

Accreditation Scope

**Al Hai & Al Mukkadam for Geotechnical Works L.L.C, NAL 101
Testing Laboratory, (ISO/IEC 17025:2017)**

Al Mussafah, Abu Dhabi, UAE

Issue Date: 03-11-2021

Expiry Date: 04-04-2022

Issue No: 05

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)
Geotechnical	Soil In - Situ Testing	Methods of test for soils for civil engineering purposes Part 9: In-situ tests Determination of the penetration resistance using the split-barrel sampler (Standard penetration test - SPT)	BS EN ISO 22476- 3:2005+A1:2011 * BS 1377 Part 9:1990- AMD 8264-1995 Cl. 3.3	S
	Soil Sampling & Description	Code of practice for Ground Investigations Obtaining disturbed samples from boring tools & excavating equipment	BS 5930:2015; Section 4 Cl. 25.3	S
		Soil Sampling Open-tube sampling techniques	BS 5930:2015 Section 4 Cl. 25.4	S
		Description of Soils	BS 5930:2015; Section 6 Cl. 33	P / S
	Rock Sampling & Description	Code of practice for Ground Investigations Rock Sampling Rotary core samples	BS 5930:2015: Section 4 Cl. 25.7	S
		Description and Classification of Rocks Rock Core Recovery	BS 5930:2015 Section 6 Cl. 36 Clarks & Walker	P / S
	Ground Water Management	Code of practice for ground investigations Ground water monitoring Ground Water sampling	BS 5930:2015 Section 4 Cl. 26	S

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Geotechnical	Ground Water Management	Groundwater measurements	Section 4 Cl. 26.2 & 26.3 BS 5930:2015 Section 8 Cl. 52 (Cl. 52.5 standpipe piezometer)	S
	Soil	Particle size distribution Wet & Dry sieving	BS EN ISO 17892- 4:2016, Cl. 5.2	P
		Determination of Water (Moisture)	BS EN ISO 17892-1:2014	
		Sedimentation by the hydrometer method	BS EN ISO 17892- 4:2016, Cl. 5.3	
		Liquid limit, plastic limit and plasticity index of soil	BS EN ISO 17892- 12:2018, Cl. 5.3, 5.5, 6.5	
	Rock	Preparation of rock core (Preparing Rock Core as Cylindrical Test Specimens and Verifying Conformance to Dimensional and Shape Tolerances	ASTM D4543-19	P
		Unconfined Compressive Strength of Rock Core Specimen	ASTM D7012-2014e1, Method C	
Determination of Water (Moisture) Content of Soil and Rock by Mass		ASTM D2216-2019		

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Chemical	Soil	Acid Soluble Sulphate Content of Soil	BS 1377-3:2018, Cl. 7.9 /7.6	P
		Water Soluble Sulphate Content of Soil	BS 1377-3:2018, Cl. 7.3 /7.6	
		Acid Soluble Chloride Content of Soil	BS 1377-3:2018, Cl. 9.3	
		Water Soluble Chloride Content of Soil	BS 1377-3:2018, Cl. 9.2	
		pH of Soil, (0 to14) pH Units	BS 1377-3:2018, Cl. 12	
	Ground Water	pH of Ground Water, (0 to14) pH Units	BS 1377-3:2018, Cl. 12	P
		Sulphate Content of Ground Water	BS 1377-3:2018, Cl. 7.8, 7.3.4.4 & 7.6	
		Chloride Content of Ground Water	BS 1377-3:2018, Cl. 9.2	
Reporting	Ground Investigation	Code of practice for ground investigations Reporting	BS 5930:2015 Section 10 Cl. 63	P
Physical	Soil	In Situ Density (Sand Replacement Method Suitable for Fine, Medium and Coarse Grained Soils, Large And Small Pouring Cylinder),	BS 1377:1990: Part 9 AMD 13925-2002 Cl. 2.2 AMD 8264-1995	S/P
		Determination of dry density/ moisture content relationship using 4.5Kg rammer for coarse and medium gravel size particles)	BS 1377:1990: Part 4 AMD 13925-2002 Cl. 3.5 & 3.6	P

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Physical	Concrete	Testing hardened concrete. Shape, dimensions and other requirements for specimens and molds	BS EN 12390-1: 2012	P
		Testing hardened concrete. Making and curing specimens for strength tests	BS EN 12390-2:2019	
		Compressive Strength of Concrete Cube	BS EN 12390-3: 2019	
		Testing hardened concrete. Density of hardened concrete	BS EN 12390-7:2019	
		Testing concrete Part 111: Method of normal curing of test specimens (20°C method)	*BS 1881:1983 Part 111 AMD. 9387:1997	
		Testing concrete Part 114: Methods for determination of density of hardened concrete	*BS 1881:1983 Part 114 - AMD 6721:1991	
		Testing concrete Part 116: Method for determination of compressive strength of concrete cubes	*BS 1881 Part 116: 1983: AMD. 6720 :1991	
END				

* Standards are superseded / withdrawn