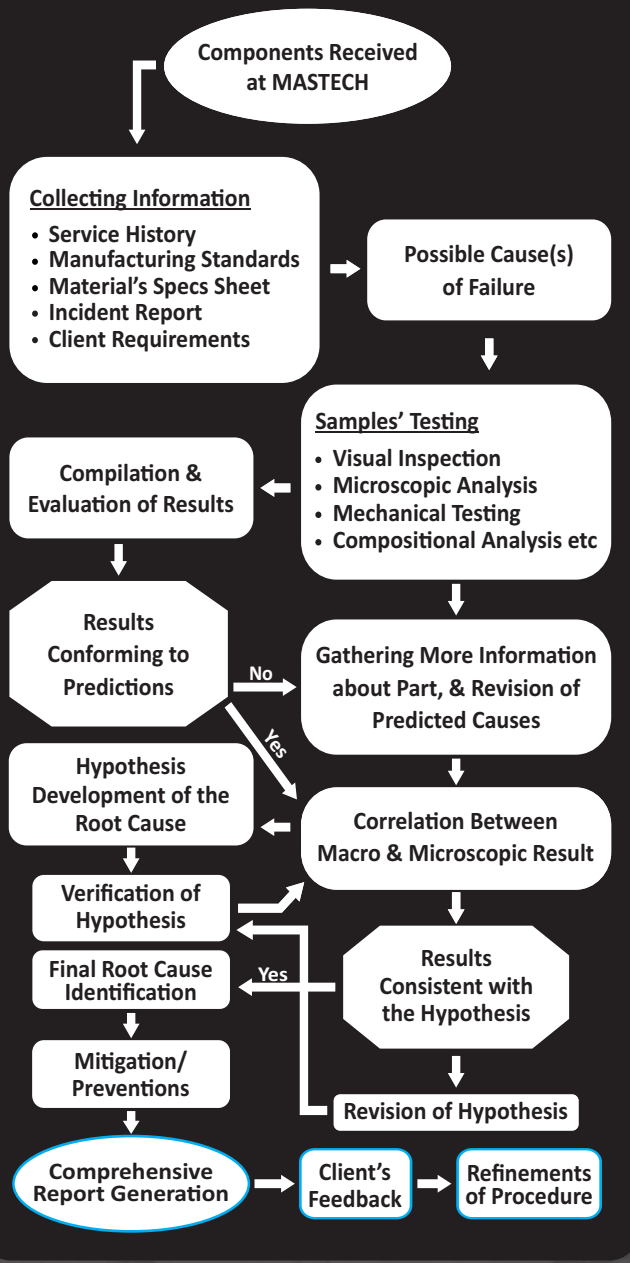
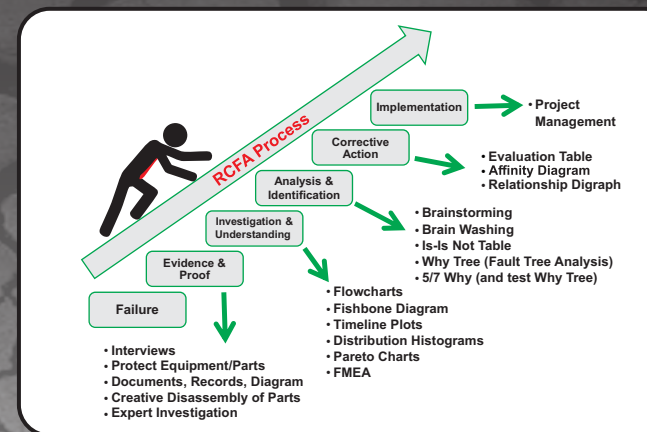


Failure Analysis Flow Chart



What We Do

Mode How the Component failed 	Mechanism Physical Phenomena Causing Failure 
Site Identifying where the failure initiated 	Root Cause Why the Failure Occurred 
Preventions How to avoid it in future 	FFS Fitness for Service 
Training Educate Others 	RLA Remaining Life Assessment 



Route Map



Materials Analysis Services & Technology (Pvt) Ltd.

Contact Us

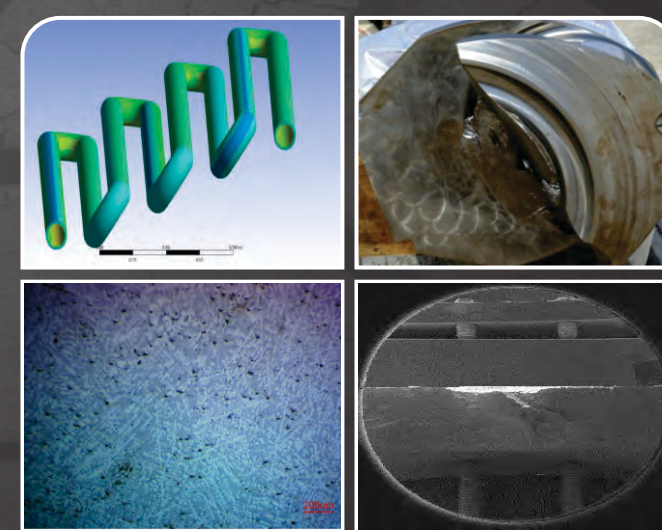
- 051-2742467
- Info@mastechpvt.com
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Materials Analysis Services & Technology (Pvt) Ltd.

YOUR PARTNER IN PREVENTING FAILURE



www.mastechpvt.com

Introduction

Materials Analysis Services and Technology (MASTECH) is a facility offering comprehensive materials advisory services along with the advance technologies to variety of industries.

MASTECH offers a wide range of Material Analysis (MA), Failure Analysis (FA), In-situ Replica Metallography, Material Advisory and Consultancy services. The technology services include installation, commissioning and maintenance services of electron microscopes and other equipment. The team of experts at MASTECH includes foreign qualified and highly experienced experts renowned for our expertise in the field of metallurgy and failure analysis in particular.

We believe in delighting our valued customers all the way by offering one window, customized, cost effective, comprehensive and wide ranging authentic solutions as per the specific needs pertaining to all issues /matters related to metallurgy.

MASTECH expects high quality and timely delivered services shall be instrumental in establishing long term relations with valued customers for mutual benefit.

Using state of the art microscopy and material testing equipment, MASTECH offers analysis services in a vast area that includes:

- Industrial fatigue damage;
- Manufacturing related defects;
- Aerospace/Automotive component failures;
- Environmentally assisted damage;
- Materials and manufacturing process flaws.

MASTECH deals case to case on a more than regular basis with various prestigious organizations comprising of both private and public industry from large multinational corporations to small scale businesses. Additionally, MASTECH also regularly organizes and conducts Short Courses, Seminars and Workshops under Training Programs for different organizations.

Detailed material testing and Root Cause Failure Analysis (RCFA) is our core area of expertise for industrial/automotive components. MASTECH has the expertise and the capacity to cater clients' needs pertaining to all such matters

Our Clients

With our expertise in the Military Aviation industry, we are well placed to serve all industrial sectors ranging from automotive, rail, marine, construction, mining and oil & gas, etc. MASTECH is mainly providing materials analysis and technology services to following industries:

- Oil and Gas Industries
- Chemical and Fertilizer Industries
- Civil and Military Aviation Organizations
- Mechanical Fabrication/Erection Companies
- Strategic Organizations
- Academic Institutions

Services

Materials Analysis

We use a wide range of materials analysis techniques to ensure the quality of a product. Techniques include chemical composition analysis, hardness testing, mechanical testing, XRD-Analysis, and NDTs.

Failure Analysis

We identify the possible cause of failure by root causes failure analysis (RCFA). Setting up the benchmark for process optimization. A 100 percent unbiased mind is always required in RCFA.

Fitness for Service Assessment

A quantitative measurement demonstrates the integrity of in-service components, which may contain some flaws. Fitness for service assessment of piping & pressure systems is usually in command to facilitate the client in decision making for life extension or replacement of component.

Remaining Life Assessment (RLA)

Different approaches are required to assess remaining life of industrial components. One of the best techniques that we are following is based on the creep/fatigue damage assessment.

Reverse Engineering

We extract design information of aircraft, machines, architectural components and other products by deconstructing them to develop production processes. Reverse engineering plays an important role in redesigning the components.

NDTs

Testing of metallic and composite materials such as plates, sheets, pipes, and vessels by different nondestructive testing techniques such as ET, PT, MT, RT, UT, and VT are offered to our clients at on-site as well as in laboratory.

On-Site Inspection (Replica Metallography)

MASTECH has acquired inland expertise for In-situ Replica Metallography to identify damages, fitness for service and remaining life assessment of plant and equipment.

Risk-Based Inspection (RBA)

Our risk based inspection service enables our valued customers to balance inspection costs and risk by using appropriate technology and software for inspection and maintenance planning.

Structural Integrity Assessment

We conduct detailed design analysis to assess the health of industrial structures and embrittlement, etc.

Material Characterization:

As part of our materials testing services, MASTECH provides advanced material characterization service to assist our clients in all stages of metals processing and product development.

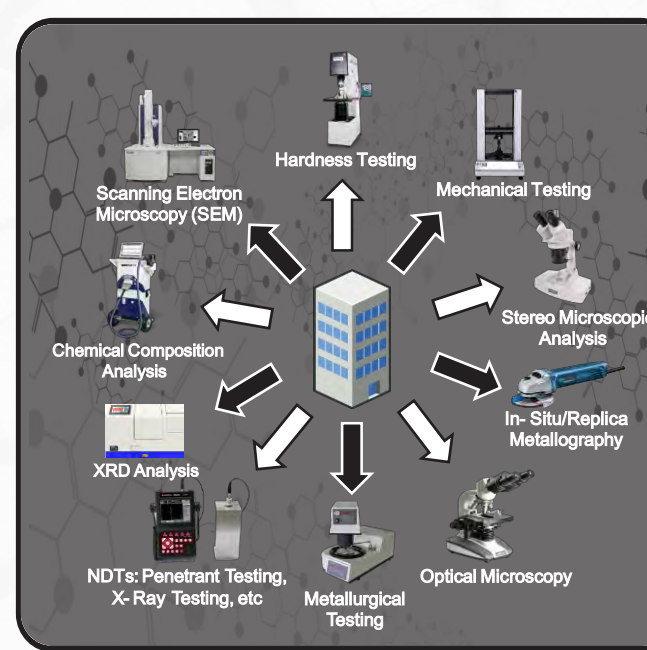
Design/CFD Analysis:

The team of experts on the panel of MASTECH assists our clients in aerodynamic Design analysis and FE analysis of structures.

Training




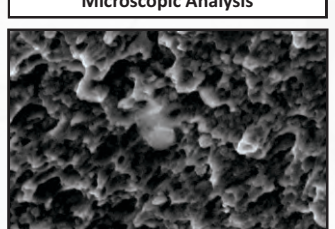
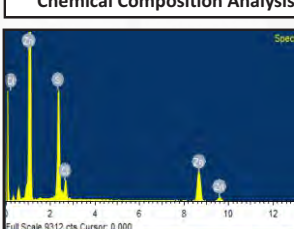
We conduct short courses, workshops, and seminars on Failure Analysis, DTA, Material Characterization Techniques, Corrosion Prevention etc and also specialized training on Electron Microscopes.

Testing Services



Comprehensive Materials & Structural Analysis

A systematic examination of failed parts to determine what led to failure and how to prevent in future.

Failure Event Condition	Macroscopic Analysis	Microstructural Analysis
		
Microscopic Analysis	Chemical Composition Analysis	
		

Technology Services

