



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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Valid To: May 31, 2020

Certificate Number: 4855.01

CONSTRUCTION MATERIALS TESTING

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory for:

Test Method:	Test Description:
<b>Aggregates:</b>	
AASHTO T304	Uncompacted Void Content of Fine Aggregate
ASTM C40	Organic Impurities in Fine Aggregates for Concrete
ASTM C117	Materials Finer than 75- $\mu$ m (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C123	Lightweight Particles in Aggregate
ASTM C127	Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
ASTM C128	Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate
ASTM C131	Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles
ASTM C136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C142	Clay Lumps and Friable Particles in Aggregates
ASTM C535	Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM D75	Sampling of Aggregate
ASTM D4791	Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D5821	Determining the Percentage of Fractured Particles in Coarse Aggregate
BS 812 Part 2 Clause 5.3	Determination of Particle Density and water Absorption - Method for aggregates all larger than 10 mm
BS 812 Part 2 Clause 5.4	Determination of Particle Density and water Absorption - Method for aggregates between 40 mm and 5 mm
BS 812 Part 2 Clause 5.5	Determination of Particle Density and water Absorption - Method for aggregates 10 mm nominal size and smaller
BS 812 Part 103	Testing aggregates: Methods for Determination of Particle size distribution
BS 812 Part 105 Sec 105.1	Methods for determination of particle shape - Flakiness index
BS 812 Part 105 Sec 105.2	Methods for determination of particle shape - Elongation index of coarse aggregate

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<b>Test Method:</b>	<b>Test Description:</b>
BS 812 Part 109	Testing aggregates: Methods for determination of moisture content (drying oven)
BS 812 Part 110	Determination of aggregate crushing value (ACV)
BS 812 Part 111	Determination of Ten Per Cent Fines Value (TFV)
BS 812 Part 112	Determination of Aggregate Impact Value (AIV)
BS EN 932-1	Tests for general properties of aggregates. Methods for sampling
BS EN 933 Part 3	Tests for geometrical properties of aggregates. Determination of particle shape. Flakiness index
BS EN 933 Part 1	Determination of particle size distribution. Sieving method
BS EN 933 Part 7	Determination of shell content. Percentage of shells in coarse aggregates
BS EN 933 Part 4	Determination of particle shape. Shape index (Elongation Index)
BS EN 1097 Part 6 Clause 8	Determination of particle density and water absorption
BS EN 1744 Part 5	Tests for Chemical Properties of Aggregates - Determination of Acid Soluble Chloride Salts
BS EN 1744 Part 1 +A1 Clause 12	Determination of sulphate content of aggregates
<b>Asphalt:</b>	
AASHTO TP 108-14	Determining the Abrasion Loss of Asphalt Mixture Specimens
AASHTO TP 124-16	Determining the Fracture Potential of Asphalt Mixtures Using Semicircular Bend Geometry (SCB) at Intermediate Temperature
ASTM D6	Loss on Heating of Oil and Asphaltic Compounds
ASTM D95	Water in Petroleum Products and Bituminous Materials by Distillation
ASTM D113	Ductility of Bituminous Materials
ASTM D140	Standard Practice for Sampling Asphalt Materials
ASTM D402	Distillation of Cutback Asphalt
ASTM D546	Standard Test Method for Sieve Analysis of Mineral Filler for Asphalt Paving Mixtures
ASTM D1188	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
ASTM D1754	Effects of Heat and Air on Asphaltic Materials (Thin-Film Oven Test)
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2995	Standard Practice for Estimating Application Rate and Residual Application Rate of Bituminous Distributors
ASTM D3143	Flash Point of Cutback Asphalt with Tag Open-Cup Apparatus
ASTM D6933	Oversized Particles in Emulsified Asphalts (Sieve Test)
ASTM D6935	Determining Cement Mixing of Emulsified Asphalt
ASTM D6997	Distillation of Emulsified Asphalt
ASTM D7496	Viscosity of Emulsified Asphalt by Saybolt Furol Viscometer
BS EN 12697 Part 13	Bituminous mixtures. Test methods for hot mix asphalt. Temperature measurement
BS EN 12697 Part 29	Bituminous mixtures. Test methods for hot mix asphalt. Determination of the dimensions of a bituminous specimen
BS EN 12697 Part 36	Bituminous mixtures. Test methods for hot mix asphalt. Determination of the thickness of a bituminous pavement

<b>Test Method:</b>	<b>Test Description:</b>
<b>Asphalt Binder</b>	
ASTM D5	Penetration of Bituminous Materials
ASTM D36	Softening Point of Bitumen (Ring-and-Ball Apparatus)
ASTM D70	Density of Semi-Solid Asphalt Binder (Pycnometer Method)
ASTM D92	Flash and Fire Points by Cleveland Cup
ASTM D2042	Solubility of Asphalt Materials in Trichloroethylene
ASTM D2872	Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test)
ASTM D4402/D4402M	Viscosity. Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer
ASTM D6521	Practice for Accelerated Aging of Asphalt Binder using a Pressurized Aging Vessel (PAV)
ASTM D6648	Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer
ASTM D6857/D6857M	Maximum Specific Gravity and Density of Bituminous Paving Mixtures Using Automatic Vacuum Sealing Method
ASTM D7173	Determining the Separation Tendency of Polymer Form Polymer Modified Asphalt
ASTM D7175	Determining the Rheological Properties of Asphalt Binder using a Dynamic Shear Rheometer (DSR)
ASTM D7405	Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder using A Dynamic Shear Rheometer (DSR)
AASHTO PP61 (AASHTO R84)	Dynamic Modulus Master Curves for Hot Mix Asphalt (HMA) Using the Asphalt Mixture Performance Tester (AMPT)
AASHTO R28	Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)
AASHTO R30	Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)
AASHTO T40	Sampling Bituminous material
AASHTO T44	Solubility of Bituminous Materials
AASHTO R47	Reducing Samples of Hot Mix Asphalt (HMA) to Testing Size
AASHTO T48	Flash and Fire Points by Cleveland Open Cup
AASHTO T49	Penetration of Bituminous Materials
AASHTO T53	Softening Point of Bitumen (Ring-and-Ball Apparatus)
AASHTO T166	Bulk Specific Gravity (Gmb) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens
AASHTO T168	Sampling Bituminous Paving Mixtures
AASHTO T228	Specific Gravity of Semi Solid Asphalt Material
AASHTO T240	Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin – Film Oven Test)
AASHTO T269	Percent Air Voids in Compacted Dense and Open Asphalt Mixtures
AASHTO T283	Resistance of Compacted Asphalt Mixtures to Moisture- Induced Damage
AASHTO T312	Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyrotory Compactor
AASHTO T313	Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)
AASHTO T315	Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)



<b>Test Method:</b>	<b>Test Description:</b>
AASHTO T316	Viscosity Determination of Asphalt Binder Using Rotational Viscometer
AASHTO T324	Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA)
AASHTO T344	Evaluation of Superpave Gyratory Compactor (SGC) Internal Angle of Gyration Using Simulated Loading
AASHTO PP60 (AASHTO R83)	Preparation of Cylindrical Performance Test Specimens Using Superpave Gyratory Compactor (SGC)
AASHTO TP70 (AASHTO T350)	Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)
AASHTO TP79 Procedure A (AASHTO T378A)	Dynamic Modulus and Flow Number for Hot Mix Asphalt (HMA) using Asphalt Mixture Performance Tester (AMPT)
AASHTO TP79 Procedure B (AASHTO T378B)	Dynamic Modulus and Flow Number for Hot Mix Asphalt (HMA) using Asphalt Mixture Performance Tester (AMPT)
BS EN 12697 Part 22 Cl.6.3: 2003	Wheel-tracking test (small size devices) of hot mix asphalt bituminous mixtures
BS EN 12697 Part 23	Determination of the Indirect Tensile Strength of Bituminous Specimens
<b>Asphalt Mixtures</b>	
ASTM C702	Reducing Sample of Aggregate to Test Size
ASTM D979	Sampling Bituminous Paving Mixtures
ASTM D2172/D2172M	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D2726	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D3549/D3549M Method A	Thickness or Height of Compacted Bituminous Paving Mixture Specimens
ASTM D5444	Mechanical Size Analysis of Extracted Aggregate
ASTM D6307	Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6752	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures using Automatic Vacuum Sealing Method
ASTM D6925	Preparation and Determination of the Relative Density of HMA Specimens by Means of the Superpave Gyratory Compactor
ASTM D6926	Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Marshall stability and Flow of Bituminous Mixtures
BS EN 12697-1	Bituminous mixtures. Test methods for hot mix asphalt. Soluble binder content
BS EN 12697-6	Test methods for hot mix asphalt. Determination of bulk density of bituminous specimens - Dry
BS EN 12697-6	Test methods for hot mix asphalt. Determination of bulk density of bituminous specimens - SSD
BS EN 12697-6	Test methods for hot mix asphalt. Determination of bulk density of bituminous specimens - Sealed
BS EN 12697-8	Test methods for hot mix asphalt. Determination of void characteristics of bituminous specimens
BS EN 12697-28	Test methods for hot mix asphalt. Preparation of samples for determining binder content, water content and grading
<b>Asphalt Pavement:</b>	
ASTM D4694	Deflections with a Falling-Weight-Type Impulse Load Device

<b>Test Method:</b>	<b>Test Description:</b>
ASTM E950/E950M	Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference
ASTM E1926	Computing International Roughness Index of Roads from Longitudinal Profile Measurements
ASTM E2583	Measuring Deflections with a Light Weight Deflectometer (LWD)
<b>Concrete:</b>	
ASTM C31	Making and Curing Concrete Test Specimens in the Field
ASTM C39	Compressive Strength of Cylindrical Concrete Specimens
ASTM C42	Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C138/C138M	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C231/C231M	Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C805/C805M	Rebound Number of Hardened Concrete
ASTM C1064	Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1202	Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration
BS EN 12350-1	Testing fresh concrete - Sampling
BS EN 12350-2	Testing fresh concrete - Slump test
BS EN 12390 Part 1	Shape, dimensions and other requirements for specimens and moulds
BS EN 12390 Part 2	Testing hardened concrete. Making and curing specimens for strength tests
BS EN 12390 Part 3	Testing hardened concrete. Compressive strength of test specimens
BS EN 12390 Part 7	Testing hardened concrete. Density of hardened concrete
BS EN 12390 Part 8	Depth of penetration of water under pressure
BS EN 12504 Part 1	Cored specimens. Taking, examining and testing in compression
BS EN 12504 Part 4	Determination of ultrasonic pulse velocity
BS 1881 Part 122	Method for determination of water absorption
BS 1881 Part 124 Clause 10.2 (12.1)	Determination of Chloride content in hardened concrete: Acid soluble chloride content in concrete
BS 1881 Part 124 Clause 10.3 (12.2)	Determination of Sulphate content in hardened concrete: Acid soluble sulphate content in concrete
BS 1881 Part 204	Recommendations on the use of electromagnetic covermeters
BS 1881 Part 208	Determination of the initial surface absorption of concrete
BS 1924 Part 2	Cement stabilized material
NT Build 492	Chloride migration test
<b>Masonry:</b>	
BS EN 772 Part 1	Compressive strength of concrete masonry blocks
BS EN 771 Part 3	Water Absorption for masonry blocks
BS EN 772 Part 11	Water Absorption for masonry blocks
CML 9-97	Water Absorption for masonry blocks
<b>Rock:</b>	
ASTM D4543	Preparing Rock Core as Cylindrical Test Specimens and Verifying Conformance to Dimensional and Shape Tolerances
ASTM D5731	Determination of the Point Load Strength Index of Rock and Application to Rock Strength Classifications
ASTM D7012 Methods C & D	Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures



<b>Test Method:</b>	<b>Test Description:</b>
<b>Steel:</b>	
ASTM A370 (Only tensile test)	Mechanical Testing of Steel Products
BS 4449 CI 7.2.5:2009 (Rebind test)	Steel for the reinforcement of concrete. Weldable reinforcing steel. Bar, coil and decoiled product. Specification
BS EN ISO 6892 /BS 4449: 2009	Metallic materials. Tensile testing. Method of test at ambient temperature
<b>Soils:</b>	
AASHTO T100	Test for Specific Gravity of Soils
ASTM C88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM D1140	Determining the Amount of Material Finer than 75- $\mu$ m (No. 200) Sieve in Soils by Washing
ASTM D1556/D1556M	Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM D1557	Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft <sup>3</sup> (2,700 kN-m/m <sup>3</sup> ))
ASTM D1883	California Bearing Ratio (CBR) of Laboratory-Compacted Soils
ASTM D2216	Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D2419	Sand Equivalent Value of Soils and Fine Aggregate
ASTM D4318	Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4429	CBR (California Bearing Ratio) of Soils in Place
ASTM D4718	Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
ASTM D4944	Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Gas Pressure Tester
ASTM D6913	Particle Size Distribution
ASTM D6951/D6951M	Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications
ASTM G57	Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method
BS 1377 Part 2 Clause 3.2	Determination of moisture content - Oven-drying method
BS 1377 Part 2 Clause 4.3	Determination of the liquid limit - Cone penetrometer method (definitive method)
BS 1377 Part 2 Clause 4.5	Determination of the liquid limit - Casagrande apparatus method Determination of the plastic limit and plasticity index
BS 1377 Part 2 Clause 5	Determination of the plastic limit and plasticity index
BS 1377 Part 2 Clauses 9.2 and 9.3	Determination of particle size distribution - wet & dry sieving method
BS 1377 Part 2 Clause 9.5	Determination of particle size distribution - Sedimentation by the hydrometer method
BS 1377 Part 3 Clause 3	Chemical and electro-chemical tests Determination of the organic matter content
BS 1377 Part 3 Clause 4	Determination of the mass loss on ignition
BS 1377 Part 3 Clauses 5.2 and 5.5	Determination of the sulphate content of soil and ground water - Determination of Acid soluble sulphate content
BS 1377 Part 3 Clauses 5.3 and 5.5	Determination of the sulphate content of soil and ground water - Determination of water soluble sulphate content
BS 1377 Part 3 Clause 6	Determination of the carbonate content
BS 1377 Part 3 Clause 7.2	Determination of the chloride content - Determination of water-soluble chloride content

<b>Test Method:</b>	<b>Test Description:</b>
BS 1377 Part 3 Clause 7.3	Determination of the chloride content - Determination of acid-soluble chloride content
BS 1377 Part 3 Clause 8	Determination of total dissolved solids
BS 1377 Part 2 Clause 8.4	Determination of particle density - Large Pycnometer Method
BS 1377 Part 3 Clause 9	Determination of the pH value
BS 1377 Part 4 Clauses 3.5 and 3.6	Dry Density Relationship
BS 1377 Part 4 Clause 7	Determination of California bearing ratio (CBR)
BS 1377 Part 7 Clause 4	Shear strength tests (total stress) - Determination of Shear Strength by Direct Shear (Small Shear Box Apparatus)
BS 1377 Part 9 Clause 2.2	In-situ density tests - Sand replacement method suitable for fine, medium and coarse-grained soils (large pouring cylinder method)
BS 1377 Part 9 Clause 4.1	Determination of the vertical deformation and strength characteristics of soil by the plate loading test
BS 1377 Part 9 Clause 4.3	In-situ vertical deformation and strength tests - Determination of the in-situ California Bearing Ratio (CBR)



## *Accredited Laboratory*

A2LA has accredited

**FUGRO PENINSULAR**

*Doha, Qatar*

for technical competence in the field of

**Construction Materials Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 12<sup>th</sup> day of September 2018.

A handwritten signature in black ink, written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 4855.01  
Valid to May 31, 2020

*For the tests to which this accreditation applies, please refer to the laboratory's Construction Materials Scope of Accreditation.*