Introduction

Our Customers are mainly contracting companies; however as a widely diverse lab, a considerable portion of our business comes from property developers, property owners, consultants, industries, government entities, oil companies etc. Our customers have selected Material Lab for our well qualified personnel, strict compliance to quality management full-service capabilities and unwavering commitment to customer’s risk in our related fields.

Material Lab was established in 1996, it was the first laboratory in the UAE to obtain ISO 9002 certification as part of S.S.Lootah Group. Today, we offer a full range of materials testing to fulfill the requirements of local, national and international industry standards.

We provide an extensive scope of testing and deliver clients with reliable and accurate services. The quality and safety of our testing services is reinforced by accreditations including ISO/IEC 17025 assessment standard, ISO 9001, ISO 14001 & OSHAS 18001.

Over recent years we have implemented (Laboratory Information Management Software) LIMS packages to ensure efficient management of test requirements and reporting.
Our Mission
- To be a reputed international company providing high quality services to industry to help them achieve best quality products.

- To be an organization, which is the first choice of customers as well as of the employees. To contribute in the development of the country. To give all staff equal opportunity to learn and develop their careers.

Our Values
- Attaining the customer's trust by maintaining the best quality and efficient service.
- Maintaining confidentiality of customer's information.
- Ensuring staff integrity.

Our Vision
- To be an international company, trusted by customers for providing high quality services and to lead the market in terms of scope of services, profitability and market share.

Our Services to Society
- **Material Lab** is always available to join any governmental and private sector organizations for R&D initiatives.
Our Construction Material testing division offers physical and mechanical analysis of a comprehensive range of materials to achieve certification by complying with current guidelines and building regulations. The testing are carried out in accordance with International Standards and specifications as defined in BS, ASTM, BS EN, AASHTO, CIRIA, DIN, ISO, local building codes and other applicable standards. Our testing capacity ranges from material sampling, basic material classification tests to advanced material mechanics testing. For larger projects, on-site testing facilities are provided for faster access to critical results.

Concrete Testing
Conducting tests on fresh and hardened concrete to ensure that desirable concrete properties are achieved. We offer testing of the physical characteristics, durability and chemical composition of hardened concrete which includes cubes, cylinders, kerbstone, masonry blocks, paving blocks & concrete cores.
Soil Testing
Provide basic classification of the soil, permeability, chemical constituency of soil including organic and inorganic pollutants to assess soil suitability for specific projects. The main tests performed in the field include compaction control tests, in-situ CBR, plate load test and soil resistivity test.

Steel Testing
Assess the structural integrity and soundness of structures and their components using destructive and NDT methods.
Specialized Testing

**Material Lab** is well known in the Middle East region for its unconventional special testing capabilities. In addition to routine construction material testing, we undertake a wide range of material testing for quality assurance, quality control, and certification purposes. The Laboratory is well equipped with highly complicated and fully computerized machines to carry out various advanced tests on various materials, some of which are listed:

- Sealants
- Paints
- PVC Water Stopper
- Ceramic Tiles
- Wood
- GRC Material
- Marble Stone
- Glass
- Geotextile
- GRP material
The Universal Testing Machine:
A testing machine that combined with the electronic technology and mechanical transmission. It has accurate load speed, range of force measurement. Has high accuracy and sensitivity for the load, displacement measurement and control, it also can be tested the constant-velocity loading, constant-velocity displacement.

Acoustic Testing
Testing the ability of a material, panel, or wall to act as a barrier preventing airborne sound transmission from one space to another is performed under rigidly established procedures set up by the American Society for Testing and Materials.
Material Lab is accredited by EIAC and approved by DCD for resistance and reaction to fire testing. We have the latest equipment and advanced facility to conduct reaction to fire tests in accordance to EN 13501-1 for material classifications from class A1 to class F, as well as resistance to fire in accordance with BS 476 Part 22, EN 1363, EN 1634, UL and various international test standards.

**The Single Burning Item (SBI)**
A method of test that determines the reaction to fire behavior of building products when exposed to the thermal attack by a single burning item.

**The Flooring Radiant Panel Test**
Evaluates the propensity of a floor system to spread fire and the smoke development when exposed to intense radiant heat from a gas-fired radiant panel.

**Non-Combustibility Test**
This test determines the temperature rise, flaming time and mass loss of specimen inserted into the furnace at 750 °C.
Fire Resistance
We have the latest 3x3 m test furnace for the fire resistance test.

Single Flame Source Test
Determining ignitability of building products in the vertical orientation, by direct small flame impingement under zero impressed irradiance.

Ignition Temperature Test
This bench scale standard is often used to measure the response of materials to heat and flame by determining the Spontaneous Ignition Temperature and the Flash Ignition Temperature of plastics using a hot-air furnace.

Some of the products that can be tested against fire resistance:
Boards, Carpets, Coatings, Coverings, Doors, Facade, Floorings, Paints, Panels, Partitions, PV cells, Vermiculux, wool, and more.
Geotechnical and Geophysical Studies

Material Lab maintains modern drilling rigs, field and laboratory testing equipment designed for all types of geotechnical investigation purposes according to the latest technologies. Equipment for geophysical studies, as well as mixers and pumps for grouting purposes, are also available at our lab. We acquire geotechnical data to prepare analytical models to achieve optimum solutions for our client’s requirements.

The geotechnical services include but not limited to the following activities:

- Onshore and Offshore geotechnical investigation
- Geotechnical studies for dams, roads, buildings and retaining structures
- Geological surveys including geological and geotechnical mapping
- Investigation, monitoring and analysis for slope stability
- Electric Cone Penetration Testing (CPTu)
- Packer Permeability Test/ Falling Head Permeability Testing
- Percolation/ Double ring infiltrometer test
- Soil Electrical Resistivity Testing
- Topographical/ Bathymetric Survey
- Acoustic Televiewer Test
- Jean Lutz Drilling Parameters
- Installation and monitoring of field geotechnical instrumentation
- Prospecting studies for mining and construction materials

Drilling rig for geotechnical investigation.
**Material Lab** is equipped to carry out offshore site investigations for projects ranging in size from small projects in shallow water to large projects in relatively deep water. This is performed using self-propelled/ self-elevated jack-up barge and drilling rigs specifically designed for this purpose. Various drilling and sampling techniques are used, including rotary conventional and wireline core drilling, hollow and solid auger drilling, percussion drilling, SPT sampling, Pitcher sampling, Shelby tube and piston sampling. Depths of up to 300m are achievable by the rigs.

**Geophysical studies**
We provide accredited geophysical testing services for sub-surface exploration in addition to traditional drilling methods.
**Environmental and Chemical Testing**

**Material Lab** operates state-of-the-art analytical instruments, tested in accordance to government, regulatory, and industry standards. It is very important to determine the hazards within our environment that can be harmful to people. **Material Lab** provides market-leading laboratory testing, and monitoring services to tests samples for tracing of chemical compounds and pollutants. Our services cover wide range of industrial companies, environmental consultants, contractors, retailers and government authorities. Our services comprise testing of water, air, soil, waste and other products to assess their quality and impact on health and the environment.

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<tr>
<th><strong>Stack Emission Monitoring</strong></th>
<th>Measure emission of industrial waste or pollutants emitted into atmosphere.</th>
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<tr>
<td><strong>Ambient Air Quality Monitoring</strong></td>
<td>Monitor the quality of air in an enclosed environment such as schools, aircraft, mosques, malls, offices, hospitals etc.</td>
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<td><strong>Noise Monitoring</strong></td>
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<td><strong>Lux level Monitoring</strong></td>
<td>Monitor light intensity to comply with CIE regulations and local authorities.</td>
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<td><strong>Water Quality Testing</strong></td>
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<td><strong>Effluent Analysis</strong></td>
<td>Testing waste water, solid waste and other industrial effluent in accordance to APHA and ISO standards.</td>
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<td><strong>Heat Stress Monitoring</strong></td>
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<tr>
<td><strong>Elemental Trace Analysis</strong></td>
<td>Trace element in water, waste water, soil, steel, sludge and pharmaceuticals</td>
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**Sludge, Residue and Unknowns Analysis**
Transformer oil Analysis
Part of cost effective maintenance program. Expert personnel for sampling and testing of transformer oil and the reports issued can be analyzed for reuse of oil.

Ambient Air Quality Test
Analytical instrument to detect chemical elements.
We undertake structural assessment to check the structural integrity and soundness of structures. Our Professional Engineers assess the structural elements for structural deficiencies and the extent of structural failures. This helps in planning and execution of necessary corrective actions that will ensure that the structure will continue to perform safely for their intended function.

To evaluate the structural integrity of structures we perform localised partially destructive tests such as concrete coring, pull-off, pull-out, half-cell potential survey tests, and more.
Non-destructive methods to partially destructive methods are used for assessment of buildings, bridges, tunnels, dams and other industrial structures.

Non-destructive Testing (NDT) consists of a variety of non-invasive inspection techniques used to evaluate material properties and components. Some of the test we offer include Rebound hammer test, Cover meter test, Ultrasonic test, Ground penetrating radar, Impact Echo test & Vibration monitoring. Long term monitoring of structures is also carried out to monitor the behaviour of structures and ensure that they comply with safety requirements. We monitor structural cracks or thermal cracks along with the width and depth measurement.