





### **METALLURGICAL**

Mechanical Testing Services Laboratory L.L.C









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### **INTRODUCTION**

Metallurgical Mechanical Testing Services Laboratory L.L.C (MMTSL) specialize in providing a comprehensive range of materials testing, consulting service to the International Standards, Infrastructure & Environmental; Oil & Gas; with Industrial sectors and other engineering sectors. It is a facility unique in Middle East, where solutions to your difficult Quality related problems in a variety of disciplines are found.

Metallurgical Mechanical Testing Services Laboratory L.L.C the best testing partner in the United Arab Emirates. Our Materials Testing Experience is Your Advantage!





### To Deliver World-Class Analytical Testing Services

Set to be a best industry standard as we cultivate a vital and growing Company. Provide solutions for industrial and environmental processes, while creating opportunity for our clients and employees. MMTSL strives to be the acknowledged leader in the material testing field.

- Better products & services
- Faster to market solutions
- Saving time & money

### OUR MISSION VALUE OF THE PROPERTY OF THE PROPE

- Leverage our superior technical expertise to produce scientifically valid data for clients on a timely and cost- effective basis.
- To exceed our customers' expectations with innovative and bespoke Assurance, Testing, Inspection services for their operations and supply chain of 24/7.
- To respond to industry needs for analytical services using creativity, flexibility, production depth and technical expertise in performing simple or complex analyses with total focus on customer satisfaction and quality workmanship.
- Empower employees with tools, training and supportive company culture to facilitate their personal and professional development.



MMTSL has been built on the core values of honesty, integrity, fairness and loyalty to customers, vendors, employees and other associates. Our corporate culture provides growth and development opportunities for all employees committed to fulfilling the Company's vision and for continuous improvement in quality, processes and instrumental capability. Further, we strive to promote.

- Our primary responsibility is to our customer that rely on our dependable services.
- An uncompromising commitment to excellence and personal service above measure.
- Our-focus: Dedication to customer service and satisfaction.
- Our greatest asset, our employees: Management commitment to value and to recognize
  this asset by investing in and supporting open communication, information sharing,
  employee involvement, empowerment and training in an environment of goodwill and trust.
- Continuous improvement: Utilize best practices to achieve greates efficiency and effectiveness.
- Professional pride of ownership: autograph your work with excellence.

### **QUALITY TRAINING**

MMTSL has a strong in-house quality training program. Continuous training is imparted to all the staff in their respective fields to meet the growing need of customers and international standards.

Our quality-training program is based on the principle of continuous improvement. Our staff is trained in various disciplines and special training is provided for specific projects when required.



### QA/QC AREAS

For any test result to be valid and reliable, careful monitoring and implementation of QA/QC procedures are required. One key element of successful quality assurance is regular participation of a laboratory in a national and/or international Proficiency Testing Program (PTP). MMTSL Dubai participates regularly in national and international PTP with most results exceeding the minimum requirements of acceptance. The strength of our QA/QC program encompass the following areas:



### PROFESSIONAL HIGHLIGHTS

- Our laboratory having Technical services, Metallurgy, Chemistry, NDT,
   Field Inspection facilities all under one roof.
- Highly Qualified and experienced professionals, Metallurgists, Chemists, QA/ QC Engineers, Welding Inspectors (CSWIP & AWS), API Inspectors (API 510, API 570, API 653, API 580), Painting/Coating Inspectors (NACE & B-Gas), Corrosion Engineers NDT Technicians, ASNT/ PCN qualified NDT Inspectors.
- Wide range of test equipment and Inspection facility.
- Supporting services like machine shop and sampling facility which are operational throughout the day (24 hours).
- Swift execution of jobs to client's requirement



### More intelligent analysis for material control SPECTROMAXx with iCAL 2.0

Manufacturing plants demand advanced elemental analysis of metals, from incoming materials to in-process testing to final inspection for outgoing quality. Speed is a vital concern. Most analyzers still require multiple standardization samples for each metal matrix. To match today's higher line speeds, processors must seek out new analyzers that greatly reduce required samples and total measurement times.

Results reliability is also critical for your success. Inconsistent analysis leads to off-spec batches and expensive rework.

Costs — particularly consumables costs — are important as well. An ideal analyzer minimizes gas consumption without sacrificing analytical performance. For over a decade, one instrument has delivered in every analytical area for metal manufacturing worldwide.

### SPECTROMAXX ARC/SPARK OPTICAL EMISSION SPECTROMETRY ANALYZER

SPECTROMAXx is likely the world's best-selling arc/spark OES instrument — with more than 13,000 installed! The new SPECTROMAXx represents the eighth generation of this industry-leading metal analyzer. With technologies adapted from SPECTRO's top-of-the-line SPECTROLAB, SPECTROMAXx delivers even faster measurement times and significant consumables savings. So it provides greater productivity, analytical performance, ease of use, and cost-effectiveness than ever before.

### **OUTSTANDING SPEED**

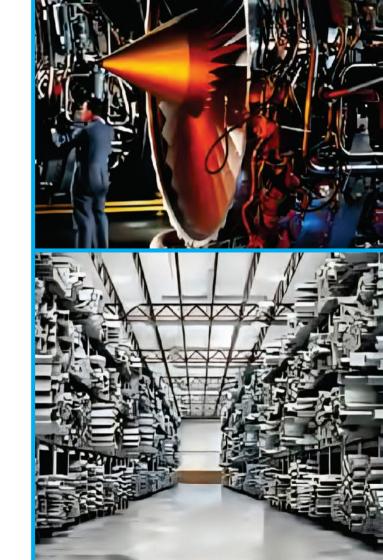
The new SPECTROMAXx analyzer achieves record-setting speed. Optimized spark parameters allow a 12% reduction in measurement times. (Example: low-alloy steel takes 3 seconds less than with previous models.) So users get ultrafast information, and can react rapidly to changing process conditions. Results: outstanding savings in both time and energy costs.

### REDUCED COSTS OF OWNERSHIP

Improvements add up. Those shorter measurement times and features such as a proven argon-saver "sleep" mode both help cut gas consumption and deliver superior cost savings. Additionally, reduced maintenance needs create higher availability, while advanced diagnostics with critical status indicators make any maintenance easier — and prevent expensive unplanned downtime.

### **LOW GAS CONSUMPTION**

SPECTROMAXx starts saving by greatly reducing a significant operational expense, compared to many previous models. It minimizes the use of costly argon gas — without sacrificing analytical performance.



### SPECTROMAXx reliability for incoming and outgoing material control

SPECTRO has always taken every opportunity to improve already excellent analytical performance. Standard samples are carefully selected and tested. Source parameters are studied and optimized. Result: reliable analytical performance that's precisely tuned for incoming and outgoing material control — today and tomorrow.

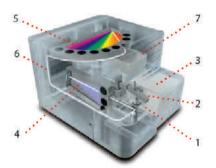
### A CHOICE OF CONFIGURATIONS

SPECTROMAXx comes in several configurations for different analytical requirements. Additionally, floor-mounted versions provide ideal operator positioning (with optional matching stand for the instrument's computer). Benchtop models combine easy operation with minimum footprint.

### **ULTRA-DEPENDABLE DESIGN**

A proven air circulation/ventilation system preserves instrument internals from contamination, and helps ensure reliable operation and accuracy.

- 1. Spark stand
- 2. Sample clamp
- 3. Excitation unit
- 4. UV optic
- 5. Air optic
- 6. Fiber optic connection
- 7. Electronics & readout







With conventional analyzers, standardization can take 30+ minutes, demand multiple samples, and require reruns whenever site conditions change. By contrast, in most cases SPECTRO's proprietary iCAL 2.0 calibration logic needs only 5 minutes and a single sample per day. Plus it automatically compensates for most changes in environmental temperature or pressure. So SPECTROMAXx delivers outstanding stability, productivity, and savings, time after time.

### THE STANDARD FOR EASE OF USE

Even for less experienced personnel, SPECTRO's SPARK ANALYZER Pro software takes effortless operation to a new level. Instead of multiple dialog boxes, a simplified operator view presents clear choices via dedicated toolbar buttons. And instead of complicated method development, application profiles are tailored to predetermined user requirements.

### THE BENCHMARK OF PERFORMANCE

Accurate results rely on precise calibration. Applying more than 40 years' experience, SPECTRO has finely tuned accuracy over successive SPECTROMAXx models, significantly improving analytical performance again and again. These improvements are documented via detailed application reports. SPECTRO also continues its investment in certified reference materials. Result: no analytical surprises.

















### **SPECTROMAXX**:

### additional advantages

### ADAPTERS FOR VARYING NEEDS

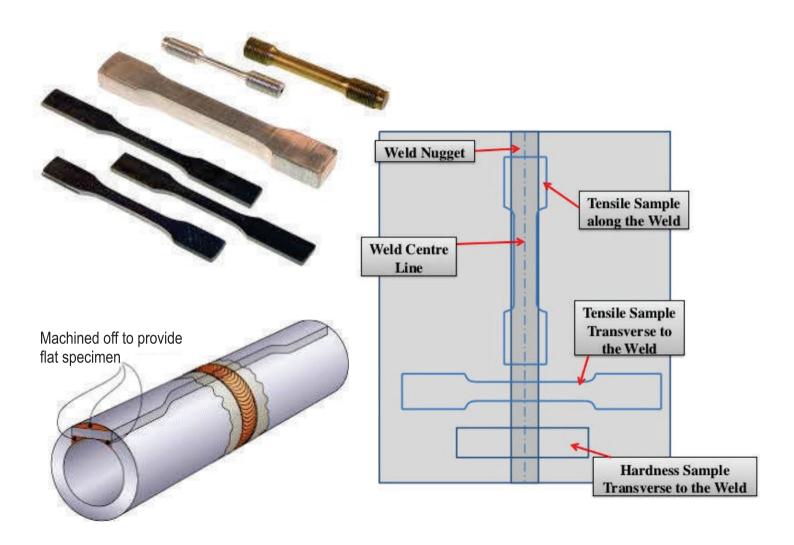
Material control presents a wide range of analysis requirements. Two specific challenges: adjusting to samples' differing shapes and sizes, and optimizing positioning on the spark stand. Fortunately, SPECTROMAXx's adapter kit offers a variety of flexible, easy-to-use solutions.

### **COMPLETE LINE OF METAL ANALYZERS**

This next-generation SPECTROMAXx model takes its place among today's most comprehensive suite of advanced stationary metal analyzers. It stands beside SPECTRO's flagship SPECTROLAB, a market leader for ultra-precise analysis, plus the entry-level SPECTROCHECK, offering high performance and dependability at a very competitive low price.

It's complemented as well by SPECTRO's mobile product line, with the SPECTROTEST mobile analyzer, the SPECTRO xSORT XRF handheld analyzer, and the SPECTROPORT portable metal analyzer.

SPECTRO's unparalleled record of technological innovation ensures that users always get the best results in the business with every instrument.



### SUPERIOR SERVICE AND SUPPORT

Managers can depend on the availability of ensured analysis to maintain the highest possible pace of productivity. So that every analyzer is ready when needed, SPECTRO offers global service and support that many other suppliers can't match, with AMECARE performance services options.

This industry-leading program fields more than 200 service engineers in 50+ countries. These high-value, customized services help deliver optimal performance and the longest possible equipment life. Users can choose proactive performance maintenance, performance upgrades, application solutions, expert consultation, and targeted training.

SPECTRO strives continuously to improve customer support, and now offers global remote monitoring via AMECARE's exclusive M2M program. This revolutionary capability — 24/7 diagnostics and alerts about critical functions — maximizes instrument availability for high-volume, high productivity analysis.

### **METALLURGICAL MECHANICAL**

### Mechanical Testing of metallic materials (Ferrous & Non-ferrous Typically based grade requirements)

In accordance with various international codes/specifications in the presence of third party/Client and interpretation of its conformity with standards, by providing data

that meets or exceeds the most exacting standards of companies, government agencies, and researchers worldwide; MMTSL provides its customers with the highest levels of quality and technical service and helped customers achieve the highest standards for product quality by providing materials testing services for:

- Failure Analysis
- Product Evaluation
- Material Selection





### **TENSILE TEST**

There are three typical definitions of tensile strength:

Yield strength – Ultimate strength & Elongation. Tensile Testing for

- 1. Raw-materials &Welded coupons (Pipes, Plate, tubes, Bolts, Beam, Angles Etc.) at Ambient & Elevated Temperature.
- 2. Hot Tensile Test Aim of this test is to determine the material properties of steel at different temperatures.
- 3. All Weld Tensile Testing
- 4. Through Thickness Tensile Testing.

### **BEND & REBEND TEST**

Bend tests deform the test material at the midpoint causing a concave on the surface or a bend to form without the occurrence of fracture and are typically performed to determine the ductility or resistance to fracture of that raw materials & Welded coupons (Pipes, Plate, tubes)

- Face Bend & Root Bend
- Side Bend
- Re-bend





### **FLATTING & FLARING TEST**

### **FLATTENING TEST**

Detect microscopic internal and external flaws. It involves compressing a tubular ring between two planes parallel to a predetermined distance.

**Purpose:** Incipient cracks and internal or external defects which occur as result of this process are not permissible.

### **FLARING TEST**

The forming behavior of tubes or pipes which is expanded to a specific degree. This flaring test is carried out in conformity with the code requirements.

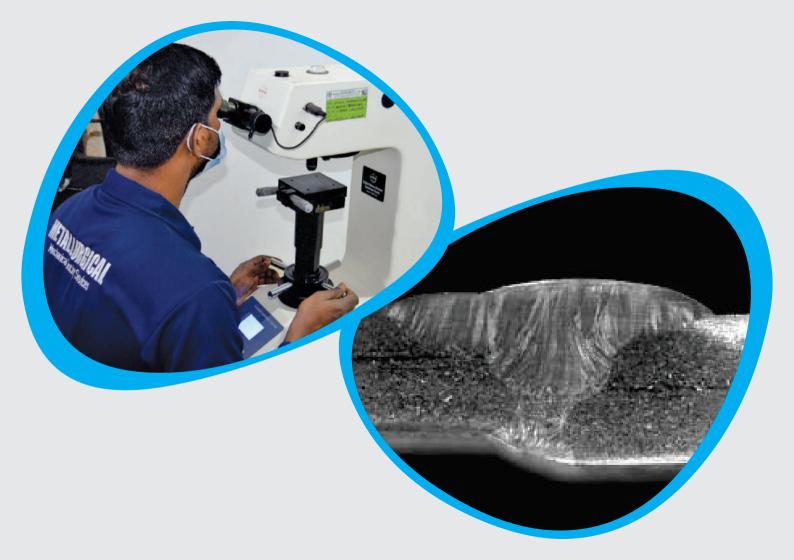
**Purpose:** The specimen to be tested is expanded in a press to the degree specified. Defects which occur as result of this process are not permissible.

### **CHARPY IMPACT TEST**

The purpose of impact testing is to measure an object's ability to resist high-rate loading. It is usually thought of in terms of two objects striking each other at high relative speeds

- Charpy Impact Testing Ambient to Minus 196 Deg Celsius
  - (i) Raw materials
  - (ii) Welded coupons
  - (iii) Weld

- (iv) Fusion Lines (FL, FL+1, FL+2, FL+5)
- (v) Heat Affected Zone
- (vi) Parent Metal



### HARDNESS TEST

Hardness testing assesses the impact of the metal or alloy to permanent indentation, and the depth or size of the indent is measured to determine a hardness value.

### **Purpose of Test:**

- (i) Raw materials & weld metals
- (ii) Macro Hardness Survey of welded coupons.
- (iii) Indentation hardness tests are used in mechanical engineering to determine the hardness of a material to deformation.

### MACRO EXAMINATION

Macro examination is principally used for checking the quality of welds. A cross section of welded material is polished and etched for examination.

### Purpose of Test:

A common macro test is weld cross section examination to reveal internal discontinuities, weld profile, weld passes and sequence, extent of penetration and the quality of weld. The macrostructural properties of a weld metal can then be used as a component of weld procedure qualification or welder qualification.

Usually, macro examinations are performed at less than 20x magnification.

### **FAILURE INVESTIGATION**

Failure analysis is the process of collecting and analyzing data to determine the cause of a failure. The failure analysis process relies on collecting failed components for subsequent examination of the cause or causes of failure using a wide array of methods, especially microscopy and spectroscopy. Nondestructive testing (NDT) methods.

Carrying out investigation & preparing analysis reports with photographic documentation, technical findings, discussion, conclusion and recommendations of materials. Hands-on experience with corrosion related failures of components from oil/gas production and refinery industries.



## METALLURGICAL EXAMINATION & EVALUATION OF METALLIC MATERIALS:

- 1. General macro examination
- 2. General microstructure of the materials
- 3. Grain size measurement
- 4. Ferrite count (manual point count method)
- 5. Inclusion count (manual microscopic method)
- 6. Determination of intermetallic phases (microscopic method)
- 7. Evaluations of HIC, SSCC, Quench cracks; Surface hardening inconsistencies; metallic, intermetallic & non metallic inclusions. Manufacturing defects such as Lap, seam, casting & forging defects other anomalies in the microstructure.





### **INSITU REPLICA METALLOGRAPHY**

### (Nondestructive metallography)

Field metallographic procedures are performed "on location" or in the "field" on components that are too large to bring to the metallographic laboratory.

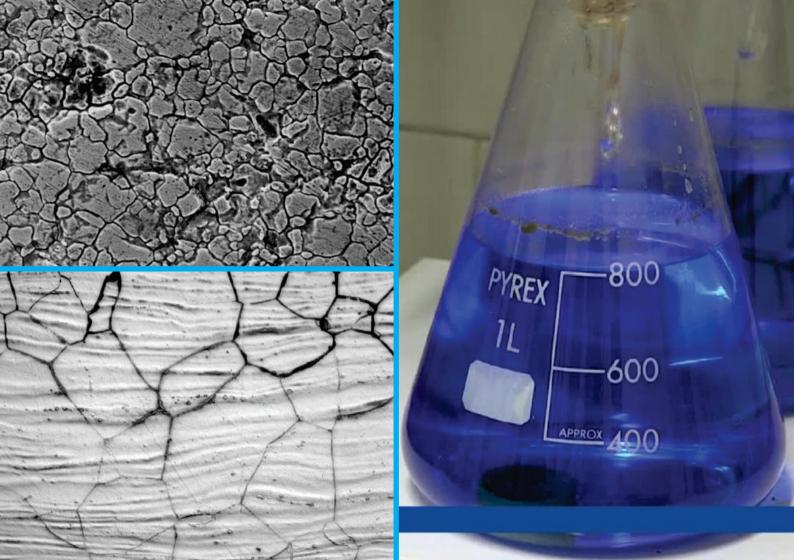
Generally, these components are still being used in service or must be returned to service and cannot be destructively sectioned or physically altered.

In situ metallographic work must be performed on-site without damaging the components. The technique and preparation were used as per ASTM E 1351 by using the portable metallographic instruments for grinding, polishing, and etching. Field metallography is also called in situ metallography, and it is sometimes called nondestructive metallography.

The Mirror finish surface by using grinding wheels, selfadhesive emery sheets, diamond paste and specialized polishing cloth. The polished area of the location was etched with suitable etchant to reveal the microstructure. A cellulose acetate replica tape was wet with high purity acetone solvent and applied firmly on the polished and etched area of the location. The replica tape was left on the surface approximately for 5 minutes and then removed and fixed in between two glass slides for subsequent examination under a metallurgical microscope.

The major application areas are **Power plants**, **Petroleum and Natural gas pipelines**, and **Welding quality** 

- Replication techniques are nondestructive.
- Replicas are ideal for both flat and curved surfaces The techniques can be applied to a wide variety of materials.
- The technique only analyzes the microstructure of the surface of a material/component



### INTERGRANULAR CORROSION TESTING

Intergranular corrosion (IGC) refers to the deterioration of materials along grain boundaries. This is caused by a process known as sensitization, which occurs when a material is exposed to higher than normal temperatures, or exposed to extreme or prolonged heat.

Unlike other types of corrosion, IGC is not always visible; therefore, testing becomes an important checkpoint for materials that may have been compromised.

Popular test methods include the Huey Test, Stretcher Test, Oxalic Acid Etch, and Strauss Test, which are performed under ASTM A262 (another similar standard is ASTM G28, which is specific to chromium alloys containing nickel). Testing helps ensure that materials, and their applications, are safe from corrosion and decay.

### PITTING & CREVICE CORROSION TESTING

If a material exhibits holes or gaps on its surface, pitting or crevice corrosion may be the culprit. Pitting corrosion is characterized by small holes on a material. Crevice corrosion, on the other hand, occurs around the gap where two materials meet.

Both types of corrosion can be difficult to detect and predict, so understanding the risk factors of corrosion and susceptibility of a material can help anticipate issues before they arise.

Test methods such as ASTM G48 induce pitting and crevice corrosion in materials to measure how difficult it is to cause pitting corrosion or crevice corrosion, and how a material performs in a controlled environment relative to other potential materials.



### CHEMICAL ANALYSIS

Chemical analysis is conducted for a wide range of purposes from material identification and characterization to quality control monitoring. In our MMTSL extensive and well equipped lab most of the testing is conducted under according to International standards. MMTSL is staffed with highly trained and experienced chemists and lab technicians skilled in providing analysis on a wide variety of material types.

### CHEMICAL ANALYSIS OF METALS & ALLOYS

Materials Analysis and Testing Spectrometers that detect the full spectrum of elements.



### SALT SPRAY TESTING

The Composite Salt Spray Tester is an important test equipment for studying various environmental adaptability and reliability of machinery, defense industry, light industry electronics, instrumentation and other industries, and is also one of the equipment for artificial climate environment test. (anti-humid heat, anti-salt spray, anti-mold.)

The test shows that cyclic corrosion is very close to outdoor corrosion in terms of corrosion rate, structure and shape, and has an excellent correlation with outdoor corrosion, which has long been included in the test category. More and more industries are going to carry out multi-step tests that combine salt spray, damp heat, and drying.

The standard salt spray tester can only perform neutral salt spray test and acid salt spray test, while the Composite Salt Spray Tester can perform multi-functional alternating cycle tests such as moist heat alternating test, salt spray and drying.

### **ELCO METER**

The Elcometer 456 Coating Thickness Gauge enhances efficiency by providing 70+ dry film thickness readings per minute (140+ per minute when using a scan probe). The Elcometer 456 mil gage has multiple calibration memories and alpha numeric batch identification.

Accuracy is key when taking coating thickness measurements, that's why the Elcometer 456 paint meter is designed to measure dry film thickness on smooth, rough, thin and curved surfaces to ±1% in accordance with National & International Standards.

The Elcometer 456 Coating Thickness Gauge stores up to 150,000 readings in 2,500 batches and has the ability to measure up to 31mm (1,220mils) of coating on metal substrates. Its USB and Bluetooth® data output make it compatible with ElcoMaster® Data Management Software for fast and accurate coating inspection reporting.



### **ELEMENTAL ANALYSIS**

Analyzing and sorting incoming material, finished goods and in-process production parts with the non-destructive XRF spectrometry. This is quickly report the elemental composition of a sample. This can measure solids, liquids, and powders wherever they are found or used. Typical applications include alloy identification and quality control, scrap metal recycling, precious metals, wear metals in oil, mining, environmental, consumer safety, food safety, and agriculture.

This analysis screens for the presence of heavy metals and other dangerous elemental pollutants in air, water and soil, as well as to analyze mineral nutrients in soils, fertilizers and plants.

This is an essential for monitoring additives and process indicators during food production, analyzing mineral nutrients in food and feed, screening for dangerous levels of toxic elements, and identifying foreign physical contaminants found in food.

### FERRITE CONTENT MEASUREMENT

Chemical, energy and processing plants are often subject to heat, aggressive media and high pressure. These circumstances demand steel with high corrosion and acid resistance that are resilient even at high temperatures. If the ferrite content is too low, then the welded material is susceptible to hot-cracking, if the ferrite content is too high, the toughness, ductility as well as the corrosion resistance of the steel are reduced. For duplex steel, a ferrite deficit in the area of the weld seam results in stress corrosion cracking and reduction in strength.

This measures the ferrite content in austenitic and duplex steel according to the magnetic induction method. All magnetisable structure sections are measured i. e., in addition to deltaferrite also strain-induced martensite, for example, or other ferritic phases.





# P-OES MACHINE

TYPE: OES, spark optical emission, CCD, UV

**DOMAIN**: for analysis, process, measurement, industrial, for the gas industry, for oil industry applications, for metal sorting, for metal analysis, for the petrochemical industry, for the automotive industry, metal machining, for quality control, for spectral analysis, for alloy identification, for spectroscopy, cost-effective, for the metallurgical industry, for metalworking, inspection.

**DETECTOR TYPE:** CCD

Flexibility combined with best possible precision: By using the latest digital detectors (CCD) which cover the entire spectral range for consequent line selection without compromises, plus high performing Photomultipliers for selected elements like Carbon that guarantee lowest detection limits and unattained performance.

# PORTABLE HARDNESS MACHINE

The NewSonic SoneDur 2 UCI Hardness Tester with Data Logger and Data Export utilizes manual or motorized probes to test the hardness of manufactured serial parts after heat treatment, welds and is used in applications after surface processing. The Sono Dur 2 makes rapid hardness measurement using a Vickers diamond is applied in manufacturing, production and quality assurance The Vickers diamonds testing pressure is digitally displayed and refreshed after each measurement.

# **MACHINE SHOP FACILITY**

- Milling Machine
- Lathe Machine
- Surface Grinding Machine
- Band Saw Machine
- Band Saw Machine (Small)
- Abrasive cut off Machine
- Cut off Machine

# CONFERENCE ROOM FACILITY

- Double Disk Polishing Machine
- V Notch Cutter
- Lift Stacker
- Manual Surface Grinder



# FROM THE DESK OF MANAGING DIRECTOR

I strongly believe that our creativity skills and behaviors can help build the future in the long run of the organization. Our success is to be ready to build new, privileged data of insight regarding current wants of the market and foresight of discovering the long-term needs of the client by developing an efficient long-term strategy and requirements.

Our commitment of services regionally, whereas anticipating to unfold globally, includes individual catalysts and specialists who proved successful in provocateur stimulus are selected to challenge and attain future expectations. Our team leaders are facilitated with the knowledge of emerging technological evolutions to break through their own filters.

# **Priya Singh**

Managing Director

# FROM THE DESK OF TECHNICAL DIRECTOR

Having 27 years' experience in QA/QC training Programme for ISO 9001, ISO 14001 & OHSAS 18001. Total quality management, growth and creativity for effectiveness, welding course and industrial safety.

M.V. JOHN

**Technical Director** 

# FROM THE DESK OF FINANCE MANAGER

Dear Customer,

It gives me immense pride to share with you the foundation of this organization in the face of the highly competitive market times that the UAE. In Laboratory industry has experienced in the past decade where quality and safety had been speculative and this is where we step in.

We are specialize in providing a comprehensive range of materials testing, product qualification testing services to the international Standards with local Infrastructure & Environmental, Oil & Gas, and Industrials sectors.

Finally, let me take this opportunity to thank you for your continued support. My team and I look forward to successfully delivering the services you have come to rely on and supporting you in the achievement of your goals.

## **Singh Ratnam**

Finance Manager

# INVOLVEMENT OF METALLURGICAL MECHANICAL TESTING SERVICES LABORATORY L.L.C

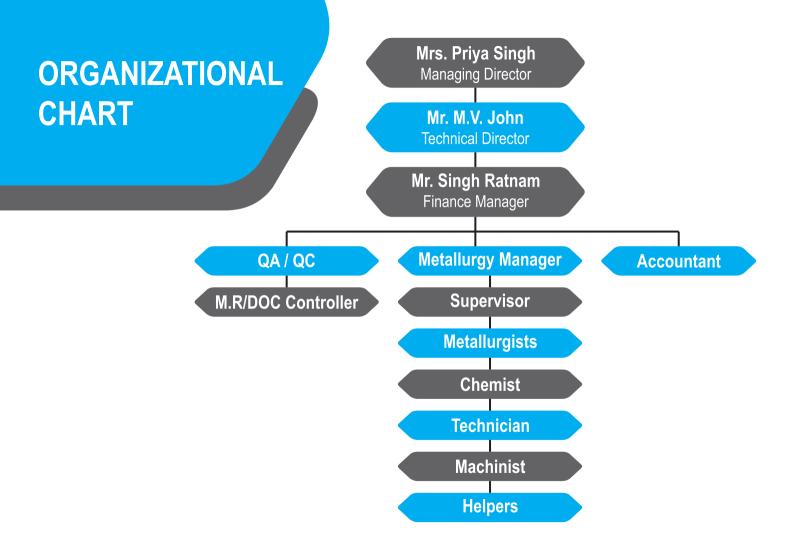
Our Managing Director with Finance Manager and myself, we have met the trade demand by establishing Metallurgical Material Testing Services Laboratory L.L.C. Dubai United Arab Emirates.

In these times, we have to face new obstacles to secure our surroundings and improve the necessity of commercial quality standards, well-being, and safety of all individuals. Being a part of the industrial analytical testing laboratories within the UAE, we offer the experience and instrumentation to support variant testing requirements-

regardless of scope, complexity or supply. Throughout the gain and knowledge over twenty-five years I had within this field, customers have benefited from our commitment to quality, quality-induced service and honest valuation.

Our team of metallurgists, chemists, engineers, machinists, certified inspectors and support personnel work along to deliver superior services, support and – affirmative – solutions for our customers. Let the qualified individuals at MMTSL collaborate to decipher your advanced issues and supply exceptional results.

**MET MANAGER** 











#### رخصة تجارية Commercial License

تفصيل الرخصة / License Details

License No.	801144	
	مختبر ميشاورجي أخدمات الفحوص الميكانيكيه شرذيرم	اسم الشركة

Company Name METALLURGICAL MECHANICAL TESTING SERVICES LABORATORY L.L.C.

رقع السجل التجاري

مغتور ميتالورجي لغدمات الفعوص الميكائيكيه شيتروه الاسم النجاري

METALLURGICAL MECHANICAL TESTING SERVICES LABORATORY L.L.C. Trade Name

1330748

Nondestructive Testing Services

Pipelines Inspection & Repairing

Chemical & Biological Laboratory

Physical & Mechanical Testing Laboratory

Environmental Testing & Inspection Services

971-4-2627117

971-4-2627117

971-50-5767343

Legal Type Limited Liability Company(LLC) ذات مطرقية معدردة الشكل الفلوتي

Issue Date **Expiry Date** 20/02/2025 تاريخ الالتهاء 21/02/2018 تاريخ الاصدار D&B D-U-N-S ® 0 الزقم العالمي Main License No. 801144 رقم الرخصة الام Register No. DCCI No. عضوية تغرقة

#### الاطراف / License Members

300524

Share / العصما Role / ideal الجلسية / Nationality Name / ルーパ قر الشقص/، No Manager / بدير India / 4 بريا راشيل سينغ 377729

PRIYA RACHEL SINGH

#### تشاط الرخصة التجارية / License Activities

ختمات المحمس اللاإثلاثي

فحص خطوط الإثنيب ومعالجتها

مغاتبر الحليل كيماوية وببولوجية

مغتبر للقحرص الميكانيكية والقيز ينتية

خدمات فحص ومراقبة البينة

#### Address / العثوان

P.O. Box 43435 صندرق يريد Parcel ID 247-227 inhill al ,

symbioticinfotechlic@gmail.com Email / البريد الإلكتروني / symbioticinfotechlic@gmail.com

مؤسسة دبي المقارية - القسيس السناعية الرابعة دير 3.2 مخرَّ ل

#### Remarks / الملحظات

رقم الإيمال

غر تسمل غريك في 23/02/2024

تر بخ الشباعة 11:38 Print Date 23/02/2024 11:38

تليفون

المصن

هاتف متحرك

15585347 يتكك الآن تجديد رخصتك النجارية بن خلال الرسال النصية الفصيرة، أرسل رقم الرخصة إلى 6969 (تو المسالات) الحصول على لان لانفع Now you can renew your trade license by sending a text message (SMS). Send your trade



Phone No

Mobile No

Fax No

license number to 6969 (Du/ Etisalat) to receive payment voucher.







#### شعادة تسجيل لضربية القيمة المضافة في الامارات العربية المتحدة Certificate of Registration for Value Added Tax in the United Arab Emirates

The Federal Tax Authority certifies that the entity below is a registered person for Value Added Tax in the UAE

تشهد الهيئة الانحادية للضرائب أن الجهة التالية مسجلة لضريبة القيمة المضافة في الامارات العربية المتحدة

الاسم الفانوني الكامل باللغة الغربية <u>مجتبر مبتالورجة لخدمات المحوص الميكانيكية</u> Full Arabic legal name شرية هره

الاسم الفانوني الكامل باللغة الانجليزية METALLURGICAL MECHANICAL TESTING

SERVICES LABORATORY L.L.C

Registered address STORE - S2, INDUSTRIAL - 4, AL - QUSAIS, العنوات المسجل

DUBAI, Dubai, United Arab Emirates, 00000,

+971504440679

رقم التسجيل الضربيي 100546598200003 Effective Registration Date 91/08/2018

فترة أول إفرار لصربية القيمة المصافة <u>O1 Aug 2018 - 30 Sep 2018 and quarterly</u>

thereafter

VAT Return due date 28 Oct 2018 تاريخ استحفاق إقرار صربية القيمة المصافة

Start and end dates of Tax periods: 1 Apr to 30 Jun, 1 Jul to 30 Sep, 1 Oct to 31

Dec, 1 Jan to 31 Mar

يرحق التأكد من ضحة تفاصل الشهادة. يجب إبلاغ الهيئة الاتحادية للمراتب في حال تغيير الاسبس التي حصلت فيها على رقم التسخيل المريبي الحاص بك.

Please check that the details on this certificate are correct. You must inform the Federal Tax Authority of any change on the basis of which you obtained your Tax Registration Number.



تاريخ الإصدار 13/08/2018 Issuing Date: 13/08/2018







#### **ACCREDITATION CERTIFICATE**

#### LB-TEST-199

#### **Emirates International Accreditation Centre**

has accredited

#### METALLURGICAL MECHANICAL TESTING SERVICES LABORATORY

Street #15, Plot #247 - 0227, Warehouse #2, Al Qusais Industrial Area #4

Al Ousais, Dubai-United Arab Emirates

In accordance with the requirements of

#### ISO/IEC 17025:2017

General requirements for the competence of testing and calibration laboratories

to undertake the tests in the attached accreditation scope

This Accreditation is invalid without the attached accreditation scope and shall remain in force within the validity

period printed below, subject to continuing compliance with the requirements of the accreditation criteria.

Validity: 23/09/2022 to 30/03/2025

Initial Accreditation Date: 31/03/2019







#### CERTIFICATE OF REGISTRATION

The Quality Management Systems of



# METALLURGICAL MECHANICAL TESTING SERVICES LABORATORY LLC

P. O. Box: 43435, Plot. No. 247-0227, Al Qusals Industrial Area 4, Dubai, United Arab Emirates

has been audited and found to conform to

ISO 9001:2015

for the following activities

Mechanical Testing, Chemical Testing, Biological Testing, Corrosion Testing, Non Destructive Testing and Inspection Services

Date of Issue: 04 August 2021

Date of Expiry: 20 June 2024

Initial Certification: 22 June 2018

Certificate No. 787261

The validity of this certificate can be verified from the following website www.gicgrp.com



Guardian Independent Certification Ltd

Registered in England
Sovereign House 213-224 Shafestory Awar a Landon England WC2H SHQ
Accordited by Member of the IAF MLA







# **MASTER LIST OF EQUIPMENT**



NO	EQUIPMENT NAME	SERIAL No	Record No M/S S.No	Trade Mark	Usage of Equipment
1	UTM Tensile Machine – MTS	51501001	0004	MTS	Tensile Testing
2	Extenso Meter – UTM Machine – MTS	10424275C	0004/01	MTS	Tensile Testing
3	Charpy Impact machine – ASTM – MTS	21501028	0005	MTS	Charpy test
4	Charpy Impact Tester – BS - FIE	05/2018-1462	0036	BDH	Charpy Test
5	Portable OES – Pasteur (Belec)	180108	0001	Belec	Chemical Analysis
6	Spectro Max LMM08 - Spectro	76004144	0053	SPECTRO	Chemical Analysis
7	PMI Machine – BCL	IF181933	0002	Bruker	Chemical Analysis PMI
8	Ferritoscope – 604 – 264 - FISCHER	100014405	0034	SIGMA	Ferrite Test
9	Ferritoscope – PROBE	0618G00013	0034 – 1	SIGMA	Ferrite test
10	Field Hardness Machine - EURO	81068515718	0014	Sonodur	Hardness Testing
11	Vik. Hardness Macro	1180601	0027	Radical	Vik. Hardness Testing
12	Rockwell hardness tester	2018/139	0037	SIGMA	Weld Piece & Material
13	Salt Spray Chamber – Huda Technology	EG231200301	0064	Huda Technology	Corrosion Test
14	Streo Zoom microscope	1180511	0028	Radical	Macro Exam testing
15	Trinocularmettinv Microscope	I180343	0029	Radical	Micro Exam Testing
16	V Notch Charpy Profile projector	1180522	0033	Radical	Sample verification
17	vernier Caliper 0 – 150 mm	22106068	0040	MITUTOYA	Measuring Device
18	Sub Zero Temperature Bath	160412607	0042	SIGMA	Charpy Test
19	Digital Thermo Hygrometer -50 TO 70 <sup>0</sup> C	TH-47633-01	0046	MITUTOYA	Temp., humid measuring device
20	Digital Thermo Hygrometer -50 TO 70 <sup>0</sup> C	30120 – 02	0016-01	MITUTOYA	Temp., humid measuring device
21	Digital Temperature Indicator	61284072		Testo	Chemical test
22	Weighing machine	JL 1502 G	0038	Mettler Toledo	Weighing machine

# **MASTER LIST OF EQUIPMENT**



NO	EQUIPMENT NAME	SERIAL No	Record No M/S S.No	Trade Mark	Usage of Equipment
23	Weighing machine - Glass	IKJV220	0044	NIKON	Weighing machine
24	Heating Mantel		MMTSL- HM-01	Adarsh	Corrosion test
25	Heating Mantel		MMTSL- HM-02	Adarsh	Corrosion test
26	Hot Plate		MMTSL -LP-01		Corrosion test
27	Charpy V notch Impact Profile	FINIKS/PP/01	0033 - 1	FINIKS	Charpy Test
28	Portable Liquid Nitrogen Container XL (BS)	80766	0036 - 1	OPSYS	Liq. Nit. Container
29	Go Gauge	9151/MTMS-DIM-04	0045	MTMS	Charpy Test
30	PH Meter	920 Precis PH/ORP meter	0051	BIOBASE	CORROSION TEST
31	Electronic Weighing Balance	571494	0052	EADWAG	CORROSION TEST
32	UPS 230 v 1	AS1752292626	0001/01	APC	Battery Charger OES
33	UPS 96 v Battery(1900*2) 1	UPC7S1802L02218	0001/02	APC	Battery Charger OES
34	UPS 96 v Battery(1900*2) 2	UPC7S1809L01446	0001/03	APC	Battery Charger OES
35	Nitrogen Tawar – ASTM Charpy	M811012TI	0005/01	Taylor	Liq. Nit. Container
36	Michellin Battery – ASTM Charpy	321705414	0005/02	Michellin	Battery Charger Charpy Machine
37	Fume Hood	FH12Z1711049P	0011	Bio Base	Corrosion Testing
38	Outside Micrometer 0 – 25 mm	67050375	0017	MITUTOYA	Measuring Device
39	Combination square set 180 Degree	SHO20811403	0018	MITUTOYA	Measuring Device
40	Dial indicator 0 to 10 mm	UUU834	0019	MITUTOYA	Measuring Device
41	Digi indicator 0 – 12.7 mm	17054307	0020	MITUTOYA	Measuring Device
42	Spring divider 200mm / 8"	30120 – 04	0021	MITUTOYA	Measuring Device
43	Portable Microscope	I 180313	0032	Radical	Micro Exam
44	Elco Meter – 456 FNF1	ZL23644	0065	Elcometer	Measuring Device

















شرکة خدمات منع التآکل (إن دي تي) NDT CORROSION CONTROL SERVICES CO.







### **METALFAB**





























هیئـــة کــهــربــاء ومیـــاه دبـــي Dubai Electricity&Water Authority











### **QUALITY POLICY**

METALLURGICAL Mechanical Testing Services Laboratory L.L.C is committed to:

- Achieve ever increasing level of customer satisfaction, Confidentiality, trust and confidence through continual improvement in Quality and performance of the Mechanical, Chemical, Corrosion, and Metallurgy & Services.
- Committed to provide good professional practice and to the Quality of its testing and calibration services to our clients.
- All personnel concern with Testing activities are familiarized themselves with Quality Documents and Procedures.
- Committed to comply with applicable laboratory standard and ISO 9001:2015 and ISO 17025: 2017.
- > Maintain a clean, and safe work environment
- Monitor, evaluate and continually improve Quality performance through assessment and audit.
- Policy will be communicated and understood within the organization and available to Public.
- > IMS Policy and Objectives will be reviewed for continuing suitability.

Approved By:

**Managing Director:** 

Toiga SU

Dated: 05-06-2023 Rev: 3









#### **MICRO TEST REPORT**

Sample Description: 12mm Thick weld Plate\*

MMTSL Equipment: M/C S# 0029 Calibration Due Date: 06/01/2025

Test Code: BS EN ISO 17639-2022

MMTSL Job #EIA 2024/02/0049

MMTSL Sample # SR 0088

MMTSL Report # SR 0088-MI

Test Date: 07/02/2024

Report Issued Date: 07/02/2024 Tested By: Ashok / Dinesh

Note: \* The information provided by Client



BM - 200X

HAZ - 200X



WELD - 200X

Designation: ISO 17639-A-E-275JR-275JR-E7018/2 % Nital

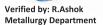
Where: Microscopic Examination

> Etched Weld F7018 Parent Metal Left S275 JR parent metal right S275 JR 2% Nital **Etachant used**

INTERPRETATION: The Microstructure shows ferrite in the matrix of pearlite. BM

HAZ The Microstructure shows complete shows fusion bewteen weld and base meta

WFLD The microstucture shows ferrite grains in the matrix of pearlite.



The results were apply only for the sample (MMTSL Sample No given) received at lab. This report shouldn't be reproduced in part or full without prior written approval of Laboratory







### **CHARPY TEST REPORT**

Sample Description: 12mm Thick weld Plate\*

MMTSL Equipment: M/C S# 0005 Calibration Due Date: 06/01/2025

Test Code: ASME SEC IX - 2023

MMTSL Job #EIA 2024/02/0049

MMTSL Sample # SR 0088

MMTSL Report # SR 0088-CIT

Test Date: 07/02/2024

Report Issued Date: 07/02/2024

Tested By: Balaprathap/Ashok

Note: \* The information provided by Client

#### CHARPY 2mm 'V' NOTCH -Radius of curvature edge 8mm

Specimen Size: 10 x 10 x 55 mm	Test Temperature: Minus 20 °C -	Specimen-1, J	Specimen-2, J	Specimen-3, J	Average J
		108.0	118.0	123.0	116



Verified by: R.Ashok Metallurgy Department The results were apply only for the sample (MMTSL Sample No given) received at lab.

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66 Our greatest asset is our employees, Management commitment to the value and recognized as asset by investing and supporting with open communication



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www.mmtsl.com



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