

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p style="text-align: center;">Accredited to ISO/IEC 17025:2005</p>	<h3 style="margin: 0;">AI Futtaim Exova LLC</h3> <p style="margin: 0;">Issue No: 002 Issue date: 4 February 2010</p>	
	<p>AI Futtaim Exova LLC PO Box 34924 Dubai United Arab Emirates</p>	<p>Contact: Mr R Summers Tel: +971 4 8851001 Fax: +971 4 8854004 E-Mail: middle.east@exova.com Website: www.exova.com</p>
<p>Testing performed by the Organisation at the locations specified below</p>		

AI Futtaim Exova LLC is accredited for a flexible scope that enables them to establish site laboratories to conduct the activities detailed below, in accordance with their documented in-house procedure: SLP 4.16

Current locations covered by the scope of accreditation:

Location details	Activity	Location code
<p>Address AI Futtaim Exova LLC Plot 598-221 Dubai Investments Park Jebel Ali Dubai United Arab Emirates</p> <p>Postal Address AI Futtaim Exova LLC PO Box 34924 Dubai United Arab Emirates</p>	<p>Local contact Mr R Summers</p> <p>Tel: +971-4-8851001 Fax: +971-4-8854004 E-Mail: middle.east@exova.com</p>	<p>Aggregates - Physical tests Concrete - Physical & Mechanical tests Soils - Physical & Mechanical tests Metals & Weldments - Mechanical tests Environmental Samples - Chemical tests</p> <p style="text-align: center;">A</p>
<p>Address AI Futtaim Exova LLC Cladding Division Plot 597-451 Dubai Investments Park Jebel Ali Dubai United Arab Emirates</p> <p>Postal Address AI Futtaim Exova LLC Cladding Division PO Box 34924 Dubai United Arab Emirates</p>	<p>Local contact Mr M Kumar</p> <p>Tel: +971-4-8850221 Fax: +971-4-8851892 E-Mail: middle.east@exova.com</p>	<p>Cladding & Curtain Walling Systems - Physical tests</p> <p style="text-align: center;">B</p>



4559

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Address AI Futtaim Exova LLC DURL Project Laboratory Al Baraha Corniche Deira Dubai United Arab Emirates	Local contact Mr R Britton Tel: +971-4-2718546 Fax: +971-4-2713478 E-Mail: middle.east@exova.com	Aggregates - Sampling & Physical tests Fresh Concrete - Sampling & Physical tests Hardened Concrete - Physical & Mechanical tests Soils - Physical tests	C
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Contents

Accredited Activity	Page of Schedule
Analytical Chemical Analysis	3
Building Performance Testing	5
Construction Materials Testing	6
Metallurgical and Mechanical	8
Site Sampling and Testing	10



4559

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DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Analytical Chemical Analysis			
LEACHATES WATERS - raw and potable WATERS - effluent, leachate and groundwater WASTE WATERS - untreated and treated domestic and industrial waste water SALINE WATERS	Determination of "total" metals including: Aluminium Antimony Arsenic Barium Beryllium Boron Cadmium Calcium Cobalt Copper Chromium Iron Lead Lithium Magnesium Manganese Molybdenum Nickel Phosphorus Potassium Selenium Silicon Sodium Silver Strontium Thallium Tin Titanium Vanadium Zinc	USEPA 3030 and 3120B/ Documented In-house method CHEM 1006 using ICP-OES techniques	A
	Bromate in potable waters	USEPA 300.1/ Documented In-house method CHEM 3020 by ion chromatography	A



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SEDIMENTS SLUDGES SOILS	Determination of "total" metals including: Arsenic Antimony Barium Cadmium Cobalt Copper Chromium Iron Lead Manganese Nickel Phosphorus Selenium Vanadium Zinc	Documented In-house Method CHEM 1012 by ICP-OES	A
End of Section			



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
Building Performance Testing			
WINDOWS, DOORS and CURTAIN WALLS	Rate of air leakage	ASTM E283-04	B
	Wind resistance	ASTM E330-02	B
	Static water penetration	ASTM E331-00	B
	Dynamic water penetration	AMMA 501.1:2005	B
	Hose test	AMMA 501.2:2003	B
End of Section			



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Construction Materials Testing			
AGGREGATES	Particle density and water absorption for aggregate 10mm nominal size and smaller	BS 812:Part 2:1995	A & C
	Particle density and water absorption for aggregate all larger than 10mm	BS 812:Part 2:1995	A
	Particle density and water absorption for aggregate between 40mm and 5mm	BS 812:Part 2:1995	A & C
	Particle size distribution - washing and sieving	BS 812:Part 103 Section 103-1: 1985	A & C
	Particle size distribution - dry sieving	BS 812:Part 103 Section 103-1: 1985	A & C
	Flakiness index	BS 812:Part 105:Section 105.1: 1989	A & C
	Elongation index	BS 812:Part 105:Section 105.2: 1990	A & C
	Shell content	BS 812:Part 106:1985	C
	Moisture content - oven dry method	BS 812:Part 109:1990	A & C
	Clay lumps and friable particles in aggregates	ASTM C142-97(04)	C
CONCRETE- fresh	Making and curing cylindrical specimens in the laboratory	ASTM C192-07	A
CONCRETE - hardened	Density	BS 1881:Part 114:1983	A & C
	Compressive strength of cubes - including curing (<i>Forces from 30 to 3000 kN</i>)	BS 1881:Part 116:1983 BS 1881:Part 111:1983	A & C
	Water absorption	BS 1881:Part 122:1983	A



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CONCRETE - hardened (cont'd)	Initial surface absorption	BS 1881 Part 208:1996	A
	Shape and dimension of specimens	BS EN 12390-1: 2000	A
	Compressive strength of cubes - including curing (Forces from 30 to 3000 kN)	BS EN 12390-2: 2000 BS EN 12390-3: 2002	A
	Density	BS EN 12390-7: 2000	A
	Depth of penetration of water under pressure	BS EN 12390-8: 2000	A
	Compressive strength of cores (Forces from 60 to 3000kN)	BS EN 12504-1:2000	A
	Compressive strength of cylindrical specimens – including curing (Forces from 60 to 3000kN)	ASTM C39-05	A
	Density	ASTM C39-05	A
	Rapid chloride permeability	ASTM C1202- 05	A
SOILS for civil engineering purposes	Moisture content - oven drying method	BS 1377:Part 2:1990	A & C
	Particle size distribution - wet sieving	BS 1377:Part 2:1990	A & C
	Particle size distribution - dry sieving	BS 1377:Part 2:1990	A & C
	Dry density/moisture content relationship (2.5 kg rammer)	BS 1377:Part 4:1990	A & C
	Dry density/moisture content relationship (4.5 kg rammer)	BS 1377:Part 4:1990	A & C
	CBR (California Bearing Ratio) of laboratory-compacted soils (Forces from 2 to 40kN)	BS 1377:Part 4:1990	A
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Metallurgical and Mechanical			
Iron, Steels and other Ferrous Metals	Vickers (HV5 and HV10)	BS EN ISO 6507-1:2005 ASTM E92-82(2003)	A
	Charpy impact (in the temperature range 77K to ambient)	ASTM E23-07a	A
	Tensile at ambient temperature (forces up to 2000 kN)	BS EN 10002-1:2001 ASTM E8/E8M-08 ASTM A370-08a API 5L 43 rd Edition 2004	A
	Phase volume fraction	ASTM E562-08	A
	Grain Size	ASTM E112-96(2004)	A
Carbon steel bars for the reinforcement of concrete	Bend	BS 4449:1988 (withdrawn) ASTM A615/A615M-09	A
	Rebend	BS 4449:1997 (withdrawn) BS 4449:2005	A
	Tensile	BS 4449:1997 (withdrawn) BS 4449:2005 ASTM A615/A615M-09	A



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Weldments	Bend, Fillet weld fracture, Hardness, Impact, Nick-break, Tensile, Macro- and Micro-examination in accordance with specific welding codes	BS EN 287: Part 1:2004 BS EN 875:1995 BS EN 895:1995 BS EN 910:1996 BS EN 1043-1:1996 BS EN 1320:1997 BS EN 1321:1997 BS EN ISO 9606-2:2004 BS EN ISO 15614-1:2004 BS EN ISO 15614-2 :2005 AWS D1.1/D1.1M-2004 ASTM E407-07 API 1104-20 th edition. 2005 ASME IX-04 AWS D1.1/D1.1M-2006 BS 4515-1:2004 BS 4515-2:1999 BS 7448:Part 2:1997 Documented specifications and procedures technical equivalent to those above	A
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Site Sampling and Testing			
AGGREGATES	Sampling coarse, fine and all-in aggregates - from heaps	BS 812:Part 102:1989	C
CONCRETE- fresh	Slump	BS 1881:Part 102:1983	C
	Air content – method B	BS 1881:Part 106:1983	C
	Sampling fresh concrete on site	ASTM C172-07	C
	Density	ASTM C138-08	C
	Temperature	ASTM C1064/C1064M-05	C
	Slump flow	ASTM C1611/C1611M-05	C
CONCRETE - hardened	Making test cubes	BS 1881:Part 108:1983	C
SOILS for civil engineering purposes	In-situ density – sand replacement method (large pouring cylinder)	BS 1377:Part 9:1990	A & C
	In-situ density - nuclear method	BS 1377:Part 9:1990	A & C
	In-situ moisture density - nuclear method	BS 1377:Part 9:1990	A & C
WINDOWS AND DOORS	Hose test	AMMA 501.2:2003	B
	Air leakage	ASTM E783-02	B
WINDOWS, SKYLIGHTS, DOORS and CURTAIN WALLS	Water penetration	ASTM E1105-00	B
END			