CERTIFICATE OF ACCREDITATION

This is to attest that

ARAB COMPANY FOR LABORATORIES AND SOIL (ACES) JEDDAH BRANCH

AHMAD IBN ABDULMUQRI STREET
JEDDAH, 21382, SAUDI ARABIA

Testing Laboratory TL-668

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 19, 2024

International Accreditation Service
Issued under the authority of IAS management

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | www.iasonline.org

ARAB COMPANY FOR LABORATORIES AND SOIL (ACES) JEDDAH BRANCH

www.aces-int.com

Contact Name Tariq Diab **Contact Phone** +966 126641422

Accredited to ISO/IEC 17025:2017 *Effective Date August 19, 2024*

Conformity Specifications	
ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation (KSA equivalent for Section 6.1 and exclusion of ASTM C173)
ASTM C1093	Practice for Accreditation of Testing Agencies for Masonry
ASTM D3666	Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D3740	Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E329	Standard Specification for Agencies Engaged in Construction Inspection, Testng, or Special Inspection (exclude sections 15, 16, 17, 18, & 19) (KSA equivalent for Section 6.2.2 and exclusion of Special Inspection)
ASTM E543	Specification for Agencies Performing Nondestructive Testing
Concrete	
ACI 207.2	Report on Thermal and Volume Change Effects on Cracking of Mass Concrete
ACI 211.1	Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete
ACI 211.2	Standard Practice for Selecting Proportions for Structural Lightweight Concrete
ACI 211.4	Guide for Selecting Proportions for High-Strength Concrete
ACI 212.3	Report on chemical admixtures for concrete
ACI 214.1 R	Guide to Evaluation of Strength Test Results of Concrete
ACI 214.4 R	Guide for obtaining cores and interpreting compressive strength results
ACI 216.1	Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies
ACI 228.1R	In-Place Methods to Estimate Concrete Strength

ACI 228.2R	Report on Nondestructive Test Methods for Evaluation of Concrete in Structures
ACI 237r	Self-Consolidating Concrete
ACI 301	Specifications for Structural Concrete (Section 8)
ACI 318 Chapter 27	Strength Evaluation of Existing Structures
ACI 364.1	guide for assessment of concrete structures before rehabilitation
ACI 437	Strength Evaluation of Existing Concrete Buildings
ACI 562	Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures
ASTM C31/C31M	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C39/C39M	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C42/C42M	Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
ASTM C78	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
ASTM C94	Standard Specification for Ready-Mixed Concrete
ASTM C133	Standard Test Methods for Cold Crushing Strength and Modulus of Rupture of Refractories
ASTM C134	Standard Test Methods for Size, Dimensional Measurements, and Bulk Density of Refractory Brick and Insulating Firebrick
ASTM C138/C138M	Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
ASTM C143/C143M	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C172/C172M	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C174/C174M	Standard Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores
ASTM C192	Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory
ASTM C231/C231M	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C232	Standard Test Method for Bleeding of Concrete
ASTM C293	Standard Test Method for Flexural Strength of Concrete (Using Simple Beam With Center-Point Loading)

ASTM C403	Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance
ASTM C490	Standard Practice for Use of Apparatus for the Determination of Length Change of Hardened Cement Paste, Mortar, and Concrete
ASTM C495	Standard Specification for Blended Hydraulic Cements
ASTM C511	Standard Specification for Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes, Section 7 only
ASTM C597	Standard Test Method for Pulse Velocity Through Concrete
ASTM C617/C617M	Standard Practice for Capping Cylindrical Concrete Specimens
ASTM C642	Standard Test Method for Density, Absorption, and Voids in Hardened Concrete
ASTM C805/C805M	Standard Test Method for Rebound Number of Hardened Concrete
ASTM C876	Standard Test Method for Corrosion Potentials of Uncoated Reinforcing Steel in Concrete
ASTM C900	Standard Test Method for Pullout Strength of Hardened Concrete
ASTM C1064/C1064M	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM C1202	Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration
ASTM C1231/C1231M	Standard Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Cylindrical Concrete Specimens
ASTM C1354	Standard Test Method for Strength of Individual Stone Anchorages in Dimension Stone
ASTM C1583	Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)
ASTM D1143/D1143M)	Standard Test Methods for Deep Foundations Under Static Axial Compressive Load
ASTM D4541	Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers
ASTM D5882	Standard Test Method for Low Strain Impact Integrity Testing of Deep Foundations
BS 1881-122	Testing concrete Method for determination of water absorption
BS 1881-208	Testing concrete Recommendations for the determination of the initial surface absorption of concrete

BS EN 1338	Concrete paving blocks. Requirements and test methods
BS EN 1339	Concrete paving flags. Requirements and test methods
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 specimens
BS EN 12390-7	Testing hardened concrete. Density of hardened concrete
BS EN 12390-8	Testing hardened concrete Depth of penetration of water under pressure
DIN 1048-part 5	Testing of Hardened Concrete - Clause 7.6 "Water Permeability"
NT Build 492	Concrete, mortar and cement-based repair materials: chloride migration coefficient from non-steady-state migration experiments
Soil	
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft3 (600 kN-m/m3))
ASTM D1140	Standard Test Methods for Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing
ASTM D1196/D1196M-12(2016)	Standard Test Method for Nonrepetitive Static Plate Load Tests of Soils and Flexible Pavement Components, for Use in Evaluation and Design of Airport and Highway Pavements
ASTM D1556/D1556M	Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3))
ASTM D1883	Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils
ASTM D2216	Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3080	Standard Test Method for Direct Shear Test of Soils Under Consolidated Drained Conditions
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4253	Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table

ASTM D4254	Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4429	Standard Test Method for CBR (California Bearing Ratio) of Soils in Place (Silty sand with gravel or rock only)
ASTM D4718/D4718M	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
ASTM D6913/D6913M	Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
Aggregate	
ASTM C29/C29M	Standard Test Method for Bulk Density (“Unit Weight”) and Voids in Aggregate
ASTM C40	Standard Test Method for Organic Impurities in Fine Aggregates for Concrete
ASTM C88/C88M	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Relative Density (Specific Gravity) and Absorption of Coarse Aggregate
ASTM C128	Standard Test Method for Relative Density (Specific Gravity) and Absorption of Fine 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 C136/C136M	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
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
ASTM C702/C702M	Standard Practice for Reducing Samples of Aggregate to Testing Size
ASTM D75/D75M	Standard Practice for Sampling Aggregates
BS 812-105.2	Testing aggregates. Methods for determination of particle shape. Elongation index of coarse aggregate

BS EN 933-3	Tests for geometrical properties of aggregates. Determination of particle shape. Flakiness index
BS EN 1097-2	Tests for mechanical and physical properties of aggregates. Methods for the determination of resistance to fragmentation
Asphalt	
ASTM D36/D36M	Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus)
ASTM D113	Standard Test Method for Ductility of Asphalt Materials
ASTM D395	Standard Test Methods for Rubber Property—Compression Set
ASTM D624	Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
ASTM D751	Standard Test Methods for Coated Fabrics
ASTM D979/D979M	Standard Practice for Sampling Bituminous Paving Mixtures
ASTM D1876	Standard Test Method for Peel Resistance of Adhesives (T-Peel Test)
ASTM D2041/D2041M	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2172/D2172M	Standard Test Methods for Quantitative Extraction of Asphalt Binder from Asphalt Mixtures
ASTM D2240	Standard Test Method for Rubber Property—Durometer Hardness
ASTM D2726/D2726M	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Asphalt Mixtures
ASTM D3203/D3203M	Standard Test Method for Percent Air Voids in Compacted Asphalt Mixtures
ASTM D3549/D3549M	Standard Test Method for Thickness or Height of Compacted Asphalt Mixture Specimens
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4402/D4402M	Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer”
ASTM D4867/D4867M	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5361/D5361M	Standard Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing
ASTM D5581	Standard Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus (6 inch-Diameter Specimen)

ASTM D6926	Standard Practice for Preparation of Asphalt Mixture Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Asphalt Mixtures
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Asphalt Mix Specimens by Means of the Superpave Gyratory Compactor
ASTM D6931	Standard Test Method for Indirect Tensile (IDT) Strength of Asphalt Mixtures
Highway Testing	
ASTM D4694	Standard Test Method for "Deflections with a Falling Weight Type Impulse Load Device"
ASTM D4695	Standard Guide for "General Pavement Deflection Measurements"
ASTM D6432	Standard Guide for "Using the Surface Ground Penetrating Radar Method for Subsurface Investigation"
ASTM E303	Standard Test Method for "Measuring the Surface Frictional Properties Using the British Pendulum Tester"
ASTM E950/E950M	Standard Test Method for "Measuring the Longitudinal Profile of Traveled Surfaces"
ASTM E1703/1703M	Standard test Method for "Measuring Rut-Depth of Pavement Surfaces Using a Straightedge"
ASTM E1926	Standard Practice for "Computing International Roughness Index of Roads from Longitudinal Profile Measurements"
ASTM E2340/E2340M	Standard Test Method for "Measuring the Skid Resistance of Pavements and Other Trafficked Surfaces Using a Continuous Reading, Fixed Slip Technique"
Steel	
ASTM A370	Standard Test Methods and Definitions for Mechanical Testing of Steel Products - Tension (Section 6 to 14) & Bending (Section 15)
ASTM C497	Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile
Non-Destructive Testing (NDT)	
ASTM D6132	Standard Test Method for Nondestructive Measurement of Dry Film Thickness of Applied Organic Coatings Using an Ultrasonic Coating Thickness Gage
ASTM E164	Standard Practice for Contact Ultrasonic Testing of Weldments
ASTM E376	Standard Practice for Measuring Coating Thickness by Magnetic-Field or Eddy Current (Electromagnetic) Testing Methods
ASTM E1417	Standard Practice for Liquid Penetrant Testing

ASTM E1444	Standard Practice for Magnetic Particle Testing
Tiles	
BS EN 13748-1	Terrazzo tiles. Terrazzo tiles for internal use
BS EN ISO 10545-2	Ceramic tiles. Determination of dimensions and surface quality
BS EN ISO 10545-4	Ceramic tiles. Determination of modulus of rupture and breaking strength
BS EN ISO 10545-5	Ceramic tiles. Determination of impact resistance by measurement of coefficient of restitution
Concrete Block	
ASTM C140/C140M	Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
Cement	
ASTM C109/C109M	Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
ASTM C110	Standard Test Methods for Physical Testing of Quicklime, Hydrated Lime, and Limestone
ASTM C185	Standard Test Method for Air Content of Hydraulic Cement Mortar
ASTM C187	Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste
ASTM C191	Standard Test Methods for Time of Setting of Hydraulic Cement by Vicat Needle
ASTM C204	Standard Test Methods for Fineness of Hydraulic Cement by Air-Permeability Apparatus
ASTM C348	Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars
Polymer/Plastic/Geotextile/Waterproof Membrane	
ASTM C165	Standard Test Method for Measuring Compressive Properties of Thermal Insulations
ASTM C272/C272M	Standard Test Method for Water Absorption of Core Materials for Sandwich Constructions
ASTM C303	Standard Test Method for Dimensions and Density of Preformed Block and Board–Type Thermal Insulation
ASTM D256	Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
ASTM D297	Standard Test Methods for Rubber Products—Chemical Analysis

ASTM D412	Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension
ASTM D543	Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents
ASTM D570	Standard Test Method for Water Absorption of Plastics
ASTM D618	Standard Practice for Conditioning Plastics for Testing
ASTM D638	Standard Test Method for Tensile Properties of Plastics
ASTM D648	Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position
ASTM D695	Standard Test Method for Compressive Properties of Rigid Plastics
ASTM D790	Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
ASTM D792	Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D882	Standard Test Method for Tensile Properties of Thin Plastic Sheeting
ASTM D903	Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
ASTM D1004	Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting
ASTM D1204	Standard Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature
ASTM D1238	Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
ASTM D1505	Standard Test Method for Density of Plastics by the Density-Gradient Technique
ASTM D1512	Standard Test Methods for Carbon Black—pH Value
ASTM D1603	Standard Test Method for Carbon Black Content in Olefin Plastics
ASTM D1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics
ASTM D1622/D1622M	Standard Test Method for Apparent Density of Rigid Cellular Plastics
ASTM D1709	Standard Test Methods for Impact Resistance of Plastic Film by the Free-Falling Dart Method
ASTM D1784	Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds

ASTM D2122	Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
ASTM D2126	Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
ASTM D2412	Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
ASTM D2466	Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
ASTM D2564	Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems
ASTM D2911/D2911M	Standard Specification for Dimensions and Tolerances for Plastic Bottles
ASTM D3418	Standard Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry
ASTM D3567	Standard Practice for Determining Dimensions of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings
ASTM D3776/D3776M	Standard Test Methods for Mass Per Unit Area (Weight) of Fabric
ASTM D4073	Standard Test Method for Tensile-Tear Strength of Bituminous Roofing Membranes
ASTM D4491/D4491M	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4533/D4533M	Standard Test Method for Trapezoid Tearing Strength of Geotextiles
ASTM D4595	Standard Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
ASTM D4632/D4632M	Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
ASTM D4716/D4716M	Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
ASTM D4787	Standard Practice for Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates
ASTM D4833/D4833M	Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products
ASTM D5147/D5147M	Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material
ASTM D5162	Standard Practice for Discontinuity (Holiday) Testing of Nonconductive Protective Coating on Metallic Substrates

ASTM D5199	Standard Test Method for Measuring the Nominal Thickness of Geosynthetics
ASTM D5721	Standard Practice for Air-Oven Aging of Polyolefin Geomembranes
ASTM D5994/D5994M	Standard Test Method for Measuring Core Thickness of Textured Geomembranes
ASTM D6365	Standard Practice for Nondestructive Testing of Geomembrane Seams Using the Spark Test
ASTM D6392	Standard Test Method for Determining the Integrity of Nonreinforced Geomembrane Seams Produced Using Thermo-Fusion Methods
ASTM D6693/D6693M	Standard Test Method for Determining Tensile Properties of Nonreinforced Polyethylene and Nonreinforced Flexible Polypropylene Geomembranes
ASTM D6988	Standard Guide for Determination of Thickness of Plastic Film Test Specimens
ASTM E96/E96M	Standard Test Methods for Water Vapor Transmission of Materials
ASTM E154/E154M	Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
ASTM E779	Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
ASTM E783	Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors
ASTM E1105	Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference
ASTM E1710	Road paint reflection test
ASTM G62-22	Standard Test Methods for Holiday Detection in Pipeline Coatings
BS EN 1849-1	Flexible sheets for waterproofing. Determination of thickness and mass per unit area. Bitumen sheets for roof waterproofing
BS EN 1849-2	Flexible sheets for waterproofing. Determination of thickness and mass per unit area. Plastics and rubber sheets for roof waterproofing
BS EN 12127	Textiles. Fabrics. Determination of mass per unit area using small samples
BS EN 12311-1	Flexible sheets for waterproofing. Determination of tensile properties. Bitumen sheets for roof waterproofing
BS EN 12317-1	Flexible sheets for waterproofing. Bitumen sheets for roof waterproofing. Determination of shear resistance of joints
BS EN 12317-2	Flexible sheets for waterproofing. Determination of shear resistance of joints. Plastic and rubber sheets for roof waterproofing

BS EN ISO 11357-6	Plastics. Differential scanning calorimetry (DSC). Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT)
ISO 2505	Thermoplastics pipes — Longitudinal reversion — Test method and parameters
ISO 2507-1	Thermoplastics pipes and fittings — Vicat softening temperature — Part 1: General test method
ISO 7686	Plastics pipes and fittings — Determination of opacity
ISO 9852	Unplasticized poly(vinyl chloride) (PVC-U) pipes — Dichloromethane resistance at specified temperature (DCMT) — Test method
ISO 9972	Thermal performance of buildings — Determination of air permeability of buildings — Fan pressurization method
ISO 12492	Rubber, raw -- Determination of water content by Karl Fischer method
NEMA TC2, 6&8	Polyvinyl Chloride (PVC) Plastic Utilities Duct for Underground Installations (Testing Section)
NEMA VE 1	Metal Cable Tray Systems (Testing Section)
UL 651	Schedule 40 and 80 Rigid PVC Conduit and Fittings (Testing Section)
Oil	
ASTM D92	Standard Test Method for Flash and Fire Points by Cleveland Open Cup Teste
ASTM D95	Standard Test Method for Water in Petroleum Products and Bituminous Materials by Distillation
Chemical, Environmental, and Microbiological Testing	
APHA 2110	Appearance
APHA 2120 C	Color (Spectrophotometric Method)
APHA 2120 C	Color, True and Apparent (Platinum-Cobalt Standard Method)
APHA 2130 B	Turbidity (Nephelometric Method)
APHA 2150 B	Standard methods for the examination of water and wastewater, 22nd edition, Determination of odor
APHA 2160 B	Standard methods for the examination of water and wastewater, 22nd edition, Determination of taste
APHA 2320 B	Total Alkalinity (Titration Method)
APHA 2320 B	M-Alkalinity (Titration Method)
APHA 2320 B	P-Alkalinity (Titration Method)

APHA 2320 B	Bicarbonate HCO3 (Titration Method)
APHA 2320 B	Carbonate CO32 (Titration Method)
APHA 2320 B	Hydroxide OH (Titration Method)
APHA 2340 A	Carbonate Hardness
APHA 2340 A	Non-carbonate Hardness
APHA 2340 B	Total Hardness (Hardness by Calculation)
APHA 2340 C	Standard methods for the examination of water and wastewater, 22nd edition, Determination of hardness
APHA 2510	Conductivity (Laboratory Method)
APHA 2510 B	Standard methods for the examination of water and wastewater, 22nd edition, Determination of conductivity
APHA 2520 B	Salinity (Electrical Conductivity Method)
APHA 2520 B	Standard methods for the examination of water and wastewater, 22nd edition, Determination of salinity
APHA 2540 B	Standard methods for the examination of water and wastewater, 22nd edition, Determination of total solids dried at 103-105°C
APHA 2540 C	Standard methods for the examination of water and wastewater, 22nd edition, Determination of TDS
APHA 2540 C	Total Dissolved Solids Dried at 180°C
APHA 2540 D	Standard methods for the examination of water and wastewater, 22nd edition, Determination of total solids suspended solids dried at 103-105°C
APHA 2550	Temperature (Laboratory and Field Methods)
APHA 3500 B	Hexavalent Chromium
APHA 3500-Ca B	Standard methods for the examination of water and wastewater, 22nd edition, Determination of calcium
APHA 3500-Ca B	Calcium Hardness (EDTA Titrimetric Method)
APHA 3500-Mg B	Standard methods for the examination of water and wastewater, 22nd edition, Determination of magnesium
APHA 3500-Mg B	Magnesium Hardness (Calculation Method)
APHA 4500 B	Nitrite NO2- (US EPA Diazotization Method)
APHA 4500 C	Ammonia (Salicylate Method)

APHA 4500-Cl G & HACH 8021	Free Chlorine (DPD Colorimetric Method)
APHA 4500-Cl G & HACH 8167	Total Chlorine (DPD Colorimetric Method)
APHA 4500-CL G	Standard methods for the examination of water and wastewater, 22nd edition, Determination of total residual chlorine
APHA 4500-CL G	Standard methods for the examination of water and wastewater, 22nd edition, Determination of free residual chlorine
APHA 4500 CN - B&E	Cyanide, Colorimetric Method
APHA 4500 CO2 C.	Titrimetric Method for Free Carbon Dioxide
APHA 4500-CO2 D	Carbon Dioxide and Forms of Alkalinity by Calculation
APHA 4500 D	Fluoride F- (US EPA SPADNS Method)
APHA 4500 D	Phosphate PO43- , Reactive, Orthophosphate (Ascorbic Acid Method)
APHA 4500 D	Sulfide S2- (US EPA Methylene Blue Method)
APHA 4500 H	Standard methods for the examination of water and wastewater, 22nd edition, Determination of pH
APHA 4500 H+	pH (Electrometric Method)
APHA 4500 N_{org}	Nitrogen (Organic) Macro-Kjeldahl Method
APHA 4500 NH3 B&C	Nitrogen (Ammonia) Preliminary Distillation and Titrimetric method
APHA 4500-NO2- B	Nitrite NO2- (Colorimetric Method)
APHA 4500-O G	Dissolved oxygen (Membrane Electrode Method)
APHA 4500-S2- F	Sulfide S2- (Iodometric Method)
APHA 5120 B	Biochemical Oxygen demand BOD (5-Day BOD Test)
APHA 5220 D	Colorimetric Method)
APHA 5220 D	Chemical Oxygen Demand COD (Closed Reflux,
APHA 5520 B	Oil& Grease (Partition-Gravimetric Method)
APHA 5520 F	Petroleum Hydrocarbons
APHA 5530 C	Total phenols Chloroform Extraction Method
APHA 9215 C	Total Bacteria Count
APHA 9222B	Total Coliform

APHA 9222 D	Fecal Coliform
APHA 9222 H	E. Coli
APHA 9230 C	Fecal Streptococci
APHA 9230 C	Enterococci
APHA 9610 D	Yeast & Mould
APHA 10750	Nematodes
ASTM C494	Standard specification for chemical admixtures for concrete, Cl. 18.0 – Determination of dry material content
ASTM D512	Standard test methods for chloride ion in water
ASTM D512	Chloride Cl (Argentometric Method)
ASTM D516	Standard test method for sulfate ion in water
ASTM D516 & HACH 10248	Sulfate SO42- (Turbidimetric Method)
ASTM D1757	Sulfate sulfur in ash from coal and coke
ASTM D3042	Standard test method for insoluble residue in carbonate aggregates
ASTM E572	Standard test method for analysis of stainless and alloy steels by wavelength dispersive X-ray Fluorescence spectrometry
ASTM E1085	Standard test method for analysis of low-alloy steels by wavelength dispersive X-ray fluorescence spectrometry
BS 1744-5:2006	Tests for chemical properties of aggregates – Determination of acid soluble chloride salts
BS 1881-124:2015	Testing concrete. Methods for analysis of hardened concrete, Cl. 6.0 – Determination of cement content
BS 1881-124:2015	Testing concrete. Methods for analysis of hardened concrete, CL 6.0 & 7.0 – Determination of aggregate content
BS 1881-124:2015	Testing concrete. Methods for analysis of hardened concrete, Cl. 12.1 – Determination of chloride content
BS 1881-124:2015	Testing concrete. Methods for analysis of hardened concrete, Cl. 12.2 – Determination of sulfate content
BS 1377-3:1990 (96)	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests, Cl. 4 – Loss on ignition
BS 1377-3:1990 (96)	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests, Cl. 5.2 and 5.5 – Acid soluble sulphate

BS 1377-3:1990 (96)	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests, Cl. 5.3 and 5.5 – Water soluble sulphate
BS 1377-3:1990	Methods of test for Soils for civil engineering Purposes, Part 3: Chemical and electro-chemical Tests, Cl. 6.0 - Carbonate content
BS 1377-3:1990 (96)	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests, Cl. 7.2 – Water soluble chloride
BS 1377-3:1990 (96)	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests, Cl. 7.3 – Acid soluble chloride
BS 1377-3:1990 (96)	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests, Cl. 8.0 – Total Dissolved Solids
BS 1377-3:1990 (96)	Methods of test for soils for civil engineering purposes. Part 3: Chemical and electro-chemical tests, Cl. 9.0 – pH
ISO 11731.2:2004	Legionella
ISO 16266:2006	Pseudomonas aeruginosa
US EPA 3015A	Microwave Assisted Acid Digestion of Aqueous Samples and Extracts
US EPA 3051A	Microwave Assisted Acid Digestion of Sediments, Sludges, and Oils
US EPA 3510 C	Separatory funnel Liquid-Liquid Extraction
US EPA 3550 C	Ultrasonic Extraction
US EPA 5030 C	Purge-and-Trap for Aqueous Samples
US EPA 5053 A	Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples
US EPA 6010 D	Determination of Metals and Trace Elements by Inductively Coupled Plasma-Atomic Emission Spectrometry: 1. Calcium (Ca) 2. Magnesium (Mg) 3. Sodium (Na) 4. Potassium (K) 5. Aluminum (Al) 6. Antimony (Sb) 7. Arsenic (As) 8. Barium (Ba) 9. Beryllium (Be) 10. Bismuth (Bi) 11. Boron (B) 12. Cadmium (Cd) 13. Chromium, total, trivalent (Cr) 14. Cobalt (Co) 15. Copper (Cu) 16. Tellurium (Te)

	17. Iron (Fe) 18. Lead (Pb) 19. Lithium (Li) 20. Manganese (Mn) 21. Mercury (Hg) 22. Molybdenum (Mo) 23. Nickel (Ni) 24. Phosphorus (P) 25. Selenium (Se) 26. Silicon (Si) 27. Silver (Ag) 28. Strontium (Sr) 29. Sulfur (S) 30. Tin (Sn) 31. Titanium (Ti) 32. Vanadium (V) 33. Zinc (Zn) 34. Zirconium (Zr)
US EPA 8015 D	Nonhalogenated Organics Using GC/FID 1. TPH (C5-C10) 2. TPH (C10-C14) 3. TPH (C15-C28) 4. TPH (C29-C36) 5. TPH (C37-C40)

US EPA 8260 D	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS): 1. Tert-butanol 2. Methyl-tert-butyl ether MTBE 3. Allyl chloride (3-chloropropene) 4. Benzene 5. Bromobenzene 6. Bromochloromethane 7. Bromodichloromethane 8. Bromoform 9. n-Butylbenzene 10. sec-Butylbenzene 11. tert-Butylbenzene 12. Carbon disulfide 13. Carbon tetrachloride 14. Chlorobenzene 15. 2-Chloroethanol 16. Chloroform 17. Chloroprene (2-chloro-1,3-butadiene) 18. 2-Chlorotoluene 19. 4-Chlorotoluene 20. Dibromochloromethane 21. 1,2-Dibromo-3-chloropropane (DBCP) 22. 1,2-Dibromoethane (EDB) 23. Dibromomethane 24. 1,2-Dichlorobenzene 25. 1,3-Dichlorobenzene 26. 1,4-Dichlorobenzene 27. cis-1,4-Dichloro-2-butene 28. trans-1,4-Dichloro-2-butene 29. 1,1-Dichloroethane 30. 1,2-Dichloroethane 31. 1,1-Dichloroethene 32. cis-1,2-Dichloroethene 33. trans-1,2-Dichloroethene 34. 1,2-Dichloropropane 35. 1,3-Dichloropropane 36. 2,2-Dichloropropane 37. 1,1-Dichloropropene 38. cis-1,3-Dichloropropene 39. trans-1,3-Dichloropropene 40. Diethyl ether (ethyl ether) 41. Ethylbenzene 42. Ethyl methacrylate 43. Hexachloro-1,3-butadiene 44. Iodomethane (methyl iodide) 45. Isobutyl alcohol (2-methyl-1-propanol) 46. Isopropylbenzene (cumene) 47. 4-Isopropyl toluene (p-cymene) 48. Methyl acrylate 49. Methyl methacrylate

	50. Methylene chloride (dichloromethane) 51. Naphthalene 52. Nitrobenzene 53. 2-Nitropropane 54. n-Propylbenzene 55. Styrene 56. 1,1,1,2-Tetrachloroethane 57. 1,1,2,2-Tetrachloroethane 58. Tetrachloroethene 59. Toluene 60. 1,2,3-Trichlorobenzene 61. 1,2,4-Trichlorobenzene 62. 1,1,1-Trichloroethane 63. 1,1,2-Trichloroethane 64. Trichloroethene 65. 1,2,3-Trichloropropane 66. 1,1,2-Trichlorotrifluororethane (CFC-113) 67. 1,2,4-Trimethylbenzene 68. 1,3,5-Trimethylbenzene 69. m-Xylene 70. o-Xylene 71. p-Xylene
Verhoef, 1992	Methylene Blue Adsorption. The use of methylene blue adsorption test to assess the clay content of the cappadocian tuff