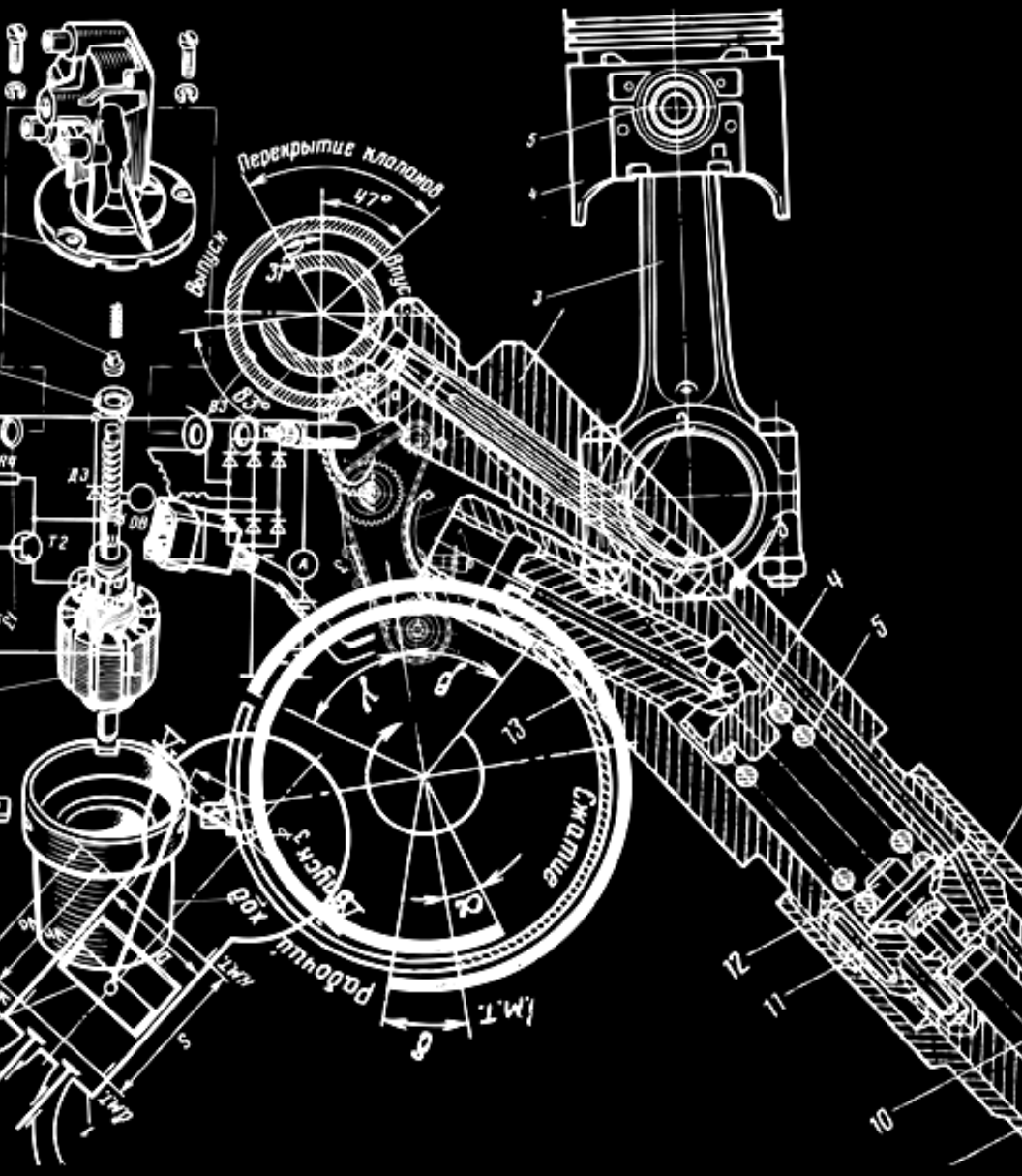


VM

VIRTUE META-SOL

MATERIAL SOLUTIONS

INTRODUCTION

Virtue Meta-sol is an ISO 9001:2015 and ISO 17025:2017 (NABL) accredited proprietorship firm. It has been found to provide material solution for any industry facing a technical problem with reliable, affordable and accurate testing services.

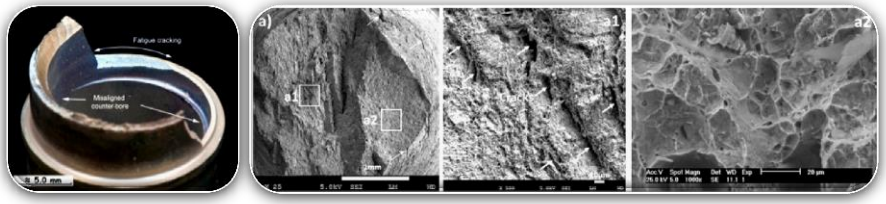
MATERIAL SOLUTIONS

The primary objective of the Virtue Meta-sol is to understand the industry problems, understand where the customer is facing a problem. We wish to solve your problem through which you increase the profitability, reduce down time, and increase the durability. The industry is requested to bring their problem so that a suitable solution can be offered for solving metallurgical, material and process problems faced. **"The key to the successful solution of most materials problems is close interaction between the appropriate engineers, materials scientists, and analytical specialists".**

FAILURE INVESTIGATION

Analyzing Failures is a critical process in determining the physical root causes of problems. The process is complex, draws upon many different technical disciplines, and uses a variety of observation, inspection, and laboratory techniques. We document the root cause which gives authenticated relation to the background information provided. Corrective and preventive actions are also documented as recommendations.

Analysis: Scanning Electron microscopy (SEM), Energy Dispersive X-Ray spectroscopy, X-Ray Diffraction, Metallography plays a major role.



REVERSE ENGINEERING

Reverse engineering at virtue meta-sol will first analyze the application and prepare a model of its intent. Un-like software simulations virtue meta-sol includes material identifications, metallurgical treatments, machining procedures, identification surface coating along with 3D mapping, CAD designing, completes information with which the product can be remanufactured with an ease.

Inspection services

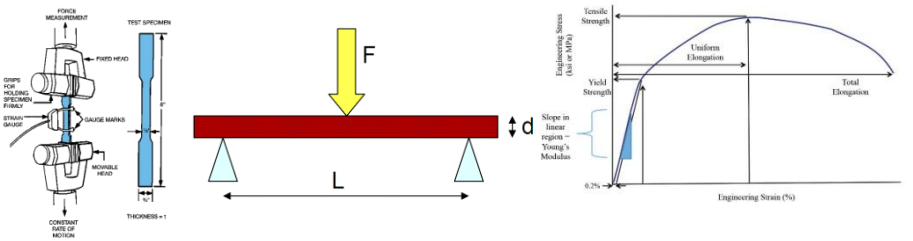
Our Inspection services provide virtual support for your products and process. Our virtual support minimizes the risk as well as gives solution for defective products by ensuring they meet the Quality Assurance Plan.

MATERIAL TESTING SERVICES

MECHANICAL TESTING

The mechanical behavior of materials is described by their deformation and fracture characteristics under applied tensile, compressive, or multi-axial stresses. Determination of this mechanical behavior is influenced by several factors that include metallurgical/material variables, test methods, and the nature of the applied stresses.

Tensile and Compressive Loads: Tension, Compression, Bend, Shear, Flexural, Modulus of rupture, Poison's Ratio, Modulus of elasticity.
Hardness: Micro and Macro Vicker's Test, Brinell Test, Rockwell A, B, C, Shore A&D.
Surface Testing: Friction, Wear, Adhesion, Corrosion.
Toughness: Impact Testing.



Materials we test: Metals, Non-Metals, Polymers, Composites, and Ceramics.
Equipments: FIE UTE HGFL 400kN, Epsilon Extensometer 3542, FIE hardness machines, Mitutoyo surface roughness and measurement tools.

METALLURGICAL TESTING

Metallography is the scientific discipline of examining and determining the constitution and the underlying structure of the constituents in metals, alloys and materials.

Metallurgy and Microstructure: Grain size, Case depth, NMIR, Coating Thickness, IGC, Micro and Macro, Welding defects, etc.
Components: Casting, Forging, Rolling, Welding, Brazing, Powder Metallurgy, Coatings, Heat treatment.

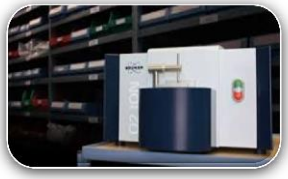
Materials We test: Ferrous Alloys, Non Ferrous Alloys, Coating, Surface Hardening, Cemented carbides.
Equipments: Inverted Metallurgical Microscope 1500x Magnification, Matrix Vision 8MP camera with image analysis software. Portable microscope 400X magnification, Dewinter 5MP camera with image analysis software.

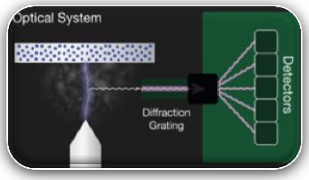
NON DESTRUCTIVE TESTING

Ultrasonic Flaw detection, Dye/Liquid penetrant testing, Magnetic Particle Inspection, In-Situ Metallography, 3D mapping, Profile Projections.

MATERIAL CHARACTERIZATIONS & IDENTIFICATIONS

Optical emission spectroscopy is used to characterize material and identify ferrous and non-ferrous alloys in Virtue Meta-sol.
Our library consists of national and international standards like ASTM, ASM, IS, JIS, GOST, BS, AZ/NZ etc.





Materials we test: All Ferrous base, Aluminium base and Copper base alloys.
Equipments: Wet analysis, Bruker optical emission spectrometer Q2 ion.

INDUSTRIES WE SERVE

Engineering

Metallurgical

Turbine

Electrical/Electronic

Coating

Welding

Automobile

Casting

Chemical

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Contact: Mobile. 9030931727, Mail. info@virtuemetasol.com
Website: www.virtuemetasol.com.