

MECHANICAL & METALLURGICAL SERVICE

Aries Mechanical Testing Lab is a reliable & quality testing service provider from the Middle east with an excellent track record in major Industrial, Marine , Oil & gas projects.

We are specialized in destructive testing's and metallurgical studies as per ASTM , BSEN-ISO , API, NACE , ASME , AWS standards and ABS, BV, LR, RINA, Tasneef, DNV-GL marine classification rules.

Our testing services pre- qualified and approved under major Industrial , Marine , Oil & Gas companies.

We provide Accredited & Non accredited services based on customer requirements .

Aries Mechanical Testing Lab is accredited under ISO/IEC 17025 for the specified scopes

MECHANICAL TESTING

Mechanical testing reveals the plastic & elastic properties of the metals under appropriate loading conditions.

We provide the values of mechanical properties like Tensile Strength, Yield Strength, % Elongation, Hardness, Fracture Toughness, Impact Energy etc. at different ambient conditions.

CHEMICAL COMPOSITION ANALYSIS

We use Optical Emission Spectrometry to identify the chemical composition of the materials from Low alloy steel, Cast Irons, Stainless Steels, Tools steel , Ni Steel, Weld filler wire and electrodes.

Our specialized service includes Onsite material (Chemical) composition analysis with portable 'PMI' and OES enabling rapid analysis and quick verification onsite. All elements including C, P, S, Ca, Mo, Ni, Cr etc can be precisely analyzed at various conditions.

The chemical analysis of pipes, plates, rods, valves, hardware, storage tank, turbines, pressure vessels, generator, spare parts etc. can be done at site very easily.

METALLURGY

Our metallurgical service includes In situ replica metallography, Failure analysis, Micro analysis, Macro analysis and Corrosion analysis.

Microstructures, ASTM Grain size number, Ferrite count, Phase identification and quantification.

IN SITU REPLICA METALLOGRAPHY

In situ metallography or replica metallography is advanced NDT technique used to analysis the microstructure of the servicing part and understanding the stage microstructural degradation, micro crack, micro fissure, integrity of the structure

Boiler, pressure vessels, process control units in petrochemical industries are the best example where In situ metallography can be applied. It can be used for analysis of creep property, remaining life analysis, fitness for services etc

METALLURGICAL FAILURE ANALYSIS

We provides metallurgical failure analysis. This analysis includes series of mechanical and metallurgical testing which will lead to find the root cause of failure.

Main Metallurgical failure analysis benefits to diversified industries like marine, production, oil and gas, chemical industries, etc. It helps to find improper material selection, quality of material, improper service condition, mode of failure, environmental effect on the material etc

Identification of microstructure, chemical composition, mode of crack and its propagation also helps to reach the root cause of failure..

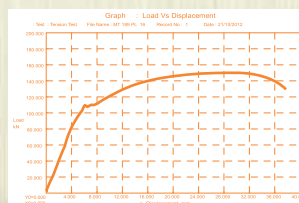
CORROSION TEST

Corrosion is the most common and costly failure mode impacting engineered and structural materials. Intergranular corrosion Testing (IGCT) & Pitting corrosion tests helps to assess the susceptibility of alloys on corrosion environment. We can provide corrosion rates, weight loss and micro structural effects due to corrosion

LIST OF SERVICES

Our experts in Mechanical & Metallurgical team can conduct following test for Metals, Alloys & Welded samples (PQR Test coupons)

- Tensile Test
- Charpy Impact Test
- Bend Test
- Vickers Hardness
- Brinell Hardness
- Fracture Test
- Flattering Test
- Nick Break Test
- Macro Examination
- Micro Examination
- Pitting Corrosion
- Residual stress analysis
- Creep analysis
- Wear metal analysis
- Compound analysis
- Contaminant metal identification
- Multi -Source metal analysis
- Additive metals analysis
- Fluid properties
- Chemical Composition Analysis (OES)
- Intergranular Corrosion Testing
- ASTM Grain Size Measurement
- Product Analysis
- Ferrite Count
- HIC, SSC test
- In situ Replica Metallography
- Surface Roughness Test
- Angularity and Perpendicularity measurements



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Time is money... We count even seconds.