



Accredited Laboratory

A2LA has accredited

ELEMENT DOHA LLC

Doha, Qatar

for technical competence in the field of

Chemical Testing

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



Presented this 8th day of March 2021.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 5669.07
Valid to February 28, 2023

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



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CHEMICAL

Valid To: February 28, 2023

Certificate Number: 5669.07

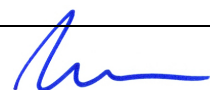
In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above as well as the one satellite location listed below to perform the following tests on water, soils, aggregates, concrete, cement and construction materials, and air quality:

Test(s):	Test Method(s):
Water:	
Metals including Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cu, Cr, Fe, Hg, K, Li, Mg, Mn, Mo, Na*, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Ti, Tl, U, V, Zn. (*Excluding Sodium for Saline Waters)	EMT-M-OP-CH-DOH-MD106; APHA 3125
Anions and Oxyhalides; Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate and Sulfate, Bromate, Chlorate, Chlorite	EMT-M-OP-CH-DOH-MD322; APHA 4110B & APHA 4110D by Ion Chromatography
Ammonia	EMT-M-OP-CH-DOH-MD302; APHA 4500 NH ₃ F & USEPA 350.1 by Colorimetry
Biochemical Oxygen Demand	EMT-M-OP-CH-DOH-MD304 by Oximeter; APHA 5210B
Chemical Oxygen Demand	EMT-M-OP-CH-DOH-MD307; APHA 5220B & APHA 5220C & D by HACH Digestion, Colorimetry and Titrimetric
Chromium VI	APHA 3500 Cr B; EMT-M-OP-CH-DOH-MD330

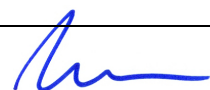
Test(s):	Test Method(s):
Chloride (Cl)	EMT-M-OP-CH-DOH-MD205; APHA 4500 CL B; ASTM D512
Conductivity	EMT-M-OP-CH-DOH-MD201 APHA 2510B
Cyanide (free)	APHA 4500 – CN E; EMT-M-OP-CH-DOH-MD310
Fluoride	EMT-M-OP-CH-DOH-MD328; APHA 4500-F B and APHA 4500-F D
Nitrate	EMT-M-OP-CH-DOH-MD315; APHA 4500 NO ₃ B
Nitrite	EMT-M-OP-CH-DOH-MD317; USEPA 353.2
Oil and Grease	EMT-M-OP-CH-DOH-MD414; APHA 5520D by Soxhlet Extraction Gravimetry
pH value	APHA 4500 pH; EMT-M-OP-CH-DOH-MD301
Phosphate Ortho	EMT-M-OP-CH-DOH-MD326; USEPA 365.1
Residual (free available) Chlorine	EMT-M-OP-CH-DOH-MD206; APHA 4500 Cl G by Colorimetry
Sulfate (SO ₄)	EMT-M-OP-CH-DOH-MD331; USEPA 375.4; EMT-M-OP-CH-DOH-MD324; APHA 4500 SO ₄ C
Sulfide	APHA 4500 S ²⁻ D & F
Silica Oxide	EMT-M-OP-CH-DOH-MD327; ASTM D859
Total Alkalinity	EMT-M-OP-CH-MD210; APHA 2320B by Titration
Total Hardness	EMT-M-OP-CH-DOH-MD211; APHA 2340C by EDTA Titration

Test(s):	Test Method(s):
Total Kjeldahl Nitrogen	EMT-M-OP-CH-DOH-MD318; APHA 4500-N _{org} by Distillation
Total Phosphorous	APHA 4500P E and APHA 4500P B; EMT-M-OP-CH-DOH-MD329
Total Dissolved Solids (TDS)	EMT-M-OP-CH-MD208 APHA 2540B by Gravimetry
Total Suspended Solids (TSS)	APHA 2540D; EMT-M-OP-CH-MD209 by Gravimetry
Fixed and Volatile Solids	APHA 2540E
Settleable Solids	APHA 2540F
Total, Fixed and Volatile Solids	APHA 2540G
Total Organic Carbon	EMT-M-OP-CH-DOH-MD319A APHA5310B by High Temperature Combustion EMT-M-OP-CH-DOH-MD319 APHA 5310C by HACH Method
Turbidity	EMT-M-OP-CH-DOH-MD203 APHA 2130A by Nephelometry
<u>Waters and Soils:</u>	
<p>Benzene, Toluene, Ethylbenzene and Xylenes (BTEXs) and Volatile Organic Compounds (VOCs) including:</p> <p>Benzene, Bromobenzene, Bromoform, Bromomethane, Bromochloromethane, Bromodichloromethane, Carbon Tetrachloride, Chlorobenzene, Chlorodibromomethane, Chloroethane, Chloroethene, (Vinyl Chloride), Chloroform, Chloromethane, Dibromomethane, Dichlorofluoromethane, Dichloromethane (Methylene Chloride), Ethylene Dibromide, 2-Chlorotoluene, 1,2-Dibromo-3-chloropropane</p>	<p>EMT-M-OP-CH-DOH-MD404A (Waters) by GC-MS, EMT-M-OP-CH-DOH-MD404B (Soils) by GC-MS; EPA 502, EPA 8260</p>

Test(s):	Test Method(s):
<p>Benzene, Toluene, Ethylbenzene and Xylenes (BTEXs) and Volatile Organic Compounds (VOCs) including (continued):</p> <p>Toluene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,2-Dichloroethane, cis-1,2-Dichloroethene, trans-1,2-Dichloroethene, 1,2-Dichloropropane, 1,3-Dichloropropane, 1,1-Dichloropene, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, Trichloroethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloroethane, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, Tetrachloroethane, 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene</p>	
<p>Semi Volatile Organic Compounds (SVOCs) and Polycyclic Aromatic Hydrocarbon (PAHs) including:</p> <p>Azobenzene Bis(2-chloroisopropyl) ether Bis(2-chloroethyl) ether bis(2-chloroethoxy) methane Bis(2-ethylhexyl) phthalate Butyl benzylphthalate Dibenzofuran Dimethyl phthalate Diethyl phthalate Di-n-butylphthalate Di-n-octylphthalate Hexachlorobenzene Hexachlorobutadiene Hexachlorocyclopentadiene Hexachloroethane Naphthalene Nitrobenzene</p>	<p>EMT-M-OP-CH-DOH-MD406</p> <p>EPA 625 EPA 8270</p>



Test(s):	Test Method(s):
<p>Semi Volatile Organic Compounds (SVOCs) and Polycyclic Aromatic Hydrocarbon (PAHs) including (continued):</p> <p>Phenol 4-Bromophenyl Phenylether Isophorone 4-Chloroaniline 4-Chloro-3-methylphenol 2-Chlorophenol 4-Chlorodiphenylether 2-Chloronaphthalene o-Cresol p-Cresol 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2,4-Dichlorophenol 2,4-Dimethylphenol 2-Methylnaphthalene 2-Nitroaniline 2-Nitrophenol n-nitrosodi-n-propylamine n-nitrosodimethylamine 1,2,4-Trichlorobenzene 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol</p>	
<p>Polycyclic Aromatic Hydrocarbons (PAHs) including:</p> <p>Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(g,h,i)preylene Benzo(a)pyrene Carbazole Chrysene Dibenze(a,h)anthracene Fluorene Fluoroanthene Ideno (1, 2, 3-c, d) Naphthalene</p>	<p>EMT-M-OP-CH-DOH-MD403A (soils) by GC-MS EMT-M-OP-CH-DOH-MD403B (waters) by GC-MS</p> <p>EPA 8270</p>



Test(s):	Test Method(s):
Polycyclic Aromatic Hydrocarbons (PAHs) including (continued): Pyrene Phenanthrene Pyrene	
Waters (Potable, Effluent and Saline):	
Phenols	EPA 528; EMT-M-OP-CH-DOH-MD415 by SPE, Derivatization and GC-MS
Soils:	
Metals by ICP-OES	EMT-M-OP-CH-DOH-MD112; APHA 3125
Organic Matter Content	BS 1377-3 Clause 4
Sulphate Content (Acid Extract and Water Extract)	BS 1377-3:1990 Clause 5.2 and 5.3 (Withdrawn) ²
Chloride Content (Acid Extract and Water Extract)	BS 1377-3 Clause 9
pH	BS 1377-3 Clause 12
Aggregates:	
Organic Impurities	ASTM C40/C40M
Assessment of Fines Methylene Blue Test	BS EN 933-9
Acid Soluble Chloride Content	BS EN 1744-5
Acid Soluble Sulphate Content	BS EN 1744-1
Concrete:	
Chloride Content	BS 1881-124 Clause 12.1
Sulphate Content	BS 1881-124 Clause 12.2
Cement:	
Sulphate	BS EN 196-2 Clause 4.4.2
Residue Insoluble	BS EN 196-2 Clause 4.4.3
Pure Silica	BS EN 196-2 Clause 4.5.5
Total Silica	BS EN 196-2 Clause 4.5.8

Test(s):	Test Method(s):
Iron (III) - Ferric - Oxide	BS EN 196-2 Clause 4.5.10
Aluminum Oxide	BS EN 196-2 Clause 4.5.11
Calcium Oxide by EDTA (Alternative Method)	BS EN 196-2 Clause 4.5.14
Magnesium Oxide by EDTA (Alternative Method)	BS EN 196-2 Clause 4.5.15
Chloride Content	BS EN 196-2 Clause 4.5.16
Loss on Ignition	BS EN 196-2 Clause 4.4.1
Stack Emissions Monitoring – TPM	US EPA Method 5; EMT-M-OP-SA-MD003
Stack Emissions Monitoring – Carbon Monoxide	US EPA Method 10; EMT-M-OP-SA-MD001
Stack Emissions Monitoring – Carbon Dioxide	US EPA Method 3A; EMT-M-OP-SA-MD001
Stack Emissions Monitoring – Sulphur Dioxide	US EPA Method 6C; EMT-M-OP-SA-MD001
Stack Emissions Monitoring – Oxides of Nitrogen	US EPA Method 7E; EMT-M-OP-SA-MD001
Stack Emissions Monitoring – Oxygen	US EPA Method 3A; EMT-M-OP-SA-MD001
Noise Monitoring	ISO 1996; EMT-M-OP-NO-MD001

CONSTRUCTION MATERIALS

Test(s):	Test Method(s):
Moisture Content - Oven Dry Method	BS 812: Part 109, BS 1377: Part 2
Particle Size Distribution - Wet Sieving	BS 1377: Part 2
Particle Size Distribution - Dry Sieving	BS 1377: Part 2

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Test(s):	Test Method(s):
<u>Water:</u>	
Anions and Oxyhalides; Bromide, Chloride, Fluoride, Nitrate, Nitrite, Phosphate and Sulfate, Bromate, Chlorate, Chlorite	EMT-M-OP-CH-DOH-MD322; APHA 4110B & APHA 4110D by Ion Chromatography
Alkalinity	EMT-M-OP-CH-MD210; APHA 2320B by Titration
Ammonia	EMT-M-OP-CH-DOH-MD302; APHA 4500 NH ₃ B & APHA 4500 NH ₃ C; by Colorimetry
Biochemical Oxygen Demand	EMT-M-OP-CH-MD304; APHA 5210B by Oximeter
Chemical Oxygen Demand	EMT-M-OP-CH-DOH-MD307; APHA 5220B, APHA 5220;C & APHA 5220D; by HACH Digestion, Colorimetry and Titrimetric
Chloride (Cl)	EMT-M-OP-CH-DOH-MD205; APHA 4500 CL B; ASTM D512 by MOHR Method
Chlorine Residual (Free Available)	EMT-M-OP-CH-DOH-MD206; APHA 4500-Cl G by Colorimetry
Chromium VI	APHA 3500 Cr B; EMT-M-OP-CH-DOH-MD330; HACH Method 8023 by Colorimetry
Conductivity	EMT-M-OP-CH-DOH-MD201 APHA 2510B
Cyanide (Free)	APHA 4500 – CN E; EMT-M-OP-CH-DOH-MD310 HACH Method 8027; by Colorimetry



Test(s):	Test Method(s):
Fluoride	EMT-M-OP-CH-DOH-MD328; APHA 4500-F B and APHA 4500-F D EPA Method 340.1; HACH Method 8029; by Colorimetry
Hardness (Total)	EMT-M-OP-CH-DOH-MD211; APHA 2340B by Calculation; APHA 2340C by EDTA Titration
Kjeldahl Nitrogen (Total)	EMT-M-OP-CH-DOH-MD318; APHA 4500-N _{org} B; by Distillation
Nitrate	EMT-M-OP-CH-DOH-MD315; APHA 4500-NO ₃ B HACH Method 8192; by Colorimetry
Nitrite	EMT-M-OP-CH-DOH-MD317; USEPA 353.2; HACH Method 8507; by Colorimetry
Oil and Grease	EMT-M-OP-CH-DOH-MD414; APHA 5520B; by Soxhlet Extraction Gravimetry
Organic Carbon (Total)	EMT-M-OP-CH-DOH-MD319A; APHA 5310B by High Temperature Combustion EMT-M-OP-CH-DOH-MD319 APHA 5310C by HACH Method
pH value	EMT-M-OP-CH-MD301; APHA 4500-H ⁺ B; ASTM D1293; BS 1377-3; BS 1427; EPA Method 9040B; EPA Method 9040C
Phosphate (Ortho)	EMT-M-OP-CH-DOH-MD326; APHA 4500-P E; EPA Method 365.1
Phosphorous (Total)	EMT-M-OP-CH-DOH-MD329; APHA 4500-P B and APHA 4500-P E; HACH Method 8190; by Colorimetry

Test(s):	Test Method(s):
Silica Oxide	EMT-M-OP-CH-DOH-MD327; ASTM D859; HACH 8186; by Colorimetry
Solids (Total Dissolved)	EMT-M-OP-CH-MD208; APHA 2540C BS 1377-3; BS 1427; by Gravimetry
Solids (Total Suspended)	EMT-M-OP-CH-MD209; APHA 2540D; by Gravimetry
Solids (Fixed & Volatile)	EMT-M-OP-CH-DOH-MD212A; APHA 2540E
Solids (Settleable)	EMT-M-OP-CH-DOH-MD212B; APHA 2540F
Solids (Total, Fixed & Volatile)	EMT-M-OP-CH-DOH-MD212C; APHA 2540G
Sulfate	EMT-M-OP-CH-DOH-MD324; APHA 4500-SO ₄ C; by Gravimetric EMT-M-OP-CH-DOH-MD331; EPA Method 375.4; HACH Method 8051; by Colorimetry
Sulfide	EMT-M-OP-CH-DOH-MD332A; APHA 4500-S ²⁻ D; by Methylene Blue Method (HACH) EMT-M-OP-CH-DOH-MD332B; APHA 4500-S ²⁻ F; by Iodometric Method
Turbidity	EMT-M-OP-CH-DOH-MD203; APHA 2130A; by Nephelometry

<u>Soils:</u>	
Organic Matter Content	BS 1377-3 Clause 4
Sulfate Content (Acid Extract and Water Extract)	BS 1377-3:1990 Clause 5.2 and 5.3 (Withdrawn) ²
Chloride Content (Acid Extract and Water Extract)	BS 1377-3 Clause 9
pH	BS 1377-3 Clause 12
<u>Aggregates:</u>	
Chloride Content (Acid Soluble)	BS EN 1744-5
Sulfate Content (Acid Soluble)	BS EN 1744-1
<u>Concrete:</u>	
Chloride Content (Acid Soluble)	BS 1881-124 Clause 12.1
Sulphate Content (Acid Soluble)	BS 1881-124 Clause 12.2
<u>Cement:</u>	
Aluminum Oxide	BS EN 196-2 Clause 4.5.11
Calcium Oxide	BS EN 196-2 Clause 4.5.14 by EDTA (Alternative Method)
Chloride Content	BS EN 196-2 Clause 4.5.16
Iron Oxide	BS EN 196-2 Clause 4.5.10
Loss on Ignition	BS EN 196-2 Clause 4.4.1
Magnesium Oxide	BS EN 196-2 Clause 4.5.15 by EDTA (Alternative Method)
Residue (Insoluble)	BS EN 196-2 Clause 4.4.3
Silica (Pure)	BS EN 196-2 Clause 4.5.6
Silica (Total)	BS EN 196-2 Clause 4.5.8
Sulfate	BS EN 196-2 Clause 4.4.2

CONSTRUCTION MATERIALS

<u>Test(s):</u>	<u>Test Method(s):</u>
Moisture Content - Oven Dry Method	BS 812: Part 109, BS 1377: Part 2
Particle Size Distribution - Wet Sieving	BS 1377: Part 2
Particle Size Distribution - Dry Sieving	BS 1377: Part 2

¹ This accreditation covers testing performed at all laboratory locations listed in this scope of accreditation.

² NOTE: This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.