



DOHA TECHNICAL LABORATORIES



مختبرات الدوحة الفنية



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OVER VIEW

Over the past 20 years DTL has earned a reputation for delivering service excellence of all contractors, local authority & government bodies.

Constantly evolving the needs of our customers & partners play a major in dividing and shaping our services which are provided by our qualified engineers, technicians, and managers.

DTL has carried out hundreds of projects for its clients in Qatar. All our projects regardless of size, are approached with the expertise technology and equipment requirement to meet the client's needs.

Laboratory systems were divided into three sections:

- Field testing & sampling activities
- Test conducted at site laboratories
- Off-site testing at DTL Main laboratory

The scope of service of Quality Control of projects department is

- o Design and implement of Quality Control program,
- o Supply of testing equipment and management of site lab
- o On site material testing,
- o Preparing period Quality Control reports.
- o Design and implementation of quality control programs for manufacturing facilities such as
 - Asphalt production plants
 - Precast units plants
 - Blocks and tiles factory
 - Ready mix concrete plants
- Evaluate material quality.
- Prepare technical specifications for material



DTL STRUCTURE



DOHA TECHNICAL LABORATORIES

مختبرات الدوحة الفنية

Material testing

- Sampling activities & site test

- Soil/aggregate

- Concrete/cement

- Asphalt/Bitumen

- Road Marking material

- Steel

- Chemical

- Bituminous

- Microbiology

- Environmental

Geo-technical/soil investigation

- Geotechnical investigation to ascertain Subsoil conditions

- Engineering recommendations for Shallow and deep foundations

- Consultation on any geotechnical problems

- Ground water monitoring studies
Installing piezometers

- Determination of various field soil Properties like permeability, conductivity Resistivity

- investigation and analysis of slope Stability for various structures

- Field and laboratory testing

- Soil improvement techniques

- Survey

QUALITY APPROACH

Quality Assurance is a paramount importance in our day to day activities. Accordingly DTL has focused on the quality assurance and Quality control on our service, also we proudly announce that we achieved the unique status of being Independent 'material laboratory' and have been successfully obtained accreditation from IAS (International Accreditation Services) against the ISO/IEC 17025 standard "General requirement for testing laboratories".

There is big distinction between laboratory specific accreditation like ISO 17025 and a general system certification like ISO 9001 series.

A laboratory's fulfillment of the requirements of ISO/IEC 17025 – 2017 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 and calibrations. 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.

In view of the above ISO/IEC:17025 accreditation provides the customer with the high level of confidence in the laboratory's impartiality, technical competencies and technical validity of its results, as opposed to ISO:9001 which is purely system certification.



QUALITY CONTROL SYSTEM

Quality control system at DTL is comprehensive with a detailed quality policy and procedures to ensure a high standard of service safety at all times. All tests are performed according to ISO/IEC 17025 and in conformity with recognized international standards.

QUALITY POLICY

Doha Technical Laboratories has identified the following as its objectives for achieving customer confidence and satisfaction:

- a) Provide accurate and reliable test results
- b) Completion of job on time
- c) Providing test reports with information as required by standard and requested by the client
- d) Improve quality of service with possible means
- e) Assure availability of qualified, professional and properly trained staff for all the works undertaken.

Doha Technical Laboratories management is committed to good professional practice and to the quality of testing

Doha Technical Laboratories Quality Manual and its associated procedures are a documented system to implement the requirements of ISO 17025: 2017 and for continual improvement of the system.

The Laboratory ensures that all personnel are familiar themselves with the quality documentation and implement policies and procedures in their work.



SUMMARY OF THE POLICIES AND PROCEDURES & THE IMPLEMENTATION OF THE QUALITY SYSTEM AT DOHA TECHNICAL LABORATORIES

ORGANIZATION

DOHA TECHNICAL LABORATORIES is registered in the State of Qatar as provider of testing services in the fields of soil, rocks, concrete, aggregates and asphalt covering physical and chemical testing. The laboratory located in Mesaieed – Qatar, and all the tests are carried out in this facility. (Please refer the location map) The Quality assurance and implementation of the Quality Management system is the responsibility of the Quality Leader & Lab Manager. The Operation of the laboratory including the operational aspects in the responsibility of the Technical Leader/Engineer.

The Laboratory has adequate supervision, equipment and qualified personnel to carry out the tests.

MANAGEMENT SYSTEM

The Laboratory has established a Quality Management System (QMS) consisting of the Quality Manual, Standard Operation Procedures (SOP) and Forms, covering its testing activities, which satisfies the requirement of the ISO/IEC 17025: 2017 Standard.

The Quality Policy and objectives are documented and are reviewed on an annual basis.

DOCUMENT CONTROL

Responsibility for review and approval of controlled documents covering Quality Manual, Standard Operating Procedures and Quality Procedures is covered in Section 4.3 of the Quality Manual. Master lists covering the procedures and forms are maintained by the lab quality leader with assistance from the Document Controller. The review and approval of all controlled documents follow the document

control process. Approved documents are distributed in accordance to the distribution list.

The Technical Leader (with assistance from the Document Controller) is responsible for ensuring that all obsolete documents are removed from all distribution points and keeping the master copy of the obsolete documents in the obsolete document file. This process is paper based and it's the policy of the laboratory not to allow any handwritten amendments. Two master lists are maintained one for SOPs and the other for Laboratory Operating Procedures.

SUBCONTRACTING OF TESTS

The Laboratory subcontracting identified tests through other ISO 17025 accredited laboratory on customer's sample for the applicable scope of parameters.

SERVICE TO THE CUSTOMER

All feedbacks from customer are reviewed in management review meeting

COMPLAINTS

All complaints are recorded in compliant form and forward to Quality Leader who logs the complaint on a non-conformance report and follows through.

CONTROL OF RECORDS

Management system and technical system records are controlled by Quality Procedures. These records are in both in electronic and paper format. The retention times of both forms of documents (3 years for test reports) are specified.

Most of the technical records are in paper format and records from raw data to final report are identified filed under the name of the client and filed in the archive room in ascending order. For electronic records, a concern was noted that the backup of all records was stored in the same server.

INTERNAL AUDITS

Internal audit are scheduled biannually. This audit covered both quality system and test procedures. The non-conformances identified and documented the root cause, disposition of the non-conformity and follow-up has been recorded. All our internal auditors have been taken the internal auditors training course conducted by external agency.

MANAGEMENT REVIEW MEETING

Management review meetings are scheduled on a biannual basis. The suitability and effectiveness of the quality management system and the adequacy of the quality policy and objectives were reviewed during this meeting.

PERSONNEL

The laboratory is staffed by permanent personnel and it's the lab policy not to hire any contract staff. The laboratory personnel have number of years of experience in their fields of expertise. Both initial training and ongoing training are supervised by the trainer assigned by the laboratory manager. Training records are include a section of the assessment of the training.

TEST METHODS & METHOD VALIDATION

The laboratory uses only established and published test methods. The laboratory does not get involved in developing their own test methods or uses non standards methods.

The Laboratory personnel are familiar with the calculation of measurement uncertainty and have identified the factors that contribute to the uncertainty. The laboratory has developed a program for the calculation of uncertainty.

EQUIPMENTS

The equipment is the laboratory has asset numbers and in uniquely identified. Instruction Manuals, calibration certificates, identification and calibration stickers and copies of application correction factors as well as quality control charts are maintained.

MEASUREMENT TRACEABILITY

Measurement traceability was confirmed during the assessment by confirming calibration of equipment and traceability of calibration methods per the requirement of ISO/IEC 17025:2017 standards. Reference standards, certified reference materials in position of the lab have current calibration status, expiry date and certificate of analysis as appropriate and are current.

HANDLING OF TEST ITEMS

The handling of test items were reviewed for conformance with ISO/IEC 17025-2017. During the assessment, it was noted and typically, test items are identified in a clear and consistent manner allowing traceability of the test items/specimens during the extent of use in the laboratory. The sample receiving, storage and disposal areas are well marked.

ASSURING THE QUALITY OF TEST RESULTS

The laboratory has started inter laboratory comparison testing with 3 ISO/IEC accredited labs in Qatar. Examination of the results indicates that there were close agreement between the three laboratories.

REPORTING OF TEST RESULTS

Sample of test reports generated by the laboratory was examined and found to comply with the requirement of the standard

CALIBRATION OF EQUIPMENTS

Calibration of the equipment are performed through ISO 17025 accredited calibrating laboratory or internally (in-house calibration).





MAJOR LABORATORY SERVICES

All routine testing is predominantly carried out to British Standards through European & American Equivalents are also performed.

SOIL

- Particle size distribution
 - o Sieve analysis
 - o Hydrometer
- Moisture content
- Bulk and dry density
- Specific gravity
- Liquid and Plastic Limit
- Proctor compaction
 - o 2.5kg
 - o -4.5kg
- CBR
 - o Unsoaked
 - o -soaked
 - o -insitu
- Field Density Test (by using Nuclear Gauges)
- Plate Bearing Capacity
- Chemical analysis including
 - o Sulphate
 - o Chloride
 - o pH

AGGREGATE

- Sieve analysis
 - o Fine
 - o Coarse
- Fines passing No.200
- Clay, silt and dust
- Clay lumps and friable particles
- Moisture content
- Unit weight
- Specific gravity
- Water absorption
- Flakiness index
- Elongation index
- Shell content
- Organic matter
- ACV
- 10% fines
- AIV
- Los Angeles abrasion
- Potential alkali reactivity

- Soundness (Mg, Na)
- Sand equivalent
- Chemical analysis, including
 - o -Sulphate
 - o -Chloride

(CONCRETE & CEMENT (including blocks, tiles

- | | |
|-------------------------------|------------------------|
| Compression strength | -Cubes |
| | -Cylinders |
| | -Cores |
| - Indirect tensile strength | |
| - Water absorption | |
| - Initial surface absorption | |
| - Water penetration | |
| - Porosity | |
| - Chloride ion permeability | |
| - Mix design | |
| - Chemical analysis including | -Sulphate |
| | -Chloride |
| - Blocks | - Compressive strength |
| | -Density |
| - Interlocking tiles | -Water absorption |
| | -Compressive strength |
| - Terrazzo tiles | -Flexural strength |
| | -Absorption |

ASPHALT

- Sampling of bituminous material
- Sampling of Bituminous compacted bituminous mixtures
- Marshall properties
- Binder content/mix analysis (rotary extraction)
- Bulk density (asphalt/bitumen sand cores)
 - Rolling Thin film oven test for bitumen
 - Asphalt pavement density by nuclear gauge
 - Test method for penetration of bituminous materials
 - Flash and fire points of bitumen by cleveland open cup
 - Ductility of bitumen
 - Longitudinal Regularity of Asphalt Pavement by Using the Travelling Beam
- Theoretical Max specific gravity of asphalt/GMM
- Penetration of bitumen test
- Softening point for bitumen
- Coating and Stripping of bitumen aggregate mixes
- Flash and fire point of Bitumen
- Ductility + solubility, rolling thin film
- Determination of distillation of cutback bitumen
- Straight edge test
- Longitudinal regularity travelling beam



- Computing International Roughness Index of roads and longitudinal profile measurements.
- Asphalt Mix design (Marshall method)
- CORING
- All Super pave tests

(CHEMISTRY (Aggregate, Soil & Water

- pH
- Sulphate
- Chloride
- Loss on ignition
- Calcium Carbonate
- Calcium sulphate
- Sodium
- Potassium
- Complete analysis
 - concrete
 - cement
 - aggregate
 - water
 - soil
- Aggregate
- Sampling

(INSTRUMENT CHEMISTRY – (Water, Wastewater & Solids Metal determination in water, wastewater, sediment/soil and sludge

ROAD MARKINGS

- Softening point of thermo plastic material
- Binder content of thermoplastic material
- Wet film thickness by nuclear gauge
- No-pickup time of traffic point (Drying time wheel)
- Measurement of retroeffective pavement making material
- Measurement of retroeffective pavement marker (road stud) using portable retro-reflectometer
- Determination of layer thickness of road marking
- Skid resistance of pavement marking by portable

STEEL

- Determination of tensile properties of steel bar
- Bending test
- Re-bending test

ENVIRONMENTAL TESTS

- Ambient Air Quality (AQ)
- Particle method (PM-10)
- Noise level
- Water environmental

GEOTECHNICAL/SOIL INVESTIGATION

ENVIRONMENTAL STUDIES AND TESTING

- o Environmental studies and ground water surface water and soil
- o Testing of water for irrigation and drinking purposes
- o Testing of waste water quality

LAND AND MARINE SURVEYING

- o Drilling, sampling and field testing facilities
- o Drilling and sampling techniques are used including - Augur, Rotary drilling, percussion drilling, SPT sampling
- o Rock coring upto a depth of 100m is achievable using our own drill rigs
- o All drilling works are being supervised by our engineers and geologists.

GEOTECHNICAL IN-SITU TESTING AND SAMPLING

- o Static and dynamic cone penetration (CPT) tests
- o Vane shear and pocket penetrometer tests
- o Field thermal and electrical resistivity meters
- o Plate bearing tests apparatus
- o Insitu CBR testing
- o SPT samples

TOPOGRAPHICAL SURVEY

- o GPS
- o Total station
- o Radio Detectors level





RECOGNITION & CERTIFICATION

QUALITY CERTIFICATES

- ISO/IEC 17025 from International Accreditation Society (IAS), California, USA
- Certificate of conformity from Laboratory Management & Standardization Affairs, Min. of Environment
- ASHGHAL listing

Institutional Membership

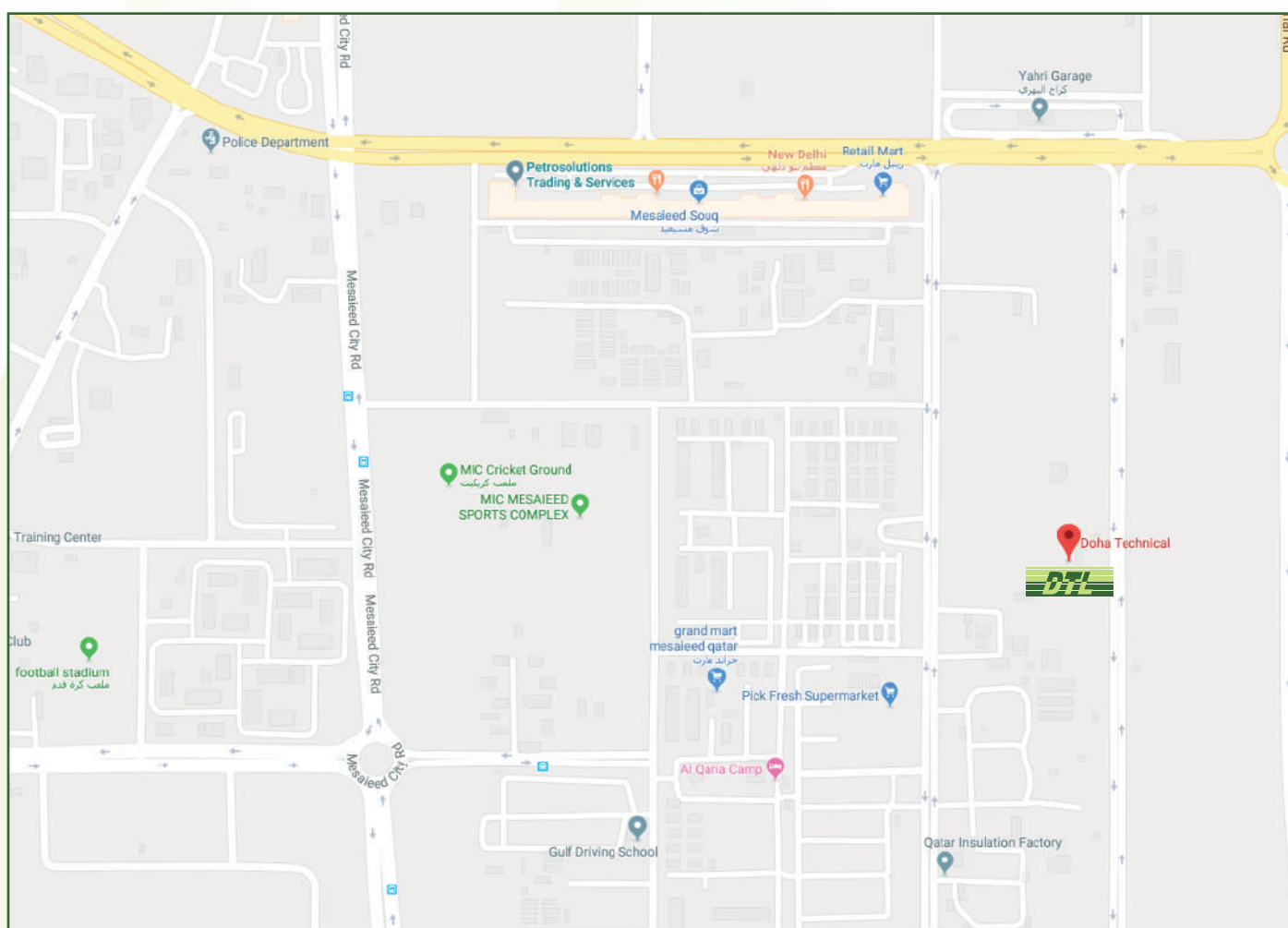
- BSI
- ASTM





DOHA TECHNICAL LABORATORIES

مختبرات الدوحة الفنية





CERTIFICATE OF ACCREDITATION

This is to attest that

DOHA TECHNICAL LABORATORIES

MESAIEED INDUSTRIAL CITY (MIC) PO BOX 40462
ZONE 92, STREET NO. 357, BUILDING NO. 62
MESAIEED, QATAR

Testing Laboratory TL-384

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2005, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation maintained on the IAS website (www.iasonline.org).

This certificate is valid up to February 1, 2021.



This accreditation certificate supersedes any IAS accreditation bearing an earlier effective date. The certificate becomes invalid upon suspension, cancellation or revocation of accreditation. See www.iasonline.org for current accreditation information, or contact IAS at 562-364-8201.



Raj Nathan
President



الهيئة العامة القطرية للمواصفات والتقاييس
Qatar General Organization for Standardization



REGISTRATION CERTIFICATE

شهادة تسجيل مختبر خاص

وفقاً للائحة الصادرة بقرار وزير البلدية والبيئة رقم (356) لسنة 2017م
According to the Ministerial Decree No. (356)/2017

No: **RL034 -19**

Date of Issue:	21/01/2020	تاريخ اصدار الشهادة:
Date of Expiry :	21/01/2021	الصلاحية حتى:
Lab Name:	Doha Technical Laboratories	اسم المختبر:
Address:	Street 357, Light Industrial Area, Mesaieed, PO Box: 40462, Doha-Qatar.	العنوان:
CR No:	43659	رقم السجل التجاري :
Scope of Registration:	Attached مرفق	مجال التسجيل:

Notes:

1. QS has no any responsibility for poor performance by this lab during the validity period.
2. This certificate will remain valid for the period specified, subject to compliance with the Technical Regulations.
3. This certificate is invalid without the attached scope of accreditation
3. It is important to apply two months before expiry date of validity for renewal of this conformity certificate.
4. The required fee for this certificate has been stated according to the decision No. (112)/2019

Recommended by:

Head of CC Section

Authorized by:

Director of Quality & Conformity Dept

Approved by:

PRESEDENT, QGOS



REGISTRATION CERTIFICATE



الهيئة العامة القطرية للمواصفات والتقييس
Qatar General Organization for Standardization



REGISTRATION CERTIFICATE

شهادة تسجيل مختبر خاص

وفقاً لللائحة الصادرة بقرار وزير البلدية والبيئة رقم (٣٥٦) لسنة ٢٠١٧م
According to the Ministerial Decree No. (356)/2017

No: **RL017 -19**

Date of Issue:	24/10/2019	تاريخ اصدار الشهادة:
Date of Expiry :	24/10/2020	الصلاحية حتى:
Lab Name:	Doha Technical Laboratories	اسم المختبر:
Address:	Street 357, Light Industrial Area, Mesaieed, PO Box: 40462, Doha-Qatar.	العنوان:
CR No:	43659	رقم السجل التجاري :
Scope of Registration:	Attached مرفق	مجال التسجيل:

Notes:

1. QS has no any responsibility for poor performance by this lab during the validity period.
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Recommended by: Head of CC Section

Authorized by: Director of Quality & Conformity Dept

Approved by: PRESIDENT, QGOS



REGISTRATION CERTIFICATE