



Accreditation Scope

Lonestar Technical & Industrial Services L.L.C (NAL 046) Testing Laboratory, (ISO/IEC 17025:2017)

Al Mussafah Industrial City of Abu Dhabi - Abu Dhabi, UAE

Issue Date: 20-11-2022

Expiry Date: 14-09-2024

Issue No: 10

Testing Field	Materials/ Products tested	Type of test/ Test parameter/ Properties measured/Range of measurement	Test Method (Standard, Internal Procedure, Technique)	Permanent lab (P) / Client- site (S)
Construction Materials (Physical Tests)	Soil	Determination of Dry Density- Moisture Content Relationship Using 4.5 kg Rammer for Coarse and medium size Particles	BS 1377-4:1990, AMD 13925- 2002, Cl. 3.5 & 3.6	P
		Determination of In-situ Density by Sand Replacement Method.	BS 1377-9:1990, Cl. 2.1& 2.2	
		Determination of California Bearing Ratio (CBR)	BS 1377-4:1990, AMD 13925- 2002 Cl. 7.2.3	
		Density and unit weight of soil in place by sand cone method	ASTM D1556:2015	
		Determination of California Bearing Ratio (CBR)	ASTM D1883:2021	
		Laboratory Compaction Characteristics of Soil using modified effort	ASTM D 1557-12 RA 2021	
		Sampling	ASTM D75 / D75M:2019	
	Hardened Concrete	Determination of Compressive strength of Hardened Concrete	BS EN 12390-3:2019	P
		Determination of density of hardened concrete	BS EN 12390-7:2019	
		Making and curing specimens for strength tests	BS EN 12390-2:2019	
		Shape, dimensions and other requirements for specimens and molds	BS EN 12390-1:2021	
		Determination of Depth of Penetration of Water Under Pressure in Hardened Concrete	BS EN 12390-8:2019	
		Electrical Indication of concretes Ability to Resist Chloride Ion Penetration	ASTM C 1202:2019	
		Determination of Water Absorption of Hardened Concrete	BS 1881-122:2011+A1:2020	



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Construction Materials (Physical Tests)	Aggregates	Determination of Particle Size Distribution (Wet and dry Sieving)	BS 812-103.1:1985 Cl. 7.2 & 7.3	P
		Determination of Particle Size Distribution, Sieving Method	BS EN 993-1:2012	
		Density, Relative Density (specific gravity) and Absorption of Coarse Aggregates	ASTM C 127:2015	
		Determination of particle shape, Flakiness index	BS EN 933-3-2012	
		Determination of Elongation Index of Coarse Aggregates	BS 812-105:1990, Section 105.2	
		Determination of Aggregates Crushing value	BS 812-110:1990	
		Soundness of Aggregates by Use of Sodium Sulfate & Magnesium Sulfate	ASTM C88/ C 88 M-2018	
		Percentage of Fine Clay, Silt and Dust	BS EN 933-1:2012	
		Clay Lumps and Friable Particles	ASTM C142 / C142M-17	
		Determination of Particle Density & Water Absorption	BS 812-2:1995, Clause 5	
		Ten Percent Fines Value	BS 812-111:1990	
		Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine	ASTM C131 / C131M-2020	
	Sieve Analysis of Fine and Coarse Aggregates	ASTM C136:2019		
Asphalt	Asphalt Content of Hot-Mix Asphalt by Ignition Method	ASTM D6307-2019	P	



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Geotechnical Testing	Soil	Standard Penetration Test Determination of the penetration resistance using the split-barrel sampler (Standard penetration test - SPT)	* BS 1377-9:1990; AMD 8264- 1995 Cl.3.3	S
		Soil Sampling Obtaining disturbed samples from boring tools & excavating equipment	BS 5930:2015+A1:2020 Cl. 25.3	S
		Soil Sampling Open-tube sampling techniques	BS 5930:2015+A1:2020 Cl. 25.4	S
	Rock	Rock Sampling Rotary core sampling techniques	BS 5930:2015+A1:2020 Sec. 4, Cl. 24.11 & 25.7	S
		Rock Quality Designation & Rock Core Recovery	BS 5930:2015+A1:2020, Section 6, Cl. 36	P/S
	Soil & Rock	Soil and Rock description	BS 5930:2015+A1:2020, Section 6, Cl 32 & Cl 36	P/S
	Ground Water	Ground water sampling	BS 5930:2015+A1:2020, Section 4, Cl. 26	S
		Ground Water Level Measurements	BS 5930:2015+A1:2020 Section 8, Cl. 52 (Clause 52.5 Standpipe Piezometer)	S
	Soil	Determination of Particle Size Distribution	BS EN ISO 17892-4:2016, Cl. 5.2	P
		Hydrometer (Sedimentation by the hydrometer method)	BS EN ISO 17892-4:2016, Cl. 5.3	
		Liquid Limit, plastic Limit And Plasticity Index	ASTM D4318- 17e1	
		Liquid Limit, plastic Limit and Plasticity Index	BS EN ISO 17892-12:2018, Cl. 5.3,5.5 & 6.5	P
		Determination of water content	BS EN ISO 17892-1-2014	



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Geotechnical Testing	Soil & Rock	Natural Water Content Determination of Water (Moisture) Content of Soil and Rock by Mass	ASTM D 2216-2019	
	Rock8	Preparing Rock Core Specimens and Determining Dimensional and Shape Tolerances	ASTM D4543-2019	
		Compressive Strength of Intact Rock Core Specimens	ASTM D7012-2014 e1, Method C	
	Reporting	Reporting	BS 5930:2015+A1:2020, Section 10, Cl. 63	
Construction Materials (Physical Tests)	Tensile Properties	Steel for the Reinforcement of Concrete: Weldable Reinforcing Steel : Bar, Coil and Decoiled Product : Specification Tensile Properties	BS 4449:2005+A3 :2016, Cl. 7.2.3	P
		Steel for the reinforcement and prestressing of concrete. Test methods. Part 1 : Reinforcing bars, wire rod and wire	BS EN ISO 15630-1:2019, Cl. 5	
		Metallic materials. Tensile testing. Method of test at room temperature	BS EN ISO 6892-1:2019	
	Bend Performance	Steel for the reinforcement of concrete. Weldable reinforcing steel. Bar, coil and Decoiled product. Specification	BS 4449: 2005+A3 :2016, Cl. 7.2.5	P
		Steel for the reinforcement and prestressing of concrete. Test methods. Part 1: Reinforcing bars, wire rod and wire	BS EN ISO 15630-1:2019, Cl. 7	
	Deep Foundation	Pile Integrity	Low Strain Impact Integrity Testing of Deep Foundations	ASTM D5882-16



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Construction Materials (Physical Tests)	NDT	Determination of Ultrasonic Pulse Velocity	BS EN 12504-4-2021	P
		Determination of Rebound Number	BS EN 12504-2-2021	
		Determination of Compressive Strength of Concrete Cores	BS EN 12504-1-2019	
		Half-Cell Potentials of Uncoated Reinforcing Steel in Concrete	ASTM C 876-2015	
		Depth of Carbonation in Concrete	BS EN 14630-2006	
		Cover Meter Survey	BS 1881 – 204-1988	
Chemical	Aggregates	Organic Impurities	CHM-SOP- 273 based on ASTM C40 / C40M-20	P
		Acid Soluble Chlorides as Cl	CHM-SOP- 274 based on BSEN 1744- Part 5 2006.	
		Acid Soluble Sulphates as SO ₃	CHM-SOP- 252 based on BSEN 1744-1 2009 + A1 2012.	
	Water / Waste water / Seawater / Ground water / Potable water	pH	CHM-SOP-119 B, CHM-SOP-119 C & CHM-SOP 119 D based on APHA-AWAA-WEP-23 rd Ed 2017 Method 4500 H+ B.	P
		Oil & Grease	CHM-SOP-30E & CHM-SOP 30F based on APHA-AWAA-WEP-23 rd Ed 2017 Method 5520 B	
		Total Dissolved Solids at 180° C	CHM-SOP-068C& CHM-SOP-068D based on APHA-AWAA-WEP-23 rd Ed 2017 Method 2540 C	
		Total Suspended Solids at 103 °C - 105 °C	CHM-SOP-047D based on APHA-AWAA-WEP-23 rd Ed 2017 Method 2540 D	



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Chemical	Water / Waste water / Natural Waters	Chemical Oxygen Demand	CHM-SOP-019 D based on APHA-AWAA-WEP-23 rd Ed 2017 Method 5220 B	P
		Biochemical Oxygen Demand (5 days Incubation @ 20°C)	CHM-SOP-020 D based on APHA-AWAA-WEP-23 rd Ed 2017 Method 5210 B	
	Water / Waste water / Seawater /Ground water / Potable water	Chlorides	CHM-SOP-017 C & CHM-SOP-017 D based on APHA-AWAA-WEP-23 rd Ed 2017 Method 4500 Cl B	P
		Sulphates as SO ₄	CHM-SOP-004D & CHM-SOP-004C based on APHA-AWAA-WEP-23 rd Ed 2017 Method SO4-2E	
		Metals: Cd, Cr, Cu, Pb, Ni, Zn, Hg, Ca, Mg, Mo, Na, K, Ba, Be, Al, Si, Se, V, Ag, Mn, Fe, Co	CHM-SOP-79 E based on APHA-AWAA-WEP-23 rd Ed 2017 Method 3120 B CHM-SOP-076 E Based on APHA-AWAA-WEP-23 rd Ed 2017 Method 3112 B (for Hg)	
	Soil	Metals: Al, Ba, Cd, Ca, Cr, Cu, Co, Fe, Pb, Mg, Mn, Mo, Ni, K, Ag, Na, V, Zn, Hg, As, Be, Se, Ti	CHM-SOP-079 D based on US EPA SW 846/3010A US EPA CE 81-1-1981, US EPA SW 846/6010 B, CHM-SOP-076 C based on US EPA SW 846/7471 A (for Hg)	P
		pH	CHM-SOP-250 based BS 1377-3:2018+A1:2021 Cl 12	P
		Water Soluble Chlorides	CHM-SOP-243 based on BS 1377-3:2018+A1:2021 Cl 9.2 (Volhard's method)	
		Acid Soluble Chlorides	CHM-SOP-244 based on BS 1377-3:2018+A1:2021 Cl 9.3	



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Chemical	Soil	Acid Soluble Sulphates as SO ₄	CHM-SOP-245 based on BS 1377-3:2018+A1:2021, CI 7.2, 7.6, 7.9	
		Water Soluble Sulphates as SO ₄	CHM-SOP-246 based on BS 1377-3:2018+A1:2021 CI 7.2, 7.3, 7.6	
	Ground Water	Sulphate as SO ₄	CHM-SOP-248 based on BS 1377-3:2018+A1:2021 CI 7.2, 7.6, 7.8	
		Chloride	CHM-SOP-247 based on BS 1377-3:2018+A1:2021 CI 9.2	
		pH	CHM-SOP-249 based on BS 1377-3:2018+A1:2021 CI 12	
	Low Alloy Steel	Low Alloy Steel: C, Si, Mn, P, S, Cr, Mo, Ni, Al, Cu, V, Nb, Ti, N	Documented In-house method CHM-SOP-117	
	High Alloy Steel	High Alloy Steel C, Si, Mn, P, S, Cr, Mo, Ni, Al, Cu, V, N	Documented In-house method CHM-SOP-138	



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Environmental	Environmental Air	PM 10	CHM-SOP-257 based on MASA-501:2016 (3 rd edition)	P
		TSP	CHM-SOP-257 based on MASA-501:2016 (3 rd edition)	
		SO ₂	CHM-SOP-258 based on MASA-704 A:2016 (3 rd edition)	
		NO _x	CHM-SOP-162 based one MASA-406:2016 / Federal Register Vol. 36: No 84: title 42 chapter :IV:1971	
	Stack Emissions	PM	CHM-SOP-170 based one US EPA Method # 5 and 17	
		CO	CHM-SOP 188 based on US EPA CTM 030 / 034:1997	
		NO _x	CHM-SOP 188 based on US EPA CTM 030 / 034:1997	
		SO ₂	CHM-SOP 188 based one US EPA # 6C:1997	
		NO ₂	CHM-SOP 188 based on US EPA CTM 030 / 034:1997	
	Noise	Noise	CHM-SOP-255 based on ISO 1996-2:2017 Acoustic Part 2 Cl:7.5	
END				

* Standards are superseded / withdrawn / replaced.