National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : FUGRO GEOTECH LABORATORY, FUGRO GEOTECH (INDIA) PVT. LTD., FUGRO HOUSE, D-222/30, TTC INDUSTRIAL AREA, MIDC NERUL, NAVI MUMBAI, MUMBAI SUBURBAN, MAHARASHTRA, INDIA

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	CHEMICAL- SOIL AND ROCK	Clays & Soils	Acid Soluble Sulphates	BS 1377 (Part 3, Clause 5)
2	CHEMICAL- SOIL AND ROCK	Clays & Soils	Calcium Carbonate (as CaCO3)	IS 2720 (Part 23)
3	CHEMICAL- SOIL AND ROCK	Clays & Soils	Carbonate (as CO2)	BS 1377 (Part 3, Clause 6)-Rapid Titration Method
4	CHEMICAL- SOIL AND ROCK	Clays & Soils	Mass Loss on Ignition (Organic Content)	BS 1377 (Part 3, Clause 4)
5	CHEMICAL- SOIL AND ROCK	Clays & Soils	pH	BS 1377 (Part 3, Clause 9)
6	CHEMICAL- SOIL AND ROCK	Clays & Soils	pH	IS 2720 (Part 26)
7	CHEMICAL- SOIL AND ROCK	Clays & Soils	Total Soluble Solids	IS 2720 (Part 21)
8	CHEMICAL- SOIL AND ROCK	Clays & Soils	Total Soluble Sulphates	IS 2720 (Part 27) - Precipitation Method
9	CHEMICAL- SOIL AND ROCK	Clays & Soils	Water Soluble Chloride	BS 1377 (Part 3, Clause 7)
10	CHEMICAL- WATER	Ground Water	Alkalinity	IS 3025 (Part 23)
11	CHEMICAL- WATER	Ground Water	Calcium	IS 3025 (Part 40)
12	CHEMICAL- WATER	Ground Water	Carbonates as Calcium Carbonate	IS 3025 (Part 51)
13	CHEMICAL- WATER	Ground Water	Chloride Content	IS 3025 (Part 32)
14	CHEMICAL- WATER	Ground Water	Magnesium	IS 3025 (Part 46)
15	CHEMICAL- WATER	Ground Water	Organic & Inorganic Content	IS 3025 (Part 18)
16	CHEMICAL- WATER	Ground Water	pH	IS 3025 (Part 11)
17	CHEMICAL- WATER	Ground Water	Sulphate Content	IS 3025 (Part 24)
18	CHEMICAL- WATER	Ground Water	Total Dissolved Solids	BS 1377 (Part 3)
19	CHEMICAL- WATER	Ground Water	Total Suspended Solids	IS 3025 (Part 17)
20	CHEMICAL- WATER	Ground Water	Turbidity	IS 3025 (Part 20)
21	MECHANICAL- SOIL AND ROCK	Clays & Soils	Bulk Density	ISO 17892 (Part 2)
22	MECHANICAL- SOIL AND ROCK	Clays & Soils	CBR	ASTM D1883

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23	MECHANICAL- SOIL AND ROCK	Clays & Soils	CBR	BS 1377-4 (Clause 7)
24	MECHANICAL- SOIL AND ROCK	Clays & Soils	CBR	IS 2720 (Part 16)
25	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Drained Triaxial - Angle of Friction	ASTM D7181
26	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Drained Triaxial - Angle of Friction	IS 2720 (Part 12)
27	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Drained Triaxial - Angle of Friction	ISO 17892 (Part 9)
28	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Drained Triaxial - Cohesion	ASTM D7181
29	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Drained Triaxial - Cohesion	IS 2720 (Part 12)
30	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Drained Triaxial - Cohesion	ISO 17892 (Part 9)
31	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Undrained Triaxial - Angle of Friction	ASTM D4767
32	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Undrained Triaxial - Angle of Friction	IS 2720 (Part 12)
33	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Undrained Triaxial - Angle of Friction	ISO 17892 (Part 9)
34	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Undrained Triaxial - Cohesion	ASTM D4767
35	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Undrained Triaxial - Cohesion	IS 2720 (Part 12)
36	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidated Undrained Triaxial - Cohesion	ISO 17892 (Part 9)
37	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidation Test	ASTM D2435
38	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidation Test	IS 2720 (Part 15)
39	MECHANICAL- SOIL AND ROCK	Clays & Soils	Consolidation Test	ISO 17892 (Part 5)
40	MECHANICAL- SOIL AND ROCK	Clays & Soils	Direct Shear Test - Angle of Friction	ASTM D3080
41	MECHANICAL- SOIL AND ROCK	Clays & Soils	Direct Shear Test - Angle of Friction	IS 2720 (Part 13)

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42	MECHANICAL- SOIL AND ROCK	Clays & Soils	Direct Shear Test - Angle of Friction	ISO 17892 (Part 10)
43	MECHANICAL- SOIL AND ROCK	Clays & Soils	Direct Shear Test - Cohesion	ASTM D3080
44	MECHANICAL- SOIL AND ROCK	Clays & Soils	Direct Shear Test - Cohesion	IS 2720 (Part 13)
45	MECHANICAL- SOIL AND ROCK	Clays & Soils	Direct Shear Test - Cohesion	ISO 17892 (Part 10)
46	MECHANICAL- SOIL AND ROCK	Clays & Soils	Electrical Resistivity	ASTM G57
47	MECHANICAL- SOIL AND ROCK	Clays & Soils	Free Swell Index	IS 2720 (Part 40)
48	MECHANICAL- SOIL AND ROCK	Clays & Soils	Grain Size Analysis (Hydrometer analysis)	ASTM D422
49	MECHANICAL- SOIL AND ROCK	Clays & Soils	Grain Size Analysis (Hydrometer analysis)	IS 2720 (Part 4)
50	MECHANICAL- SOIL AND ROCK	Clays & Soils	Grain Size Analysis (Hydrometer analysis)	ISO 17892 (Part 4)
51	MECHANICAL- SOIL AND ROCK	Clays & Soils	Grain Size Analysis (Sieve analysis)	ASTM D422
52	MECHANICAL- SOIL AND ROCK	Clays & Soils	Grain Size Analysis (Sieve Analysis)	IS 2720 (Part 4)
53	MECHANICAL- SOIL AND ROCK	Clays & Soils	Grain Size Analysis (Sieve analysis)	ISO 17892 (Part 4)
54	MECHANICAL- SOIL AND ROCK	Clays & Soils	Heavy Compaction (MDD)	ASTM D1557
55	MECHANICAL- SOIL AND ROCK	Clays & Soils	Heavy Compaction (MDD)	BS 1377-4 (Clause 3.5, 3.6)
56	MECHANICAL- SOIL AND ROCK	Clays & Soils	Heavy Compaction (MDD)	IS 2720 (Part 8)
57	MECHANICAL- SOIL AND ROCK	Clays & Soils	Heavy Compaction (OMC)	ASTM D1577
58	MECHANICAL- SOIL AND ROCK	Clays & Soils	Heavy Compaction (OMC)	BS 1377-4 (Clause 3.5, 3.6)
59	MECHANICAL- SOIL AND ROCK	Clays & Soils	Heavy Compaction (OMC)	IS 2720 (Part 8)
60	MECHANICAL- SOIL AND ROCK	Clays & Soils	Light Compaction (MDD)	ASTM D698

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61	MECHANICAL- SOIL AND ROCK	Clays & Soils	Light Compaction (MDD)	BS 1377-4 (Clause 3.3, 3.4)
62	MECHANICAL- SOIL AND ROCK	Clays & Soils	Light Compaction (MDD)	IS 2720 (Part 7)
63	MECHANICAL- SOIL AND ROCK	Clays & Soils	Light Compaction (OMC)	ASTM D698
64	MECHANICAL- SOIL AND ROCK	Clays & Soils	Light Compaction (OMC)	BS 1377-4 (Clause 3.3, 3.4)
65	MECHANICAL- SOIL AND ROCK	Clays & Soils	Light Compaction (OMC)	IS 2720 (Part 7)
66	MECHANICAL- SOIL AND ROCK	Clays & Soils	Liquid Limit	ASTM D4318
67	MECHANICAL- SOIL AND ROCK	Clays & Soils	Liquid Limit	IS 2720 (Part 5)
68	MECHANICAL- SOIL AND ROCK	Clays & Soils	Liquid Limit	ISO 17892-12
69	MECHANICAL- SOIL AND ROCK	Clays & Soils	Moisture Content	ASTM D2216
70	MECHANICAL- SOIL AND ROCK	Clays & Soils	Moisture Content	IS 2720 (Part 2)
71	MECHANICAL- SOIL AND ROCK	Clays & Soils	Moisture Content	ISO 17892 (Part 1)
72	MECHANICAL- SOIL AND ROCK	Clays & Soils	Permeability by Constant head	IS 2720 (Part 17)
73	MECHANICAL- SOIL AND ROCK	Clays & Soils	Permeability by Falling Head	IS 2720 (Part 17)
74	MECHANICAL- SOIL AND ROCK	Clays & Soils	Plastic Limit	ASTM D4318
75	MECHANICAL- SOIL AND ROCK	Clays & Soils	Plastic Limit	IS 2720 (Part 5)
76	MECHANICAL- SOIL AND ROCK	Clays & Soils	Plastic Limit	ISO 17892-12
77	MECHANICAL- SOIL AND ROCK	Clays & Soils	Shear Strength Test - Pocket Penetrometer	ASTM D4648
78	MECHANICAL- SOIL AND ROCK	Clays & Soils	Shear Strength Test - Torvane	ASTM D4648
79	MECHANICAL- SOIL AND ROCK	Clays & Soils	Shear Strength Test - Vane Shear	BS 1377 (Part 7)

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80	MECHANICAL- SOIL AND ROCK	Clays & Soils	Shear Strength Test - Vane Shear	IS 2720 (Part 30)
81	MECHANICAL- SOIL AND ROCK	Clays & Soils	Shear Strength Test -Vane Shear	ASTM D4648
82	MECHANICAL- SOIL AND ROCK	Clays & Soils	Shrinkage Limit	BS 1377-2 (Clause 6)
83	MECHANICAL- SOIL AND ROCK	Clays & Soils	Shrinkage Limit	IS 2720 (Part 6)
84	MECHANICAL- SOIL AND ROCK	Clays & Soils	Specific Gravity	ASTM D854
85	MECHANICAL- SOIL AND ROCK	Clays & Soils	Specific Gravity	IS 2720 (Part 3, Section 1)
86	MECHANICAL- SOIL AND ROCK	Clays & Soils	Specific Gravity	ISO 17892 (Part 3)
87	MECHANICAL- SOIL AND ROCK	Clays & Soils	Swelling Pressure of Soil	IS 2720 (Part 41)
88	MECHANICAL- SOIL AND ROCK	Clays & Soils	Thermal Conductivity	ASTM D5334
89	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconfined Compressive Strength	ASTM D2166
90	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconfined Compressive Strength	IS 2720 (Part 10)
91	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconfined Compressive Strength	ISO 17892 (Part 7)
92	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconsolidated Undrained Triaxial - Angle of Friction	ASTM D2850
93	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconsolidated Undrained Triaxial - Angle of Friction	IS 2720 (Part 11)
94	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconsolidated Undrained Triaxial - Angle of Friction	ISO 17892 (Part 8)
95	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconsolidated Undrained Triaxial - Cohesion	ASTM D2850
96	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconsolidated Undrained Triaxial - Cohesion	IS 2720 (Part 11)
97	MECHANICAL- SOIL AND ROCK	Clays & Soils	Unconsolidated Undrained Triaxial - Cohesion	ISO 17892 (Part 8)
98	MECHANICAL- SOIL AND ROCK	Rock	Brazilian Index	IS 10082

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99	MECHANICAL- SOIL AND ROCK	Rock	Dry Density	IS 13030
100	MECHANICAL- SOIL AND ROCK	Rock	Modulus of Elasticity	IS 9221
101	MECHANICAL- SOIL AND ROCK	Rock	Point Load Strength Index	IS 8764
102	MECHANICAL- SOIL AND ROCK	Rock	Poisson's Ratio	IS 9221
103	MECHANICAL- SOIL AND ROCK	Rock	Porosity	IS 13030
104	MECHANICAL- SOIL AND ROCK	Rock	Slake Durability Index	IS 10050
105	MECHANICAL- SOIL AND ROCK	Rock	Specific Gravity	IS 1122
106	MECHANICAL- SOIL AND ROCK	Rock	Triaxial Compression Test-UU-Angle of Friction	IS 13047
107	MECHANICAL- SOIL AND ROCK	Rock	Triaxial Compression Test-UU-Cohesion	IS 13047
108	MECHANICAL- SOIL AND ROCK	Rock	Ultrasonic Wave Velocities in Rocks - Vp	ASTM D2845
109	MECHANICAL- SOIL AND ROCK	Rock	Ultrasonic Wave Velocities in Rocks - Vs	ASTM D2845
110	MECHANICAL- SOIL AND ROCK	Rock	Unconfined Compressive Strength	IS 9143
111	MECHANICAL- SOIL AND ROCK	Rock	Water Absorption	IS 1124
112	MECHANICAL- SOIL AND ROCK	Rock	Water Content	IS 13030
113	MECHANICAL- SOIL AND ROCK	Rock/ Stone	Petrographic Analysis	BS 12407