



CERTIFICATE OF ACCREDITATION

This is to attest that

INTERNATIONAL LABORATORIES AND AL HOTY STANGER W.L.L.

BUILDING-397, ROAD-1507
ADLIYA 16464, KINGDOM OF BAHRAIN

Testing Laboratory TL-434

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date October 10, 2023



A handwritten signature in black ink, reading "Raj Nathan".

President

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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INTERNATIONAL LABORATORIES AND AL HOTY STANGER W.L.L.

www.interlabbh.com

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Accredited to ISO/IEC 17025:2017

Effective Date October 10, 2023

Chemical	
APHA 1060	Collection and preservation of samples
APHA 2120 C	Colour
APHA 2130 B	Turbidity
APHA 2320	Alkalinity. Method B: Titration method
APHA 2340	Hardness. Method C: EDTA Titrimetric method
APHA 2510	Conductivity
APHA 2520 B	Salinity
APHA 2540	Solids. Method C: Total dissolved solids dried at 180 °C
APHA 2540	Solids. Method D: Total suspended solids dried at 103 °C – 105 °C
APHA 2550 B	Temperature
APHA 2580 B	Oxidation-Reduction Potential (ORP)
APHA 3120 B	Metals by ICP Emission Spectroscopy [Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (Be), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Molybdenum (Mo), Potassium (K), Nickel (Ni), Selenium (Se), Silica (SiO ₂), Silver (Ag), Sodium (Na), Strontium (Sr), Thallium (Tl), Vanadium (V), Zinc (Zn)]
APHA 3500-Ca	Calcium. Method B: EDTA Titrimetric method.
APHA 3500-Mg B	Magnesium
APHA 4500 B B	Boron- HACH Method
APHA 4500 Br B	Bromide
APHA 4500 Cl ⁻	Chlorine (residual). Method B: Iodometric method I.
APHA 4500 Cl B and C	Chloride
APHA 4500 CN C, D and E	Cyanide
APHA 4500 CO ₂ C	Carbon dioxide (dissolved)
APHA 4500 F B and D	Fluoride

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APHA 4500 H ⁺	pH value. Method B: Electrometric method.
APHA 4500 N(org) B	Nitrogen (organic)
APHA 4500 N C	Nitrogen
APHA 4500 NH ₃ -N B and C	Nitrogen (ammonia)
APHA 4500 NO ₂ - B	Nitrogen (nitrite)
APHA 4500 NO ₃ - E	Nitrogen (nitrate)
APHA 4500 O – C and G	Oxygen (dissolved)
APHA 4500 SiO ₂ C and D	Silica
APHA 4500 SO ₄ ²⁻	Sulfate. Method E: Turbidimetric method.
APHA 5210 B and D	Biochemical Oxygen Demand (BOD)
APHA 5220	Chemical oxygen demand (COD). Method D: Closed Reflux. Colormetric method.
APHA 5220 C	Chemical Oxygen Demand (COD) : Close Reflux Titration Method
APHA 5520 B and F	Oil and grease
APHA 5530 C and D	Phenols
APHA 5540 C	Anionic Surfactants as MBAS
BS 812-117	Testing aggregates. Method for determination of water-soluble chloride salts. Appendix C: Test method for determinant of chloride content of aggregates using a nitric acid extract, for aggregate containing chloride not extracted by water.
BS 812-118	Testing aggregates. Methods for determination of sulphate content. Clause 6: Determination of the total sulphate content by acid extraction.
BS 1377-3	Methods of test for soils for civil engineering purposes- chemical and electro-chemical tests (excluding clauses 10 and 11)
BS EN 1744-1	Tests for chemical properties of aggregates- chemical analysis (clause 12)
BS EN 1744-5	Tests for chemical properties of aggregates determination of acid soluble chloride salts
HACH 10267	Total Organic Carbon (TOC)
HACH 8075	Nitrogen, total kjeldahl (Nessler method)
PHA 4500 P – C, E and J	Phosphorus/Phosphate
PHA 4500 S ₂ - D and F	Sulfide
US EPA Method 1664A	n-Hexane, Extractable Material (HEM; Oil and Grease)
Microbiology - Water, Drinking Water & Wastewater	
APHA 9215 B	Heterotrophic Plate Count
APHA 9221 B	Total Coliforms

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APHA 9221 E	Faecal Coliforms
APHA 9221 F	<i>E.coli</i>
APHA 9230 C	<i>Faecal Streptococcus / Enterococcus</i>
BAM Chapter 18	Yeast & Mold
CCFRA 2.5.2:2003	<i>Pseudomonas aeruginosa</i>
HACH Bart Test	Sulfate reducing bacteria
ISO 11731:2017	<i>Legionella</i>
Microbiology -Food	
BAM Chapter 3 / ISO 4833-1:2013	Aerobic Plate Count
BAM Chapter 4	Faecal Coliform
BAM Chapter 18	Yeast & Mold
CCFRA 2.2.1:2007 / ISO 4832:2006	Total Coliforms
CCFRA 2.3.1:2007 / ISO 21528-2	Detection & Enumeration of Enterobacteriaceae
CCFRA 3.1.2 & 5:2007 / ISO 6579:2017	<p><i>Salmonella</i> applicable to the following:</p> <ul style="list-style-type: none"> • products intended for human consumption and the feeding of animals • environmental samples in the area of food production and food handling • samples from the primary production stage such as animal faeces, dust, and swabs
ISO 7251:2005	<i>E.coli</i>
Environment	
US EPA Method 1311	Toxicity characteristic leaching procedure (TCLP) - Extraction & analysis of metals (Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium & Silver)
US EPA Method 3031	Acid digestion of oils for metals analysis by ICP spectroscopy
US EPA Method 6010B	Inductively coupled plasma-atomic emission spectrometry (ICP-AES, aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, lithium, magnesium, manganese, molybdenum, nickel, potassium, selenium, silica, silver, sodium, strontium, vanadium, zinc, mercury, titanium, tin, and phosphorous)
Soil	
BS 1377-2:2022	Methods of test for soils for civil engineering purposes- Classification tests and determination of geotechnical properties Clauses: 4.1, 5.2, 5.3, 5.4, 5.5, 6, 7, 11, 15, 16, 25.2, 27, 28
BS 1377-3	Methods of test for soils for civil engineering purposes- chemical and electro-chemical tests (excluding clauses 10 and 11)
BS 1377-9	Methods for test for soils for civil engineering purposes- in-situ tests (clauses 2.1, 2.2, 2.5, 4.1)

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BS EN ISO 17892-4	Geotechnical investigation and testing. Laboratory testing of soil - Determination of particle size distribution (Clauses 5.2, 5.3)
Concrete and Masonry	
BS 1881-122	Testing concrete- method for determination of water absorption
BS 6073-2	Precast concrete masonry units- guide for specifying precast concrete masonry units
BS 6717-1	Precast concrete paving blocks- specification for paving blocks
BS EN 771	Specification for masonry units.
BS EN 772-1	Methods of test for masonry units. Determination of compressive strength
BS EN 1097-3	Tests for mechanical and physical properties of aggregates- determination of loose bulk density and voids
BS EN 1097-5	Tests for mechanical and physical properties of aggregates- determination of the water content by drying in a ventilated oven
BS EN 1338	Concrete paving blocks- requirements and test methods. Annex C, E, F
BS EN 1340	Concrete kerb units- requirements and test methods. Annex C, E, F
BS EN 12350-2	Testing fresh concrete- slump-test
BS EN 12390-1	Testing hardened concrete- shape, dimensions and other requirements for specimens and molds
BS EN 12390-2	Testing hardened concrete- making and curing specimens for strength tests
BS EN 12390-3	Testing hardened concrete- compressive strength of test specimen
BS EN 12390-5	Testing hardened concrete- flexural strength of test specimens
BS EN 12504-1	Testing concrete in structures- cored specimens- taking, examining and testing in compression
Rock and Aggregate	
ASTM C131/C131M	Standard test method for resistance to degradation of small-size coarse aggregate by abrasion and impact in the Los Angeles machine
ASTM C142/C142M	Standard test method for clay lumps and friable particles in aggregates
ASTM C535	Standard test method for resistance to degradation of large-size coarse aggregate by abrasion and impact in the Los Angeles machine
BS 812-2	Testing aggregates- methods for determination of density
BS 812-103.1	Testing aggregates- method for determination of particle size distribution sieve tests
BS 812-105.1	Testing aggregates- methods for determination of particle shape- flakiness index
BS 812-105.2	Testing aggregates- methods for determination of particle shape- elongation index of coarse aggregate
BS 812-109	Testing aggregates- methods for determination of moisture content

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BS 812-110	Testing aggregates- Methods for determination of aggregate crushing value (ACV)
BS 812-111	Testing aggregates- Methods for determination of ten per cent fines value (TFV)
BS 812-112	Testing aggregates- method for determination of aggregate impact value (AIV)
BS 812-117	Testing aggregates. Method for determination of water-soluble chloride salts. Appendix C: Test method for determinant of chloride content of aggregates using a nitric acid extract, for aggregate containing chloride not extracted by water.
BS 812-118	Testing aggregates. Methods for determination of sulphate content. Clause 6: Determination of the total sulphate content by acid extraction.
BS EN 1744-1	Tests for chemical properties of aggregates- chemical analysis (clause 12)
BS EN 1744-5	Tests for chemical properties of aggregates determination of acid soluble chloride salts
Steel and Alloys	
ASTM E350	Standard test methods for chemical analysis of carbon steel, low-alloy steel, silicon electrical steel, ingot iron, and wrought iron
ASTM E351	Standard test methods for chemical analysis of cast iron- all types
ASTM E353	Standard test methods for chemical analysis of stainless, heat-resisting, maraging, and other similar chromium-nickel-iron alloys
Oil and Petroleum Products	
AAS-15-SOP/OIL/08	Multi Element determination of different types of oils and base oils by ICP-OES
AAS-15-SOP/OIL/09	Multi Element determination of used and unused lubricating Greases by ICP-OES
ASTM D86	Standard test method for distillation of petroleum products and liquid fuels at atmosphere
ASTM D92	Standard test method for flash point and fire points by Cleveland open cup tester
ASTM D93	Standard test methods for flash point by Pensky-Martens closed cup tester
ASTM D95	Standard test method for water in petroleum products and bituminous materials by distillation
ASTM D189	Standard test method for Conradson carbon residue of petroleum products
ASTM D445	Standard test method for kinematic viscosity of transparent and opaque liquids (and calculation of dynamic viscosity)
ASTM D482	Standard test method for ash from petroleum products
ASTM D664	Standard test method for acid number of petroleum products by potentiometric titration
ASTM D1298	Standard test method for density, relative density, or API gravity of crude petroleum and liquid petroleum products by hydrometer method

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ASTM D2270	Standard practice for calculating viscosity index from kinematic viscosity at 40 °C and 100 °C
ASTM D2896	Standard test method for base number of petroleum products by potentiometric per chloric acid titration
ASTM D6304	Standard test method for determination of water in petroleum products, lubricating oils, and additives by coulometric Karl Fischer titration
ASTM D6786	Standard test method for particle count in mineral insulating oil using automatic optical particle counters
Paint	
BS EN ISO 2811-1	Paints and varnishes- determination of density - pycnometer method
BS EN ISO 2813	Paints and varnishes- determination of gloss value at 20 degrees, 60 degrees and 85 degrees
BS EN ISO 2814	Paints and varnishes- comparison of contrast ratio (hiding power) of paints of the same type and colour
BS EN ISO 3251	Paints, varnishes and plastics- determination of non-volatile-matter content
BS EN ISO 9117-1	Paints and varnishes- drying test- determination of through - dry state and through-dry time
Asphalt	
ASTM D2172	Standard test methods for quantitative extraction of bitumen from bituminous paving mixtures
ASTM D2726	Standard test method for bulk specific gravity and density of non-absorptive compacted bituminous mixtures
ASTM D6926	Standard practice for preparation of bituminous specimens using Marshall apparatus
ASTM D6927	Standard test method for Marshall stability and flow of asphalt mixtures
Mechanical Tests	
ASTM A370	Standard Test Methods and Definitions for Mechanical Testing of Steel Products excluding Impact – Sections 20 to 30
BS 4449	Steel for the reinforcement of concrete. Weldable reinforcing steel. Bar, coil and decoiled product. Specification
Non-destructive Testing	
ASME BPVC Section II	Materials- Part D- Properties-(Customary) (Positive Metal Identification)
ASME BPVC Section V	Non-destructive testing and welding (ultrasonic examination, magnetic particle examination, liquid penetrant inspection) - Articles: 1-2-4-5-6-7-22-23-24-25
ASME BPVC Sections V and IX	Non-destructive testing and welding (radiographic examination)
ASME BPVC Section IX	Non-destructive testing and welding (Fracture Test of Fillet welds)
ASTM A956	Standard Test Method for Leeb Hardness Testing of Steel Products

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ASTM D6132	Standard Test Method for Non-destructive Measurement of Dry Film Thickness of Applied Organic Coatings Using an Ultrasonic Coating Thickness Gage
ASTM E415	Standard Test Method for Analysis of Carbon and Low-Alloy Steel by Spark Atomic Emission Spectrometry
ASTM E1086	Standard Test Method for Analysis of Austenitic Stainless Steel by Spark Atomic Emission Spectrometry

APHA- American Public Health Association