISO 75-2 BS EN ISO 178 + A1 BS EN ISO 14125 + A1 ASTM D790 BS EN ISO 14129 ASTM D3518/D3518M
ADHESIVES	<u>Mechanical Tests</u> (Performed in an environment of controlled temperature and relative humidity) Lap shear strength of rigid-to-rigid bonded assemblies (Forces up to 250 kN) Climbing drum peel (Forces up to 10 kN) Core shear properties of sandwich constructions by beam flexure (Forces up to 250 kN)	ISO 4587 ASTM D1781 ASTM C393/C393M
Sandwich Construction (Core)	Flatwise Tensile	ASTM C297/C297M



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PLUMBING ITEMS. ITEMS IN CONTACT WITH THE WATER DISTRIBUTION NETWORK	<u>Mechanical, Physical tests and examination of water fittings which are subject to the UK regulations scheme</u>	Methods documented in the Water Regulations Advisory Scheme Test Code Sheets
Taps, valves, float operated valves, plug cocks, ferrules, water heaters, water meters and plumbing fittings for use with tube/pipe.	Closure	1111.1
	Porosity	1112.1
	Joint Effectiveness	1113.1
Draw-off taps, compression type fittings for tube/pipe	Torque – Operating Mechanism	1315.1
	Torque – Connection & Disconnection	1315.2
	Torque – Backnuts	1315.4
Compression type fittings for tube/pipe	Tension - Single pull (Pull out of assembled joint)	1314.1 1314.7 1314.9 1314.10 1314.11 1314.12 1314.13 1314.14 1314.15
All water fittings	Tension – Multiple pull (Pull out of assembled joint)	1314.8
	Corrosion Protection	1412.1
	Means for Connection & Disconnection	1611.5
	Visual Inspection Seal to be readily renewable	1611.8
	Visual Inspection Fixing of washer plate	1611.9
	Visual Inspection Means of Operation	1611.10



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PLUMBING ITEMS. ITEMS IN CONTACT WITH THE WATER DISTRIBUTION NETWORK (cont'd)	<u>Mechanical, Physical tests and examination of water fittings which are subject to the UK regulations scheme</u> (cont'd)	Methods documented in the Water Regulations Advisory Scheme Test Code Sheets
All water fittings (cont'd)	Visual Inspection All fittings	4001.11
	Effect upon water quality (non-metallic materials)	2111.1
	Marking for identification	6001.1
	Tap Gap	2213.18 2213.19
	Linear Dimensions	5011.1
Soldered fittings in contact with potable water	Determination of the presence of Lead in solder	2111.3
Plastic pipes and fittings	Determination of Opacity	2114.2 BS EN ISO 7686:2005
TAPS	Endurance	1211.3 2211.3 BS EN 200:2023 (Clause 12.3) BS EN 817:2008 (Clause 12.3)



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FLEXIBLE SCOPE CONSTRAINTS ENGINEERING and STRUCTURAL COMPONENTS, PRODUCTS, FIXINGS, WELDMENTS AND RIGID PLASTICS, FIBRE REINFORCED POLYMERIC MATERIALS, PLUMBING ITEMS, ITEMS IN CONTACT WITH THE WATER DISTRIBUTION NETWORK	Tensile & compressive forces, Fatigue, Displacement, Bending, Hardness, Metallurgy, Physical properties (Polymers and composites), Dimensional measurement, Elemental analysis. <ul style="list-style-type: none">• Forces up to ± 1500 kN• Forces up to ± 250 kN (Polymers & Composites)• Fatigue ± 400 kN• Dimensional (within calibrated limits of the optical projector and measuring instruments)• Hardness (Vickers & Barcol)• Pressure (Hydrostatic) up to 60 Bar	Documented In-House Methods developed using procedure RT 8
END		