TRANS ASIA
Industrial Laboratories

www.transasialab.com

COMPANY INTRODUCTION

Testing | Inspection | NDT

eiaCI
مركز الإمارات العالمي للاعتماد
Emirates International Accreditation Centre
LB-TEST-225

Introduction

Trans Asia Industrial Laboratories (TIL), part of the Trans Asia Group, is a multidisciplinary testing and inspection facility delivering reliable, high-quality services aligned with international standards.

Fully equipped with advanced technology, TIL offers Physical, Mechanical, Corrosion, Metallography, Chemical, Failure Investigation, Asset Integrity Assessment, Filed Inspection, Post-Weld Heat Treatment and Non-Destructive Testing (NDT) services.

Group of Companies

TRANS ASIA Industrial Laboratories

TransAsia Inspection Laboratories LLC

APTS Advanced Q Systems

مـركـز الإمـارات الـعـالـمـي لـلاعـتـمـاد
Emirates International Accreditation Centre
IB-188

EIAC

Accreditation

Certified by EIAC (LB-TEST-225 & IB-188) under ISO/IEC 17025 and ISO/IEC 17020, TIL delivers a full range of mechanical, metallurgical, chemical, and non-destructive testing (NDT) services, supporting the oil, gas, petrochemical, and marine industries with exceptional precision, reliability, and compliance to international standards.

ADNOC

Approval

Proudly ADNOC-approved, we meet the rigorous standards of the UAE's leading energy authority – ensuring trusted, high-quality services.

STANDARD GLOBAL
SGQC
QUALITY CERTIFICATES

9001 • 14001 • 45001
ISO
SGQC CERTIFIED

IMS

System

TIL operates under a robust Integrated Management System (IMS) that aligns with the requirements of ISO 9001:2015 (Quality Management System), ISO 14001:2015 (Environmental Management System), and ISO 45001:2018 (Occupational Health and Safety Management System).

ICV
برنامج المحتوى الوطني

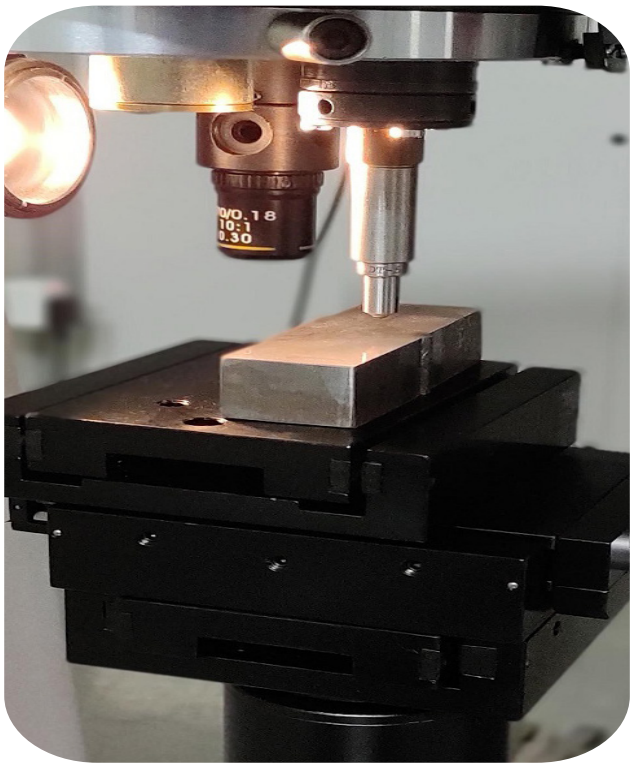
ICV

Sustainability

In-Country Value (ICV) certified under the UAE's national ICV program, demonstrating its commitment to supporting the sustainable growth.

Laboratory
Testing Services

Trust our laboratory testing to validate strength, durability, and material integrity every time - reliably and confidently.



Technical Expertise
Credibility

Equipped with advanced technology and accredited expertise, we ensure accurate results and dependable inspection outcomes across every project.

Trans Asia Industrial Laboratories

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Mechanical Testing

Strength

Delivering accurate strength evaluations to ensure material reliability and performance integrity.

Chemical Testing

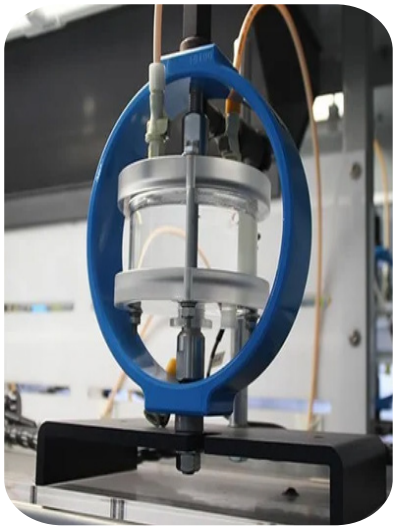
Precision

Our advanced chemical analyses provide accurate, reliable data to ensure product consistency, quality control, and compliance.

Failure Analysis

Insight

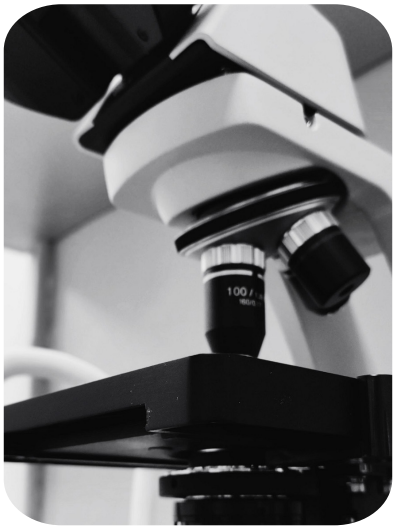
Uncovering root causes through expert investigation to enhance reliability, reduce downtime, and prevent recurring component failures.



Corrostion Testing

Protection

Evaluating corrosion resistance to safeguard materials, extend lifespan, and ensure long-term durability and safe operations.



Metallurgical Testing

Intrinsic

Measures intrinsic properties to guarantee metals maintain required strength, toughness, and durability for industrial performance.

Replica Testing

In-situ

Enables non-destructive metallography, capturing intrinsic material properties, monitoring degradation, without component removal.

Failure Analysis

Failure analysis is a multi-faceted, holistic approach to determining how and why a material or product failed. Failure analysis is a critical aspect of product development and system improvement which not only helps us learn from the past, but helps prevent future failures.

Our teams of expert metallurgists, chemists, and materials scientists are recognized as some of the most experienced in their field. They have decades of hands-on experience in performing root cause analysis for failures across many sectors, including

Aerospace,
Oil & Gas,
Steel.

The Principal Task of a failure analyst during a physical cause investigation is to identify the sequence of events involved in the failure.

The tools of failure analysis include test machines and analytical instruments and also conceptual tools. They include various pattern recognition skills (in the interpretation of macrofractographs, microfractographs, and metallographic images) and engineering and scientific knowledge based on physical metallurgy, polymer physics, solid-state physics, stress analysis, chemistry, and many other fields.

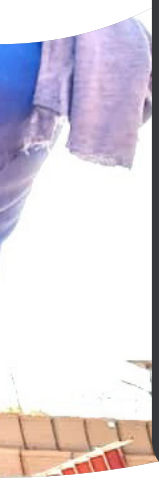
In addition, investigations of a failure employs various tests and techniques to characterize the condition of material and its properties. The process is complex, draws upon many different technical disciplines, and uses a variety of observation, inspection.

Identifying root causes of failures to enhance reliability, safety, and performance.

NDT
Solutions

Our Non-Destructive Testing (NDT) services deliver precise, reliable, and internationally compliant inspection solutions to ensure the integrity and safety of materials, components, and structures. Using advanced techniques such as PAUT, TOFD, IRIS and conventional NDT such as ultrasonic, radiographic, magnetic particle, and dye penetrant testing, we help industries detect hidden flaws without compromising performance. Our expert team ensures adherence to global quality standards, supporting clients across sectors like manufacturing, oil and gas, construction, and aerospace.

- Radiographic Testing (RT)
- Ultrasonic Testing (UT)
- Magnetic Particle Testing (MPT)
- Dye Penetrant Testing (DPT)
- Visual Inspection (VT)
- Phased Array Ultrasonic Testing (PAUT)
- TOFD and Image Analysis
- Tank Floor Inspection
- Magnetic Flux Leakage (MFL)
- IRIS Inspection
- Eddy Current Test (ECT)
- Alternating Current Field Measurement (ACFM)
- Vacuum Testing
- Ferrite Testing
- Positive Material Identification (PMI)
- Coating Thickness Measurement
- Portable Hardness Testing



Post-Weld Heat Treatment

01 About PWHT

Post-Weld Heat Treatment (PWHT) is a controlled heating and cooling process applied to welded components after welding is completed. Its main purpose is to reduce residual stresses, improve mechanical properties, and enhance the overall performance of the welded structure.

02 Purpse of PWHT

When metal is welded, intense localized heat causes rapid expansion and contraction, leading to the formation of internal stresses, hard microstructures, and potential brittleness in the HAZ. If left untreated, these can result in cracking, distortion, or premature failure.

03 Need of PWHT

A vital part of ensuring the strength, safety, and reliability of welded components, especially in demanding environments. It's typically required when the welding process introduces high residual stresses or when metallurgical properties must be precisely controlled to meet performance or code requirements.

At the heart of every strong weld lies the science of precision – and that's exactly what Post-Weld Heat Treatment delivers. PWHT is a vital process designed to relieve stresses, restore strength, and ensure the long-term reliability of welded components.

If your welds face high stress, heat, or critical service, PWHT is the key to keeping them strong, stable, and compliant.

Every degree counts.

This process helps:

- Relieve residual stresses induced by welding.
- Reduce hardness and brittleness, improving toughness and ductility.
- Enhance dimensional stability and minimize distortion.
- Restore corrosion resistance in certain alloys.

Typical cycle for Carbon Steel:

- Temp.: 590°C to 675°C
- Heating Rate: 220°C/Hour
- Soaking Time: 1 Hour/inch of thickness
- Cooling: Controlled as per code

Parameters

PWHT parameters (temperature, holding time, and cooling rate) depend on factors like the base metal type, thickness, welding process, and code or standard (such as ASME, API, or ISO).

Application

PWHT is essential for ensuring long-term reliability and safety of critical welded structures—particularly in industries like oil and gas, power generation, pressure vessel fabrication, and heavy engineering.

Field Inspection

Our field teams combine advanced technology, certified expertise, and industry best practices to help clients in oil & gas, power, petrochemical, and industrial sectors maintain operational excellence. Our Core Services Include:

- *Plant and Pipeline Integrity Surveys* – Assessing asset condition to ensure safety and reliability.
- *Shutdown and Turnaround Inspections* – Fast, accurate inspections to minimize downtime.
- *In-Service Inspection / Condition Monitoring* – Monitoring equipment performance to prevent failures.
- *Fitness for Service Assessment (API 579)* – Evaluating equipment for safe continued operation.

- *Welding Inspection* – Ensuring weld quality and compliance with standards.
- *Painting & Coating Inspection* – Verifying coating integrity for corrosion protection.
- *Tank Inspection (API 653)* – Assessing tank integrity and regulatory compliance.

- *Piping Inspection (API 510)* – Inspecting piping systems for safety and performance.
- *Pressure Vessel Inspection (API 570)* – Ensuring pressure vessels meet operational standards.
- *Welder Qualification Tests* – Certifying welders and validating procedures.
- *Level III Consultancy Services* – Expert support for NDT compliance.

- *Supply of Painting & Coating Inspectors* – Providing certified inspectors for coating projects.
- *Supply of QA/QC Inspectors* – Supplying qualified personnel for quality assurance activities.

Our Clients

We serve our clients with precision, integrity, and timely solutions, ensuring reliable testing, accurate results, and exceptional service quality that consistently meet their expectations and earn their long-term satisfaction and trust.

Clients trust us because, we deliver—precision, quality and reliability. Zero coffee spills guaranteed!


Drydocks World
ديوا
dewa
أدنوك
ADNOC
BUREAU VERITAS
1828
BUREAU
VERITAS
RTA
هيئة الطرق والمواصلات
ROADS & TRANSPORT AUTHORITY
SAIPEM
DOLPHIN ENERGY
Positive Energy.
دولفين للطاقة
طاقة بنّاءة
ALEC
Building Excellence
GERAB
MCDERMOTT
DNV
T&C GROUP
TROUVAY & CAUVIN
Channelling all energies
TÜV SÜD
Baker Hughes
Mabani STEEL
LRQA
CSCEC
FABTECH
PETRONASH
Creating Value for Operators
BESIX
شركة نفط الكويت
Kuwait Oil Company
إحدى شركات مؤسسة البترول الكويتية
A Subsidiary of Kuwait Petroleum Corporation
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ADYARD
ALTRAD
DRILLTECH
Lamprell
PETRO GAS PIPING

TRANS ASIA
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Precision Quality

Reliability

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