

# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <p>UKAS TESTING 2594</p> <p>Accredited to ISO/IEC 17025:2005</p>	<h3>R-TECH Services Ltd trading as R-TECH Materials</h3> <p>Issue No: 017 Issue date: 25 July 2017</p>	
	<p><b>Testing House</b> Kenfig Industrial Estate Margam Port Talbot SA13 2PE</p>	<p><b>Contact: Dr A Franks</b> Tel: +44 (0)1656 748000 Fax: +44 (0)1656 670130 E-Mail: <a href="mailto:tony.franks@r-techmaterials.com">tony.franks@r-techmaterials.com</a> Website: <a href="http://www.rtech-materials.co.uk">www.rtech-materials.co.uk</a></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
METALS, ALLOYS and METAL PRODUCTS	<u>Chemical Tests</u>	
Plain carbon and low alloy steels	Elemental Analysis C, Si, Mn, P, S, Cr, Mo, Ni, Al, B, Co, Cu, Nb, Sn, Ti, V, N	Documented in house method APM03 using OES (Spectromax – X)
Plain carbon, low alloy and stainless steels	Carbon and Sulphur	Documented in house method APM 04 using Leco CS 244 analyser
	Nitrogen	Documented in house method APM 05 using Leco TN 114 analyser
	<u>Mechanical Tests</u>	
	Tensile (Forces up to 1500 kN)	BS EN ISO 6892-1:2009 (Method B) ASTM A370-16
	Vickers hardness (HV10)	BS EN ISO 6507-1:2005
Carbon steel, stainless steel & stainless steel clad reinforcing bars, wire rod, wires, welded fabrics for the reinforcement of concrete, and steel bars, wire and strand for the pre-stressing of concrete	Bend	BS 6744:2001 ASTM A370-14 ASTM A615/A615M-09b
	Rebend	BS 4482:1985 (Withdrawn) BS 4482:2005(2012) BS 4449:1997 (Superseded) BS 4449:2005 + A3:2016 BS EN ISO 15630-1:2010 BS EN ISO 15630-2:2010 BS EN ISO 15630-3:2010



2594

Accredited to  
ISO/IEC 17025:2005

## Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

### R-TECH Services Ltd trading as R\_TECH Materials

Issue No: 017 Issue date: 25 July 2017

Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<p><b>METALS, ALLOYS and METAL PRODUCTS (cont'd)</b></p> <p>Carbon steel, stainless steel &amp; stainless steel clad reinforcing bars, wire rod, wires, welded fabrics for the reinforcement of concrete, and steel bars, wire and strand for the pre-stressing of concrete (cont'd)</p>	<p><u>Mechanical Tests (cont'd)</u></p> <p>Reverse bend</p> <p>Tensile (Forces up to 1500 kN)</p> <p>Fatigue (Forces up to 400 kN)</p> <p>Weld shear</p> <p><u>Metallurgical tests</u></p> <p>Macro examination</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>ISO 7801:1984</p> <p>BS 4449:1997 (Superseded) BS 4449:2005+A3:2016 BS 4482:1985 (Withdrawn) BS 4482:2005 BS 4483:1998 (Withdrawn) BS 4483:2005 BS 4486:1980 BS 6744:2001 BS EN ISO 15630-1:2010 BS EN ISO 15630-2:2010 BS EN ISO 15630-3:2010 ASTM A370-16 ASTM A615/A615M-16 ASTM A706/A706M-16</p> <p>BS 4449:1997 (Superseded) BS 4449:2005+A2:2009 BS 6744:2001 BS EN ISO 15630-1:2010 BS EN ISO 15630-2:2010 BS EN ISO 15630-3:2010</p> <p>BS EN ISO 15630-2:2010</p> <p>Documented In-House Method PM23</p> <p>BS EN ISO 15630-1:2010 BS EN ISO 15630-2:2010 BS EN ISO 15630-3:2010</p>



2594

Accredited to  
ISO/IEC 17025:2005

## Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

### R-TECH Services Ltd trading as R\_TECH Materials

Issue No: 017 Issue date: 25 July 2017

Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Dimensional Tests (cont'd)</u>	
Carbon steel, stainless steel & stainless steel clad reinforcing bars, wire rod, wires, welded fabrics for the reinforcement of concrete, and steel bars, wire and strand for the pre-stressing of concrete (cont'd)	Determination of geometrical characteristics	BS 6744:2001
	Effective cross sectional area Projected rib area	BS 4449:1997 (Superseded) BS 4449:2005+A3:2016
	Measurement of Deformations	ASTM A615/A615M-16 ASTM A706/A706M-16
Welded carbon & stainless steel reinforcing bars	<u>Mechanical Tests</u>	
	Bend	BS EN ISO 17660-1:2006
	Tensile (Forces up to 1500 kN)	BS 4449:1997 (Superseded) BS 4449:2005+A3:2016 BS 6744:2001 BS 7123:1989 (Superseded) BS EN ISO 17660-1:2006
	Hardness survey	BS EN ISO 9015-1:2011 BS EN ISO 15614-1:2004
	Weld shear	BS EN ISO 15630-2:2010 BS EN ISO 17660-1:2006
	<u>Metallurgical tests</u>	
	Macro examination	BS 7123:1989 (Superseded) Documented In-House Method PM25
Mechanical splices, (couplers) for reinforcement of concrete	Tensile (Forces up to 1500 kN)	BS 4449:1997 (Superseded) BS 4449 :2005+A3:2016 BS EN ISO 15630-1:2010 BS 8597:2015 Sellafield engineering Standard ES_0_3110_2 Issue 2



2594

Accredited to  
ISO/IEC 17025:2005

## Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

### R-TECH Services Ltd trading as R\_TECH Materials

Issue No: 017 Issue date: 25 July 2017

Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<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></p> <p>Compression (Forces up to 1500 kN)</p> <p>Cyclic tensile (Forces up to 1200 kN)</p> <p>Low cycle loading tests:- Alternating tension and compression of high stresses (S1) Alternating tension and compression of large strain (S2)</p> <p>Fatigue (Forces up to 400 kN)</p> <p>Slip test</p> <p>Static tensile at temperature of <math>\leq -7^{\circ}\text{C}</math> or less (Forces up to 1200 kN)</p> <p>Determination of permanent offset (elongation / slip)</p> <p>Tensile (Forces up to 1000KN)</p>	<p>Documented In House Method PM51 UK Cares Appendix TA1-B Issue 8 Sellafield Engineering Standard ES_0_3110-2 Issue 2</p> <p>Documented In House Methods PM50 &amp; PM 58 Sellafield engineering standard ES_0_3110_2 Issue 2 ISO 15835-2:2009</p> <p>BS 8597:2015 BS EN ISO 15630-1:2010</p> <p>BS 8597:2015 ISO 15835-2:2009</p> <p>Documented In House Method PM49 Sellafield engineering standard ES_0_3110_2 Issue 2</p> <p>BS 8110-1:1997 (Withdrawn) Documented In-House Method PM18 &amp; PM45 Sellafield Engineering Standard ES_0_3110_2 Issue 2</p> <p>Documented In House Methods PM61 &amp; PM62 Sellafield Engineering Standard ES_-0-_3110_-2 Issue 2</p>
<p>Headed anchors for reinforcing steel</p>	<p>Tensile (Forces up to 1000KN)</p>	<p>Documented In House Methods PM61 &amp; PM62 Sellafield Engineering Standard ES_-0-_3110_-2 Issue 2</p>



2594

Accredited to  
ISO/IEC 17025:2005

## Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

### R-TECH Services Ltd trading as R\_TECH Materials

Issue No: 017 Issue date: 25 July 2017

Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
METALS, ALLOYS and METAL PRODUCTS (cont'd)	<u>Mechanical Tests (cont'd)</u>	
Headed anchors for reinforcing steel Cont'd)	Permanent elongation / slip in tension or compression (Forces up to 1200kN)	Documented In House Methods PM61 & PM62 Sellafield Engineering Standard ES_0_3110_2 Issue 2
	Tensile (Temperature ≤ -7°C) (Forces up to 1000kN)	Documented In House Method PM62 Sellafield Engineering Standard ES_0_3110_2 Issue 2
	Cyclic Tensile (Forces up to 1000kN)	Documented In House Method PM63 Sellafield Engineering Standard ES_0_3110_2 Issue 2
Strand for pre-stressing of concrete	Fatigue (Forces up to 270kN)	BS EN ISO 15630-3:2010
PLASTICS, INCLUDING REINFORCED PLASTICS, FIBRE REINFORCED PLASTIC COMPOSITES, LAMINATES and RESINS	<u>Chemical Tests</u>	
	Glass Content	BS EN ISO 1172:1999 Method A
	Water absorption	BS EN ISO 62:2008
	<u>Mechanical Tests (Performed in an environment of controlled temperature and relative humidity)</u>	
	Tensile properties (Forces up to 100kN)	BS EN ISO 527-2:2012 BS EN ISO 527-4:1997 BS EN ISO 527-5:2009 ASTM D638-14 ASTM D3039/D3039M-14
	Apparent interlaminar shear strength (forces up to 100 KN)	BS EN ISO 14130:1998 ASTM D2344/D2344M-16



2594

Accredited to  
ISO/IEC 17025:2005

## Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

#### R-TECH Services Ltd trading as R\_TECH Materials

Issue No: 017 Issue date: 25 July 2017

Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
PLASTICS, INCLUDING REINFORCED PLASTICS, FIBRE REINFORCED PLASTIC COMPOSITES, LAMINATES and RESINS	<u>Mechanical Tests</u> <u>(Performed in an environment of controlled temperature and relative humidity) (cont'd)</u>  Barcol hardness  Compressive properties (forces up to 100 kN)  Determination of heat deflection temperature  Flexural properties (forces up to 10 kN & 100kN)  In-plane shear strength/shear strain/shear modulus by tensile test of a $\pm 45^\circ$ laminate (Forces up to 100 kN)  Shore hardness (A & D)	BS 2782-10:Method1001:1977 (Withdrawn)  BS EN ISO 604:2003  BS EN ISO 75-1:2013 BS EN ISO 75-2:2013  BS EN ISO 178:2010+A1:2013 BS EN ISO 14125:1998+A1:2011 ASTM D790-15  BS EN ISO 14129:1998 ASTM D3518/D3518M-13
ADHESIVES	Lap shear strength of rigid-to-rigid bonded assemblies (Forces up to 100kN)  Climbing drum peel (Forces up to 10kN)  Core shear properties of sandwich constructions by beam flexure (Forces up to 10kN)	ISO 4587:2003  ASTM D1781-98(2012)  ASTM C393/C393M-16



2594

Accredited to  
ISO/IEC 17025:2005

## Schedule of Accreditation

issued by

### United Kingdom Accreditation Service

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

### R-TECH Services Ltd trading as R\_TECH Materials

Issue No: 017 Issue date: 25 July 2017

Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
ADHESIVES (cont'd)	Compression – foam / composite sandwich (Forces up to 10kN)	ASTM D1261-16
END		