

METROLOGY

Calibration

- ♦ Force
- ♦ Torque
- ♦ Pressure
- ♦ Vacuum
- ♦ Mass
- ♦ Temperature
- ♦ Humidity
- ♦ Flow
- ♦ Electrical

Field Service - Surface Plates, Tools, Equipment

New Instruments & Parts, Repairs

MACHINING

Specimen Machining

- ♦ Test Specimens - tensile, fracture, fatigue, stress rupture, corrosion, charpy V-notch impact to ASTM & MIL specifications
- ♦ Low-Stress Grinding
- ♦ EDM
- ♦ Specialty Machining

MATERIALS TESTING

Chemical Analysis

- ♦ Atomic Absorption Spectroscopy (AA) - flame or graphite furnace
- ♦ Optical Emissions Spectroscopy (OES)
- ♦ Inductively-Coupled Plasma Analysis (ICP)
- ♦ Accelerated Intergranular Corrosion
- ♦ Carbon/Sulfur/Nitrogen/Oxygen/Hydrogen
- ♦ Sieve Analysis
- ♦ Soxhlet Extraction
- ♦ Plating Identification
- ♦ Classical Wet Chemical Analysis
- ♦ Density, Porosity & Oil Content
- ♦ Salt Spray {Salt Fog (ASTM B-117)}
- ♦ Positive Material Identification (PMI)
- ♦ Passivation Testing
- ♦ Humidity Testing
- ♦ Metals, Powdered Metals, Ores, Ferroalloys...

Metallography

- ♦ Decarburization/Carburization
- ♦ Microhardness (Knoop & Vickers Indenters)
- ♦ Grain Size & Grain Flow
- ♦ Plating/Coating Thickness
- ♦ Corrosion Practice A (ASTM A-262)
- ♦ Eutectic Melting
- ♦ Macroetch (ASTM E-381)
- ♦ Micro Examination
- ♦ Case Depth
- ♦ Delta Ferrite (ASTM E-562)
- ♦ Surface Contamination & Condition
- ♦ Microstructural Features
- ♦ Surface Finish
- ♦ Alpha Case
- ♦ High Temperature Oxidation
- ♦ Accelerated Intergranular Attack
- ♦ Digital Imaging
- ♦ Metallurgical Mounting & Polishing
- ♦ Serial Sectioning
- ♦ Inclusion/Cleanliness Rating (ASTM E-45)
- ♦ Recast Layer Determinations

Mechanical Testing

- ♦ Yield Strength
- ♦ Stress Rupture
- ♦ Tensile/Ductility
- ♦ Flaring/Expansion
- ♦ Conductivity
- ♦ Magnetic Permeability
- ♦ Wedge & Axial Tensile
- ♦ Elevated Temperature Tensile
- ♦ Charpy V-Notch Impact
- ♦ Hydrogen Embrittlement/Stress Durability
- ♦ Hardness Test - Rockwell, Brinell & Superficial
- ♦ Welder & Procedure Qualifications
(per ASME, ASTM, AWS & MIL Specs)

Nondestructive Testing

- ♦ Ultrasonic - high-speed immersion or contact
- ♦ Magnetic Particle - fluorescent wet or visible dry
- ♦ Liquid Penetrant - fluorescent or visible dye
- ♦ X-Ray/Radiography
- ♦ Hydrostatic Pressure - tubing, pipe or fittings
- ♦ Visual Examination

Dimensional Inspection/CMM

- ♦ Fasteners including threads
- ♦ Surface Finish
- ♦ First-article & Third-party inspections

Failure Analysis

Materials Engineering



LABORATORY TESTING INC.