

## CERTIFICATE OF ACCREDITATION

This is to attest that

## AL JAZEERA ENGINEERING LABORATORIES FOR QUALITY CONTROL W.L.L.

BUILDING NO. 106, ZONE 57 DOHA 300, QATAR

#### **Testing Laboratory TL-435**

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 August 3, 2024



International Accreditation Service
Issued under the authority of IAS management

International Accreditation Service, Inc.

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# AL JAZEERA ENGINEERING LABORATORIES FOR QUALITY CONTROL W.L.L.

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**Contact Phone** +974 66309241

Accredited to ISO/IEC 17025:2017

Effective Date August 3, 2024

Category	Standard/ Method No. / Date	Standard/ Method Title & Section	Location / Facility
Admixture	ASTM C494 CI 18.2	Standard Specification for Chemical Admixtures for Concrete CL 18.2 Residue by Oven Drying (Liquid Admixtures):	JEL Laboratory
Admixture	ASTM C494 CI 18.4	Standard Specification for Chemical Admixtures for Concrete Cl 18.4 Specific Gravity,	JEL Laboratory
Admixture	ASTM E70	Standard Test Method for pH of Aqueous Solutions With the Glass Electrode	JEL Laboratory
Admixture	BS EN 480-10	Admixtures for concrete, mortar and grout. Test methods. Determination of water soluble chloride content	JEL Laboratory
Aggregates	AASHTO T304 Method-C	Standard Test Methods for Uncompacted Void Content of Fine Aggregate – Method C	JEL Laboratory
Aggregate	ASTM C29/C29 M	Bulk Density & Air Voids I aggregate	JEL Laboratory
Aggregate	ASTM C117	Standard Method of Test for Materials Finer Than 75.µm (NO.200) Sieve in Mineral Aggregates by Washing	JEL Laboratory
Aggregate	ASTM C123/C123M	Standard Test Methodfor Light Weight Particles in Aggregate	JEL Laboratory
Aggregate	ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate	JEL Laboratory
Aggregate	ASTM C128	Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate	JEL Laboratory
Aggregate	ASTM C131	Standard Test Method for Resistance to Degradation of Small – Size Coarse aggregate by Abrasion and Impact in the Los Angeles Machine	JEL Laboratory
Aggregate	ASTM C136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates	JEL Laboratory
Aggregate	ASTM C142/C142M	Standard Test Method for Clay Lumps and Friable Particles in Aggregates	JEL Laboratory
Aggregate	ASTM C191	Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle	JEL Laboratory

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Category	Standard/ Method No. / Date	Standard/ Method Title & Section	Location / Facility
Aggregate	ASTM C289-07 (Withdrawn by ASTM Jan 2016)	Standard Test Method for Potential Alkali- Silica Reactivity of Aggregates (Chemical Method)	JEL Laboratory
Aggregate	ASTM C535	Standard Test Method for Resistance to Degradation of Large – Size Coarse aggregate by Abrasion and Impact in the Los Angeles Machine	JEL Laboratory
Aggregate	ASTM C702	Reducing Samples of Aggregate to Testing Size1	JEL Laboratory
Aggregate	ASTM C1252-17	Standard Test Methods for Uncompacted Void Content of Fine Aggregate (as Influenced by Particle Shape, Surface Texture, and Grading)	JEL Main lab
Aggregate	ASTM D75/ D75M	Standard Practice for Sampling Aggregates	JEL Laboratory
Aggregate	ASTM D546	Standard Test Method for Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures	JEL Laboratory
Aggregate	ASTM D3665	Standard practice for random sampling of Construction materials	JEL Laboratory
Aggregate	ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate	JEL Laboratory
Aggregate	ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate - One or more Fractured Faces and Two or more Fractured Faces	JEL Laboratory
Aggregate	BS 812–102	Testing Aggregates Part102. Methods for Sampling	JEL Laboratory
Aggregate	BS 812-103:1985 Section103.1	Testing Aggregates Part103. Methods for Determination of Particle Size Distribution Section 103.1 Sieve Tests –Test NO.7.2 (Washing and Sieving Method)	JEL Laboratory
Aggregate	BS 812-103.1:1985 CI 7.3	Testing Aggregates Part 103. Methods for Determination of Particle Size Distribution Section103.1 Sieve Tests CL 7.3 (Dry Sieving Method)	JEL Laboratory
Aggregate	BS 812-109:1990 CI 6	Testing Aggregates—Part 109: Methods for Determination of Moisture Content CL 6 Definitive, Oven Drying Method	JEL Laboratory
Aggregate	BS 812-110	Testing Aggregates—Part 110: Methods for Determination of Aggregate Crushing Value (ACV)	JEL Laboratory
Aggregate	BS 812-111	Testing Aggregates—Part 111: Methods For Determination of Ten Per Cent Fine Value (TFV)	JEL Laboratory
Aggregate	BS EN 933-1	Tests For Geometrical Properties of Aggregates, Part 1: Determination of Particles Size Distribution- Sieving Method	JEL Laboratory

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Aggregate	BS EN 933-1:2012 CI 7.1	Tests for Geometrical Properties of Aggregates, Part 1: Determination of Particles Size Distribution CL 7.1 Sieving Method Material Finer Than 0.063mm	JEL Laboratory
Aggregate	BS EN 933-3	Tests for Geometrical Properties of Aggregates- Part 3: Determination of Particle Shape-Flakiness Index	JEL Laboratory
Aggregate	BS EN 933-4	Tests for geometrical properties of aggregates Part 4: Determination of particle-Shape index	JEL Laboratory
Aggregate	BS EN 933-7	Tests for Geometrical Properties of Aggregates– Part 7: Determination of Shell Content– Percentage of Shells in Coarse Aggregates	JEL Laboratory
Aggregate	BS EN 1097-2 CL 5	Tests for mechanical and physical properties of aggregates Part 2: Methods for the determination of resistance to fragmentation CL 5 Determination of resistance to fragmentation by the Los Angeles test method	JEL Laboratory
Aggregate	BS EN 1097-6:2013 CI 8	Tests For Mechanical And Physical Properties of Aggregates Part 6: Determination of Particle Density and Water Absorption CL 8 Pyknometer method for aggregate particles passing the 31,5 mm test sieve and retained on the 4 mm test sieve	JEL Laboratory
Aggregate	BS EN 1097–6	Tests For Mechanical and Physical Properties of Aggregates Part 6: Determination of Particle Density and Water Absorption Clause–9	JEL Laboratory
Aggregate	BS EN 1097-7	Tests for Mechanical and Physical Properties of Aggregates Part 7: Determination of the Particle Density of filler– Pyknometer Method	JEL Laboratory
Aggregate	BS EN 1367-2	Tests for thermal and weathering properties of aggregates Part 2 - Magnesium sulphate test	JEL Laboratory
Aggregate	BS EN 1367-4	Tests for Thermal and Weathering Properties o f Aggregates Part 4: Determination of Drying Shrinkage	JEL Laboratory
Aggregate Chemistry	ASTM C40/C40M	Standard Test Method for Organic Impurities In Fine Aggregates for Concrete	JEL Laboratory
Aggregate Chemistry	ASTM C88-18 CI 8.1	Standard Test Method for Soundness of AggregatesB y Use of Sodium Sulfate or Magnesium Sulfate (8.1 Fine Aggregate)	JEL Laboratory

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Aggregate Chemistry	ASTM C88–18 CI 8.2	Standard Test Method for Soundness of Aggregate By Using Sodium Sulphate Or Magnesium Sulphate For (8.2 Coarse Aggregate)	JEL Laboratory
Aggregate Chemistry	BS 812–117	Testing Aggregate Part 117. Method for determination for Water- soluble Chloride salts. Appendix D: Details of experiment for determining precision of test for water-soluble chloride content of aggregates	JEL Laboratory
Aggregate Chemical	BS 812-118 CI 6	Determination of total sulphate content by Acid extract	JEL Laboratory
Aggregate Chemistry	BS EN 933-9	Tests for geometrical properties of aggregates. Assessment of fines. Methylene blue test	JEL Laboratory
Aggregate Chemistry	BS EN 1744-1	Tests For Chemical Properties of Aggregates Part 1: Chemical Analysis Clause 12: Determination of Acid Soluble Sulfates	JEL Laboratory
Aggregate Chemistry	BS EN 1744-5	Tests For Chemical Properties of Aggregates — Part 5: Determination of Acid Soluble Chloride Salts	JEL Laboratory
Asphalt	AASHTO R47	Standard practice for Reducing samples of Asphalt mixtures to Testing Size	JEL Laboratory
Asphalt and Bitumen	ASTM D5/D5M	Standard Test Method for Penetration of Bituminous Materials	JEL Laboratory
Asphalt and Bitumen	ASTM D36/D36M	Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)	JEL Laboratory
Asphalt and Bitumen	ASTM D70	Standard Test Method for Density of Semi- Solid Bituminous Materials (Pycnometer Method)	JEL Laboratory
Asphalt and Bitumen	ASTM D92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester	JEL Laboratory
Asphalt and Bitumen	ASTM D140/D140M	Standard Practice for Sampling Bituminous Material	JEL Laboratory
Asphalt and Bitumen	ASTM D979/D979M	Standard Practicefor Sampling Bituminous Paving Mixtures	JEL Laboratory
Asphalt and Bitumen	ASTM D2041/D2041M	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures 9.5.2 Weighing in Air (Bowl) Method	JEL Laboratory
Asphalt and Bitumen	ASTM D2172/D 2172M	Standard Test Methods for Quantitative Extraction of Bitumen From Bituminous Paving Mixtures. (Test Method A) Extraction Unit Bowl Method	JEL Laboratory
Asphalt and Bitumen	ASTM D2726/D2726M	Standard Test Method for Bulk Specific Gravity and Density of Non- Absorptive Compacted Bituminous Mixtures	JEL Laboratory

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Asphalt and Bitumen	ASTM D2950 / D2950M	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods	JEL Laboratory
Asphalt and Bitumen	ASTM D3549/D3549M	Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens	JEL Laboratory
Asphalt	ASTM D5361/D5361M	Sampling Compacted Bituminous Mixtures for Laboratory Testing	JEL Laboratory
Asphalt and Bitumen	ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate	JEL Laboratory
Asphalt and Bitumen	ASTM D6926	Standard Practice for Preparation of Bituminous Specimens using Marshall Apparatus	JEL Laboratory
Asphalt and Bitumen	ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixture	JEL Laboratory
Asphalt and Bitumen	BS EN 12697, Part 13	Bituminous Mixtures— Test Methods for Hot Mix Asphalt— Part 13: Temperature Measurement	JEL Laboratory
Asphalt and Bitumen	BS EN 13036-7	Road and airfield surface characteristics. Test methods. Irregularity measurement of pavement courses. The straightedge test	JEL Laboratory
Cement	ASTM C109/C109M	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)1	JEL Laboratory
Cement	ASTM C114, CL 7	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 7 Insoluble Residue	JEL Laboratory
Cement	ASTM C114, CL 8	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 8 Determination of Silcon Dioxide as SiO2 (%)	JEL Laboratory
Cement	ASTM C114, CL 9	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 9 Ammonium Hydroxide Group	JEL Laboratory
Cement	ASTM C114, CL 10	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 10 Determination of Ferric Oxide as Fe2O3 (%)	JEL Laboratory
Cement	ASTM C114, CL 11	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 11 Phosphorous Pentoxide, P2O5	JEL Laboratory
Cement	ASTM C114, CL 12	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 12 Titanium Dioxide	JEL Laboratory
Cement	ASTM C114, CL 14	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 14 Aluminum Oxide	JEL Laboratory





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Cement	ASTM C114, CL 16	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 16 Determination of Magnesium Oxide as MgO (%)	JEL Laboratory
Cement	ASTM C114, CL 17.1	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 17.1 Determination of sulfate content as SO3 (%)	JEL Laboratory
Cement	ASTM C114, CL 18	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 18 Determination of loss on ignition (%)	JEL Laboratory
Cement	ASTM C114, CL 19.1	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 19.1 Determination of Sodium Oxide Na2O and Potassium Oxide as K2O (%)	JEL Laboratory
Cement	ASTM C114, CL 21	Standard Test Methods for Chemical Analysis of Hydraulic Cement - CL 21 Determination of Chloride Content as Cl- (%)	JEL Laboratory
Cement	ASTM C151/C151M	Standard Test Method for Autoclave Expansion of Hydraulic Cement	JEL Laboratory
Cement	ASTM C188	Standard Test Method for Density of Hydraulic Cement	JEL Laboratory
Cement	ASTM C311/C311M, CL 13 (ASTM C114, CL 18)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete - CL 13 Determination of loss on ignition (%)	JEL Laboratory
Cement	ASTM C311/C311M CL 15 (ASTM C114, CL 8)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete - CL 15 Determination of Silicon Dioxide as SiO2 (%)	JEL Laboratory
Cement	ASTM C311/C311M CL 15 (ASTM C114, CL 10)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete - CL 15 Determination of Iron Oxide as Fe2O3 (%)	JEL Laboratory
Cement	ASTM C311/C311M CL 15 (ASTM C114, CL 14)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete - CL 15 Aluminium Oxide	JEL Laboratory
Cement	ASTM C311/C311M CL 15 (ASTM C114, CL 16)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete - CL 15 Determination of Magnesium Oxide as MgO (%)	JEL Laboratory



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Cement	ASTM C311/C311M CL 15 (ASTM C114, CL 17.1)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete CL 15 - Determination of Sulphur Trioxide as SO3 (%)	JEL Laboratory
Cement	ASTM C 311 CL 15 ASTM C114, CL 19	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete CL 15 Determination of Sodium Oxide as Na2O (%)	JEL Laboratory
Cement	ASTM C311/C311M CL 15 (ASTM C114, CL 19.1)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete CL 16 Equivalent Alkalies (Na2O + 0.658 K2O)	JEL Laboratory
Cement	ASTM C311/C311M CL 15 (ASTM C114, CL 19.1)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete CL 15 Determination of Sodium Oxide Na2O and Potassium Oxide as K2O (%)	JEL Laboratory
Cement	ASTM C311/C311M CL 15 (ASTM C114, CL 23)	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete - CL 15 Determination of Calcium Oxide as CaO (%)	JEL Laboratory
Cement	ASTM C311/C311M CL 11	Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete CL 11 Moisture Content of Fly Ash	JEL Laboratory
Cement	ASTM C430	Fineness of Hydraulic Cement by the 45-µm (No. 325) Sieve	JEL Laboratory
Cement	ASTM C1240 CL 12	Standard Specification for Silica Fume Used in Cementitious Mixtures Density of Silica Fume (Mg/m3)	JEL Laboratory
Cement	ASTM C1240 CL 19	Standard Specification for Silica Fume Used in Cementitious Mixtures Bulk Density of Silica Fume (Kg/m3)	JEL Laboratory
Cement	BS EN 196-1:2016, CL 9.1	Determination of Flexural Strength of Cement	JEL Laboratory
Cement	BS EN 196-1:2016, CL 9.2	Methods of Testing Cement Part 1: Determination of strength Compressive strength of Cement	JEL Laboratory
Cement	BS EN 196-2	Chemical Analysis of Dicalcium Silicate as C2S (%)	JEL Laboratory
Cement	BS EN 196-2	Chemical Analysis of Ratio CaO/SiO2	JEL Laboratory
Cement	BS EN 196-2	Tricalcium Aluminate as C3A (%)	JEL Laboratory
Cement	BS EN 196-2	Chemical Analysis of Tetracalcium Alumino Ferrite as C4AF (%)	JEL Laboratory

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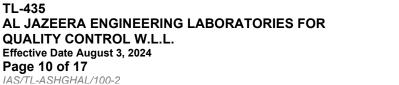
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Cement	BS EN 196-2	Chemical Analysis of Tricalcium + Dicalcium Silicate as (C3S+C2S) %	JEL Laboratory
Cement	BS EN 196-2	Tricalcium Silicate as C3S (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.4.1	Chemical Analysis of cement Determination of loss on ignition Loss on Ignition (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.4.2	Determination of Sulfate Content as SO3 (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.4.3	Determination of residue insoluble in hydrochloric acid and Sodium Carbonate Insoluble Residue (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.5.5	Chemical Analysis of cement Determination of Silicon Dioxide as SiO2 (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.5.10	Chemical Analysis of cement Determination of Iron Oxide as Fe2O3 (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.5.11	Chemical Analysis of cement Determintion of Aluminium Oxide as Al2O3 (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.5.14	Chemical Analysis of Cement (Calcium Oxide as CaO (%))	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.5.15	Chemical Analysis of cement Determination of Magnesium Oxide as MgO (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.5.16	Determination of Chloride Content as CI_ (%)	JEL Laboratory
Cement	BS EN 196-2:2013 CL 4.5.19	Chemical Analysis of cement Equivalent Alkalies (Na2O + 0.658 K2O)	JEL Laboratory
Cement	BS EN 196-3:2016 CL 6	Determination of Setting Time Initial Setting time and Final Setting Time of Cement	JEL Laboratory
Cement	BS EN 196-3:2016 CL 7	Determination of Soundness of Cement	JEL Laboratory
Cement	BS EN 196-6:2018 CL 4	Determination of Fineness of Cement (Blaine Air Permeability)	JEL Laboratory
Cement	BS EN 196-6:2010 Annex NC	Determination of Density of Cement	JEL Laboratory
Cement	BS EN 15167-1	Ground granulated blast furnace slag for use in concrete, mortar and grout Annex-A Moisture Content of GGBS	JEL Laboratory
Concrete	ASTM C31/C31M	Standard Practice for Making and Curing Concrete Test Specimens in the Field, Clause: 9.4.1 Rodding, Clause: 10 Curing	JEL Laboratory
Concrete	ASTM C42/C42M	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete, Clause: 6 Measuring the Length of Drilled Cores, Clause: 7 Cores for Compressive Strength	JEL Laboratory
Concrete	ASTM C138	Standard Test Method for Density (Unit Weight), Yield, And Air Content (Gravimetric) of Concrete, Clause: 6.3 Rodding Method	JEL Laboratory

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Concrete	ASTM C140/C140M CL 8	Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units, CL 8 Absorption	JEL Laboratory
Concrete	ASTM C140/C140M Annex A1 & A4	Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units Annexes: A1 & A4 Compressive Strength	JEL Laboratory
Concrete	ASTM C143/C143M	Standard Test Method for Slump of Hydraulic- Cement Concrete	JEL Laboratory
Concrete	ASTM C172/C172M	Standard Practicef or Sampling Freshly Mixed Concrete	JEL Laboratory
Concrete	ASTM C231/C231M	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method, Clause: 8.3 Type B Meter by Clause 8.1.2 Rodding	JEL Laboratory
Concrete	ASTM C617/C617M	Standard Practice for Capping Cylindrical Concrete Specimens, Clause: 5.4 Sulfur Mortar	JEL Laboratory
Concrete (NDT)	ASTM C805/C805M	Standard Test Method for Rebound Number of Hardened Concrete	JEL Laboratory
Concrete	ASTM C900	Pullout Strength of hardened Concrete	JEL Laboratory
Concrete	ASTM C1064/C1064M	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete	JEL Laboratory
Concrete	ASTM C1202-22e1	Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration	Main lab
Concrete	ASTM C1583	Tensile strength of Concrete surfaces and the Bond Strength of Tensile strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)	JEL Laboratory
Concrete	BS 6073-1	Precast Concrete Masonry Units: Specification for Precast Concrete Masonry Units, Appendix A Measurement of Dimensions & Appendix B Determination of Compressive Strength	JEL Laboratory
Concrete	BS 6717–1	Precast Concrete Paving Blocks Part 1: Specification for Paving Blocks, Annex A (normative) Measurement of Dimensions and Plan Area & Annex B (Normative) Determination of Compressive Strength	JEL Laboratory
Concrete	BS 7263-1	Precast Concrete Flags, Kerbs, channels, edgings and quadrants. Part –1 Specification Annex A (Normative) Measurement of Dimension	JEL Laboratory





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Concrete	BS 7263-1	Precast Concrete Flags, Kerbs, Channels, Edgings and Quadrants. Part –1 Specification Annex B (Normative) Determination of Transvarse Strength	JEL Laboratory
Concrete	BS 7263-1	Precast Concrete Flags, Kerbs, Channels, Edgings and Quadrants. Part –1 Specification Annex C (Normative) Determination of Water Absorption	JEL Laboratory
Concrete	BS EN 771–1:2011 Annex A	Specification for Masonry Units Part 1: Clay Masonry Units, Annex A (Normative) Sampling for initial Type Testing and for Independent Testing of Consignments	JEL Laboratory
Concrete	BS EN 772–1	Methods of Test for Masonry Unit: Part 1: Determination of Compressive Strength	JEL Laboratory
Concrete	BS EN 772-11	Methods of Test for Masonry Units: Part 11: Determination of Water Absorption of Aggregate Concrete, Autoclaved Aerated Concrete, Manufactured Stone and Natural Stone Masonry Units Due to Capillary Action and the Initial Rate of Water Absorption of Clay Masonry Units	JEL Laboratory
Concrete	BS EN 1338	Concrete Paving Blocks– Requirements and Test Methods Annex C (Normative) Measurement of the Dimensions of a Single Block	JEL Laboratory
Concrete	BS EN 1338	Concrete Paving Blocks– Requirements and Test Methods AnnexE (Normative) Determination of Total Water Absorption	JEL Laboratory
Concrete	BS EN 1338 Annex F	Tensile Splitting Strength of Concrete blocks	JEL Laboratory
Concrete	BS EN 1339	Concrete Paving Flags— Requirements and Test Methods Annex C (Normative) Measurement of the Dimensions of a Single Flag	JEL Laboratory
Concrete	BS EN 1339	Concrete Paving Flags– Requirements and Test Methods Annex E (Normative)Determination of Total Water Absorption	JEL Laboratory
Concrete	BS EN 1339	Concrete Paving Flags– Requirements and Test Methods Annex F (Normative) Measurement of Bending Strength and Breaking Load	JEL Laboratory
Concrete	BS EN 1340:2003 Annex C	Concrete Kerb Units- Requirements And Test Methods Annex C (Normative) Measurement of Dimensions of a Single Unit	JEL Laboratory
Concrete	BS EN 1340:2003 Annex E	Concrete Kerb Units- Requirements And Test Methods Annex E (Normative) Determination of Total Water Absorption	JEL Laboratory

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Concrete	BS EN 1340:2003 Annex F	Concrete Kerb Units- Requirements And Test Methods Annex F (Normative)	JEL Laboratory
	, and ox i	Measurement of Bending Strength	
Concrete	BS EN 1881-122	Testing Concrete: Part 122: Method for Determination of Water Absorption	JEL Laboratory
Concrete	BS EN 12350-1	Testing Fresh Concrete: Part 1: Sampling	JEL Laboratory
Concrete	BS EN 12350-2	Testing Fresh Concrete: Part 2: Slump–Test	JEL Laboratory
Concrete	BS EN 12390-1	Testing Hardened Concrete: Part 1: Shape, Dimensions And Other Requirements for Specimens And Moulds	JEL Laboratory
Concrete	BS EN 12390–2	Testing Hardened Concrete: Part 2: Macking and Curing Specimens for Strength Test, Clause: 5.2.3 Compacting by Hand with Compacting Rod & Bar & 5.5 Curing	JEL Laboratory
Concrete	BS EN 12390-3	Testing Hardened Concrete: Part 3: Compressive Strength of Test Specimens	JEL Laboratory
Concrete	BS EN 12390-7:2009 CL 5.5	Testing Hardened Concrete: Part 7: Density of Hardened Concrete, Clause 5.5 Volume Obtained By Water Displacement & 5.5.5 Volume Obtained By Measurement	JEL Laboratory
Concrete	BS EN 12390-8 :2019	Testing hardened concrete Depth of penetration of water under pressure	Main lab
Concrete	BS EN 12504-1	Testing Concrete in Structures: Part 1: Cored Specimens- Taking, Examining and Testing in Compression	JEL Laboratory
Concrete (NDT)	BS EN 12504-4	Testing concrete–Part 4: Determination of Ultrasonic Pulse Velocity	JEL Laboratory
Concrete	NT-Build 492 (Approved 1999-11)	Chloride Migration Coefficient From non- Steady-State Migration Experiments	Main lab
Concrete Chemistry	ASTM C1152/C1152M	Standard Test Method For Acid  -Soluble Chloride In Mortar And Concrete	JEL Laboratory
Concrete Chemistry	BS 1881–124 CI 12.1	Testing Concrete Part 124. Methods For Analysis of Hardened Concrete, Clause 10.2. Determination of Chloride Content	JEL Laboratory
Concrete Chemistry	BS 1881–124 CI 12.2	Testing Concrete Part 124. Methods for Analysis of Hardened Concrete, Clause 10.3. Determination of Sulphate Content	JEL Laboratory
Masonry	BS 6073-2	Precast Concrete Masonry Units: Part 2: Method for Specifying Precast Concrete Masonry Units	JEL Laboratory
Micro Biology	IDEXX colilert-18	Fecal Coliform based on SMEWW 9223 B	JEL Laboratory
Micro Biology	1	Enzyme substrate methods (E.Coli)	JEL Laboratory
Micro Biology		Enzyme substrate methods (Total Coliform)	JEL Laboratory
Micro Biology		Heterotrophic Plate Count (HPC)	JEL Laboratory
Road Equipment	BS EN 1436:2018	Road marking materials. Road marking performance for road users and test methods	Main lab and site

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Category	Standard/ Method No. / Date	Standard/ Method Title & Section	Location / Facility
Road Materials	EN 13036-4	Method for measurement of slip/skid resistance of surface – Part 4: The pendulum test	Main lab and site
Road and Pavements	ASTM D2995	Standard Practice for estimating application rate of bituminous distributor, Rate of Application	JEL Laboratory
Road and Pavements	ASTM D3203	Standard Test Method for percent air void in compacted dense and open bitimunous paving mixtures	JEL Laboratory
Road and pavement	BS 3262 Part 1-Ap. J	Measurement of Skid Resistance	JEL Laboratory (at site)
Road and pavements	BS 3262-3 Appendix B.	Hot-Applied Thermoplastic Road Marking Materials — Part 3: Specification for Application of Material to Road Surfaces	JEL Laboratory (at site)
Road and pavement	BS EN 1436:2018 (Annexes A & B)	Measurement of Coefficient of Retroreflected Luminance RL and Qd of Road Marking Using a Portable Retroreflectometer	JEL Laboratory (at site)
Road and pavements	BS EN 13197:2011+A1:2014 Annex C	Road marking materials. Wear simulator Turntable	JEL Laboratory (at site)
Road and pavements	SOP/OPN/63 Rev 0	Surface Irregularities of the Driving Surface of Road Pavement by Travelling Beam	JEL Laboratory (at site)
Soil	ASTM D1140	Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing	JEL Laboratory
Soil	ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by Sand- Cone Method	JEL Laboratory
Soil	ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,00 ft-lbf/ft3 (2,700 kN-m/m3))	JEL Laboratory
Soil	ASTM D1883	Standard Test Method for CBR (California Bearing Ratio) of Laboratory- Compacted Soils	JEL Laboratory
Soil	ASTM D2216	Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass	JEL Laboratory
Soil	ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate	JEL Laboratory
Soil	ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils	JEL Laboratory
Soil	ASTM D4429	CBR (California Bearing Ratio) of Soils in Place <sup>1</sup>	JEL Laboratory





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Soil	ASTM D4718/D4718M	Correction of Unit Weight and Water Content for Soils Containing Oversize Particles	JEL Laboratory
Soil	ASTM D5334	Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure <sup>1</sup>	JEL Laboratory
Soil	ASTM D6913	Standard Test Methods for Particle-Size Distribution (Gradation) of Soil Using Sieve Analysis	JEL Laboratory
Soil	ASTM D6938	Standard Test Method for In- Place Density and Water Content in Soil and Soil- Aggregate by Nuclear Methods (Shallow Depth)	Field
Soil	ASTM D7012	Compressive Strength and Elastic Moduli of Intact Rock Core Specimens under Varying States of Stress and Temperatures, Method C	JEL Laboratory
Soil	ASTM E1703/E1703M	Measuring Rut-Depth of Pavement Surfaces Using a Straightedge	Jel Laboratory
Soil	BS 1377-2	Methods of Test For Soils for Civil Engineering Purposes— Part 2: Classification Tests- Clause 3.2- Determination of Moisture Content By Oven Drying Method	JEL Laboratory
Soil	BS 1377-2	Methods of Test For Soils for Civil Engineering Purposes— Part 2: Classification Tests- Clause. 4.5- Determination of The Liquid Limit By Casagrande Apparatus Method	JEL Laboratory
Soil	BS 1377-2	Methods of Test for Soils for Civil Engineering Purposes—Part 2: Classification Tests- Clause 5.3 & 5.4 – Determination of The Plastic Limit And Plasticity Index	JEL Laboratory
Soil	BS 1377-2:1990 CL 9.2	Methods of Test for Soils for Civil Engineering Purposes—Part 2: Classification Tests CL 9.2 Determination of Particle Size Distribution By Using Wet Sieving Method	JEL Laboratory
Soil	BS 1377-2:1990 CL 9.3	Methods of Test For Soils for Civil Engineering Purposes—Part 2: Classification Tests CL 9.3 Determination of Particle Size Distribution By Using Dry Sieving Method	JEL Laboratory



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Category	Standard/ Method No. / Date	Standard/ Method Title & Section	Location / Facility
Soil	BS 1377-4:1990 CI 3.5	Methods of Test for Soils for Civil Engineering Purposes— Part 4: Compaction – Related Tests – Clause 3.5 Determination of Dry Density/Moisture Content Relationship By Method Using 4.5kg Rammer for Soils With Particles Up to Medium – Gravel Size	JEL Laboratory
Soil	BS 1377-4:1990 CI 3.6	Methods of Test for Soils for Civil Engineering Purposes— Part 4: Compaction –Related Tests – CL 3.6 Determination of Dry Density/Moisture Content Relationship By Method Using 4.5kg Rammer for Soils with Some Coarse Gravel –Size Particles	JEL Laboratory
Soil	BS 1377-4:1990 CI 7	Methods of Test for Soils For Civil Engineering Purposes— Part 4: Compaction —Related Tests CL 7 Determination of the California Bearing Ratio (CBR)	JEL Laboratory
Soil	BS 1377-9:1990 CI 2.1	Methods of Test for Soils for Civil Engineering Purposes— Part 9: In–Situ Tests CL 2.1 Sand Replacement Method Suitable for Fine and Medium – Grained Soils (Small Pouring Cylinder Method)	JEL Laboratory
Soil	BS 1377-9:1990 CI 2.5	Methods of Test for Soils for Civil Engineering Purposes— Part 9: In–Situ Tests CL 2.5 Nuclear Methods Suitable for Fine, Medium and Coarse Grained Soils	JEL Laboratory
Soil	BS 1377 Part 9 Cl. 4.1	Determination of Vertical Deformation and Strength Characteristics of Soil by Plate Loading Test	JEL Laboratory
Soil	BS EN 933-8	Test for Geometrical Properties of Aggregates — Part 8: Assessment of Fines – Sand Equivalent Test	JEL Laboratory
Soil Chemistry	BS 1377–3:2018 +A1:2021 CI 9.3	Method of Test for Soil for Civil Engineering Purposes, Part 3. Chemical & Electro – Chemical Test. Clause 9: Determination of the Chloride Content, 9.3 Determination of Acid – Soluble Chloride Content	JEL Laboratory
Soil Chemistry	BS EN 1377-3:2018 +A1:2021 Cl 4	Method of Test for Soil for Civil Engineering Purposes, Part 3. Chemical & Electro – Chemical Test Clause 4: Determination of Organic Matter Content	JEL Laboratory
Soil Chemistry	BS EN 1377–3:1990, CI 5.2	Method of Test for Soil for Civil Engineering Purposes, Part 3. Chemical & Electro – Chemical Test Clause 5: Determination of Sulphate Content of Soil And Ground Water, 5.2 Preparation of Soil and Acid Extract	JEL Laboratory

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Soil / Water	BS 1377-3-2018 +A1:2021 Cl 7.3 and 7.6	Methods of test for soils for civil engineering purposes. Chemical and electro-chemical testing Gravimetric Method for Analysis of Acid or	JEL Laboratory
		Water Extract or Groundwater Sulfate	
Soil / Water	BS 1377-3-2018 +A1:2021 Cl 9.2, 9.2.7 (Volhards method)	Methods of test for soils for civil engineering purposes. Chemical and electro-chemical testing (Determination of Water Soluble Chloride Content)	JEL Laboratory
Water and Waste Water	BS 1377-3-2018 +A1:2021 CI 11	Methods of test for soils for civil engineering purposes. Chemical and electro-chemical testing (Total Dissolved Solids (TDS))	JEL Laboratory
Water and Waste Water	BS 6068–2,50:1995 ISO10523:1994	Water Quality–Part–2: Physical, Chemical and Biochemical Methods– Section 2.50. Determination of pH	JEL Laboratory
Water and Waste Water	BS EN-ISO 9963.1:1996 BS6068- 2.51:1996	Water Quality Determination of Alkalinity Part 1: Determination of Total and Composite Alkalinity 8.2 Visual Method	JEL Laboratory
Water and Waste Water	HACH Method 8008	USEPA1 FerroVer® Method2 Total Iron by Powder Pillow Method	JEL Laboratory
Water and Waste Water	Hach Method 8021	Chlorine, Free, Method 8021, USEPA DPD Method1 Powder Pillows	JEL Laboratory
Water and Waste Water	HACH Method 8029	Fluoride, USEPA Spadns Method,8029	JEL Laboratory
Water and Waste Water	HACH Method 8038	Nitrogen, Ammonia Method 8038USEPA Nessler Method	JEL Laboratory
Water and Waste Water	Hach Method 8051	Sulfate Method 8051, USEPA1 SulfaVer 4 Method2, Powder Pillows	JEL Laboratory
Water and Waste Water	Hach Method 8131	Sulfide Method 8131, USEPA1 Methylene Blue Method2, Reagent Solution	JEL Laboratory
Water and Waste Water	Hach Method 8167	Chlorine, Total, Method8167, USEPADPD1, Method Powder Pillows	JEL Laboratory
Water and Waste Water	Hach Method 8186	Hach, Silica, Method 8186 Hetaropoly Blue Method Powder Pillows	JEL Laboratory
Water and Waste Water	Hach Method 8190/Hach Method 8048	Phosphorus, Total Digestion Method 8190 Acid Persulfate Digestion Method 2/Phosphorus, Reactive (Orthophosphate), Method 8048-USEPA 1 Phos Ver3 (Ascorbic Acid) Method 2, Powder Pillows	JEL Laboratory
Water and Waste Water	Hach Method 10049	Nitrate, Method 10049 UV Screening Method 1	JEL Laboratory
Water and Waste Water	HACH 10056	Oil & Grease	JEL Laboratory
Water and Waste Water	HACH Method 10207	Nitrite, Cuvette-Test, LCK341/Barcode	JEL Laboratory
Water and Waste Water	SMEWW Turbidity 2130 B	2130 Turbidity B.Nephelometric Method /Lovibond Turbicheck	JEL Laboratory

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Water and	SMEWW 2320B/ 2310 B	2320 Alkalinity B.Titration Method/2310	JEL Laboratory
Waste Water		Acidity B Titration Method	
Water and	SMEWW 2340	2340 Hardness, C. Edta Titration Method	JEL Laboratory
Waste Water	Hardness		
Water and Waste Water	SMEWW-2510B	SMEWW-2510B Conductivity B. Laboratory Method/HannaHi2300, EC/TDS/NaCL Bench Meter	JEL Laboratory
Water and Waste Water	SMEWW 2540B	2540 Solids B. Total Solids Dried At 103-105°C	JEL Laboratory
Water and Waste Water	SMEWW 2540C	2540 Solids C. Total Dissolved Solids Dried At 180°C	JEL Laboratory
Water and Waste Water	SMEWW 2540D	2540 Solids D. Total Suspended Solids Dried At 103°C To 105°C	JEL Laboratory
Water and Waste Water	SMEWW-2540 Solids	2540 Solids E. Fixed and Volatile Solids Ignited At 550°C (TVS–Method B)	JEL Laboratory
Water and Waste Water	SMEWW-2540 Solids	2540 Solids E. Fixed and Volatile Solids Ignited At 550°C (TVDS–Method C)	JEL Laboratory
Water and Waste Water	SMEWW –2540 Solids	2540 Solids E. Fixed and Volatile Solids Ignited at 550°C (TVSS–Method D)	JEL Laboratory
Water and Waste Water	SMEWW-3500-Ca	3500 – Ca Calcium B. EDTA Titrimetric Method	JEL Laboratory
Water and Waste Water	SMEWW-3500-Mg B	3500–Mg Magnesium B. Calculation Method	JEL Laboratory
Water and Waste Water	SMEWW -4500-CI	4500–Cl –Chloride B. Argentometric Method	JEL Laboratory
Water and Waste Water	SMEWW 4500H+B	pH Value B, Electrometric Method	JEL Laboratory
Water and	SMEWW-5210	SMEWW-5210 Biochemical Oxygen	JEL Laboratory
Waste Water	Biochemical Oxygen Demand	Demand (BOD) D. Respirometric Method/BOD System Oxidirect (Lovibond)	
Water and Waste Water	SMEWW–5220 Chemical Oxygen Demand Method	SMEWW –5220 Chemical Oxygen Demand (COD)D. Closed Reflux, Colorimetric Method/Photometer System MD200(Lovibond)	JEL Laboratory

