# CERTIFICATE OF ACCREDITATION

*This is to attest that*

## ARAB CENTER FOR ENGINEERING STUDIES ACES-DOHA

INDUSTRIAL AREA, ZONE 57, STREET NO. 41, GATE NO 471, P.O. BOX 19579
DOHA, QATAR

**Testing Laboratory TL-343**

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 June 12, 2024

IAS ACCREDITED

***President***

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# SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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## ARAB CENTER FOR ENGINEERING STUDIES ACES-DOHA

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*Accredited to ISO/IEC 17025:2017* *Effective Date June 12, 2024*

| **Aggregate** | |
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| AASHTO T84 | Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate |
| AASHTO T85 | Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate |
| ASHTO T96 | Standard Test Method for (Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine) |
| AASHTO T104 | Soundness of Aggregates by Use of Magnesium Sulfate |
| AASHTO T112 | Standard Test Method for Clay Lumps and Friable Particles in Aggregates (Clay Lumps and Friable Particles in Aggregates) |
| AASHTO T176 | Standard Test Method for (Sand Equivalent Value of Soils and Fine Aggregate) |
| AASHTO T304 Method A | Standard Test Methods for (Uncompacted Void Content of Fine Aggregate (as Influenced by Particle Shape, Surface Texture, and Grading)) |
| ASTM C88 | Soundness of Aggregates by Use of Magnesium Sulfate |
| ASTM C117 | Standard Test Method for (Material Finer Than 75- µm (No. 200) Sieve in Mineral Aggregate by Washing) |
| ASTM C123/C123M | Lightweight particles in Aggregate |
| ASTM C127 | Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate |
| ASTM C128 | Standard Test Method for Density, 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 | Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates (Particle Size Distribution) |
| ASTM C142/ C142M | Standard Test Method for Clay Lumps and Friable Particles in Aggregates (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 C566 | Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying |
| ASTM C702/C702M | Standard Practice for Reducing Samples of Aggregate to Testing Size |

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| ASTM C1252 | Standard Test Methods for (Uncompacted Void Content of Fine Aggregate (as Influenced by Particle Shape, Surface Texture, and Grading)) |
| ASTM D75/D75M | Standard Practice for Sampling Aggregates |
| ASTM D2419 | Standard Test Method for (Sand Equivalent Value of Soils and Fine Aggregate) |
| ASTM D4791 | Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate |
| ASTM D5444 | Standard Test Method for Mechanical Size Analysis of Extracted Aggregate |
| ASTM D5821 | Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate |
| BS 812-2 CL 5.3 | Particle Density and Water Absorption (All Larger than 10mm Aggregate) |
| BS 812-2 CL 5.4 | Particle Density and Water Absorption (5-40mm Aggregate) |
| BS 812-2 CL 5.5 | Particle Density and Water Absorption (10mm Aggregate and Smaller) |
| BS 812-102 | Sampling of Aggregate |
| BS 812-103.1-7.2 | Particle Size Distribution (Wet) |
| BS 812-103.1-7.3 | Particle Size Distribution (Dry) |
| BS 812-105.1 | Method Of Determination of Particle Shap (Flakiness Index) |
| BS 812-105.2 | Method Of Determination of Particle Shap (Elongation Index) |
| BS 812-109 CL 6 | Testing aggregates - Methods for determination of moisture content (Oven Drying) |
| BS 812-110 | Testing aggregates (Methods Determination of Aggregate Crushing Value) |
| BS 812-111 | Determination of Ten Percent Value |
| BS 812-112 | Determination of Aggregate Impact Value |
| BS EN 932-1 | Tests for general properties of aggregates. (Methods for sampling) |
| BS EN 932-2 | Tests for general properties of aggregates. (Methods for reducing laboratory samples) |
| BS EN 933-1 | Tests for geometrical properties of aggregates - Determination of particle size distribution — Sieving method (Particle Size Distribution) |
| BS EN 933-1 | Tests for geometrical properties of aggregates - Determination of particle size distribution — Sieving method (Material Finer than 0.075mm) |
| BS EN 933-1 CL A.4.4 | Tests for geometrical properties of aggregates - Determination of particle size distribution — Sieving method (Material Finer than 0.063mm) |
| BS EN 933-3 | Determination of particle shape — Flakiness index |
| BS EN 933-4 | Tests for geometrical properties of aggregates Determination of particle shape. Shape index |
| BS EN 933-7 | Determination of shell content. Percentage of shells in coarse aggregates |
| BS EN 933-8 | Assessment of fines — Sand equivalent test |
| BS EN 1097-1 (QCS 2014 Section 29) | Determination of the resistance to wear (micro- Deval) |
| BS EN 1097-2 CL 5 | Tests for mechanical and physical properties of aggregates (Determination of resistance to fragmentation by the Los Angeles test method) |
| BS EN 1097-3 | Tests for mechanical and physical properties of aggregates (Determination of loose bulk density and voids) |

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| BS EN 1097-6 | Determination of particle density and water absorption of Aggregate |
| BS EN 1367-2 | Tests for thermal and weathering properties of aggregates. (Magnesium sulphate test) |
| BS EN 1367-4 | Tests for thermal and weathering properties of aggregates (Determination of Drying shrinkage) |
| BS EN 12697-2 | Determination of Particle Size Distribution |
| **Asphalt** | |
| AASHTO PP60 | Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor |
| AASHTO PP61 | Developing Dynamic Moduluys Master Curves Using AMPT |
| AASHTO R30 | Mixture Conditioning of Hot-Mix Asphalt (HMA), |
| AASHTO R47 | Practice for Reducing Samples of Hot Mix Asphalt (HMA) to Testing Size. |
| AASHTO R83L | Preparation of Cylindrical Performance Test Specimens Using the Superpave Gyratory Compactor (SGC) |
| AASHTO T114-18 (2019) | Provisional Standard Method of Test for Determining the Interlayer Shear Strength (ISS) of Asphalt Pavement Layers |
| AASHTO T166 - Method A | Bulk Specific Gravity ( ) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens |
| AASHTO T209 - Method A | Standard Method of Test for Theoretical Maximum Specific Gravity (Gmm ) and Density of Hot Mix Asphalt (HMA) Maximum Specific Gravity (Gmm) |
| AASHTO T283 | Resistance of compacted hot mix asphalt (HMA) to moisture - induced damage. |
| AASHTO T312 | Test for Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor |
| AASHTO T324 | Humblot hamburg wheel tracker test |
| AASHTO TP79 | Dynamic Modulus and Flow Number for Hot Mix Asphalt (HMA) |
| ASTM D546 | Standard Test Method for Sieve Analysis of Mineral Filler for Bituminous Paving Mixtures |
| ASTM D979/D979M | Standard Practice for Sampling Bituminous Paving Mixtures |
| ASTM D1188 | Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples |
| ASTM D2041/D2041M | Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures |
| ASTM D2172 | Quantitative Extraction of bitumen from bituminous paving mixtures |
| ASTM D2726/D2726M | Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures |
| ASTM D3203/D3203M | Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures |
| ASTM D3549/D3549M | Thickness of Asphalt Specimen |
| ASTM D4867/D4867M | Resistance of compacted hot mix asphalt (HMA) to moisture - induced damage. |
| ASTM D5361/D5361M | Standard Practice for Sampling Compacted Bituminous Mixtures for Laboratory Testing |

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| ASTM D5581 | Resistance to Plastic Flow Using Marshall Apparatus (6 in. Specimen) |
| ASTM D6307 | Standard Test Method for Asphalt Content of Hot-Mix Asphalt by Ignition Method |
| ASTM D6752/D6752M | Bulk Specific gravity of Compacted Bituminous samples |
| ASTM D6857/D6857M | Maximum Specific Gravity and Density of Bituminous Paving Mixtures Using Automatic Vacuum Sealing Method |
| ASTM D6925 | Test for Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor |
| ASTM D6926 | Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus |
| ASTM D6927 | Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures |
| ASTM D6931 | Standard Test Method for Indirect Tensile (IDT) Strength of Bituminous Mixtures |
| ASTM D7227/ D7227 | Rapid Drying of Compacted Asphalt Specimens Using Vacuum Drying Apparatus. |
| ASTM E965 | Measuring Pavement Macrotexture Depth Using a Volumetric Technique |
| BS EN 12697-1 Annex B.1.5 | Bituminous mixtures — Test methods for hot mix asphalt (Soluble Binder Content) |
| BS EN 12697-5 Proc. B | Bituminous mixtures -Test methods for hot mix asphalt Determination of Maximum Density (Hydrostatic procedure) |
| BS EN 12697-6 | Bituminous mixtures — Test methods for hot mix asphalt (Determination of Bulk Density of Bituminous Material) |
| BS EN 12697-13 | Temperature measurement |
| BS EN 12697-23 | Determination of the indirect tensile strength of bituminous specimens |
| BS EN 12697-28 | Preparation of Samples for Determining Binder Content, Water Content & Grading |
| BS EN 12697-29 | Bituminous mixtures — Test methods for hot mix asphalt (Determination of dimensions of Bituminous Specimens) |
| BS EN 12697-35 | Bituminous mixtures -Test methods for hot mix asphalt (Laboratory Mixing) |
| BS EN 12697-39 | Binder Content by Ignition |
| QCS 2014 CL 06-05 Paragraph 16 | Retained Stability (Per ASTM D6927 or ASTM D5581) |
| SP-2 & AASHTO R35 | Standard Practice for Superpave Volumetric Design for Asphalt Mixtures (Superpave Mix Design) |
| **Building Acoustics** | |
| BS EN ISO 140-3 | Laboratory measurement of airborne sound insulation of building elements |
| BS EN ISO 140-4 | Field measurements of airborne sound insulation between rooms |
| **Cementitious Materials** | |
| ASTM C109/C109M | Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens) |
| ASTM C151/C151M | Autoclave Expansion of Hydraulic Cement |
| ASTM C183/C183M | Sampling and the Amount of Testing of Hydraulic Cement |
| ASTM C185 | Standard Test Method for Air Content of Hydraulic Cement Mortar |

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| ASTM C187 | Standard Test Method for Amount of Water Required for Normal Consistency of Hydraulic Cement Paste |
| ASTM C188 | Standard Test Method for Density of Hydraulic Cement |
| ASTM C191 | Time of Setting of Hydraulic Cement by Vicat Needle |
| ASTM C204 Method A | Standard Test Methods for Fineness of Hydraulic Cement by Air-Permeability Apparatus |
| ASTM C311/C311M CL 11-13 | Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use in Portland-Cement Concrete (Moisture Content) |
| ASTM C311/C311M CL 19 | Standard Test Method for Density of Hydraulic Cement |
| ASTM C311/C311M CL 20 | Standard Test Method for Fineness of Hydraulic Cement by the 45-µm (No. 325) Sieve |
| ASTM C311/C311M CL 29 | Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens) |
| ASTM C311/C311M CL 34 | Standard Test Method for Length Change of Hydraulic-Cement Mortars Exposed to a Sulfate Solution |
| ASTM C349 | Compressive Strength of Hydraulic-Cement Mortars (Using Portions of Prisms Broken in Flexure) |
| ASTM C430 | Standard Test Method for Fineness of Hydraulic Cement by the 45-µm (No. 325) Sieve |
| ASTM C989-Appendix XI | Compressive Strength for ground Granulated Blast Furnace slag |
| ASTM C1012/C1012M | Standard Test Method for Length Change of Hydraulic-Cement Mortars Exposed to a Sulfate Solution |
| ASTM C1240-15 | Pozzolanic Activity Test |
| ASTM C1437 | Standard Test Method for Flow of Hydraulic Cement Mortar |
| ASTM D5759 | Characterization of fly ash for potential uses |
| BS 1924-2 CL 2.1.5 | Stabilized materials for civil engineering purposes Part 2: Methods of test for cement-stabilized and lime- stabilized materials 'Method using vibratory compaction' |
| BS 1924-2 CL 4.2 & 4.3 | Stabilized materials for civil engineering purposes Part 2: Methods of test for cement-stabilized and lime- stabilized materials 'Determination of the compressive strength of cubic specimens' |
| BS EN 196-1 | Methods of testing cement (Determination of Strength) |
| BS EN 196-3:2005 + A1 CL 6 and Annex A | Methods of testing cement, Determination of setting times and soundness (Determination of Setting Time of cement) |
| BS EN 196-3 CL 7 | Determination of Soundness of cement |
| BS EN 196-6 | Determination of Fineness of cement |
| BS EN 196-7 | Taking and Preparing Samples of Cement |
| **Chemistry (Soil, Aggregate, Concrete, Cement)** | |
| ASTM C40/C40M | Standard Test Method for Organic Impurities in Fine Aggregates for Concrete |
| ASTM C289 | Standard Test Method for Potential Alkali-Silica Reactivity of Aggregates (Chemical Method) |
| ASTM C494/494 CL 18.2-16 | Standard Specification for Chemical Admixtures for Concrete (Oven Dry Residue of Admixture) |

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| ASTM C494/494 CL 18.4-16 | Standard Specification for Chemical Admixtures for Concrete (Specific gravity of Admixture) |
| ASTM C1152 | Acid Soluble Chloride in Concrete |
| ASTM C1218 | Water Soluble Chloride in Concrete |
| BS 812-117 | Determination of Water |
| BS 812-117 App. C | Determination of Chloride Content (Acid Extract) |
| BS 812-118 | Determination of Sulphate Content |
| BS 1377-3 CL 4 | Determination of the organic matter content |
| BS 1377-3 CL 7.3 | Methods of test for Soils for civil engineering purposes — Chemical and electro- chemical tests (Determination of sulphate content of soil- Water Soluble Extract) |
| BS 1377-3 CL 7.9 | Determination of sulphate content of soil- Acid Soluble Extract |
| BS 1377-3 CL 8 | Methods of test for Soils for civil engineering purposes — Chemical and electro-chemical tests (Determination of the carbonate content) |
| BS 1377-3 CL 9 | Methods of test for Soils for civil engineering purposes — Chemical and electro- chemical tests (Determination of the pH value) |
| BS 1377-3 CL 9.2 | Methods of test for Soils for civil engineering purposes — Chemical and electro- chemical tests (Determination of water- soluble chloride content) |
| BS 1377-3 CL 9.3 | Methods of test for Soils for civil engineering purposes — Chemical and electro- chemical tests (Determination of acid- soluble chloride content) |
| BS 1881-124 CL 10.2 | Determination of chloride content |
| BS 1881-124 CL 10.3 | Determination of sulphate content |
| BS EN 196-2 | Chemical analysis for cement |
| BS EN 196-2 CL 4.4.1 | Determination of loss on ignition |
| BS EN 196-2 CL 4.4.2 | Method of testing cement Chemical analysis of cement (Determination of sulfate) |
| BS EN 196-2 CL 4.4.3 | Method of testing cement Chemical analysis of cement (Determination of residue insoluble in hydrochloric acid and sodium carbonate) |
| BS EN 196-2 CL 4.5.5 | Decomposition with hydrochloric acid and ammonium chloride and precipitation of silica (alternative method) |
| BS EN 196-2 CL 4.5.6 | Determination of pure silica |
| BS EN 196-2 CL 4.5.10 | Method of testing cement Chemical analysis of cement (Determination of Ferric Oxide Content) |
| BS EN 196-2 CL 4.5.11 | Method of testing cement Chemical analysis of cement (Determination of Aluminum Oxide Content) |
| BS EN 196-2 CL 4.5.14 | Determination of calcium oxide by EDTA (alternative method) |
| BS EN 196-2 CL 4.5.15 | Determination of magnesium oxide by EDTA (alternative method) |
| BS EN 196-2 CL 4.5.16 | Method of testing cement Chemical analysis of cement (Chloride Content) |
| BS EN 196-2 CL 4.5.19 | Method of testing cement. Chemical analysis of cement (Alkalies Content) |
| BS EN 196-2-CL 13.2&3 | Impure Silica Content |
| BS EN 196-2 CL 13.9 | Total Silica Content |
| BS EN 933-9+A1 | Tests for geometrical properties of aggregates- Assessment of fines- Methylene blue test |

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| BS EN 1744-1 CL 12+A1 | Determination of acid soluble sulphates |
| BS EN 1744-5 | Tests for chemical properties of aggregates (Determination of acid soluble chloride content) |
| **Concrete** | |
| ASTM C31/C31M | Making and Curing of Concrete Tests Specimen |
| ASTM C39 | Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens |
| ASTM C42 | Obtaining and Testing of Drilled Cores and Sawed Beams |
| ASTM C138/C138M | Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete |
| ASTM C143/C143M | Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate |
| ASTM C172/C172M | Standard Practice for Sampling Freshly Mixed Concrete (Sampling of Fresh Concrete) |
| ASTM C192/C192M | Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory |
| ASTM C231/C231M | Standard Test Method for Air Content Test for Fresh Concrete by Pressure Method, (Type B) |
| ASTM C232/C232M | Standard Test Methods for Bleeding of Concrete |
| ASTM C617/C617M | Capping of Concrete Cylindrical Specimen |
| ASTM C1064/C1064M | Test for Temperature of Fresh Concrete |
| ASTM C1202 | Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration (Resistance to Chloride Ion Penetration (RCP)) |
| ASTM C1231/C1231M | Standard Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Concrete Cylinders |
| ASTM C1385/C1385M | Sampling of Shotcrete |
| ASTM C1604/C1604M- | Standard Test Method for Obtaining and Testing Drilled Cores of Shotcrete |
| ASTM C1611/C1611M | Slump Flow of Self- Consolidating Concrete |
| ASTM C1621/C1621M | Standard Test Method for Passing Ability of Self- Consolidating Concrete by J-Ring |
| ASTM C1688/C1688M | Density Determination of Pervious Concrete |
| ASTM C1701/C1701M | Infiltration Test for In place Pervious Concrete |
| BS 1881-122 | Method of Determination of Water Absorption |
| BS 1881-208 | Initial Surface Absorption (ISAT) |
| BS EN 12350-1 | Testing fresh concrete (Sampling of Fresh Concrete) |
| BS EN 12350-2 | Testing fresh concrete (Slump Test of Fresh Concrete) |
| BS EN 12350-3 | Testing fresh concrete (Vebe test) |
| BS EN 12350-4 | Testing fresh concrete (Degree of compatibility) |
| BS EN 12350-5 | Testing fresh concrete (Flow Table Test) |
| BS EN 12350-6 | Testing fresh concrete (Testing fresh concrete Density) |
| BS EN 12350-7 | Testing fresh concrete (Testing fresh concrete Air content. Pressure methods) |
| BS EN 12350-8 | Slump Flow Test for self compacted Concrete |
| EN 12350-9 | V-Funnel Test for self Compaction Concrete |

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| BS EN 12350-10 | L- Box Shap Test for Self Compaction Concrete |
| BS EN 12350-11 | Sieve Segregation test for Self Compaction Concrete |
| BS EN 12390-1 | Shape and Dimensions of Specimen |
| BS EN 12390-2 | Making and Curing of Specimen for Strength Test |
| BS EN 12390-3 Annex B | Compressive Strength of Test Specimens |
| BS EN 12390-5 Annex A | Testing hardened concrete (Flexural strength of test specimens) |
| BS EN 12390-6 | Testing hardened concrete (Tensile splitting strength of test specimens) |
| BS EN 12390-7 | Density of Hardened Concrete |
| BS EN 12390-8 | Water Penetration Test |
| EN 12504-1 (E) | Obtaining and Testing of Drilled Cores |
| DIN 1048-5 | Method of determination of Water Penetration |
| EN 14636-2:2009 Annex C | Plastics piping systems for non-pressure drainage and sewerage — Polyester resin concrete (PRC), Part 2: Manholes and inspection Chambers, Annex C - Test method for the determination of the vertical crushing strength of slabs or tapers |
| EN 14636-2:2009 Annex F | Plastics piping systems for non-pressure drainage and sewerage — Polyester resin concrete (PRC), Part 2: Manholes and inspection Chambers, Annex F - Method for the assessment of the leak-tightness of a manhole or inspection chamber and its joints under short term exposure to internal water pressure and negative pressure |
| EN 14636-2:2009 Annex G | Plastics piping systems for non-pressure drainage and sewerage — Polyester resin concrete (PRC), Part 2: Manholes and inspection Chambers, Annex G - Test method for the determination of the long-term crushing strength (50 years evaluation point) of a chamber ring or a shaft ring, including the effects of media attack |
| NT Build 492 | Chloride Migration Coefficient / Chloride Penetration Test |
| QCS2014 CL5-6 | Concrete Temperature Monitoring by using Thermocouples |
| **Cosmetics** | |
| ACES in-house method (Chloroform Extraction). | Determination of paraphenylenediamine in cosmetics products |
| ACES In-house Method SOP63 | Determination of formaldehyde in cosmetics by acetyl acetone method |
| ACES In-house Method SOP60 | Determination of 1,4-Dioxane in cosmetics by headspace Gas Chromatography/Mass Spectrometry (GC/MS) |
| AOAC Official Method 951.04 | Chlorides in Deodorants Gravimetric Method |
| AOAC Official Method 951.05 | Sulfates in Deodorants Gravimetric Method |
| **Dimension Stone** | |
| ASTM C97/C97M | Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone |
| ASTM C99/C99M | Standard Test Method for Modulus of Rupture of Dimension Stone |
| ASTM C170/C170M | Compressive Strength of Dimension Stone |
| ASTM C880/C880M | Standard Test Method for Flexural Strength of Dimension Stone |

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| ASTM C1353/ C1353M | Standard Test Method for Abrasion Resistance of Dimension Stone Subjected to Foot Traffic Using a Rotary Platform, Double- Head Abraser |
| ASTM D4060 | Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser |
| BS EN 1926: Annex A | Natural stone test methods (Determining the compressive strength of stones) |
| BS EN 14157 Method A | Natural stones — Determination of (Abrasion Resistance) |
| EN 1341 CL 4.5 | Natural stones — Determination of (Abrasion Resistance) |
| QCS 2014 CL 6 & CL 13.3.4 | Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser |
| **Electrical Safety** | |
| BS EN 60335-2-23 | Household and similar electrical appliances Safety-Particular requirements for appliances for skin or hair care (Clause 7 and 28 only) |
| BS EN 60335-2-80 | Household and similar electrical appliances – Safety – Part 2-80: Particular requirements for fans (Clause 7 and 28 only) |
| **Environmental Chemistry - Water - Wastewater and Soil** | |
| APHA/AWWA 23rd Ed., 2120C | Spectrophotometric— Single-Wavelength Method (PROPOSED) (Color) |
| APHA/AWWA 23rd Ed., 2130 B | Nephelometric Method (Turbidity) |
| APHA/AWWA 23rd Ed., 2320 B | Alkalinity by Titration Method |
| APHA/AWWA 23rd Ed., 2320 B | Titration Method (Bicarbonate) |
| APHA/AWWA 23rd Ed., 2320 B | Titration Method (Carbonate) |
| APHA/AWWA 23rd Ed., 2320 B | Titration Method (Phenolphthalein Alkalinity) |
| APHA/AWWA 23rd Ed., 2340 C | Hardness by EDTA Titrimetric Method |
| APHA/AWWA 23rd Ed., 2510 B | Conductivity by Laboratory Method |
| APHA/AWWA 23rd Ed., 2520B | Electrical Conductivity Method (salinity) |
| APHA/AWWA 23rd Ed., 2540-B | Total Solids Dried at 103– 105°C (Total Solids) |
| APHA/AWWA 23rd Ed., 2540 C | Total Dissolved Solids Dried at 180 oC (TDS) |
| APHA/AWWA 23rd Ed., 2540- C&E | Total Volatile Dissolved Solids (TVDS) |
| APHA/AWWA 23rd Ed., 2540-D | Total Suspended Solids Dried at 103–105°C (Total Suspended Solids (TSS)) |
| APHA/AWWA 23rd Ed., 2540-D&E | Total Volatile Suspended Solids (TVSS) |
| APHA/AWWA 22nd Ed. 2540-F | Settleable Solids |

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| APHA/AWWA, SM, 22nd Ed., 2540-G | Sludge Weight |
| APHA/AWWA, SM, 22nd Ed., 2710-D | Sludge Volume |
| APHA/AWWA, SM, 22nd Ed., 2710-D | Sludge Volume Index |
| APHA/AWWA, 23rd Ed. 3120-B | Antimony |
| APHA/AWWA, 23rd Ed., 3120-B | Arsenic |
| APHA/AWWA, 23rd Ed., 3120-B | Beryllium |
| APHA/AWWA 23rd Ed., 3120- B | Calcium |
| APHA/AWWA 23rd Ed., 3120-B | Chronium(VI) |
| APHA/AWWA 23rd Ed., 3120- B | Magnesium |
| APHA/AWWA 23rd Ed. 3120-B | Molybdenum |
| APHA/AWWA 23rd Ed., 3120-B | Phosphorous |
| APHA/AWWA 23rd Ed., 3120- B | Potassium |
| APHA/AWWA 23rd Ed., 3120-B | Selenium |
| APHA/AWWA 23rd Ed., 3120-B | Silicon |
| APHA/AWWA 23rd Ed., 3120- B | Sodium |
| APHA/AWWA 23rd Ed., 3120-B | Sulfur |
| APHA/AWWA 23rd Ed., 3120-B | Titanium |
| APHA/AWWA 23rd Ed. 3120-B | Vanadium |
| AAPHA/AWWA 23rd Ed., 3120-B Heavy Metal Analysis by ICP, 3110-B Heavy Metal | ICP Heavy Metal Concentrations: Aluminum (Al), Barium (Ba), Bismuth (Bi), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Gallium (Ga), Indium (I), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Nickel (Ni), Potassium, Siver (Ag) Thallium (Ti) Zinc (Zn) |
| APHA/AWWA 23rd Ed., 3500-Ca-B | EDTA Titrimetric Method (Calcium) |
| APHA/AWWA 22nd Ed. 3500-Cr B, | Chromium (VI) |

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| APHA/AWWA 23rd Ed., 3500-Mg-B | Magnesium Concentration by Calculation |
| APHA/AWWA 23rd Ed., 4110-B & P | Determination of SulphateSO4, Bromide Br, Nitrate NO3, Nitrire NO2, Floride F, Cloride, Phosphate |
| APHA/AWWA 23rd Ed., 4110-B & D, | Bromate |
| APHA/AWWA 23rd Ed., 4110-B & D | Chlorate, Chlorite |
| APHA/AWWA 23rd Ed., 4500-B & C | Phosphorous (Total) |
| APHA/AWWA 23rd Ed., 4500-Cl B | (Chloride by Argentometric Method) |
| APHA/AWWA 23rd Ed., 4500-Cl G | DPD Colorimetric Method (Total Chlorine) |
| APHA/AWWA 23rd Ed., 4500-Cl G | DPD Colorimetric Method (Residual Chlorine) |
| APHA/AWWA 23rd Ed., 4500-CN C&F | Cyanide |
| APHA/AWWA 23rd Ed., 4500 H+ B | pH VALUE |
| APHA/AWWA 23rd Ed., 4500 NH3 B & C | Ammonia Nitrogen |
| APHA/AWWA 23rd Ed., 4500-NO2B | Colorimetric Method (Nitrite Nitrogen) |
| APHA/AWWA 23rd Ed., 4500-NO3E | Cadmium Reduction Method (Nitrate Nitrogen) |
| APHA/AWWA 23rd Ed., 4500 Norg C | Semi-Micro-Kjeldahl Method (Total Kjeldahl Nitrogen) |
| APHA/AWWA 23rd Ed., 4500 Norg C | Semi-Micro-Kjeldahl Method (Total Organic Nitrogen) |
| APHA/AWWA 22nd Ed. 4500-O G | Dissolved Oxygen |
| APHA/AWWA 23rd Ed., 4500 P B, C | Acid Colorimetric Method (Phosphate) |
| APHA/AWWA 23rd Ed., 4500- S2 F | Iodometric Method (Sulphide) |
| APHA/AWWA 23rd Ed., 4500- SiIO2-C, 22P and P | Total Silicates |
| APHA/AWWA 23rd Ed., 4500- SO4 E | Turbidimetric Method (Sulphate) |
| APHA/AWWA 23rd Ed., 5210B & 4500-OG | Biochemical Oxygen Demand (BOD) |
| APHA/AWWA 23rd Ed., 5220 D | Closed Reflux, Colorimetric Method (Chemical Oxygen Demand (COD)) |

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| APHA/AWWA 23rd Ed., 5310-B or C, 22P and P | Total Organic Carbon (TOC) |
| APHA/AWWA 23rd Ed., 5520 B | Oil & Grease |
| APHA/AWWA 23rd Ed., 5530 B&C, P | Phenol Concentrations |
| APHA/AWWA 23rd Ed., 6200 Volatile Organic Compounds | Organic Hydrocarbon |
| BS 1377-3 CL 5.4 | Determination of the sulphate content of ground water |
| BS 1377-3 CL 8 | Determination of total dissolved solids |
| BS 1377-3 CL 12 | Determination of the pH value |
| BS EN ISO 10523 | Water quality (Determination of pH) |
| ISO 4316 EI | Determination of pH of aqueous solutions - Potentiometric method |
| US EPA 6010C/3005A | Aluminum (Al), Barium (Ba), Bismuth (Bi), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Gallium (Ga), Indium (I), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Nickel (Ni), Potassium (K), Silver (Ag), Sodium (Na),S |
| US EPA 6010C/3050B | Aluminum (Al), Barium (Ba), Bismuth (Bi), Boron (B), Cadmium (Cd), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Gallium (Ga), Indium (I), Iron (Fe), Lead (Pb), Lithium (Li), Magnesium (Mg), Manganese (Mn), Nickel (Ni), Potassium (K), Silver (Ag), Sodium (Na),S |
| US EPA 8015D/1664B/9071B | TPH ((GRO (Gasoline rang organic), DRO (Diesel rang organic), Heavy fraction)) |
| US EPA 8260C/5030/5035 | VOC (volatile organic compound) |
| US EPA 8270D | SVOC (Simi volatile organic compound) |
| **Environmental Monitoring** | |
| ISO 1996-2 | Noise |
| SOP-For AIR Quality | Ambient Air quality Monitoring |
| Stack Emission USEPA Method 1,2,3,4 & 5 | Method 1— Sample and Velocity Traverses for Stationary Sources Method 2— Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)<br>Method 3 - Gas Analysis for the Determination of Dry Molecular Weight<br>METHOD 4— DETERMINATION OF MOISTURE CONTENT IN STACK GASES<br>Method 5 - Particulate Matter (PM) |
| Stack Emission USEPA Method 25A | Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer |
| Testo 350 SOP | Stack emission |
| SOP-0129 | Indoor Air Quality Monitoring |
| **Fertilizers** | |
| AOAC 958.01 | Phosphorus in Fertilizers |
| AOAC 971.01 | Potassium in Fertilizers |

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| Danish Chemical Society 1983 | Total Nitrogen in Fertilizers |
| **Food** | |
| BS EN 1186-1:2002 | Guide to the selection and conditions and test methods of Overall migration |
| BS EN 11863 | Determination of the overall Migration into aqueous food simulants by total Immersion |
| BS EN 11869:2002 | Determination of the overall Migration into aqueous food simulants – By Article Filling |
| CCFRA 3.1.2 and CCFRA3.1.5:2007 | Detection of Salmonella |
| Ioden value | Iodine absorption number of oil and fats (Wijs Method) |
| **Food Container** | |
| ACES in-House Method SOP 59 HS (Hongkong Standard) 1003 | Specific Migration of Heavy Metals |
| BS EN 13130-1:2004 | Materials and articles in contact with foodstuffs — Plastics substances subject to limitation — Determination of formaldehyde in food simulants |
| DD CEN/TS 13130-23:2005 | Materials and articles in contact with foodstuffs — Plastics substances subject to limitation — Determination of formaldehyde in food simulants |
| **Geotechnical Tests** | |
| ASTM D2435/D2435M | Determination of One Dimensional Consolidation Properties of Soils |
| ASTM D4543 | Preparing Rock Core Specimens to Dimensional and Shape Tolerances |
| ASTM D4546 | One Dimensional Swell of Cohesive Soils |
| ASTM D5607 | Direct Shear on Rock |
| ASTM D5731 | Standard Test Method for Determination of the Point Load Strength Index of Rock and Application to Rock Strength Classifications |
| ASTM D6951/D6951M | Standard Test Method for Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications |
| ASTM D7012 | Standard Test Method for Unconfined Compressive Strength of Intact Rock Core Specimens |
| ASTM G57 | Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method (Electrical Resistivity Test) |
| BRE Digest 365 | Soakaway design (Dissiption) |
| BS 1377-5 CL 3 | Methods of test for Soils for civil engineering purposes — Compressibility, permeability and durability tests (Determination of One Dimensional Consolidation Properties of Soils) |
| BS 1377-5 CL 5 | Constant Head Permeability Test |
| BS 1377-7-CL 3 | Vane Shear Test |
| BS 1377-7 CL 4 | Methods of test for Soils for civil engineering purposes — Shear strength tests (total stress) (Determination of shear strength by direct shear (small shearbox apparatus)) |
| BS 1377-7 CL 5 | Methods of test for soils for civil engineering purposes. Shear strength tests (total stress) (Direct Shear on Soil (Large Box)) |

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| BS 1377-9 CL 3.3 (EN ISO 22476-3+A1 (E)) | Geotechnical investigation and testing — Field testing — Standard penetration test (Determination of the penetration resistance using the split-barrel sampler (the standard penetration test SPT)) |
| BS 1377-9 CL 4.1 | Determination of the vertical deformation and strength characteristics of soil by the plate loading test |
| BS 1377-9 CL 4.3 | Methods of test for Soils for civil engineering purposes — In-situ tests (Determination of the in- situ California Bearing Ratio (CBR)) |
| BS 5930 CL 22 | Code of practice for site investigations (Soil Sampling) |
| BS 5930 CL 23 | Code of practice for site investigations (Ground Water Sampling) |
| BS 5930 CL 23, 27, 47 | Code of practice for site investigations (Ground Water Level Measurement) |
| BS 5930 CL 25 | Code of practice for site investigations (Falling Head Permeability Test) |
| BS 5930 CL 25 | Code of practice for site investigations (Packer Test) |
| BS 5930 CL tion 6 | Description of Soil & Rock |
| CIRIA-Mair and Wood | Pressuremetere testing methods and interpretation (Pressuremeter HPD) |
| **Geotextile** | |
| ASTM D4533/D4533M | Trapezoid Tearing Strength of Geotextiles |
| ASTM D5199-12 | Thickness Under Pressure 2 Kpa |
| BS EN 946 | Thickness Under Pressure 2 Kpa |
| BS EN ISO 10319 | Geosynthetics — Wide width tensile test |
| BS EN ISO 11058 | Determination of water permeability characteristics normal to the plane, without load |
| BSEN ISO 12236 | CBR Puncture Resistance |
| BS EN ISO 13433 | Dynamic perforation test (cone drop test) |
| **Geotextile & Waterproofing** | |
| ASTM D412 | Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers— Tension (Test Method A) |
| ASTM D714 | Standard Test Method for Evaluating Degree of Blistering of Paints (After Sulphuric Acid Immersion Test for Internal Lining - per ASTM D543) |
| ASTM D751 | Standard Test Methods for Coated Fabrics - Bursting Strength - Cl. 18 |
| ASTM D1000 | Standard Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications - Adhesion Strength to Steel and Backing (Cl. 46 - 53) |
| ASTM D3787 | Standard Test Method for Bursting Strength of Textiles—Constant-Rate-of-Traverse (CRT) Ball Burst Test |
| ASTM D5034, G-E and MG-E | Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab and Modified Grab Test) |
| ASTM D5035 | Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method) |
| ASTM D5261 | Standard Test Method for Measuring Mass per Unit Area of Geotextiles |
| BS EN ISO 5084 | Determination Of Thickness Of Textiles |
| BS EN 12127 | Textiles. Fabrics. Determination of mass per unit area using small samples. (Determination Of Mass Per Unit Area (Weight)) |

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| BS EN ISO 12956 | Geotextiles and geotextile- related products. Determination of the characteristic opening size. (Pore Size) |
| **HDPE Pipe** | |
| BS EN ISO 527-1 CL 10.1 | Plastics — Determination of tensile properties Part 1: General principles 10.1 Stress |
| EN ISO 580 Referred from BS EN 12666-1 | Plastics piping systems — Unplasticized poly (vinyl chloride) (PVC-U) pipes — Test methods for the resistance to dichloromethane at a specified temperature (DCMT) |
| EN ISO 3126 CL 5.2, 5.3.2, 5.3.3, 5.3.4, 5.4 | Plastics piping systems — Plastics components — Determination of dimensions, 5.2 Wall Thickness, 5.3.2 Measurement of maximum and minimum diameter, 5.3.3 Mean Outside Diameter, 5.3.4 Mean Inside Diameter, 5.4 Out-of-Roundness |
| BS 6920-2.2.1+A2 | Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.2: Odour and flavour of water — Subsection 2.2.1: General method of test |
| BS 6920-2.4+A2 | Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water Ð Part 2: Methods of testÐ Section 2.4: Growth of aquatic microorganisms test |
| BS 6920-2.6+A2 | Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.6: The extraction of metals |
| EN 12099 | Plastics piping systems - Polyethylene piping materials and components - Determination of volatile content |
| BS EN 12201-2:2011+A1:2013, CL 5.1, 5.2, 6.1, 6.2, 6.3 | Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) Part 2: Pipes, 5.1 Appearance, 5.2 Colour, 6.1 Measurements, 6.2 Mean outside diameter, out-of-roundness (ovality) and tolerances, 6.3 Wall thicknesses and their tolerances |
| EN 12201-2 CL 11 | Plastics piping systems for water supply, and for drainage and sewerage under pressure — Polyethylene (PE) Part 2: Pipes, 11. Marking |
| EN 12666-1 CL 5.2, 6.1, 6.2.1, 6.2.3 | Plastics piping systems for non-pressure underground drainage and sewerage - Polyethylene (PE) — Part 1: Specifications for pipes, fittings and the system, 5.2 Colour, 6 Geometrical characteristics 6.1General, 6.2.1 Outside diameter, 6.2.3 Wall thickness |
| EN ISO 13479 | Polyolefin pipes for the conveyance of fluids — Determination of resistance to crack propagation — Test method for slow crack growth on notched pipe |
| EN ISO 15512 CL 3 | Plastics — Determination of water content 3. Method A — Extraction with anhydrous methanol |
| ISO 1133 CL 8 | Plastics — Determination of the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) of thermoplastics Part 1: Standard method 8. Procedure A: Mass- measurement method |
| ISO 1167-1 | Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method |
| ISO 1167-2 | Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 2: Preparation of pipe test pieces |

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| ISO 1183-1 CL 5.1 | Plastics — Methods for determining the density of non-cellular plastics Part 1: Immersion method, liquid pyknometer 5.1 Method A — Immersion method |
| ISO 2505 | Thermoplastics pipes — Longitudinal reversion — Test method and parameters |
| ISO 4065 | Thermoplastics pipes — Universal wall thickness table |
| ISO 4427-2 CL 5.1, 5.2, 6.1, 6.2, 6.3 | Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply — Part 2: Pipes, 5.1 Appearance, 5.2 Colour, 6.1 Measurements, 6.2 Mean outside diameter and out-of-roundness (ovality) 6.3 Wall thickness and their tolerances |
| ISO 4427-2 CL 7 | Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply — Part 2: Pipes, 7. Mechanical characteristics (Hydrostatic strength), (Maximum diameter 560 mm) |
| ISO 4427-2 CL 11 | Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply — Part 2: Pipes 11. Marking |
| ISO 4433-1 | Thermoplastics pipes — Resistance to liquid chemicals — Classification — Part 1: Immersion test method Chemical Characteristics of Pipes in contact with Chemicals |
| ISO 4433-2 | Thermoplastics pipes — Resistance to liquid chemicals — Classification — Part 2: Polyolefin pipes Chemical Characteristics of Pipes in contact with Chemicals |
| ISO 6259-1 CL 10.2 | Thermoplastics pipes — Determination of tensile properties, Part 1: General test method. 10.2 Elongation at break |
| ISO 6259-3 | Thermoplastics pipes — Determination of tensile properties Part 3: Polyolefin pipes |
| ISO 6964 CL 4 | Polyolefin pipes and fittings — Determination of carbon black content by calcination and pyrolysis — Test 4 Method A: Electrical tube furnace |
| ISO 9969 | Thermoplastics pipes — Determination of ring stiffness |
| ISO 11357-6 | Plastics — Differential scanning calorimetry (DSC) Part 6: Determination of oxidation induction time (isothermal OIT) and oxidation induction temperature (dynamic OIT) |
| ISO 11922-1 CL 6 | Thermoplastics pipes for the conveyance of fluids — Dimensions and tolerances — Part 1: Metric series 6. Measurement of dimensions |
| ISO 13953 | Polyethylene (PE) pipes and fittings — Determination of the tensile strength and failure mode of test pieces from a butt-fused joint. |
| ISO 18553 CL 4.1.2, 4.2 | Method for the assessment of the degree of pigment or carbon black dispersion in polyolefin pipes, fittings and compounds, 4.1.2 Microtome procedure, 4.2 Microscopic examination |
| QCS 2014 | QCS Section 08: Drainage Works, Part 03 Pipes & Fitting Materials, 3.10.2 Manufacturer 12. Markings |
| **Leakage Testing of Buildings** | |
| AAMA 501.2 | Quality Assurance and Diagnostic Water leakage field check for Storefronts, Curtain Walls and Sloped Glazing Systems |
| **Masonry Blocks & Paving Units** | |
| ASTM C140/C140M CL 8 | Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units (Water Absorption for Interlocks) |
| BS 6073-1 | Compressive Strength of Concrete Masonry Blocks |

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| BS 6717 Annex B | Precast, unreinforced concrete paving blocks — Requirements and test methods (Measurement of Dimensions of Paving Blocks) |
| BS 6717 Annex B | Compressive Strength of Paving Blocks |
| BS 6717 Annex E | Tensile Strength of Paving Blocks |
| BS EN 771 +A1 (BS EN 772-11) | 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 |
| BS EN 771 1-2011+A1 (BS EN 772 1-2011+A1) | Determination of compressive strength |
| BS EN 771-1 (BS EN 772-1) | Determination of compressive strength |
| BS EN 771-1 (BS EN 772-7) | Methods of test for masonry units - (Determination of water absorption of clay masonry damp proof course units by boiling in water) |
| BS EN 771-1 (BS EN 772-16) | Specification for masonry units - Clay masonry units (Determination of Dimensions) |
| EN 771-3 | Water Absorption for Masonry Blocks |
| BS EN 772-2 clause 8.2.3 | Methods of test for masonry units. Determination of percentage area of voids in masonry units (by paper indentation) |
| BS EN 1338 Annex C | Concrete paving blocks — Requirements and test methods (Measurement of the dimensions of a single block) |
| BS EN 1338 Annex E | Water Absorption for Paving Blocks |
| BS EN 1338 Annex F | Tensile Strength of Paving Blocks |
| BS EN 1339 Annex C | Concrete paving flags — Requirements and test methods (Measurement of the dimensions of a single flag) |
| BS EN 1339 Annex E | Determination of total water absorption |
| BS EN 1339 Annex F | Measurement of bending strength and breaking load |
| EN 1340 Annex C | Measurement of dimensions of a single unit |
| EN 1340 Annex E | Determination of total water absorption |
| BS EN 1340 Annex F | Concrete kerb units — Requirements and test methods (Measurement of bending strength) |
| BS EN 13748-1 CL 5.5 | Terrazzo tiles — Terrazzo tiles for internal use (Breaking strength and breaking load) |
| BS EN 13748-1 CL 5.8 | Terrazzo tiles — Terrazzo tiles for internal use (Water absorption) |
| **Microbiology — Water and Wastewater** | |
| APHA 23rd Ed., 9230-C | Fecal Streptococcus |
| APHA 23rd Ed., 9260-J | Legionella |
| APHA/AWWA 22nd Ed., 923-E | Pseudomonas Aeruginosa |
| APHA/AWWA 23rd Ed., 9222B & 9222D | Total Coliforms |
| APHA/AWWA 23rd Ed., 9222D | Fecal Coliform |
| APHA/AWWA 23rd Ed., 9223 B | Enzyme Substrate Test (E- Coli) |

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| APHA/AWWA 23rd Ed., 9223 B | Enzyme Substrate Test (Fecal Coliform) |
| APHA/AWWA 23rd Ed., 9223 B | Total Coliforms |
| NIOSH 0800 & ISO 16000-17:2011 | Bioaerosol Sampling (Indoor Air) |
| WHO, Lab manual of Parasitological and Bacteriological Techniques, 1996 | Nematodes (Helminths) Eggs |
| **Non Destructive Test** | |
| ASME 0 CLV | Standard Practice for Liquid Penetrant Examination for General Industry |
| ASME 0 CL V | Standard Guide for Magnetic Particle Testing |
| ASTM C805/C805M | Standard Test Method for Rebound Number of Hardened Concrete1 |
| ASTM C900 | Standard Test Method for Pullout Strength of Hardened Concrete |
| ASTM D2950/D2950M | Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods |
| ASTM D4541 | Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers |
| ASTM D4694 | Deflections with a Falling- Weight-Type Impulse Load Device |
| ASTM D4787 | Standard Practice for Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates |
| ASTM D4945 | High-Strain Dynamic Testing of Deep Foundations (Pile Dynamic Test) |
| ASTM D5162 Method B | Standard Practice for Discontinuity (Holiday) Testing of Nonconductive Protective Coating on Metallic Substrates |
| ASTM D5882 | Standard Test Method for Low Strain Impact Integrity Testing of Deep Foundations |
| ASTM D6132 | Standard Test Method for Nondestructive Measurement of Dry Film Thickness of Applied Organic Coatings Using an Ultrasonic Coating Thickness Gage |
| ASTM D6167 | Conducting Borehole Geophysical Logging: Mechanical Caliper |
| ASTM D6433 | Roads and Parking Lots Pavement Condition Index Surveys, PCI |
| ASTM D6760 | Standard Test Method for Integrity Testing of Concrete Deep Foundations by Ultrasonic Crosshole Testing |
| ASTM D7091 Type 2 gage | Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nonconductive Coatings Applied to Non-Ferrous Metals |
| ASTM D7234 | Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers |
| ASTM E164 | Contact Ultrasonic Testing of Weldments |
| ASTM E165/E165M | Standard Practice for Liquid Penetrant Examination for General Industry |
| ASTM E303 | Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester |
| ASTM E709 | Standard Guide for Magnetic Particle Testing |

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| ASTM E950 | Standard Practice for Computing International Roughness Index of Roads from Longitudinal Profile Measurements |
| ASTM E950/E950M | Measuring the Longitudinal Profile of Traveled Surfaces with an Accelerometer Established Inertial Profiling Reference |
| ASTM E1703 | Measuring Rut-Depth of Pavement Surfaces Using a Straightedge |
| ASTM E1926 and ASTM E950 | Standard Practice for Computing International Roughness Index of Roads from Longitudinal Profile Measurements |
| ASTM G62 Method B | Standard Test Methods for Holiday Detection in Pipeline Coatings |
| BS 1881-204 | Testing concrete (Recommendations on the use of electromagnetic covermeters) |
| BS 3262-1 Append. J | Determination of Skid Resistance |
| BS EN 12504-2 | Testing concrete in structures Non-destructive testing — (Determination of rebound number) |
| BS EN-12504-3 | Testing concrete in structures (Determination of pull-out force) |
| BS EN 12504-4 | Determination of ultrasonic pulse velocity |
| BS EN 13036-4 | Road and airfield surface characteristics. Test methods Method for measurement of slip/skid resistance of a surface: The pendulum test |
| BS EN 13036-7 | Road and airfield surface characteristics. Test methods Irregularity measurement of pavement courses. The straightedge test |
| MS21-02 Method Statement for Concrete Steel Survey Using Ferroscan | Concrete steel survey using ferroscan |
| SOP 069 | Crack Width Gauge |
| SOP 069 | Crack Measurement Microscope |
| QCS 2014: CL 6-5 & User Guide of Machine | Surface Irregularities Test - By 3 meter long Rolling Straightedge |
| TRL Road Note 27 | Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester |
| **Oil** | |
| ASTM D93 | Standard Test Methods for Flash Point by Pensky- Martens Closed Cup Tester |
| ASTM D97 | Standard Test Methods for Pour point of Petroleum Products. |
| ASTM D130 | Standard Test Method for Corrosiveness to Copper from Petroleum Products by Copper Strip Test |
| ASTM D445 | Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity) @ 40C |
| ASTM D445 | Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity) @ 100C |
| ASTM D664 | Standard Test Method for Acid Number of Petroleum Products by Potentiometric Titration |
| ASTM D974 | Acid Number |
| ASTM D1119 | Standard Test Method for Percent Ash Content of Engine Coolants |
| ASTM D1120 | Standard Test Method for Boiling Point of Engine Coolants |
| ASTM D1121 | Standard Test Method for Reserve Alkalinity of Engine Coolants and Antirusts |

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| ASTM D1287 | Standard Test Method for pH of Engine Coolants and Antirusts |
| ASTM D1298 | Standard Test Method for Density, Relative Density, or API Gravity of Crude Petroleum and Liquid Petroleum Products by the Hydrometer Method |
| ASTM D1401 | Standard Test Method for Water Separability of Petroleum Oils and Synthetic Fluids |
| ASTM D1500 | Standard Test Method for ASTM Color of Petroleum Products (ASTM Color Scale) |
| ASTM D2270 | Viscosity Index from Kinematic Viscosity at 40 °C and 100 °C |
| ASTM E2412 | (FT-IR) Spectrometry |
| ASTM D2501 | Standard Test Methods for Calculation of viscosity-Gravity Constant (VGC) of Petroleum Oil |
| ASTM D2896 | Standard Test Method for Base Number of Petroleum Products by Potentiometric Perchloric Acid Titration |
| ASTM D3427 | Standard Test Method for Air Release Properties of Hydrocarbon Based Oils |
| ASTM D4052 | Standard Test Methods for Density, Relative Density and API Gravity of Liquids by Digital Density Meter |
| ASTM D5293 | Standard Test Methods for Apparent Viscosity of Engine oil and base stocks between -10°C and -35°C using cold-cranking simulator. |
| ASTM D6304 | Standard Test Method for Determination of Water in Petroleum Products, Lubricating Oils, and Additives by Coulometric Karl Fischer Titration |
| ASTM D7946 | Standard Test Method for Initial pH for Petroleum Products |
| **Paint** | |
| ASTM B117 | Operating Salt Spray (Fog) Apparatus |
| ASTM C309 | Drying Time Test |
| ASTM C639 | Rheological (Flow) Properties of Elastomeric Sealants |
| ASTM C679 | Tack free time of paints primer coatings etc |
| ASTM C792 | Effects of heat aging |
| ASTM D522 | Methods for Mandrel Bend Test of Attached Organic Coatings, Method B |
| ASTM D523 | Paints and Varnishes - Determination of Specular Gloss of Non-Metallic Paint Films at 20o and 60o and 85o |
| ASTM D562 | Standard Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer- Type Viscometer |
| ASTM D1005 | Standard Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers |
| ASTM D1210 | Standard Test Method for Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-Type Gage |
| ASTM D1212 | Measurement of Wet Film Thickness of Organic Coatings |
| ASTM D1475 | Standard Test Method For Density of Liquid Coatings, Inks, and Related Products |
| ASTM D1640/D1640M | Standard Test Method for Drying, Curing, or Film Formation of Organic Coatings, Method B |
| ASTM D1647 | Standard Test Methods for Resistance of Dried Films of Varnishes to Water and Alkali |

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| ASTM D2196 | Rheological Properties of Non-Newtonian Materials by Rotational Viscometer |
| ASTM D2369 | Standard Test Method for Volatile Content of Coatings |
| ASTM D2370 | Tensile Properties of Organic Coatings |
| ASTM D2486 | Standard Test Method for Scrub Resistance of Wall Paints |
| ASTM D3359 | Standard Test Methods for Rating Adhesion by Tape Test |
| ASTM D3723 | Standard Test Method for Pigment Content of Water- Emulsion Paints by Low-Temperature Ashing |
| ASTM D4400 | Standard Test Method for Sag Resistance of Paints Using a Multinotch Applicator |
| ASTM D4414 | Standard Practice for Measurement of Wet Film Thickness by Notch Gages |
| ASTM D4541 | Adhesion (Pull off) strength |
| ASTM D5401 | Standard Test Method for Evaluating Clear Water Repellent Coatings on Wood |
| ASTM G154 | Plastics- Methods of Exposure to Laboratory Light Sources (QUV) |
| BS EN 1871 Cl 4.3.2.5 | Road marking materials. Paint, thermoplastic and cold plastic materials. Physical properties – UV ageing |
| BS EN ISO 787-9 | Determination of pH value of aqueous suspension |
| BS EN ISO 1519 BS 3900-E1 | Paints and varnishes. Bend test (cylindrical mandrel). |
| BS EN ISO 2409 (BS 3900-E9) | Paints and varnishes. Cross-cut test. |
| BS EN ISO 2812-2 | Standard Test Method for Evaluating Clear Water Repellent Coatings on Wood |
| BS EN ISO 2813 | Paints and Varnishes - Determination of Specular Gloss of Non-Metallic Paint Films at 20o and 60o and 85o |
| BS EN ISO 2814 | Average Reflectance (Calculation Method) |
| BS EN ISO 2814 | Paints and varnishes - Comparison of contrast ratio (hiding power) of paints of the same type and colour |
| BS EN ISO 4624 | Paints and varnishes. Pull- off test for adhesion. |
| ISO 7724-2 | Determination of color and color difference |
| **Pavement Markings** | |
| AASHTO M249 | Crack resistance of thermoplastic material |
| AASHTO M249 | Standard Specification for White and Yellow Reflective Thermoplastic Striping Material (Solid Form) (Daylight reflectance at 45°) |
| AASHTO M249 | Standard Specification for White and Yellow Reflective Thermoplastic Striping Material (Solid Form) (Drying Time for Road Marking) |
| AASHTO T250 | Crack resistance of thermoplastic material |
| AASHTO T250 CL 5 | Standard Method of Test for Thermoplastic Traffic Line Material (Determination of Binder Content) |
| AASHTO T250 CL 6 | Standard Method of Test for Thermoplastic Traffic Line Material (Determination of Glass beads Content) |
| ASTM D711 | Drying time of thermoplastic material |
| ASTM D4414 | Standard Practice for Measurement of Wet Film Thickness by Notch Gages |
| ASTM D4797 | Standard Method of Test for Thermoplastic Traffic Line Material (Determination of Binder Content) |

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| ASTM D4797 CL 11 | Standard Method of Test for Thermoplastic Traffic Line Material (Determination of Glass beads Content) |
| ASTM E1710 | Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer |
| ASTM E2302 | Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer |
| ASTM G154 | Plastics- Methods of Exposure to Laboratory Light Sources (QUV) |
| BS 2000-35 | Petroleum and its Products. Determination of flash and fire Point-Pensky - Martens method (Flash Point (Open) of Thermoplastic Material) |
| BS 3262-1 Append. C | Binder Content of Thermoplastic Material |
| BS 3262-1 Append. D | Glass Bead Content of Thermoplastic Material |
| BS 3262-1 Append. D | Combined Gradation of Material |
| BS 3262-1 Append. F | Hot-applied thermoplastic road marking materials and mixtures — Specification for constituent materials and mixtures (Luminance Factor) |
| BS 3262-1 Append. H | Determination of Flow Resistance |
| BS 3262-3–Ap. B | Hot-applied thermoplastic road marking materials and mixtures — Specification for application of material to road surfaces (Drying Film Thickness) |
| BS 3262-3 Append. C | Determination of density |
| BS 6088 Appendix B | Solid glass beads for use with road marking compounds and for other industrial uses (Particle Size Distribution of Glass Beads) |
| BS EN 1436 Annex A&B | Road marking materials — Road marking performance for road users (Measurement of Retro- reflectivity of pavement marking materials) |
| BS EN 1871 Cl 4.3.2.4 | Road marking materials. Paint, thermoplastic and cold plastic materials. Physical properties - Cold impact resistence |
| BS EN 1871 Cl 4.3.2.5 | Road marking materials. Paint, thermoplastic and cold plastic materials. Physical properties – UV ageing |
| BS EN 13197 Annex C / 2011 | Wet Film Thickness by Notch Gauge |
| **Performance Graded Asphalt Binder** | |
| AASHTO R28 | Standard Practice for Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV) |
| AASHTO R29 | Standard Practice for Grading or Verifying the Performance Grade (PG) of an Asphalt Binder |
| AASHTO T048 | Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester |
| AASHTO T44 | Solubility of Asphalt Material In Trichloroethylene |
| AASHTO T240 | Test Method for Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test) RTFOT |
| AASHTO T313 | Standard Test Method for Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR) |
| AASHTO T315 | Standard Test Method for Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR) |

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| AASHTO T316 | Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer (RV) |
| AASHTO T350 | Standard Test Method for Multiple Stress Creep and Recovery (MSCR) of Asphalt Binder Using a Dynamic Shear Rheometer |
| ASTM D5/D5M | Standard Test Method for Penetration of Bituminous Materials |
| ASTM D6/D6M | Standard Test Method for Loss on Heating of Oil and Asphaltic Compounds |
| ASTM D36/D36M | Standard Test Method for Softening Point of Bitumen (Ring-and-Ball Apparatus) |
| ASTM D70 | Density of Semi-Solid Bituminous Material (Pycnometer Method) |
| ASTM D88 | Saybolt Viscosity |
| ASTM D92 | Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester |
| ASTM D95 | Water in Petroleum Products and Bituminous Material by Distillation |
| ASTM D113 | Standard Test Method for Ductility of Bituminous Materials |
| ASTM D139 | Standard Test Method for Float Test for Bituminous Materials |
| ASTM D140 | Standard Practice for Sampling Bituminous Materials |
| ASTM D402/D402M | Standard Test Method for Distillation of Cutback Asphalt |
| ASTM D2042 | Solubility of Asphalt Material In Trichloroethylene |
| ASTM D2170/D2170M | Kinematic Viscosity @ 60°C |
| ASTM D2872 | Test Method for Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin-Film Oven Test) RTFOT |
| ASTM D2995 | Standard Practice for Estimating Application Rate of Bituminous Distributors |
| ASTM D4402/D4402M | Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer (RV) |
| ASTM D5546 | Standard Test Method for Solubility of Asphalt Binders in Toluene by Centrifuge |
| ASTM D6521 | Standard Practice for Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV) |
| ASTM D6648 | Standard Test Method for Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR) |
| ASTM D6930 | Settlement and Storage Stability of Emulsified Asphalts |
| ASTM D6933 | Standard Test Method for Oversized Particles in Emulsified Asphalts (Sieve Test) |
| ASTM D6935 | Standard Test Method for Determining Cement Mixing of Emulsified Asphalt |
| ASTM D6997 | Distillation of Emulsified Asphalt |
| ASTM D7173 | Standard Practice for Determining the Separation Tendency of Polymer from Polymer Modified Asphalt |
| ASTM D7175 | Standard Test Method for Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR) |
| ASTM D7402 | Standard Practice for Identifying Cationic Emulsified Asphalts |
| ASTM D7405 | Standard Test Method for Multiple Stress Creep and Recovery (MSCR) of Asphalt Binder Using a Dynamic Shear Rheometer |

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| ASTM D7496 | Standard Test Method for Viscosity of Emulsified Asphalt by Saybolt Furol Viscometer |
| BS 2000-49 | Determination of Needle Penetration |
| BS 2000-58 | Bitumen and bituminous binders - (Determination of Softening Point (Ring & Ball Method)) |
| BS 3262-3 Append. C | Determination of density |
| BS EN 1426 | Determination of Needle Penetration |
| BS EN 1427-2007 | Bitumen and bituminous binders - (Determination of Softening Point (Ring & Ball Method)) |
| **PVC Pipe** | |
| BS 2782-11 Method 1108B | Plastics piping and ducting systems. Thermoplastics pipes. Determination of resistance to external blows by the staircase method |
| BS 2782-11 Method 1108C | Plastics piping and ducting systems. Thermoplastics pipes. Test method for resistance to external blows by the round-the- clock method. |
| BS EN 580 | Resistance to Dichloromethane |
| BS EN 744 | Plastics piping and ducting systems. Thermoplastics pipes. Test method for resistance to external blows by the round-the- clock method. |
| BS EN 1411 | Plastics piping and ducting systems. Thermoplastics pipes. Determination of resistance to external blows by the staircase method |
| BS EN ISO 2505 | Longitudinal Reversion |
| BS EN 61386-1, CL 7.6 | Marking and documentation |
| BS EN 61386-1, CL 8 & Annex B.1 | Dimensions |
| BS EN 61386-1, CL 10.2 | Compression test |
| EN 61386-1, CL 10.3 | Impact Test |
| EN 61386-1, CL 10.4 | Bending Test |
| EN 61386-1, CL 10.6, | Collapse test |
| EN 61386-1, CL 13.1.3.2 | Fire hazard |
| GSO 32, CL 4.3 | Marking and documentation |
| GSO 32, CL 4.4 | Dimensions |
| GSO 32, CL 5 | Compression test |
| GSO 32, CL 6.2 | Bending Test |
| GSO 32 CL 8 | Fire hazard |
| GSO 32, CL 10 | Impact Test |
| GSO 32, CL 11 | Collapse test |
| IEC 61386-21, CL 10.4.102 | Bending Test |
| IEC 61386-21, CL 10.6.102 | Collapse test |
| **Pipe** | |
| ISO 15874-2 / ISO 1133 - 1 | Determination of mass flow rate and mass flow volume of thermoplastics |

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| ISO 15874-2 / ISO 1167-1 & 2 | Determination of the resistance to internal pressure |
| ISO 15874-2 / ISO 2505 (Method B) | Thermoplastic pipe - longitudinal reversion test |
| ISO 15874-2 / ISO 3126:2005 | Plastic piping system/determination of dimensions |
| ISO 15874-2 / ISO 9854 - 1& 2 | Determination of pendulum impact strength by the use of charpy method |
| **Reaction to fire tests** | |
| BS EN ISO 9239-1 | Reaction to fire tests for floorings - Part 1: Determination of the burning behaviour using a radiant heat source. |
| ISO 1182 | Reaction to fire tests for products — Non-combustibility test |
| ISO 1716 | Reaction to fire tests for products — Determination of the gross heat of combustion (calorific value) |
| ISO 11925-2 | Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Part 2: Single-flame source test |
| **Resistance To Fire** | |
| ASTM E119-22 | Standard Test Methods for Fire Tests of Building Construction and Materials |
| ASTM E2226 | Standard Practice for Application of Hose Stream |
| BS EN 1363-1 | Fire resistance tests - Part 1: General Requirement<br>Excluding: 4.3, 4.5.3, 4.6d, 5.2.2.3, 5.2.3, 5.4, 5.5, 9.2.3, 10.2, 10.4.4.2, 10.4.6, 11.1, 11.4.1, 12.1k, Annex D |
| BS EN 1363-2 | Fire resistance tests - Part 2: Alternative and Additional Procedures<br>Excluding: 4, 5, 6, 7, 8.2 |
| BS EN 1364-1 | Fire resistance tests for non-loadbearing elements Part 1: Walls<br>Excluding: 9.5 |
| BS EN 1634-1+A1 | Fire resistance and smoke control tests for door, shutter and openable window assemblies and elements of building hardware Part 1: Fire resistance test for doors, shutters and openable windows.<br>Excluding: 8.2 |
| BS 476-20<br>. | Fire Tests on Building Materials and Structure<br>Part 20: Method of Determination of the Fire Resistance of Elements of Construction (General Principle)<br>Excluding: 5.2, 5.3, 6.1.1b , 6.1.1c, 6.1.1d, 6.1.4, 6.2, 6.3, 9.1.2, 10.2, 11.2, 12l, A.4, A10 , B, C.1.4, C4.1.3.2, C4.1.3.4, C7.3.3, C10.2, Fig. 1 |
| BS 476-22 | Fire Tests on Building Materials and Structure Part 22: Methods for determination of the fire resistance of non-loadbearing elements of construction.<br>Excluding: 9, A.3 |
| **Soil** | |
| ASTM D1140 | Determining the Amount of Material Finer than 75-µm (No. 200) Sieve in Soils by Washing |
| 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)) |

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| ASTM D1883 | CBR (California Bearing Ratio) of Laboratory- Compacted Soils (Soaked) |
| ASTM D2216-10 | Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass |
| ASTM D4253 | Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table |
| ASTM D4254 | Standard Test Methods for Manimum 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 |
| ASTM D4718/D4718M | Standard Practice for 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 D5334 | Standard Test Method for Determination of Thermal Conductivity of Soil and Soft Rock by Thermal Needle Probe Procedure |
| ASTM D6913 | Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis |
| ASTM D6938 | Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth) |
| ASTM D7625 | Abrasiveness of Rock Using the CERCHAR Method |
| BS 1377-2 CL 3.2 | Methods of test for Soils for civil engineering purposes (Determination of Moisture Content (Oven Drying method)) |
| BS 1377-2 CL 4.5 | Determination of Liquid Limit (Casagrande Method) |
| BS 1377-2 CL 5 | Methods of test for Soils for civil engineering purposes (Determination of Plastic Limit and Plasticity Index) |
| BS 1377-2 CL 6.5 | Methods of test for Soils for civil engineering purposes (Linear shrinkage) |
| BS 1377-2 CL 7 | Methods of test for Soils for civil engineering purposes (Linear shrinkage) |
| BS 1377-2 CL 9.2 | Determination of Particle Size Distribution (Wet Sieve Method) |
| BS 1377-2 CL 9.3 | Determination of Patricle Size Distribution (Dry Sieve Method) |
| BS 1377-4 CL 3.2 & 3.5 & 3.6 | Methods of test for Soils for civil engineering purposes Compaction Related Test (Proctor Test) (Using 4.5 kg Rammer) |
| BS 1377-4 CL 7 | Determination of California Bearing Ration (CBR) |
| BS 1377-9 CL 2.1 | In-Situ Density Test (Sand Replacement Method- Small Pouring Cylinder) |
| BS 1377-9 CL 2.2 | Methods of test for Soils for civil engineering purposes (In-Situ Density Test (Sand Replacement Method - Large Pouring Cylinder)) |
| BS 1377-9 CL 2.5 | Methods of test for Soils for civil engineering purposes (In-Situ Density Test (Nuclear Gauge Method)) |
| BS 1377-9 CL 4.1 | Determination of the vertical deformation of soil by plate loading test |
| BS EN 13286-41 | Unbound and hydraulically bound mixtures (Test method for determination of the compressive strength of hydraulically bound mixtures) |
| BS EN 13286-51 | Unbound and hydraulically bound mixtures (Method for the manufacture of test specimens of hydraulically bound mixtures using vibrating hammer compaction) |

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| BS EN ISO 17892-1 | Determination of water content |
| BS EN 17892-4 | Determination of Particle Size Distribution (Wet Sieve Method) |
| BSEN 17892-4 | Determination of Particle Size Distribution (Dry Sieve Method) |
| BS EN 17892-12 | Determination of Liquid Limit (Casagrande Method) |
| BS EN 17892-12 | Methods of test for Soils for civil engineering purposes (Determination of Plastic Limit and Plasticity Index) |
| BS EN ISO 17892-1 | Determination of water content |
| BS EN ISO 17892-2 | Determination of bulk density |
| ISO/TS 17892 | Determination of Atterberg limits |
| **Steel** | |
| ASME_BPVC_2021-Section IX | ASME Boiler and Pressure Vessel Code Qualification Standard for Welding, Brazing, and Fusing Procedures: Welders> Brazers: and Welding, Brazing, and Fusing Operators Clause: QW-140-1 Types and purposes of test and Examinations QW-150-Tension Test QW-160-Guided Bend Test QW-183-184Macro Examination Test |
| ASTM A370 CL 6 | Mechanical Testing of Steel Products |
| ASTM A416/A416M | Standard Specification for Low-Relaxation, Seven-Wire Steel Strand for Prestressed Concrete |
| ASTM A416/A416M | Yield Strength— Elongation - Breaking Strength |
| ASTM A615/A615M | Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement |
| ASTM A931 | Standard Test Method for Tension Testing of Wire Ropes and Strand |
| ASTM A1034 | Standard Test Methods for Testing Mechanical Splices for Steel Reinforcing Bars Monotonic Tension test Monotonic Compression test |
| ASTM A1061/ A1061M | Yield Strength— Elongation - Breaking Strength |
| BS 4449 App.C, CL 6.1 | Bend Test |
| BS 4449: App.E CL E1.6 | Rebend Test |
| BS 4449+A3 (App.C, CL 1.4) | Metallic Materials Tensile Testing (Tensile Test) |
| BS 5896 | Tensile test - Yield Strength— Elongation |
| BS EN 124 CL 8 | Load Test |
| BS EN 124-1 | Load Test |
| BS EN 124-2 | Load Test- Gully tops and manhole tops made of cast iron |
| BS EN 124-3 | Load Test- Gully tops and manhole tops made of steel or aluminum alloys |
| BS EN 124-4 | Load Test- Gully tops and manhole tops made of steel reinforced concrete |
| BS EN 124-5 | Load Test- Gully tops and manhole tops made of composite materials |
| BS EN 124-6 | Load Test- Gully tops and manhole tops made of polypropylene (PP), polyethylene (PE) or unplasticized poly (vinyl chloride) (PVC-U) |
| BS EN 10002-1 | Tensile Test |
| BS EN ISO 6892-1- CL 18 | Metallic Materials Tensile Testing (Tensile Test) |
| BS EN ISO 15630-3 Clause 9 | Steel for the reinforcement and prestressing of concrete - Test Methods, Part 3 - Prestressing Steel - Cl 9 Isothermal stress relaxation test |
| ISO 15630-1 CL 5 (E) | Metallic Materials Tensile Testing (Tensile Test) |

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| ISO 15630-3(E) | Tensile test - Yield Strength— Elongation |
| **Steel Chemistry** | |
| ASTM E415 | Standard Test Method for Analysis of Carbon and Low- Alloy Steel by Spark Atomic Emission Spectrometry (C, Si,S, P, Mn, Ni, Cr, Mo,Cu, Sn, Al, V, Pb, V ) |
| **Thermal Insulating Products** | |
| ASTM C518-17 | Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus. |
| ASTM D1621-16 | Standard Test Method for Compressive Properties of Rigid Cellular Plastics. |
| ASTM D1622/D1622M-14 | Standard Test Method for Apparent Density of Rigid Cellular Plastics. |
| ASTM D2842-19 | Standard Test Method for Water Absorption of Rigid Cellular Plastics. |
| BS EN 1602:1997 | Determination of Apparent Density |
| BS EN 1607:2013 | Thermal insulating products for building applications. Determination of tensile strength perpendicular to faces |
| BS EN 1609:2013 | Thermal insulating products for building applications. Determination of short term water absorption by partial immersion |
| BS EN 12664 | Thermal performance of building materials and products - Determination of thermal resistance (R value) by heat flow meter method. |
| BS EN ISO 16535:2019 | Thermal insulating products for building applications. Determination of long-term water absorption by immersion |
| EN ISO 148-1:2016 | Standard test method for Charpy Impact Pendulum Test |
| ISO 945-1:2019 | Standard test method for Graphite Classification for Visual Analysis |
| **Thermal performance of building material and products** | |
| BS EN 12664 | Thermal performance of building materials and products - Determination of thermal resistance (R value) by heat flow meter method. |
| **Toys** | |
| BS EN 71-1 | Safety of toys. Mechanical and physical properties, CL 8.8 Compression test, CL 8.9 Soaking test-clause, CL 8.4 Tension test-clause, CL 8.5 Drop test-clause, CL 8.21 Static strength test, CL 8.2 Small parts cylinder, CL 8.11 Sharpness of edges, CL 8.12 Sharpness of points, CL 8.10 thru 8.10.3 Accessibility of a part or component |
| BS EN 71-2 +A1 | Flammability test |
| BS EN 71-3 +A2-3 | Safety of Toys: Migration of Certain Elements – Aluminum, Antimony, Arsenic, Barium, Boron, Cadmium, Chromium (III), Chromium (VI), Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Strontium, Tin, Zinc |
| **UPVC Pipe** | |
| ASTM D256 – 04 Method A | Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics Method A |
| BS EN ISO 527-1 CL 10.1 | Plastics — Determination of tensile properties Part 1: General principles, 10.1 Stress |
| BS EN ISO 527-2 | Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics |
| BS EN 727:1995 | Plastics piping and ducting systems — Thermoplastics pipes and fittings — Determination of Vicat softening temperature (VST) |

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| BS EN 1401-1 CL 6.2 | Plastic piping systems for non-pressure underground drainage and sewerage — Unplasticized poly (vinyl chloride) (PVC-U) Part 1: Specifications for pipes, fittings and the system, Cl 5.1 Appearance, colour, Cl 5.2 Colour, Cl 6.2.1 Outside diameters Cl 6.2.2 Out of roundness Cl 6.2.5 Wall thickness |
| BS EN 1401-1 CL 12 | Plastic piping systems for non-pressure underground drainage and sewerage — Unplasticized poly (vinyl chloride) (PVC-U) Part 1: Specifications for pipes, fittings and the system 12. Marking |
| EN ISO 3126 CL 5.2, 5.3.2, 5.3.3, 5.3.4, 5.4 | Plastics piping systems — Plastics components — Determination of dimensions, 5.2 Wall Thickness, 5.3.2 Measurement of maximum and minimum diameter, 5.3.3 Mean Outside Diameter, 5.3.4 Mean Inside Diameter, 5.4 Out-of-Roundness |
| ISO 1167-1 | Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 1: General method |
| ISO 1167-2 | Thermoplastics pipes, fittings and assemblies for the conveyance of fluids — Determination of the resistance to internal pressure — Part 2: Preparation of pipe test pieces |
| ISO 1183-1 CL 5.1 | Plastics — Methods for determining the density of non-cellular plastics Part 1: Immersion method, liquid pyknometer 5.1 Method A — Immersion method |
| ISO 2505:2005 | Thermoplastics pipes — Longitudinal reversion — Test method and parameters |
| **Water Proofing Membrane & Rubber** | |
| ASTM D412 | Tensile strength of Vulcanized Rubber and Thermoplastic Elastomers |
| ASTM D543 | Evaluating the Resistance of Plastics to Chemical Reagents |
| ASTM D570 | Water Absorption of Plastics |
| ASTM D638 | Tensile Properties of Plastics |
| ASTM D714 | Sulphuric Acid Immersion Test of Internal Lining |
| ASTM D792 | Density and Specific Gravity (Relative Density) of Plastics by Displacement |
| ASTM D882 | Tensile Properties of Thin Plastic Sheeting |
| ASTM D903 | Peel or Stripping Strength of Adhesive Bonds |
| ASTM D1000 | Pressure-Sensitive Adhesion to Primed Concrete |
| ASTM D1004 | Tear Resistance (Graves Tear) of Plastic Film and Sheeting |
| ASTM D1238 | Melt Flow Rates of Thermoplastics by Extrusion Plastometer |
| ASTM D1653 | Vapor Permeability of Internal |
| ASTM D1709 | Impact Resistance of Plastic Film by the Free- Falling Dart Method |
| ASTM D1876 | Peel Resistance of Adhesives (T-Peel Test) |
| ASTM D2240 | Rubber Property— Durometer Hardness |
| ASTM D3767 | Rubber—Measurement of Dimensions (Thickness) |
| ASTM D4060 | Abrasion Resistance of Organic Coatings by the Taber Abraser |
| ASTM E96/E96M | Water Vapor Transmission of Materials |
| ASTM E154 CL 10 | Resistance to Puncture |
| BS EN 1849-2 | Determination of thickness and mass per unit area of Plastic and rubber sheets |
| DIN 53854 | Weight |

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| DIN 53855 | Thickness |
| DIN 54307 | CBR test |
| ISO 527-1 | Tensile Properties of Plastics |