

CURRICULUM VITAE

LISA K. THOMAS, P.E.
METALLURGICAL AND MATERIALS ENGINEER



AREAS OF CONSULTATION

FAILURE ANALYSIS OF METALS, PLASTICS AND GLASS

Fractography to identify fracture mode, crack growth direction and location of initiation using low-power light microscopes and variable lighting conditions, and scanning electron microscopy to verify microscopic features characteristic of fracture mode. Metallographic preparation to examine microstructure of the material in affected areas. Microanalytical techniques such as X-ray fluorescence (EDS) for atomic analysis of contaminants or inclusions, and Infrared (FTIR) to identify polymer type and detect degradation.

FORENSICS

Document and preserve evidence in situ, including photo documentation with contextual photographs. Conduct testing prior to disturbance or removal of evidence. Interview witnesses. Testify as an expert for legal proceedings. Prepare advanced demonstrative exhibits for mediations and trials.

EDUCATION

- Bachelor of Science in Metallurgical Engineering; The University of Texas at El Paso; 1988
- Graduate studies in the Department of Chemical Engineering and Materials Science at UC Davis; 2006-2007

PROFESSIONAL EXPERIENCE

METALLURGICAL CONSULTANT, BERKELEY RESEARCH COMPANY; 2006 - PRESENT

Failure analysis and forensics projects include:

- leaks in water heaters, faucets, water filters, refrigerators, dishwashers, ice makers, water supply hoses and connectors, toilets, flush valves, in-floor radiant heating systems
- unwanted activation of fire sprinklers
- arc damage of electrical conductors and power transmission equipment
- stress corrosion cracking failures of brass plumbing components
- tire tread separations and wheel-offs
- freeze damage of metal and plastic (ABS & PVC) plumbing components
- fatigue failures of gas turbine engine blades
- failures of wood chippers, crane and watercraft wire rope, railroad rails, gravity shelving
- fire damaged appliances such as ranges, deep fat fryers, water heaters, washing machines
- failures of medical implant devices including guide wires, hip joints, femoral nails
- failures of bicycles, ladders, soccer goal posts, archery equipment, pet warmers, glass mirrors, car windshields, glass bottles, chairs, traffic fixtures

METALLURGICAL CONSULTANT, BERKELEY ENGINEERING AND RESEARCH, INC.; 1999 - 2006

Failure analysis as described above

SENIOR METALLURGICAL ENGINEER, ANAMET, HAYWARD, CA; 1995 - 1999, INTER ALIUS VICIS
Specialized in failure analysis of gas compressor and turbine engine components, shafting from rotating equipment, welded steel pipelines, shipping container lashing rods, ABS and PVC piping, plastic recreational equipment, brazed and welded components and medical devices.

MECHANICAL DESIGN ENGINEER, POWIS PARKER, INC., BERKELEY, CA; 1994 - 1995
Designed components for a book binding machine. Drafted designs on Autocad and specified manufacturing methods.

PROJECT ENGINEER, PYROMET INDUSTRIES, SAN CARLOS, CA; 1992 - 1994
Designed processes, tooling and equipment for repair of turbine engine components. Developed repair procedures for Pratt and Whitney jet engine high pressure compressor stators.

METALLURGICAL ENGINEER, DOW CHEMICAL, FREEPORT, TX; 1988 - 1992
Performed failure analysis on chemical process equipment. Conducted corrosion studies using laboratory and on-line corrosion rate measuring devices, and interpreted data for materials recommendations. Estimated life of downhole tubing for geothermal energy plant using corrosion weight loss measurements.

PUBLICATIONS

"Comparison of MIC Pit Morphology with Non-MIC Pits in Types 304/304L/E308 Stainless Steel Base Metal/Welds", Paper No. 159, presented at NACE International's Corrosion 99 Conference in San Antonio, TX.

"Why Turbine Blades Fail" presented at the Society of Forensic Engineers and Scientists Seminar in September of 2000 and at ASM International in April of 2002

PROFESSIONAL AFFILIATIONS

Registered Metallurgical Engineer, State of California
President of ASM International, Golden Gate Division; 1998 - 1999
Member of SFES (The Society of Forensic Engineers and Scientists)
 Chairman and speaker of September 2000 technical seminar
 Chairman of May 2003 technical seminar
 Secretary; 2006-2008
 Speaker in March 2010 seminar
Member of IMECA (Independent Metallurgical Engineers of California)

FEES AND TERMS

\$250 per hour plus expenses for consulting, including travel and waiting. \$325 per hour for appearance at deposition, arbitration, trial or similar proceedings. 2% per month late payment fee after 30 days. Laboratory fees are additional as are assistant and associate fees. Minimum fee per case is \$500. Minimum time unit is 1 hour. Fees may be required in advance. A retainer, typically \$1000 - \$5000, may be required, to be applied toward final invoice. Forwarding of case material implies acceptance of fees and terms. TIN 32-0182949.