

Gerald O. Davis, P.E.
Davis Materials & Mechanical Engineering, Inc. (DM&ME, Inc.)
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Professional Summary:

- Materials engineering consultant in metallurgy and corrosion
- Expert witness in forensic engineering for litigation
- Over 42 years of diverse engineering experience and education
- Licensed Professional Engineer (P.E.)

Formal Education:

- University of Delaware, MS, 1986, Applied Materials (thesis on corrosion)
- Golden Gate University, MBA, 1972, Business Administration
- Virginia Polytechnic Institute & State University, BS, 1968, Mechanical Engineering

Areas of Expertise:

Metallurgical Root-Cause Failure Analysis (RCFA)

- Methodology for completing RCFA's
- Failure mechanisms of metallic materials, e.g., overstress, fatigue, wear, corrosion
- Characteristics of the different forms of metal fracture
- Specifying laboratory evaluations to characterize metallic material properties
- Interpreting results of laboratory evaluations of metals
- Metallurgical and mechanical properties of various alloy classes
- Assessing the properties and failures of welds

Corrosion Analysis and Control

- Completing RCFA's that involve corrosion
- Mechanisms of the several forms of corrosion, e.g., general, pitting, crevice attack, SCC
- Susceptibility of different classes of alloys to the various forms of attack in different corrosive media
- Laboratory tests to characterize corrosion and rates of attack
- Application of the primary control methods – coatings, material selection, cathodic protection or chemical inhibitors
- Design and operating tactics to minimize corrosion
- In-situ methods to indicate corrosion rates in operating equipment
- Preventative maintenance techniques to minimize corrosion

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Engineering Expert Witness

- Forensic engineering for product liability and personal injury cases
- Experience in cases with either plaintiffs or defendants
- Multiple depositions provided
- Clear communicator – via technical reports, one-to-one and groups
- Diverse engineering work experience combined with graduate level education
- Effective searches of engineering literature for unique problems
- Ability and willingness to recommend another appropriate technical specialist for questions in other areas of engineering or science

Training

- On-line continuing education courses for P.E.'s (www.suncam.com)
- Developing and presenting live short courses for industrial clients
- Multiple educational articles published
- Provided presentations on disaster preparedness for local Red Cross chapter

Work Experience/Employment Summary:

- DM&ME, Inc., 2004-Present, President
- Henkels & McCoy, Inc., (Virginia) 1995-2004, Program Manager
- CC Technology, Inc., (Ohio & Alaska), 1992-1995, Senior Engineer
- Battelle Memorial Institute, (Ohio), 1985-1992, Research Scientist
- University of Delaware, 1981-1985, Graduate Research Assistant and student
- Honeywell Corp., (Virginia), 1974-1981, Project and Reliability Engineer
- Ingersoll-Rand Co., (New Jersey), 1972-1974, Mechanical Project Engineer
- U.S. Air Force, (California), 1968 – 1972, Project/Test Engineer

Other Professional Activities and Memberships:

- Licensed Professional Engineer - Virginia {11793} and Delaware {11153}
- Certified Materials Selection/Design Specialist – National Association of Corrosion Engineers (NACE International) {5797}
- Instructor in engineering economics for Richmond, Virginia area engineers preparing for the Virginia P.E. examination
- Member National Society of Professional Engineers (NSPE); Chairman of Richmond, VA Chapter in 2008
- Member NACE International
- Member American Society for Metals (ASM International)