



ACCREDITATION REQUIREMENTS OF CONSTRUCTION MATERIALS TESTING LABORATORIES

DAC-REQ-04

June 2008



CONTENTS

Foreword	3
1 Definitions	4
2 Scope.....	4
3 General Requirements.....	4
4 Specific Criteria of Competence.....	5
4.1 Requirement for Technical Competence of Staff	5
4.2 Test and Sampling Methods.....	6
4.3 Testing Equipments.....	6
4.4 Internal Quality Control.....	6
4.5 Participation in External Quality Control Schemes.....	7
4.6 Test Reports.....	7
5 Accreditation Certificate	7
6 Surveillance.....	8
6.1 Planned Announced Surveillance Visits	8
6.2 Planned Unannounced Surveillance Visits.....	8
7 Accreditation Fees.....	8
8 Other Relevant Accreditation Requirements.....	8
9 References.....	8
Annex 1 List of Test Methods for construction Materials Available for Accreditation.....	9



FOREWORD

Dubai is a rapidly expanding Emirate, and the Government places great emphasis on providing quality services. The main role of DM is to formulate the Emirate's urban strategic plans as well as the provision of essential infrastructure, environmental and health services for the continued development of Dubai as a modern, safe and dynamic Emirate. The DM, through its Dubai Accreditation Department (DAC) undertakes assessment and accreditation of various Conformity Assessment Bodies (CABs) according to International Standards, guidelines and world best practices.

The requirements for accreditation of laboratories working in the field of construction materials testing are basically the ISO/IEC 17025: 2005 as well as the criteria for performing testing according to the technical standards defined in the scope of accreditation by each laboratory.

This document DAC-Req-04 describes the requirements for accreditation of laboratories working in the field of construction materials testing under the accreditation program operated by Dubai Accreditation Department (DAC). This accreditation program is being implemented in order to provide a means of assessing and accrediting the competence of the laboratories to carry out testing and related activities as per the requirements of Dubai Accreditation Department.

This document should be read in conjunction with the International Standard ISO/IEC 17025: 2005, *General requirement for the competence of testing and calibration laboratories* and DAC document DAC-Req-01, *Accreditation requirements*.

DAC-Req-04 has been produced by DAC and reviewed by its Technical Committee for accreditation of construction Materials Testing. It shall be used for Accreditation of laboratories working in the field of construction materials testing.

While accreditation will normally be an indication of the quality and competency of services offered by the laboratories, it should not be regarded as a guarantee that the laboratories will always maintain a particular level of performance. It shall not, in any way, diminish the contractual obligation between the laboratories and its clients.

This document is subject to revision periodically when deemed necessary. It is the responsibility of the laboratories to ensure that the latest version of this document is available for reference and implementation.

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



1 DEFINITIONS

1.1 Construction Material Testing Laboratory:

Any laboratory which is performing chemical, mechanical or physical testing on construction materials such as but not limited to:

- Concrete Cubes, Blocks, Tiles or piles,
- Soil, and
- Aggregate.

1.2 (laboratory) Proficiency Testing Program:

Determination of laboratory testing performance by means of interlaboratory comparisons [ISO / IEC Guide 43-1:1997]

NOTE For the purposes of this document, the term laboratory proficiency testing means continuous schemes – where laboratories are provided with test items at regular intervals on a continuing basis.

2. SCOPE

2.1 The accreditation program shall cover the tests carried out for construction materials as given in Annex 1.

2.2 Laboratories may apply for accreditation of other tests on construction materials not listed in Annex1; however, accreditation will depend on availability of resources. Accordingly, DAC shall inform the applicant laboratory whether the test can be accredited or not. For in-house and laboratory-developed methods, the relevant clauses of ISO/IEC 17025: 2005 shall apply.

3. GENERAL REQUIREMENTS

3.1 The laboratory applying for accreditation as per this program must have a system, which includes the following as minimum:

3.1.1 Proper Documentation System of its policies, procedures and operations starting from receiving the request for test, performing contract review, performing preparatory work for testing including sampling and/or sample preparation, performing tests, recording results and up to the issuance of the final report/certificate in accordance with the documentation requirements of ISO/ IEC 17025: 2005, *General requirement for the competence of testing and calibration laboratories*, and any additional requirements set by DAC here within this document and other related documents.

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



- 3.1.2 Facilities properly equipped with the equipments and instruments appropriate for the type and range of tests under accreditation as minimum.
- 3.1.3 Employ the suitable and qualified technical and administrative staff in the laboratory, see also 4.1.
- 3.2 For commercial private laboratories the laboratory must possess a professional license from the Department of Economic Development and registered to operate in Dubai under Local Order 52/1990 and must have passed the adequacy and compliance audits as per the requirements of the local order.
- 3.3 The test methods to be accredited must be included in the official list of tests submitted by the laboratory (Local Order 52/1990 DAC Form 4).
- 3.4 The laboratory shall operate in accordance with the requirements of ISO/IEC 17025: 2005 and the relevant standard of testing methods according to which it would be accredited.
- 3.5 The laboratory shall establish and maintain a work program for its activities with a frequency suitable to its nature of work.

4. SPECIFIC CRITERIA OF COMPETENCE

4.1 Requirements for Technical Competence of Staff

- 4.1.1 The laboratory shall maintain a list of staff authorized to carry out the tests to be accredited.
- 4.1.2 The staff shall have appropriate qualification relevant to the field of construction materials testing. Supervisory positions shall have as minimum Bachelor degree of Science or Engineering, preferably in Civil Engineering or Chemical / Materials Science, as appropriate. Technicians shall have Diploma as minimum in Engineering or Science preferably in the field of Civil Technology.
Assistant technicians, who are holding high school or minimum degree, are not allowed to carry out testing. Their role is only to assist the Technicians or Engineers.
- 4.1.3 Requirements for Experience: For supervisory position minimum five years of work experience in the relevant field of testing two of which must be in Engineering and/or in managerial position. Technicians must have at least three years of work experience in the relevant field of testing. Assistant technicians shall have a minimum of one year work experience in the relevant field.

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



- 4.1.4 Training records shall be maintained for each technical staff. The training records shall show evidence that they have carried out the tests and obtained satisfactory results in dummy runs and proficiency testing. Training records shall be reviewed and updated regularly at least once every year.

4.2 Test and Sampling Methods

- 4.2.1 The tests shall be carried out in accordance with the relevant standard test methods as mentioned in clause [2.1.].
- 4.2.2 Sampling, if done by the laboratory, shall be in accordance with the relevant sampling method as provided for in the concerned test standards.

4.3 Testing Equipments

- 4.3.1 The laboratory shall have the appropriate testing equipments and instruments as specified in the relevant test method specifications/standards. The laboratory shall have a calibration and maintenance program for all major equipments and instruments to ensure their continuing reliability. All calibration shall have tracability to national and international standards.
- 4.3.2 External calibration shall be carried out at Dubai Municipality (DM) calibration laboratory or DAC- accredited calibration laboratory. In case the calibration service is not available at DM or DAC- accredited laboratory, calibration may be carried out by an accredited laboratory by an internationally recognized accreditation body, subject to the approval by DM “See *DAC Policy on Tracability of Mearsurement and Calibration of Instruments DAC-G2-04*.”
- 4.3.3 The laboratory may carry out internal calibration under the following conditions:
- The laboratory has documented internal calibration procedures;
 - The laboratory has qualified and trained technical staff for calibration;
 - The laboratory has appropriate and traceable reference standards.

4.4 Internal Quality Control

- 4.4.1 The laboratory shall carry out internal quality control (IQC) testing in accordance with an IQC plan. The IQC result acceptability criteria shall be clearly defined. Quality control data shall be analyzed and, where they are found to be outside pre-defined criteria, planned action shall be taken to correct the problem and to prevent incorrect results from being reported.
- 4.4.2 The IQC may be in one or more, or a combination of the following:
- Use of certified reference materials

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



- Use of internal or external check samples
- Replicate testing using the same of different method
- Re-testing of retained items
- Use of control charts

4.5 Participation in External Quality Control Schemes

4.5.1 Proficiency Testing Programs (PTP):

The laboratory shall participate in inter-laboratory proficiency testing program (PTP) organized by DAC or by competent PTP provider recognized by DAC and shall provide evidence that their results are within the acceptance criteria of the PTP organizer.

4.5.2 DAC defines the minimum amount of participation in proficiency testing schemes for its applicant and accredited laboratories in DAC PTPs or PT programs organized by DAC to be:

- One activity prior to gaining Accreditation
- One activity related to each sub-area of major disciplines at least every 3 years.

4.6 Test Reports

4.6.1 The accredited laboratory is entitled to use DAC Accreditation Symbol as a demonstration of the recognition of the laboratory's competence to perform the tasks defined in the scope of accreditation in accordance with the document DAC-Req-05 'Conditions for using DAC symbol'.

4.6.2 Test reports shall be in accordance with the requirements listed in ISO/IEC 17025 (clause 5.10) and reporting requirements and/or information specified in the concerned test method specifications/standards.

The format of the test reports shall be designed to accommodate each type of test carried out and to minimize the possibility of misunderstanding or misuse.

Any amendments to a test report shall meet all the requirements mentioned in ISO/IEC 17025.

5. ACCREDITATION CERTIFICATE

The Accreditation Certificate shall be valid for a period of three years. The certificate will be accompanied by a Scope of Accreditation giving details of the tests for which the laboratory has been accredited.



6. SURVEILLANCE

6.1 Planned Announced Surveillance Visits

The accredited laboratory shall be subject to planned surveillance visits that will be carried out at least once per year. The purpose of the surveillance visits is to ensure that the laboratory is continuing to comply with the accreditation program requirements. Accredited laboratories will be exempted from the regular surveillance visits done as per Local Order 52 /1990 on-licensed laboratories. However, compliance with the requirements of Local Order 52/ will be verified during the planned accreditation surveillance visits.

6.2 Planned Unannounced Surveillance Visits

Additional planned special surveillance visits may be carried out at the discretion of DAC and as the need arises without giving prior notifications to the accredited laboratory. Such visits are planned and carried out as per DAC document DAC-G2-07 *Code of Conduct of the Unannounced Surveillance Visits*.

7. ACCREDITATION FEES

The accreditation fees shall be charged in accordance with the document '*DAC-G2-03 Accreditation Fee Structure*'.

The fees are calculated based on the number of man-hours required for carrying out the accreditation assessment and other associated activities.

8. OTHER RELEVANT ACCREDITATION REQUIREMENTS

The relevant provisions of the "*Accreditation Requirements DAC-Req-01*" and *DAC-Req-05* shall apply to the accredited laboratories unless otherwise superseded by the provisions of this document.

9. REFERENCES

- 9.1 Local Order 52/1990, on conditions required for licensing laboratories operating in the emirate of Dubai
- 9.2 ISO/ IEC 17025: 2005, General requirement for the competence of testing and calibration laboratories,
- 9.3 DAC-Req-01 Accreditation Requirements
- 9.4 DAC-Req-05 Conditions for using DAC symbol
- 9.5 DAC-G2-03 'Accreditation Fee Structure'
- 9.6 DAC-G2-04 'Traceability on Measurement and Calibration of Instruments'
- 9.7 DAC- G2-07 'Code of Conduct of the Unannounced Surveillance Visits'
- 9.8 ISO/IEC Guide 43-1:1997, Proficiency testing interlaboratory comparisons – Part 1: Development and operation of proficiency testing schemes

ANNEX 1

LIST OF TEST METHODS FOR CONSTRUCTION MATERIALS AVAILABLE FOR ACCREDITATION

S.No	Type of Test	Material/ product	Test name	Standard method
1	Chemical	Aggregates	Acid soluble chlorides	BS 812: 1988 Part 117
2	Chemical	Aggregates	Acid soluble sulphates	BS 812: 1988 Part 118
3	Chemical	Aggregates	Organic impurities in fine aggregates for concrete (92)	ASTM C 40: 1992
4	Chemical	Aggregates	Chloride content of aggregates using a nitric acid extract, for aggregate containing chloride not extracted by water	BS 812: 1988 Part 117 Appendix C
5	Chemical	Aggregates	Total sulphate content by acid extraction	BS 812: 1988 Part 118 clause 6
6	Chemical	Aggregates	Acid soluble materials in fine aggregates	BS 812: 1985 Part 119
7	Mechanical and physical	Aggregates	Determination of particle size distribution (wet and dry sieving)	BS 812: 1985 Part 103 Sec 103.1 Test 7.2 & 7.3 AMD 6003-1989
8	Mechanical and physical	Aggregates	Determination of clay, silt and dust in fine or coarse aggregates	BS 812: 1975 Part 1 Test 7.2.4 AMD 6587-1991
9	Mechanical and physical	Aggregates	Determination of particle densities and water absorption of coarse and fine aggregates	BS 812: 1995 Part 2 Test 5.3, 5.4 & 5.5 AMD 9195-1996
10	Mechanical and physical	Aggregates	Determination of aggregate crushing value	BS 812: 1990 Part 110
11	Mechanical and physical	Aggregates	Determination of flakiness index of coarse aggregates	BS 812: 1989 Part 105 Sec 105.1
12	Mechanical and physical	Aggregates	Determination of elongation index of coarse aggregates	BS 812: 1990 Part 105 Sec 105.2
13	Mechanical and physical	Aggregates	Determination of ten per cent fines value of aggregates (dry and soaked)	BS 812: 1990 Part 111 Test 7.1 & 7.2
14	Mechanical and physical	Aggregates	Sand equivalent value of soils and fine aggregates	ASTM D 2419-1995
15	Mechanical and physical	Aggregates	Soundness of aggregates by the use of sodium sulfate or magnesium sulfate (90)	ASTM C 88-1990

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



S.No	Type of Test	Material/ product	Test name	Standard method
16	Mechanical and physical	Aggregates	Specific gravity and water absorption of coarse aggregates(1993)	ASTM C 127-1988 R 1993
17	Mechanical and physical	Aggregates	Specific gravity and water absorption of fine aggregates (93)	ASTM C 128-1993
18	Mechanical and physical	Aggregates	Sieve analysis of fine and coarse aggregates	ASTM C 136-1996a
19	Mechanical and physical	Aggregates	Clay lumps and friable particles in aggregates (90)	ASTM C 142-1978 R 1990
20	Mechanical and physical	Aggregates	Materials finer than 75 microns in mineral aggregates by washing	ASTM C 117-1995
21	Mechanical and physical	Aggregates	Determination of shell content in coarse aggregate	BS 812: 1985 Part 106
22	Mechanical and physical	Aggregates	Resistance to degradation of coarse aggregates by abrasion and impact in the Los Angeles machine (89)	ASTM C 131-1989 & ASTM C 535-1989
23	Mechanical and physical	Aggregates	Determination of aggregate impact value	BS 812: 1990 Part 112 AMD 8772-95
24	Mechanical and physical	Aggregates	Resistance to degradation of small size or large size coarse aggregate by abrasion and impact in the Los Angeles machine(1996)	ASTM C 131-1996 and ASTM C 535-1996
25	Mechanical and physical	Aggregates	Soundness of aggregates by the use of sodium sulfate or magnesium sulfate	ASTM C 88-1999a
26	Mechanical and physical	Aggregates	Specific gravity and water absorption of fine aggregates(1997)	ASTM C 128-1997
27	Mechanical and physical	Aggregates	Clay lumps and friable particles in aggregates	ASTM C 142-1997
28	Mechanical and physical	Aggregates	Specific gravity and water absorption of coarse aggregates (2001)	ASTM C 127-2001
29	Mechanical and physical	Aggregates	Specific gravity and water absorption of fine aggregates (2001)	ASTM C 128-2001
30	Mechanical and physical	Aggregates	Resistance to degradation of small size or large size coarse aggregate by abrasion and impact in the Los Angeles machine(2001)	ASTM C 131-2001 and ASTM C 535-2001
31	Mechanical and	Aggregates	Determination of ten per cent fines value of aggregates (dry)	BS 812: 1990 Part 111 Test 7.1

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



S.No	Type of Test	Material/ product	Test name	Standard method
	physical			
32	Thermal	Architectural Glass	Visible Light Properties (Light transmittance and Light reflectance)	EN 410:1998 Clause 4.2 & 4.3
33	Thermal	Architectural Glass	Solar Properties : Direct transmittance, Reflectance, Absorptance Total Solar energy Transmittance Shading Co-efficient	EN 410:1998 Clause 4.4
34	Thermal	Architectural Glass	Thermal Properties:U value (Watt/sq meterKelvin) Summer and winter Value	EN 673: 1997 ASHRAE
35	Chemical	Block	Chloride Content in Conc. Block	BS 1881 : P 124
36	Mechanical and physical	Carbon steel bars for reinforcement of concrete	Steel bend tests (88)	BS 4449: 1988 Appendix C, clause C.1.6.1
37	Mechanical and physical	Carbon steel bars for reinforcement of concrete	Steel tensile strength tests (97)	BS 4449: 1997 Annex E clause E.1.4 and BS EN 10002-1: 1990
38	Mechanical and physical	Carbon steel bars for reinforcement of concrete	Steel re-bend tests (97)	BS 4449: 1997 Annex E clause E.1.6
39	Chemical	Cement	CL Content of Cement	BS EN 196 : P 21 (1992)
40	Chemical	Cement	Chemical Analysis using X ray-F	BS EN 196 : P2 (1995)
41	Chemical	Concrete	Determination of chloride content in hardened concrete	BS 1881: 1988 Part 124 Cl. 10.2
42	Chemical	Concrete	Determination of sulphate content in hardened concrete	BS 1881: 1988 Part 124 Cl. 10.3
43	Chemical	Concrete	Depth of carbonation	BS 1881: 1986 Part 201 (referring to BRE IP6/81)
44	Chemical	Concrete	Electrical indication of concrete's ability to resist chloride ion penetration (ASTM)	ASTM C 1202-1997
45	Chemical	Concrete	Electrical indication of concrete's ability to resist chloride ion penetration (AASHTO)	AASHTO T 277-1993
46	Chemical	Concrete	Organic impurities in fine aggregates for concrete	ASTM C 40-1999
47	Chemical	Concrete	Type of Cement in Hard. Concrete	BS 1881 : P 125
48	Electrical	Concrete	Half-cell potentials of uncoated reinforced steel in concrete	ASTM C 876-1991
49	Mechanical and physical	Concrete	Determination of compressive strength of concrete cubes	BS 1881: 1983 Part 116 AMD 6097-89 & AMD 6720-91

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



DUBAI ACCREDITATION DEPARTMENT– DUBAI MUNICIPALITY

S.No	Type of Test	Material/ product	Test name	Standard method
50	Mechanical and physical	Concrete	Determination of compressive strength of pre-cast concrete masonry units	BS 6073:1981 Part 2 Appendix B AMD 4508-84
51	Mechanical and physical	Concrete	Determination of compressive strength of pre-cast concrete paving blocks	BS 6717: 1993 Part 1 Annex B
52	Mechanical and physical	Concrete	Determination of block density	BS 6073:1981 Part 2 Appendix C AMD 4508-84
53	Mechanical and physical	Concrete	Measurement of dimension of pre-cast concrete masonry units	BS 6073:1981 Part 1 Appendix A AMD 4462-84
54	Mechanical and physical	Concrete	Measurement of dimension of pre-cast concrete paving blocks	BS 6717: 1993 Part 1 Annex A
55	Mechanical and physical	Concrete	Determination of water permeability - old	DIN 1048: 1978 clause 4.7.5
56	Mechanical and physical	Concrete	Steel tensile strength tests	BS 4449: 1988
57	Mechanical and physical	Concrete	High strain dynamic load testing of cast-in place piles (89)	ASTM D 4945-1989
58	Mechanical and physical	Concrete	Determination of water permeability	DIN 1048: 1991 Part 5
59	Mechanical and physical	Concrete	Low strain echo response method for pile integrity testing (4)	Arab Center for Engineering Studies Method Statement MS-001 Issue 4 Rev 0
60	Mechanical and physical	Concrete	Recommendations for the determination of the initial surface absorption of concrete	BS 1881: 1996 Part 208
61	Mechanical and physical	Concrete	Method for determination of water absorption on hardened concrete	BS 1881: 1983 Part 122 AMD 6108-89
62	Mechanical and physical	Concrete	Tensile testing of metallic materials, Part 1. Method of test at ambient temperature	BS EN 10002-1: 1990
63	Mechanical and physical	Concrete	Dynamic pile testing and analysis	Institute of Civil Engineers Specifications for Piling
64	Mechanical and physical	Concrete	Low strain echo response method for pile integrity testing	Arab Center for Engineering Studies Method Statement MS-001 Issue 5 Rev 0 (13/01/01)
65	Mechanical and	Concrete	Determination of depth of penetration of water under pressure	BS EN 12390: 2000 Part 8

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



DUBAI ACCREDITATION DEPARTMENT– DUBAI MUNICIPALITY

S.No	Type of Test	Material/ product	Test name	Standard method
	physical			
66	Mechanical and physical	Concrete	Low strain integrity testing of piles	IHTP001.02 rev.00 incorporating ASTM D 5882:1996
67	Sampling	Concrete	Concrete sampling by pulverizing method	AASHTO T-260-84
68	Mechanical and physical	Concrete piles	High strain Dynamic test	ASTM D4945-00
69	Mechanical and physical	Concrete piles	Cross Hole Sonic Test	ASTM D 6760-02
70	Mechanical and physical	Concrete piles	Caliper Logging Test	ASTM D 6167-97 (2004)
71	Mechanical and physical	Concrete piles	Pile instrumentation using vibrating Wire Strain Guages	ACES Method Statement MS002, Iss.5, Rev.1
72	Mechanical and physical	Concrete piles	PS-Suspension Logger (Shear Wave Velocity)	ACES Method Statement MS003, Iss.5, Rev.0
73	Mechanical and physical	Concrete piles	Pressure Meter (Menard & High Elastometer)	ACES Method Statement MS005, Iss.5, Rev.0
74	Mechanical and physical	Concrete piles	Cone Penetration Test (Static/Electric)	BS 1377:part 9 :1990:Test 3.1 Amd 8264-95
75	Mechanical and physical	Concrete piles	Sonic pile integrity testing	AFT Method Statement PL 002 Rev2 based on ASTM D 5882-1996 and ICE Specification for Piling, 1996 - Section 9.1
76	Mechanical and physical	Concrete piles	High strain dynamic load testing of cast-in place piles	ASTM D 4945-1996 and Mukaddam Internal Method Statement Part 3 Issue 2 Rev.d: 2001
77	Chemical	Ferrous Material	Mass of Zinc Coating of ferrous Mat. (Grav. Method)	BS EN ISO 1460 (1995)
78	Chemical	Lubricating Oil	Flash & Fire Points by Cleveland Open Cup	ASTM D92 – 05 a
79	Chemical	Lubricating Oil	Pour Point of Petroleum Products	ASTM D97 : 2005a
80	Chemical	Lubricating Oil	Kinematic Viscosity & Calculation of Viscosity Index	ASTM D445 (2003)& ASTM D2270 (93) R98
81	Chemical	Lubricating Oil	Foaming Characteristics of Lubricating Oils	ASTM D892 (2003) Alternative

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



DUBAI ACCREDITATION DEPARTMENT- DUBAI MUNICIPALITY

S.No	Type of Test	Material/ product	Test name	Standard method
82	Chemical	Lubricating Oil	Apparent Viscosity of Lub. Oils between -5 & -35°C using cold cranking simulator	ASTM D 5293 (2004)
83	Chemical	Lubricating Oil	Flash Point by Pensky Marten closed cup Oils.	ASTM D93 - 02a
84	Chemical	Lubricating Oil	Sulfated Ash from Lubricating Oils & additives	ASTM D 874 (2000)
85	Chemical	Material (cement)	Cement Content of Stabilized Mat	BS 1924 : P 2 (1990)
86	Chemical	Soil	Organic Matter Content	BS 1377 : P 3 (1990) AMD 9028 : (1996)
87	Chemical	Soil	Water Soluble Chloride	BS 1377 : P 3 (1990) AMD 9028 : (1996)
88	Chemical	Soil	Acid Soluble Chloride	BS 1377 : P 3 (1990) AMD 9028 : (1996)
89	Chemical	Soil	Water Soluble Sulfate	BS 1377 : P 3 (1990) AMD 9028 : (1996)
90	Chemical	Soil	pH of Soil	BS 1377 : P 3 (1990) AMD 9028 : (1996)
91	Chemical	Soil	Carbonate Content	BS 1377 : P 3 (1990) AMD 9028 : (1996)
92	Mechanical and physical	Soil	Determination of in-situ density by sand replacement method (large and small pouring cylinder)	BS 1377: 1990 Part 9 clause 2.1 and 2.2 AMD 8264-95
93	Mechanical and physical	Soil	Determination of dry density-moisture content relationship using 4.5 kg rammer for coarse and medium gravel size particles	BS 1377: 1990 Part 4 Test 3.5 and 3.6 AMD 8259-95
94	Mechanical and physical	Soil	Determination of particle size distribution	BS 1377: 1990 Part 2 clause 9.2 and 9.3 AMD 9027-96
95	Mechanical and physical	Soil	Determination of California Bearing Ratio (CBR)	BS 1377: 1990 Part 4 Test 7.2.3.2 AMD 8259-95
96	Mechanical and physical	Soil	Method for determining point load strength	International Society for Rock Mechanics (ISRM), Suggested Method, 1985
97	Mechanical and physical	Soil	Determination of the liquid limit	BS 1377: 1990 Part 2 clause 4 AMD 9027:1996
98	Mechanical and physical	Soil	Determination of the plastic limit and plasticity index	BS 1377: 1990 Part 2 clause 5.3 and 5.4 AMD 9027:1996
99	Mechanical and physical	Soil	Field determination of water (moisture) content of soil by the calcium carbide gas pressure tester method	ASTM D 4944-1998

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



DUBAI ACCREDITATION DEPARTMENT– DUBAI MUNICIPALITY

S.No	Type of Test	Material/ product	Test name	Standard method
100	Mechanical and physical	Soil	Bearing capacity of soil for static load and spread footings	ASTM D 1194-1994
101	Mechanical and physical	Soil	Nuclear density and moisture content test	BS 1377: 1990 Part 9 clause 2.5 AMD 8264-95
102	Mechanical and physical	Soil	Determination of the liquid limit by cone penetrometer method	BS 1377: 1990 Part 2 clause 4.3 AMD 9027-96
103	Mechanical and physical	Soil	Density of Soils and Soil-aggregate in Place by Nuclear Methods(Shallow Depth)	ASTM D 2922-1996
104	Mechanical and physical	Soil	Water Content of Soil and Rock in Place by Nuclear Methods(Shallow Depth)	ASTM D 3017-1996
105	Chemical	Steel	Metals in steel	In house procedure 'analysis of Irons, Steels &Stainless Steels MC525A (5/ 2005), MC 528A (9/2004) using ASTM E 1479-99'
106	Chemical	Steel	Hot dip Galvanized Coating on Steel articles – Specifications & test method	BS EN ISO 1461 (1999)
107	Chemical	Steel	Chemical analysis of steel (Carbon, Sulphur, Phosphorus, Nitrogen, & Carbon Equivalent)	Optical emission Method (BS 4449:1998)
108	Chemical	Steel wire	Mass of Zinc Coating of Steel wire	BS 443 (82) AMD 6158 (1989)
109	Chemical	Thermal Plastic Road Marking Material	Grading of Glass Beads	BS 6088 (1981)
110	Chemical	Thermal Plastic Road Marking Material	Softening Point of T. P. R.M.M	BS 2000 : P 58 (1993)
111	Chemical	Thermal Plastic Road Marking Material	Luminance Factor of T. P. R.M.M	BS 3262 : P 1 (1989) AMD-8783 (1995)
112	Chemical	Thermal Plastic Road Marking Material	Flow Resistance of T. P. R.M.M	BS 3262 : P 1 (1989) AMD-8783 (1995)
113	Chemical	Thermal Plastic Road Marking Material	Skid Resistance of T. P. R.M.M	BS 3262 : P 1 (1989) AMD-8783 (1995)
114	Chemical	Thermal Plastic Road Marking Material	Grading of T. P. R.M.M	BS 3262 : P 1 (1989) AMD-8783 (1995)

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.



DUBAI ACCREDITATION DEPARTMENT– DUBAI MUNICIPALITY

S.No	Type of Test	Material/ product	Test name	Standard method
115	Chemical	Thermal Plastic Road Marking Material	Relative Density of T. P. R.M.M	BS 3262 : P 3 (1989)
116	Chemical	Vitreous enamel finishes	Resistance to alkali	BS 1344: 1971 Part 6 Amended 30 April 1980
117	Chemical	Vitreous enamel finishes	Resistance to citric acid at room temperature	BS 1344: 1975 Part 2
118	Chemical	Water	Total Dissolved Solids of Water	BS 1377 : P 3 (1990) AMD 9028 : (1996)
119	Chemical	Water	Chloride Content of Ground Water	BS 1377 : P 3 (1990) AMD 9028 : (1996)
120	Chemical	Water	Sulphate Content of Ground Water	BS 1377 : P 3 (1990) AMD 9028 : (1996)
121	Chemical	Water	pH of Ground Water	BS 1377 : P 3 (1990) AMD 9028 : (1996)
122	Chemical	Water	pH of Water	ASTM D1293 (1999)MA
123	Chemical	Water	Chloride Ion in Water	ASTM D512 (1989) R99, Method B
124	Chemical	Water	Sulphate Ion in Water	ASTM D516 (2002)

This is an official document of DAC; The Printed copy of this document shall be treated as 'Uncontrolled'. Always refer to the controlled version Online.