

Schedule

SA Geolab International Pte Ltd
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Certificate No. : LA-2012-0520-B

Issue No. : 9

Date : 19 January 2021

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FIELD OF TESTING: Civil Engineering

MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES	STANDARD METHOD / TECHNIQUES / EQUIPMENT USED
A SOIL	1. Visual Classification	ASTM D 2487 – 2017 ASTM D 2488 – 2017 BS 5930: 2015 BS EN 1997-2: 2007 BS EN ISO 14688-1: 2018 BS EN ISO 14688-2: 2018
	2. Moisture Content	ASTM D 2216 – 2019 BS 1377-2 #3: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-1: 2014
	3. Density	ASTM D 7263 – 2009 (2018e1) BS 1377-2 #7: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-2: 2014
	4. Specific Gravity	ASTM D 854 – 2014 BS EN 1997-2: 2007 BS EN ISO 17892-3: 2015
	5. Relative Density (Specific Gravity) and Absorption of fine Aggregate	ASTM C 128 – 2015 BS EN 1097-6: 2013
	6. Liquid Limit (Atterberg Limit)	ASTM D 4318 – 2017e1 BS 1377-2 #4: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-12: 2018
	7. Plastic Limit (Atterberg Limit)	ASTM D 4318 – 2017e1 BS 1377-2 #4: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-12: 2018
	8. a) Percent Passing #200 b) Silt Content	ASTM D 1140 – 2017 BS EN 933-1: 2012

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	9. Particle Size Distribution	ASTM D 7928 – 2017 BS EN 1997-2: 2007 BS EN ISO 17892-4: 2016
	10. Sieving Analysis	ASTM D 6913/6913M – 2017 BS EN 1997-2: 2007 BS EN ISO 17892-4: 2016
	11. Hydrometer Analysis	ASTM D 7928 – 2017
	12. Unconfined Compression (UC)	ASTM D 2166 – 2016 BS 1377-7 #7: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-7: 2018 ISO 19901-8 #F.2.15.6: 2014
	13. Unconsolidated Undrained (UU) Triaxial	ASTM D 2850 – 2015 BS 1377-7 #8 & #9: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-8: 2018 ISO 19901-8 #F.2.15.7: 2014
	14. Consolidated Undrained (CU) Triaxial	ASTM D 4767 – 2011 BS 1377-8 #7: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-9: 2018 ISO 19901-8 #F.4.6: 2014
	15. Consolidated Drained (CD) Triaxial	ASTM D 7181 – 2011 BS 1377-8 #8: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-9: 2018 ISO 19901-8 #F.4.6: 2014
	16. Isotropic Consolidation using Triaxial Compression Test	BS 1377-6 #5: 1990 BS EN ISO 17892-9 #6.4: 2018 ISO 19901-8 #F.4.5.2: 2014
	17. Saturated Unconsolidated Undrained Triaxial	K.H. Head Vol. 3
	18. Consolidation – One Dimensional test using Controlled Strain loading (CSL)	ASTM D 4186/4186M - 2012e1 ISO 19901-8 #F.3.3: 2014

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	19. Consolidation – One Dimensional test using Incremental Load (Oedometer)	ASTM D 2435 - 2011 BS 1377-5 #3: 1990 BS EN 1997-2: 2007 BS EN ISO 17892-5: 2017 ISO 19901-8 #F.3.2: 2014
	20. Determination of Hydraulic Conductivity	ASTM D 5084 – 2016 ISO 19901-8 #F.9: 2014
	21. Determination of Permeability in a Triaxial Cell by Constant Head method (CH)	BS 1377-6 #6: 1990 BS EN 1997-2:2007 BS EN ISO 17892-11: 2018
	22. Rowe Cell	BS 1377-6 #3: 1990 BS EN ISO 17892-5: 2017
	23. Laboratory Vane Shear Test	ASTM D 4648/4648M – 2016 ISO 19901-8 F.2.15.5: 2014
	24. Swell Test	ASTM D 4546 – 2014e1 BS 1377-5 #4: 1990
	25. Swedish Fall Cone	BS EN 1997-2: 2007 BS EN ISO 17892-6: 2017 ISO 19901-8 #F.2.15.2: 2014
	26. Compaction	ASTM D 698 – 2012e2 ASTM D 1557 – 2012e1 BS 1377-4 #3: 1990
	27. Maximum and Minimum Dry Densities of Granular Soils	ASTM D 4254 BS 1377-4 #4: 1990
	28. Methylene Blue Index of Clay	ASTM C 837 – 2009 (2014) BS EN 933–9: 2009 + A1: 2013
	29. Calcium Carbonate Content	ASTM D 4373 – 2014 ISO 19901-8 #F.2.13: 2014
	30. In-Situ Apparent Resistivity	BS 1377-9 #5.1: 1990 BS EN 1997-2: 2007
	31. Electrical Resistivity (Wenner Probe Method)	BS 1377-3 #10.3: 2018 ISO 19901-8 #F.10: 2014

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B. ROCK	32. Thermal Resistivity	ASTM D 5334 – 2014 ISO 19901-8 #F.10: 2014
	33. Slaking	JGS 2124 – 2009
	34. Lightweight Particles in Aggregate	ASTM C 123/123M – 2014
	1. Preparing Rock Core Specimens	ASTM D 4543 – 2019
	2. Slake Durability of Shales	ASTM D 4644 – 2016 JGS 2124-2006
	3. Uniaxial Compressive Strength of Intact Rock Core Specimens	ASTM D 7012 – 2014e1
	4. Point Load Test	ASTM D 5731 – 2016
	5. Splitting Tensile Strength of Intact Rock Core Specimens	ASTM D 3967 – 2016

Approved Signatories

Mr Syed Ahmad) For all tests accredited

Mr Abu Bakar Bin Ismail) For all tests accredited

Mr Khalid Al Jahsyi) For all tests accredited

Note :

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025. A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and **management system requirements** that are necessary for it to consistently deliver technically valid test results. The **management system requirements** in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001.