

SERVICES

METROLOGY

Calibration

- ◆ Force
 - ◆ Torque
 - ◆ Pressure
 - ◆ Electrical
 - ◆ Dimensional
 - ◆ Mass
 - ◆ Vacuum
 - ◆ Temperature
 - ◆ Humidity
 - ◆ Flow*
- *Subcontracted

Field Service - Surface Plates, Hardness Testers, Optical Comparators, Pyrometry, Scales, Tools ...

New Instruments / Parts & Repairs

Contamination Control Certification Services

MACHINING

Specimen Machining

- ◆ Test Specimens to ASTM & MIL specifications
 - Jominy
 - Tensile
 - Fatigue
 - Izod impact
 - Stress rupture
 - Stress corrosion
 - Compact tension
 - Fracture toughness
 - Round compression
 - Charpy V-notch impact
 - Hydrogen embrittlement
 - Face, root, side bend ...
- ◆ EDM & Specialty Machining

MATERIALS TESTING

Chemical Analysis

- ◆ ICP-AES & ICP-MS
- ◆ Soxhlet Extraction
- ◆ Plating Identification
- ◆ Classical Wet Chemistry
- ◆ Density, Porosity & Oil Content
- ◆ Positive Material Identification (PMI)
- ◆ Moisture Content Analysis
- ◆ Carbon & Sulfur Analysis
- ◆ Inert Gas Fusion (Nitrogen, Oxygen, Hydrogen)
- ◆ AES Analysis
- ◆ EDS Analysis
- ◆ FTIR Analysis
- ◆ RoHS Testing

Corrosion Testing

- ◆ Salt Spray / Salt Fog (ASTM B117)
- ◆ ASTM A262 & 923; G28, 34, 48, 66 & 67
- ◆ Passivation (ASTM A380, A967; MIL-STD 753)
- ◆ Humidity (AMS 2700)
- ◆ HIC Testing
- ◆ Intergranular Oxidation
- ◆ Hydrogen Embrittlement
- ◆ Coating Evaluation
- ◆ Sensitization
- ◆ Sigma Chi Phase

Metallurgical Testing

- ◆ Microstructure
- ◆ Grain Size (ASTM E112)
- ◆ Case Depth
- ◆ Coating Thickness
- ◆ Carburization / Decarburization
- ◆ Inclusion Rating (ASTM E45)
- ◆ Carbide Precipitation
- ◆ Ferrite by Point Count (ASTM E562)
- ◆ Alpha Case / Surface Contamination
- ◆ Intergranular Attack
- ◆ Eutectic Melting
- ◆ Nodularity, Nodule Count
- ◆ Macro-etch (ASTM E340)
- ◆ Grain Flow
- ◆ Surface Condition
- ◆ Surface Contamination
- ◆ Microhardness (Knoop & Vickers 100g to 10kg)
- ◆ SEM Analysis
- ◆ Digital Imaging
- ◆ Sample Preparation
- ◆ Weld Qualification

Mechanical Testing

- ◆ Yield Strength
- ◆ Tensile / Ductility
- ◆ Flaring / Expansion
- ◆ Stress Rupture
- ◆ Fracture Toughness
- ◆ Fatigue Crack Growth
- ◆ Magnetic Permeability
- ◆ Wedge & Axial Tensile
- ◆ Elevated Temperature Tensile
- ◆ Charpy V-Notch Impact
- ◆ Hydrogen Embrittlement / Stress Durability
- ◆ Hardness: Rockwell, Brinell, Superficial
- ◆ Welder & Procedure Qualifications
(per ASME, ASTM, EN, AWS, MIL, API)
- ◆ Bend
- ◆ Flattening
- ◆ Cone Strip
- ◆ Proof Load
- ◆ Conductivity
- ◆ Drop Weight

Nondestructive Testing

- ◆ Ultrasonic: high-speed immersion, contact
- ◆ Magnetic Particle: fluorescent wet, visible dry
- ◆ Liquid Penetrant: fluorescent, visible dye
- ◆ X-Ray / Radiography: film, digital
- ◆ Hydrostatic Pressure: tubing, pipe, coils
- ◆ Visual Examination - SNT-TC-1A certified

Dimensional Inspection / CMM

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

Failure Analysis - SEM/EDS



800-219-9095

**LABORATORY
TESTING INC.**