



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CONSTRUCTION MATERIALS TESTING

Valid To: February 28, 2021

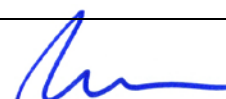
Certificate Number: 5669.08

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on construction materials:

<u>Test Method:</u>	<u>Test Description:</u>
<u>Aggregates:</u>	
Particle density and water absorption for aggregate 10mm nominal size and smaller	BS 812: Part 2
Particle density and water absorption for aggregate all larger than 10mm	BS 812: Part 2
Particle density and water absorption for aggregate between 40mm and 5mm	BS 812: Part 2
Particle size distribution - washing and sieving	BS 812: Part 103 Section 103-1 (Withdrawn) ¹
Particle size distribution - dry sieving	BS 812: Part 103 Section 103-1 (Withdrawn) ¹
Moisture content - oven dry method	BS 812: Part 109
Aggregate crushing value - particle size 10mm and greater (Forces from 30 to 3000kN)	BS 812: Part 110
Ten per cent fines value - dry - particle size 10mm and greater (Forces from 30 to 3000kN)	BS 812: Part 111
Aggregate impact value - dry	BS 812: Part 112
Acid soluble chloride salt content	BS 812: Part 117 (App C) (Withdrawn) ¹
Total sulphate content by acid extraction	BS 812: Part 118 (Withdrawn) ¹
Organic impurities	ASTM C40/C40M
Magnesium soundness	ASTM C88/C88M
Materials finer than 75 µm (No 200) in mineral aggregates by washing	ASTM C117
Lightweight particles	ASTM C123/C123M

<u>Test Method:</u>	<u>Test Description:</u>
<u>Aggregates (continued):</u>	
Specific gravity and absorption of coarse aggregates	ASTM C127
Specific gravity and absorption of fine aggregates	ASTM C128
Sieve analysis of fine and coarse aggregates	ASTM C136
Clay lumps and friable particles in aggregates	ASTM C142/C142M
Resistance to degradation of small-size coarse aggregate by abrasion and impact in the Los Angeles Machine	ASTM C131
Resistance to degradation of large-size coarse aggregate by abrasion and impact in the Los Angeles Machine	ASTM C535
Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures	ASTM D546
Reducing samples of aggregate to testing size	ASTM C702/C702M
Void content of fine aggregate	ASTM C1252
Plasticity index	ASTM D4318
Sieve Analysis	AASHTO T27 AASHTO T11
Sand Equivalence	AASHTO T176
Magnesium Sulphate Soundness	AASHTO T104
Liquid Limit & Plastic Limit	AASHTO T89 AASHTO T90
Clay Lumps and Friable Particles in Aggregate	AASHTO T112
Percentage of Fractured Particles in Coarse Aggregates	ASTM D5821
Los Angeles Abrasion	AASHTO T 96
Flat and Elongated Particles of Coarse Aggregates	ASTM D4791
Un-compacted Void content of Fine Aggregate	AASHTO T304
Particle size distribution - wet and dry sieving	BS EN 933-1
Method of reducing laboratory samples	BS EN 933-2
Flakiness index	BS EN 933-3
Shape index	BS EN 933-4
Shell content	BS EN 933-7
Sand Equivalent	BS EN 933-8 ²
Assessment of fines – Methylene blue test	BS EN 933-9
Resistance to fragmentation by the Los Angeles test method	BS EN 1097-2
Water content - drying in a ventilated oven	BS EN 1097-5
Particle density and water absorption – wire basket method for aggregate particles between 31.5mm and 63mm	BS EN 1097-6
Particle density and water absorption – pycnometer method for aggregate particles between 4mm and 31.5mm	BS EN 1097-6
Particle density and water absorption – pycnometer method for aggregate particles between 0.063mm and 4mm	BS EN 1097-6
Determination of Acid Soluble Sulphate content	BS EN 1744-1
Determination of Acid Soluble Chloride content	BS EN 1744-5
Magnesium sulphate soundness test	BS EN 1367-2 (excluding Annex B & C)
Sampling Coarse, Fine and All-In Aggregates - from Heaps	BS 812-102 (Withdrawn) ^{1,2}
Sampling of Coarse and Fine Aggregates – from Stockpiles	BS EN 932-1 ²
Sampling of Aggregates	ASTM D75/75M ²
<u>Bituminous:</u>	
Determining the Separation Tendency of polymer from polymer modified asphalt	ASTM D7173

<u>Test Method</u>	<u>Test Description</u>
Bituminous (continued):	
Penetration of bituminous materials	ASTM D5/D5M
Determination of Softening Point (Ring and Ball Method)	ASTM D36/D36M
Flash and Fire Points by Cleveland Open Cup Tester	ASTM D92
Water in Petroleum Products and Bituminous Materials by Distillation	ASTM D95
Ductility	ASTM D113 (Withdrawn) ¹
Solubility of Asphalt Materials in Trichloroethylene	ASTM D2042
Effect of heat on a moving film of Asphalt (rolling thin film oven test)	ASTM 2872; AASHTO T240
Viscosity determination of Asphalt at elevated temperature using a rotational viscometer	ASTM D4402/D4402M
Elastic Recovery	ASTM D6084/D6084M
Multiple Stress Creep and Recovery (MSCR) of Asphalt Binder Using a Dynamic Shear Rheometer	ASTM D7405; AASHTO T350
Accelerated aging of Asphalt Binder using a pressurised aging vessel (PAV)	ASTM D6521
Flexural Creep Stiffness of Asphalt Binder using the bending rheometer (BBR)	ASTM D6648
Rheological properties of Asphalt Binder using a dynamic shear rheometer	ASTM D7175
Density of bitumen	ASTM D70
Bulk specific gravity and density of compacted bituminous mixtures using coated samples	ASTM D1188
Theoretical maximum specific gravity and density of bituminous mixtures	ASTM D2041/D2041M
Bulk specific gravity and density of compacted bituminous mixtures	ASTM D2726/D2726M
Binder extraction	ASTM D2172/D2172M
Thickness or height of compacted bituminous paving mixture specimens	ASTM D3549/D3549M
Mechanical size analysis of extracted aggregates	ASTM D5444
Asphalt content of hot-mix asphalt by ignition method	ASTM D6307
Preparing and Determining the density of hot mix Asphalt (HMA) specimens by means of the Superpave Gyratory compactor	ASTM D6925
Preparation of bituminous specimens using Marshall apparatus	ASTM D6926
Marshall stability and flow (Forces from 2.5 to 50 kN)	ASTM D6927
Resistance of compacted hot mix asphalt (HMA) to moisture-induced damage – indirect tensile (IDT) strength	ASTM D6931
Mixture conditioning of hot-mix Asphalt (HMA)	AASHTO R30
Flash and Fire Points by Cleveland Open Cup	AASHTO T48
Determination of Bulk Density of Bituminous Material	AASHTO T166
Specific Gravity of Semi-Solid Asphalt Materials	AASHTO T228
Elastic Recovery Test of Asphalt Materials by Means of a Ductilometer	AASHTO T301
Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)	AASHTO T313



<u>Test Method</u>	<u>Test Description</u>
<u>Bituminous (continued):</u>	
Determining the Rheological Properties of Asphalt Binder using a Dynamic Shear Rheometer (DSR)	AASHTO T315
<u>Bituminous Distributors</u>	
Estimating Application Rate and Residual Application Rate	ASTM D2995 ²
<u>Bituminous Mixtures</u>	
Temperature of Measurement – in a Lorry	BS EN 12697-13 ²
Sampling from - Around the Augers of a Paver; from a Lorry Load of Material	BS EN 12697-27 ²
Preparation of samples for determining binder content, water content, and grading	BS EN 12697-28 ²
Sampling Bituminous Paving Mixtures	ASTM D979/D979M ²
Density of Bituminous Concrete in Place by Nuclear Methods	ASTM D2950/D2950M ²
Sampling Compacted Asphalt Mixtures for Laboratory Testing	ASTM D5361/D5361M ²
Preparation of Samples for Determining Binder Content	AASHTO T328 ²
Viscosity Determination of Asphalt Binder Using Rotational Viscometer	AASHTO T316
Multiple Stress Creep (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)	AASHTO T350
Particle size distribution	BS EN 12697-2
Maximum density - volumetric procedure	BS EN 12697-5
Bulk density - dry - saturated surface dry (SSD) - sealed specimens - by dimensions	BS EN 12697-6
Void characteristics	BSEN 12697-8
Preparation of samples for determining binder content, water content and grading	BSEN 12697-28
Determination of dimension of Bituminous Specimens	BS EN 12697-29
Specimen preparation by impact compactor	BS EN 12697-30
Marshall test	BS EN 12697-34
Determination of the thickness of a bituminous pavement - destructive measurement	BS EN 12697-36
Binder content by ignition	BS EN 12697-39
<u>Cement:</u>	
Determination of Strength	BS EN 196-1
Determination of Sulphate	BS EN 196-2 Clause 8
Determination Residue Insoluble	BS EN 196-2 Clauses 9 and 10
Determination of Pure Silica	BS EN 196-2 Clause 13.6
Determination of Total Silica	BS EN 196-2 Clause 13.9
Determination of Iron (III) - Ferric - Oxide	BS EN 196-2 Clause 13.10
Determination of Aluminum Oxide	BS EN 196-2 Clause 13.11
Determination of Calcium Oxide by EDTA (alternative method)	BS EN 196-2 Clause 13.14

<u>Test Method</u>	<u>Test Description</u>
<u>Cement (continued):</u>	
Determination of Magnesium Oxide by EDTA (alternative method)	BS EN 196-2 Clause 13.15
Chloride content	BS EN 196-2 Clause 14
Loss on ignition	BS EN 196-2 Clause 17
Determination of Setting Times and Soundness	BS EN 196-3
Determination of Fineness (Blaine Apparatus)	BS EN 196-6
Amount of Water Required for Normal Consistency by Vicat Needle	ASTM C187
Time of Setting of Hydraulic Cement by Vicat Needle	ASTM C191
<u>Concrete-Hardened:</u>	
Chloride penetration test - chloride migration	NTB 492
Compressive Strength of Cylindrical Concrete Specimens	ASTM C39/C39M
Capping Cylindrical Concrete Specimens	ASTM C617/C617M
Rapid Chloride Permeability	ASTM C1202
Density	BS 1881: Part 114 (Withdrawn) ¹
Compressive strength of cubes - including curing (Forces from 30 to 3000 kN)	BS 1881: Part 116 (Withdrawn) ¹ ; BS 1881: Part 111 (Withdrawn) ¹
Water absorption	BS 1881: Part 122
Initial Surface Absorption of water	BS 1881: Part 208
Determination of Chloride Content	BS 1881-124 Clause 12.1
Determination of Sulphate Content	BS 1881-124 Clause 12.2
Shape and dimensions of specimens	BS EN 12390-1
Making test cubes and curing	BS EN 12390-2
Compressive strength of cubes - including curing (Forces from 30 to 3000 kN)	BS EN 12390-2; BS EN 12390-3
Flexural strength of concrete	BS EN 12390-5
Tensile splitting strength of concrete	BS EN 12390-6
Density	BS EN 12390-7
Water Penetration	BS EN 12390-8
Compressive strength of cores (Forces from 30 to 3000kN)	BS EN 12504-1
Flexural tensile strength (limit of proportionality (LOP), residual)	BS EN 14651
Location of Reinforcement by Covermeter	BS 1881- 204 ²
Initial Surface Absorption of water	BS 1881- 208 ²
Ultrasonic Pulse Velocity	BS EN 12504-4 ²
Obtaining and Testing Drilled Cores	ASTM C42/C42M ²
Rebound Number of Hardened Concrete	ASTM C805/C805M ²
Pull-off Strength of Coatings Using a Portable Adhesion tester	ASTM D4541 Method B
Pull-out Strength of Hardened Concrete	ASTM D7234 ²
Crack Width using Microscopic Gauge	EMT-M-OP-CMT-DOH-MD016 ²
<u>Concrete- Fresh:</u>	
Sampling Fresh Concrete on Site	BS 1881-101 (Withdrawn) ^{1, 2}
Sampling from Initial Discharge (Slump Test)	BS 1881-102 (Withdrawn) ^{1, 2}
Slump	BS 1881- 102 (Withdrawn) ^{1, 2}
Air Content – Method B	BS 1881- 106 (Withdrawn) ^{1, 2}
Making and Curing Concrete Test Specimens in the Field	ASTM C31/C31M ²
Density of Fresh Concrete	ASTM C138/C138M ²
Slump of Hydraulic – Cement Concrete	ASTM C143/C143M ²

<u>Test Method</u>	<u>Test Description</u>
<u>Concrete- Fresh (continued):</u>	
Sampling Freshly Mixed Concrete	ASTM C172/C172M ²
Air Content of Freshly Mixed Concrete by the Pressure Method	ASTM C231/C231M ²
Temperature	ASTM C1064/C1064M ²
Sampling of Fresh Concrete on Site	BS EN 12350-1 ²
Slump	BS EN 12350-2 ²
Flow	BS EN 12350-5 ²
Air Content of Fresh Concrete	BS EN 12350-7 ²
V Funnel	BS EN 12350-9 ²
L Box	BS EN 12350-10 ²
<u>Masonry:</u>	
Water absorption of masonry blocks	BS EN 771-1; BS EN 772-21
Water Absorption	BS EN 771-3; BS EN 772-11
Determination of Compressive Strength	BS EN 772-1
Dimensions of masonry blocks	BS EN 772-16
<u>Precast Concrete Blocks:</u>	
Water absorption of masonry blocks	ASTM C140
<u>Precast Concrete Kerb Units:</u>	
Dimensions and water absorption of Kerbs	BS EN 1340 Annex C & E
Transverse Strength	BS EN 1340 Annex F
<u>Precast Concrete Paving Blocks:</u>	
Dimensions and water absorption of paving blocks	BS 6717 Annex A & B
Water Absorption	BS EN 1338 Annex E
<u>Precast Concrete Paving Flags:</u>	
Water Absorption	BS EN 1339 Annex E
Transverse Strength	BS EN 1339 Annex F
<u>Soils:</u>	
Moisture content - oven drying method	BS 1377: Part 2
Liquid Limit - Cone penetrometer	BS 1377: Part 2
Liquid Limit - Casagrande method	BS 1377: Part 2
Plastic Limit and Plasticity Index	BS 1377: Part 2
Particle size distribution - wet sieving	BS 1377: Part 2
Particle size distribution - dry sieving	BS 1377: Part 2
Determination of Organic Matter Content	BS 1377-3 Clause 3
Determination of the Sulphate content of Soil (Acid extract and water extract)	BS 1377-3 Clauses 5.2 and 5.3
Determination of the chloride content (Acid extract and water extract)	BS 1377-3 Clauses 7.2 and 7.3
Determination of pH of Soil	BS 1377-3 Clause 9
Dry density/moisture content relationship (4.5 kg rammer)	BS 1377- 4
CBR (California Bearing Ratio) of laboratory-compacted soils	BS 1377- 4
Swelling of soaked CBR specimen	BS 1377- 4
Water Absorption	AASHTO T85
CBR of laboratory-compacted soils (soaked)	AASHTO T193
Moisture Content – Oven Dried	AASHTO T265

<u>Test Method:</u>	<u>Test Description:</u>
<u>Soils (continued):</u>	
Soil resistivity using the Wenner Four-Electrode method	ASTM G57-06
Amount of Material Finer Than No.200 Sieve in Soil by Washing	ASTM D1140
Dry density /moisture content relationship – 4.5kg rammer	ASTM D1557
Laboratory California Bearing Ratio (CBR)	ASTM D1883
Water (Moisture) Content	ASTM D2216
Sand equivalent value	ASTM D2419
Correction of Density and Water Content of Soils	ASTM D4718
Particle size distribution	ASTM D6913
<u>Soils for Civil Engineering Purposes</u>	
In-situ density – Sand Replacement Method (Large Pouring Cylinder)	BS 1377- 9 ²
In-situ Density – Sand Replacement Method (Small Pouring Cylinder)	BS 1377-9: Section 2.1 ²
In-situ Bulk Density - Nuclear Method - Comparative Tests	BS 1377- 9 ²
In-situ Bulk Density - Nuclear Method - Absolute Tests	BS 1377- 9 ²
In-situ Bulk Density - Nuclear Method - Compliance Test	BS 1377- 9 ²
In-situ California Bearing Ratio (CBR)	BS 1377-9 ²
In-situ Resistivity - Wenner Probe Method	BS 1377- 9 ²
Determination of the Vertical Deformation and Strength Characteristics of Soil by the Plate Loading Test	BS1377- 9 Section 4.1 ²
In-situ Bulk Density – Sand Replacement Test	ASTM D1556/1556M ²
In-situ California bearing ratio (CBR) of Soils in Place	ASTM D4429 ²
Density and Water Content of Soil and Soil Aggregate in Place by Nuclear Methods - Shallow Depth	ASTM D2922 (Withdrawn) ^{1, 2} ASTM D3017 (Withdrawn) ^{1, 2}
<u>Soils and Stabilized Materials:</u>	
Preparation of specimens compacted with constant compacted effort	BS 1924-2 Clause 4.1.5
Compressive strength of cubic specimens	BS 1924-2 Clause 4.2
<u>Rocks:</u>	
Uniaxial compressive strength of rock cores	ASTM D7012
Preparation of rock cores for strength testing	ASTM D4543
Point load index determination	ASTM D5731
Determination of armourstone particle density and water absorption	BS EN 13383-2
<u>Curtain Wall</u>	
Water Leakage field check for storefronts, curtain walls, and sloped glazing systems	AAMA 501.2
<u>Spray-applied Fire-Resistive Materials (SFRM)</u>	
SFRM testing bond strength	ASTM E736/E736M
SFRM testing thickness and density	ASTM E605/E605M

¹This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

² This laboratory meets A2LA R104 – *General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these tests.

³ This accreditation covers testing/calibrations performed at all laboratory locations listed in this scope of accreditation



Accredited Laboratory

A2LA has accredited

ELEMENT DOHA, LLC

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 17025:2017 *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 31st day of October 2019.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5669.08
Valid to February 28, 2021

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



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