

# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

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

 <p>7971</p> <p>Accredited to ISO/IEC 17025:2017</p>	<h3>Ashghal Centre for Research and Development</h3> <p>Issue No: 012    Issue date: 13 December 2019</p>	
	<p>Al Najma Street number 14 Najma Doha State of Qatar</p>	<p>Contact: Eng. Khalid Al Emadi Tel: +974 44950200 Fax: +974 44951200 E-Mail: <a href="mailto:kalemadi@ashghal.gov.qa">kalemadi@ashghal.gov.qa</a> Website: <a href="http://www.ashghal.gov.qa">http://www.ashghal.gov.qa</a></p>
<p>Testing performed by the Organisation at the locations specified below</p>		

### Locations covered by the organisation and their relevant activities

#### Laboratory locations:

Location details	Activity	Location code
<p><b>Address</b> Al Najma Street number 14 Najma Doha State of Qatar</p> <p><b>Local contact</b> Eng. Khalid Al Emadi Tel: +974 44950200 Fax: +974 44951200 E-Mail: <a href="mailto:kalemadi@ashghal.gov.qa">kalemadi@ashghal.gov.qa</a></p>	<p>Water - Chemical &amp; Microbiological tests Soils - Physical &amp; Mechanical tests Aggregates – Physical &amp; Mechanical tests Bituminous Mixtures - Physical &amp; Mechanical tests Hardened Concrete - Physical &amp; Mechanical tests</p>	A

#### Site activities performed away from the locations listed above:

Location details	Activity	Location code
<p><b>Address</b> Commercial and Industrial Premises</p> <p><b>Local contact</b> Eng. Khalid Al Emadi Tel: +974 44950200 Fax: +974 44951200 E-Mail: <a href="mailto:kalemadi@ashghal.gov.qa">kalemadi@ashghal.gov.qa</a></p>	<p>Aggregates – Physical &amp; Mechanical tests Bituminous Mixtures - Physical &amp; Mechanical Tests</p>	B



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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
<b>Microbiological Analysis</b>			
WATERS	<u>Microbiological Tests</u>	Documented In-House Methods in accordance with 'Standard Methods for the Examination of Water and Wastewater, 22nd Edition, 2012' (Published by APHA - ISBN 9780875530130)	
Treated effluent	Enumeration: Total Coliform / Ecoli	Method MICRO101- IDEXX Quantitray using APHA 9223 B	A
Treated effluent	Faecal Coliform	Method MICRO102 - IDEXX Quantitray using APHA 9222 D (ATP) Colilert -18	A
Treated effluent	Nematode eggs	Method MICRO103 using WHO Modified Bailenger method 1996	A
Sea Water	Enterococci	Method MICRO104 - IDEXX Quantitray using APHA 99230 D Enterolert	A
<b>End of Section</b>			



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<b>Chemical Analysis</b>			
WATERS	<u>Chemical testing</u>	Documented In-House Methods in accordance with 'Standard Methods for the Examination of Water and Wastewater, 22nd Edition, 2012' (Published by APHA - ISBN 9780875530130)	
Untreated and treated sewage effluent	pH	Method CHEM101 using APHA 4500-H B	A
Untreated and treated sewage effluent	Electrical Conductivity / TDS	Method CHEM106 using APHA 2510 B	A
Untreated and treated sewage effluent	Total suspended solids (TSS)	Method CHEM112 using APHA 2540 D	A
Untreated and treated sewage effluent	Alkalinity	Method CHEM102 using APHA 2320 B	A
Treated sewage effluent	Magnesium by calculation	Method CHEM107 using APHA 3500-Mg B	A
Untreated and treated sewage effluent	Turbidity	Method CHEM109 using APHA 2130 B	A
Treated sewage effluent	Residual Chlorine	Method CHEM110 using APHA 4500-Cl I	A
Untreated and treated sewage effluent	Biochemical Oxygen Demand	Method CHEM103 using APHA 5210 B	A
Untreated and treated sewage effluent	Chemical Oxygen Demand	Method CHEM104 using APHA 5220 D	A
Untreated and treated sewage effluent	Total Phosphate	Method CHEM105 using APHA 4500-P B+C	A
Untreated and treated sewage effluent	Total Kjeldahl Nitrogen	Method CHEM 116 using APHA 4500-N B+C	A
Treated sewage effluent	Ammonia Nitrogen	Method CHEM 113 using APHA 4500-NH3 A,B+C	A



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	<u>Chemical testing (cont'd)</u>	Documented In-House Methods in accordance with 'Standard Methods for the Examination of Water and Wastewater, 22nd Edition, 2012' (Published by APHA - ISBN 9780875530130)	
Treated sewage effluent	Nitrite Nitrate	Method CHEM 115 based on APHA 4110B using Ion Chromatography	A
Treated sewage effluent	<u>Metals (dissolved)</u> Arsenic Cadmium Cobalt Chromium Nickel Lead Tin Zinc Aluminium Potassium Magnesium Sodium	Method CHEM 114 using ICP-OES	A
Treated sewage effluent	Hardness as CaCo3	Method CHEM108 using APHA 2340 C	A
Treated sewage effluent	Calcium as CaCo3	Method CHEM107 using APHA 3500-Ca B	A
<b>End of Section</b>			



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<b>Construction Materials Testing</b>			
SOILS for civil engineering purposes	Water (Moisture) Content	ASTM D2216-19	A
	Liquid Limit	ASTM D4318-17e1	A
	Plastic Limit	ASTM D4318-17e1	A
	Plasticity Index	ASTM D4318-17e1	A
	California Bearing Ratio of laboratory compacted soils	ASTM D1883-16	A
	Laboratory compaction characteristics using modified effort	ASTM D1557-12e1	A
	Amount of materials finer than 75 µm (No. 200) by washing	ASTM D1140-17	A
	Sieve Analysis	ASTM D6913-17	A
	Sand Equivalent	ASTM D2419-14	A
	AGGREGATES	Amount of materials finer than 75 µm (No. 200) sieve	ASTM C117-17
Sieve analysis of fine and coarse aggregates		ASTM C136/C136M-14	A
Percentage of Fractured Particles in Coarse Aggregates.		ASTM D5821-13(2017)	A
Flat and Elongated Particles in course aggregates		ASTM D4791-10	A
Reducing samples of aggregate to testing size		ASTM C702/702M-18	A
Sand Equivalent		ASTM D2419-14	A
Specific gravity of fine aggregates		ASTM C128-15	A



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AGGREGATES (cont'd)	Soundness	ASTM C88-18	A
	LA Abrasion	ASTM C131M-14, ASTM C535-16	A
	Clay lumps	ASTM C142/C142M-17	A
	Organic Impurities	ASTM C40/C40-19	A
	Aggregate Crushing Value	BS 812 Part 110:1990	A
	Resistance of coarse aggregate to degradation by abrasion (micro-deval)	ASTM D6928-17	A
	Resistance of fine aggregate to degradation by abrasion (micro-deval)	ASTM D7428-15	A
	Detection of Harmful Clays of the Smectite Group Using Methylene Blue	AASHTO T330-19 BS EN 933-9:2009+A1:2013	A
	Lightweight Particulates	ASTM C123/C123M-14	A
	Uncompacted Voids in Fine aggregate	ASTM C1252-17	A
	Specific Gravity of Soil solid by Water Pycnometer	ASTM D854-14	A
Geometrical properties – shell content. Percentage of shells	BS EN 933-7:1998	A	
CONCRETE - Hardened	Specific gravity of coarse aggregates	ASTM C127-15	A
	Shape and dimensions of specimens	BS EN 12390-1:2012	A
	Density	BS EN 12390-7:2009	A
	Compressive strength of cubes including curing	BS EN 12390-2:2009 BS EN 12390-3:2009	A
	Rebound hammer test	ASTM C805/C805M-18	A



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Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
BITUMINOUS MIXTURES	Preparation of Bituminous Specimens using Marshall Apparatus	ASTM D6926-16	A
	Marshall Stability and Flow	ASTM D6927-15	A
	Thickness of asphalt core	ASTM D3549/D3549M-18	A
	Bulk specific gravity and density of non-absorptive compacted mixtures	ASTM D2726/D2726M-19	A
	Theoretical maximum specific gravity	ASTM D2041/D2041M-19	A
	Stability and Flow (6in diameter)	ASTM D5581-07a (2013)	A
	Indirect Tensile (IDT) Strength	ASTM D6931-17	A
	Asphalt Content of Asphalt Mixture by Ignition Method	ASTM D6307-19	A
	Reducing Samples of HMA	AASHTO R47- 14	A
	Resistance of compacted asphalt mixtures to moisture induced damage	AASHTO T283-14	A
	Sampling compacted asphalt mixtures for lab testing	ASTM D5361/D5361m-16	A
	Quantitative extraction of bitumen from bituminous paving mixtures	ASTM D2172-17e1	A
	Preparation and determination of the Relative Density of asphalt mix specimens by means of the Superpave Gyrotory Compactor	ASTM D6925-15	A
	Effect of Moisture on Asphalt Concrete Paving Mixtures	ASTM D4867 / D4867M - 09 (2014)	A
Mechanical Size analysis of extracted aggregates	ASTM D5444-15	A	





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BITUMINOUS MIXTURES (cont'd)	Fatigue Life of Compacted Asphalt Mixtures Subjected to Repeated Flexural Bending	AUST ROADS AGPT/T274-2016	A
	Dynamic Modulus and Flow Number Using the Asphalt Mixture Performance Tester	AASHTO T378-17 Procedure A	A
	Dynamic Modulus and Flow Number Using the Asphalt Mixture Performance Tester	AASHTO T378-17 Procedure B	A
	Compaction of Prismatic asphalt (shear box compactor)	ASTM D7981-15	A
	Resilient Modulus of Bituminous Mixtures by Indirect Tension Test	AS/NZS 2891.13.1:2013	A
BITUMINOUS MATERIALS	Penetration of bituminous materials	ASTM D5/D5M-19	A
	Softening Point	ASTM D36/D36M-14e1	A
	Flash and Fire Point	ASTM D92-18	A
	Ductility of Asphalt Materials	ASTM D113-17	A
	Sieve Analysis of mineral filler	ASTM D546-17	A
	Rolling Thin-Film Oven Test	ASTM D2872-12e1, AASHTO T240-13 (2017)	A
	Viscosity using Rotational Viscometer	ASTM D4402-15, AASHTO T316-13	A
	Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)	ASTMD6521-13	A
	Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)	ASTM D6648-08(2016)	A
	Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer	ASTM D7175-15, AASHTO T315-12 (2016)	A



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	Multiple stress creep and recovery of asphalt binder using a dynamic shear rheometer	ASTM D 7405-15	A
	Loss on Heating of Oil and Asphaltic Compounds	ASTM D6/D6M-95 (2018)	A
	Solubility of Asphalt Materials in Trichloroethylene	ASTM D2042-15	A
	Density of Semi-Solid Bituminous Materials (Pycnometer Method)	ASTM D70-18a	A

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<b>Site Testing and Mobile Laboratory Testing</b>			
AGGREGATES	Specific gravity and absorption of coarse aggregates	ASTM C127-15	B
	Specific gravity and absorption of fine aggregates	ASTM C128-15	B
	Sampling	ASTM D75/D75-14	B
BITUMINOUS MIXTURES	Bulk specific gravity of compacted bituminous mixtures	ASTM D2726/D2726M-19	B
	Theoretical maximum specific gravity	ASTM D2041/D2041M-11	B
	Thickness of asphalt core	ASTM D3549/D3549M-18	B
	Temperature measurement	BS EN 12697-13:2017	B
	Sampling Bituminous Paving Mixtures	ASTM D979/D979M-15	B
	Reducing Samples of HMA	AASHTO R47-14	B
	Sampling compacted asphalt mixtures for lab testing	ASTM D5361/D5361M-16	B
BITUMINOUS MATERIALS	Penetration of bituminous materials	ASTM D5/D5M-19	B
	Sampling Asphalt Binder	ASTM D140/D140-16	B
END			