



Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06

Expiry Date: 03-09-2023

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)
		Method of normal curing of test specimens (20°C method)* BS 1881-111 Amd. 9387:1997		-
		Methods for determination of density of hardened concrete	* BS 1881-114 Amd. 6721:1989	
	Metho compr cubes Shape require	Method for determination of compressive strength of concrete cubes	* BS 1881-116 AMD. 6720: :1991	
		Shape, dimensions and other requirements for specimens and molds	BS EN 12390-1:2012	
		Making and curing specimens for strength tests	BS EN 12390-2:2019 BS EN 12390-3:2019	- - -
Physical	Hardened Concrete	Compressive strength of test specimens		
		Density of hardened concrete	BS EN 12390-7:2019	
		Determination of Compressive Strength of Concrete Core	BS EN 12390-3:2019 BS EN 12504-1:2019	
		Determination of Initial Surface Absorption of Concrete	BS 1881-208:1996	
		Water Absorption Test	BS 1881-122:2011	-
		Determination of Depth Penetration of Water Under Pressure	BS EN 12390-8:2019	
		Determination of Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration	ASTM C 1202:2019	





Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06 Expiry Date: 03-09-2023

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)
		Determination of Dry Density Moisture Content Relationship using 4.5 kg Rammer for Coarse & Medium	BS 1377-4:1990, Test 3.5 & 3.6 AMD 13925-2002 BS 1377-9:1990,	
Physical	Soil	In-situ Density by Sand Replacement Method	Cl. 2.1 & 2.2 AMD 8264 1995	Р
		California Bearing Ratio	BS 1377-4, Cl. 7.2 & 7.3 AMD13925-2002	
		Determination of Water (Moisture) Content of soil by mass	* BS 1377-2:1990, Cl. 3 AMD 9027- 1996	
		Determination of Cone Penetration Test (CPT)	* BS 1377-9:1990, Cl. 3.1 AMD 8264 1995	
		Determination of Standard Penetration Test (SPT)	* BS 1377-9:1990, Cl. 3.3 AMD 8264 -1995	S
		Acid Soluble Chloride Content of Soil	BS 1377-3:2018, Cl.9.3	
	Soil	Acid Soluble Sulphate Content of Soil	BS 1377-3:2018, Cl.7.6 & 7.9	
Geotechnical		Water Soluble Chloride Content of Soil	BS 1377-3:2018, Cl.9.2	
		Water Soluble Sulphate Content of Soil	BS 1377-3:2018, Cl.7.3 &7.6	Р
		pH of Soil	BS 1377-3:2018, Cl.12.5	
		pH of Ground Water	BS 1377-3:2018, Cl.12.5	
	Water	Sulphate Content of Ground Water	BS 1377-3:2018, Cl.7.6 & 7.8	
		Chloride Content of Ground Water	BS 1377-3:2018, Cl.9.2	

ACF 11-22; rev.3; Page 2 of 9





Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06 Expiry Date: 03-09-2023

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)
	0.1	Particle Size Distribution by Sieve Analysis	* BS 1377-2:1990, Cl. 9.2 & 9.3 Amd 9027:1996	P
		Particle Size Distribution by Hydrometer Method	* BS 1377-2:1990, Cl. 9.5 Amd 9027:1996	
	Soil	Liquid Limit, Plastic Limit, & Plasticity Index of Soils	* BS 1377-2:1990, Cl. 4.3, 4.4, 5.3 & 5.4 AMD 9027:1996	
		Soil Sampling	BS 5930:2015, Cl. 25	S
	Water	Ground Water Level Measurement	BS 5930:2015 - Section 4	S
	Waler	Ground Water Sampling	Level MeasurementBS 5930:2015 - Section 4SamplingBS 5930:2015 - Section 4escriptionBS 5930:2015 - Section 6	
Geotechnical	Soil & Rock	Soil & Rock Description	BS 5930:2015 - Section 6	Р
		Core Recovery	BS 5930:2015 - Section 6	
		Rock Quality Designation BS 5930:2015 - Section 6		
	Core	Unconfined Compressive Strength (UCS)	ASTM D 7012:2014 ^{e1} (Method C)	Р
		Preparation of Rock Core	ASTM D 4543-19	
		Determination of Water (Moisture) Content of soil and rock by mass	ASTM D 2216-19	
	Reporting	Code of Practice for Site Investigation Geotechnical Reporting	BS 5930:2015 - Section 10	Р





Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06 Expiry Date: 03-09-2023

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)	
		Mea	Measurement of Velocity of	* BS 1881-203:1986	
		Ultrasonic Pulses in Concrete	Amd. 6766:1991		
Non		Determination of Pull Off StrengthBS 1881-207:1992, Cl. 8Concrete Surface Hardness Test by Rebound Hammer* BS 1881-202:1986	BS 1881-207:1992, Cl. 8		
Destructive Testing	Concrete		S		
		Pull out Test of Anchor	BS 8539-2012, Annex B3		
		Pull out Test of Rebar	BS 1881-207:1992, Cl. 7		
		Determination of pH	APHA 4500 H:2017 23 rd edtion		
		Total Dissolved Solids APHA 2540 C:2017 23 rd edtion Total Suspended Solids APHA 2540 D:2017 23 rd edition Silica Silicomolybdate Hach method 8185 (MLD GMS 054)			
Ohamiaal	Water &		Hach method 8185 (MLD		
Chemical	Waste Water		Salicylate	Р	
		Nitrogen, Ammonia	Hach Method 8155 (MLD GMS 053)		
			Diazotization		
		Nitrite	Hach Method 8507 (MLD GMS 051)		
		Nitrate	Cadmium Reduction Hach Method 8039 (MLD GMS 052)		





Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06 Expiry Date: 03-09-2023

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)
		Total Suspended Particulate Matter (TSPM)SOP-ENVT-010 based on US EPA-40 CFR, Part 50, Appendix -B (Issued on 25/03/2019, Rev no: 02, 22/07/2020)		
		Respirable Particulate Matter (RSPM)	SOP-ENVT-010 based on US EPA-40 CFR, Part 50, Appendix -J (Issued on 25/03/2019, Rev no: 02, 22/07/2020)	
Environmental	Ambient Air Monitoring	Non Respirable Particulate Matter (NRSPM)	SOP-ENVT-010 based on US EPA-40 CFR, Part 50, Appendix -B (Issued on 25/03/2019, Rev no: 02, 22/07/2020) SOP-ENVT-009 based on US EPA -40 CFR 50 Appendix. A-2:2016 (Pararosaniline Method)	P/S
		Sulphur Dioxide (SO2)		
		Nitrogen Dioxide (NO2)	SOP-ENVT-007 based on US EPA – Designated Equivalent Method No. EQN-1277-026:2003	
		Carbon Monoxide (CO)	SOP-ENVT-018 based on 40 CFR 50 Appendix C	C
		Carbon Dioxide (CO2)	SOP-ENVT-018 based on 40 CFR 50 Appendix C	S

ACF 11-22; rev.3; Page 5 of 9





Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06 Expiry Date: 03-09-2023

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)
	Ambient Air	Ozone (O3)	SOP-ENVT-008 based on CBCP India, Vol. No. 1 (NAAQMS/36/2012-13)	
	Monitoring	Ammonia (NH3)	SOP-ENVT-016 based on NIOSH 6015, CBCP India Vol. No.1	P/S
		Particulate Matter µm size (PM0.3, PM0.5, PM1.0, PM2.5, PM5.0, PM10, TSP) in Indoor air	SOP-ENVT-013 based on ISO 14644-1:2015 (Issued on 15/08/2019, Rev no: 01)	
		Sulphur Dioxide (SO2)SOP-ENVT-013 based on ISO 14644-8:2013Nitrogen Dioxide (NO2)SOP-ENVT-013 based on ISO 14644-8:2013Carbon Monoxide (CO)SOP-ENVT-013 based on ISO 14644-8:2013Carbon Dioxide (CO2)SOP-ENVT-013 based on ISO 14644-8:2013		
Environmental				
	Indoor Air Monitoring		S	
		Oxygen (O ₂)	SOP-ENVT-013 based on ISO 14644-8:2013	
		Ozone (O ₃)	SOP-ENVT-013 based on ISO 14644-8:2013	
		Ammonia (NH ₃)	SOP-ENVT-013 based on ISO 14644-8:2013	
		Hydrogen sulfide (H ₂ S)	SOP-ENVT-013 based on ISO 14644-8:2013	





Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06 Expiry Date: 03-09-2023

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)
		Total VOC	SOP-ENVT-013 based on ISO 14644-8:2013	6
	Indoor Air	Formaldehyde (HCHO)	SOP-ENVT-013 based on ISO 14644-8:2013	
	Monitoring	Range of measurement Technique) Total VOC SOP-ENVT-013 based on ISO 14644-8:2013 Formaldebyde (HCHO) SOP-ENVT-013 based on	S	
Environmental	Microbial	Total Bacteria Count,	NIOSH 800:1998 & ISO 16000-18:2011 Sampling Procedure only (Issued on 25/03/2019,	S
			US EPA 1&2:2017 (Issued on 25/03/2019, Rev no:	
	Stack Monitoring		US EPA 4:2017 (Issued on 25/03/2019, Rev no:	S
		Determination of stack gas Pressure & Temperature 25/03/20	US EPA 1&2:2017 (Issued	





Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06 Expiry Date: 03-09-2023

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)
		Determination of Particulate matter (TSP) Emission from stationary sources	SOP-ENVT-015 based on US EPA 17:2017 (Issued on 25/03/2019, Rev no: 02, 22/07/2020)	P/S
		Determination of Sulphur Dioxide (SO ₂)	SOP-ENVT-014 based on US EPA-Method 6C: 2017 (Issued on 25/03/2019, Rev no: 02, 22/07/2020)	
	Determination of Nitrogen Dioxide (NO ₂) SOP-ENVT-014 based on US EPA-Method 7E :2018 (Issued on 25/03/2019, Rev no: 02, 22/07/2020)	S		
Environmental	Stack Monitoring	Determination of Oxygen (O ₂)	O_{2})(Issued on 25/03/2019, Rev no: 02, 22/07/2020)dermination of Oxygen (O2)SOP-ENVT-014 based on US EPA-Method 3C :2017 (Issued on 25/03/2019, Rev no: 02, 22/07/2020)dermination of Carbon Dioxide O_2)SOP-ENVT-014 based on US EPA-Method 3C:2017 (Issued on 25/03/2019, Rev no: 02, 22/07/2020)	S
		Determination of Carbon Dioxide (CO ₂)		5
		Determination of Carbon Monoxide (CO)	SOP-ENVT-014 based on US EPA-Method 10:2017 (Issued on 25/03/2019, Rev no: 02, 22/07/2020)	
		Determination of Hydrocarbons	SOP-ENVT-014 based on US EPA-Method 3C: 2017 (Issued on 25/03/2019, Rev no: 02, 22/07/2020)	





Material Lab Testing Services L.L.C (NAL 038) Testing Laboratory, (ISO/IEC 17025:2017)

Industrial Area, Mussafah M2, Abu Dhabi, UAE

Issue Date: 04-09-2020 Issue No: 06 Expiry Date: 03-09-2023

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)
	Noise Level	Acoustics-Description, measurement & assessment of Environmental Noise Part2: Determination of Environmental Noise levels	SOP-ENVT-004 based on ISO 1996-2:2017 (Issued on 25/03/2019, Rev no: 01, 15/08/2019)	S
		Acoustics- Determination of Occupational Noise Exposure	SOP-ENVT-004 based on ISO 1996-2:2017 (Issued on 25/03/2019, Rev no: 01, 15/08/2019)	
Physical	Light Intensity	Illumination Level	SOP-ENVT-003 based on BS 667:2005(confirmed 2011), AS/NZS 1680.2.4:2017 (Issued on 25/03/2019, Rev no: 01, 15/08/2019)	S
	Heat stress	Determination of Heat Stress at work place	SOP-ENVT-002 based on OSHA Technical Manual 2017 Chapter 4, BS EN ISO 7243:2017 (Issued on 25/03/2019, Rev no: 02, 22/07/2020)	S
Geophysical		Multichannel Analysis of Surface Waves (MASW)	In-house Method (ML GMS-0166)	
		Seismic Cross Hole Testing Seismic Down Hole Testing	ASTM D4428:2014 ASTM D7400:2017	S
END				

* Standard is Superseded & Replaced

ACF 11-22; rev.3; Page 9 of 9