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**Bradley N. Plank, P.E.**  
Mechanical & Metallurgical Engineer



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## ***Curriculum Vitae***

Using his combination of mechanical and metallurgical (including plastics) experience and education, Mr. Plank provides forensic and consulting engineering services to attorneys, insurance professionals, and manufacturing companies. A registered professional engineer in Texas and 25 other states, his experience includes 32 years in manufacturing in the metals processing industries, 35 years performing failure analyses, and 30 years investigating claims. Mr. Plank has testified in a wide variety of matters including personal injury and property damage, in both state and federal court, and his expert opinions have never been excluded. He has worked for both plaintiffs and defendants. His assignments have involved mechanical equipment, appliances, oil and gas production and transmission equipment, plumbing, HVAC, heavy equipment, machine tools, cranes and wire cables, metal roofs, manufacturing and thermal processes, among many others.

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## **PROFESSIONAL EXPERIENCE**

**MME FORENSIC CONSULTING, INC.**, July 2018 to Present  
Mechanical and Metallurgical Engineer

Responsibilities like those listed below for the prior employer, but now providing engineering expert services directly to attorneys, insurance professionals, and manufacturing companies. Performing engineering investigations with failure analyses and providing expert witness testimony in property damage and personal injury matters. One area of expanded experience has been HVAC system design and installation investigations. Have also added investigations of medical device claims. Specialize in defending against claims for metal roof replacement.

**EFI GLOBAL, INC.**, 2008 to June 2018  
Senior Engineer, Mechanical and Metallurgical

Responsibilities included the investigation of failures of mechanical equipment, appliances, and systems that resulted in loss or injury. Experience in large losses included oilfield rig collapses, gas compression failures, crane and wire cable failures, manufacturing processes, machine tools, and heavy equipment used in oilfield and industrial settings. Experience also included gas fired and electrical appliances, a wide variety of plumbing components, materials selection, failure analysis, and thermal processing, fire and water damage losses, as well as personal injury claims.

**A. O. SMITH WATER PRODUCTS COMPANY, 1993 to 2007**

Product Safety Manager

Responsibilities included overall product safety for residential and commercial water heaters and boilers. Reviewed and wrote warnings and instructions, oversaw product recalls and retrofits, reviewed competitors' products and ensured that A. O. Smith water heaters were safe for their intended purposes. Resolved customer complaints and performed field inspections on products involved in property damage and personal injury for claims and litigation. Resolved claims both directly and by working with a third party claims management partner.

**THE STANLEY WORKS, 1982 to 1993**

Manager of Product Development

Responsibilities included managing the product engineering department for the Industrial Tools Division. Duties included development of new product concepts through direct customer contact, performing product feasibility and design, project planning, existing product modification and maintenance, competitive analysis, vendor qualification, field failure analysis, and lab testing. Also served as division metallurgist, performing materials selection and specifying metallurgical processes. Represented the company on industry standards committees and drafted three ANSI safety standards for hand tools.

**DRESSER INDUSTRIES, INC., 1975 to 1981**

Plant Metallurgist and Heat Treating Supervisor

Responsibilities included plant metallurgist and managing the Heat Treating Department for an engineered chain manufacturer. Processes included hardening, carburizing, and induction hardening. Materials included carbon, alloy and stainless steels, cast and malleable irons. Performed materials selection, failure analysis, specified metallurgical processes, and resolved manufacturing issues with materials.

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**EDUCATION**

Ohio State University, Columbus, Ohio  
Bachelor of Science, Metallurgical Engineering, 1975

University of Tennessee, Knoxville, Tennessee  
Master of Business Administration, 1981  
Concentration: Production Management

## **SPECIALIZED TRAINING**

- Forensic Expert Witness Association (FEWA), National Expert Witness Conference 2026: Challenges to Expert Witnesses in 2026, Live Webinar, May 14, 2026, 6 hours.
- Forensic Expert Witness Association (FEWA), Withstanding Cross Examination: Watching Out for the Rabbit Holes, April 17, 2026, 2 hours.
- PDHengineer.com, Introduction to Product Safety, Live Webinar, February 18, 2026, 5 hours, tested.
- Forensic Expert Witness Association (FEWA), 2025 Expert Witness Summit: Empowering Experts to Become Better Witnesses, Live Webinar, October 23, 2025, 6 hours.
- Forensic Expert Witness Association (FEWA), Creating, Updating, and Maintaining Your Curriculum Vitae, Live Webinar, September 10, 2025, 1.5 hours.
- PDHengineer.com, 3-D Printing Principles, Processes, and Applications, Self Study Course, June 21, 2025, 5 hours, tested.
- Forensic Expert Witness Association (FEWA), 2025 Annual Conference, Risk v. Reward: Experts and Generative AI, Live Webinar, June 19, 2025, 6 hours.
- PDHengineer.com, Material Properties and Corrosion for Nuclear Plants, Self Study Course, June 5, 2025, 6 hours, tested.
- Forensic Expert Witness Association (FEWA), My Expert Files Have Been Hacked; What Should I Do Next?, Live Webinar, May 23, 2025, 2 hours.
- PDHengineer.com, Forensic Structural Inspections: Examination, Diagnosis, and Remedy for Building Structures, Live Webinar, May 15, 2025, 3 hours, tested.
- New Mexico Board of Licensure for Professional Engineers, Ethics Roundtable, Live Webinar, November 1, 2024, 2 hours.
- Forensic Expert Witness Association (FEWA), National Expert Witness Conference, Live Webinar, May 14, 2024, 6 hours.
- Society of Plastics Engineers, Workshop – Failure in Plastics, Live Webinar Series, April 22, 2024 to May 2, 2024, 8 hours.
- PDHengineer.com, Electromagnetic Radiation Principles, Live Webinar, December 14, 2023, 4 hours, tested.
- PDHengineer.com, Distributed Energy Resources Grid Impact – Solar, Live Webinar, December 12, 2023, 2 hours, tested.
- Texas Board of Professional Engineers, Regular Quarterly Board Meeting, Live Webinar, November 9, 2023, 1 hour.
- FEWA, 2023 Expert Witness Summit, Live Webinar, October 9, 2023, 6 hours.
- FEWA, 2023 National Expert Conference, Live Webinar, June 27, 2023, 6 hours.

- FEWA, High Stakes Communication for Experts, Live Webinar, April 25, 6 hours.
- PDHengineer.com, Design for Branched Piping Systems, June 30, 2023, 4 hours, tested.
- PDHengineer.com, Vibration and Noise Control, April 15, 2023, 8 hours, tested.
- PDHengineer.com, An Introduction to Noise Control in Buildings, April 26, 2023, 2 hours, tested.
- Louisiana Engineering and Land Surveying Board, Professional Ethics Webinar, March 29, 2023, 1 hour.
- PDHengineer.com, Variable Frequency Drives, March 12, 2023, 2 hours, tested.
- PDHengineer.com, Laws and Rules for Florida Engineer (Renewal Cycle 2021-2023), October 12, 2022, 1 hour, tested.
- PDHengineer.com, Engineering Ethics for Florida Engineers: The Deep Water Horizon Disaster, October 12, 2022, 1 hour, tested.
- PDHengineer.com, Introduction to Drilling Engineering, September 6, 2022, 8 hours, tested.
- PDHengineer.com, Introduction to Pressure Vessel Design and Fabrication per ASME Section VIII, Division 1, June 10, 2022, 2 hours, tested.
- American Society of Plumbing Engineers, Firestopping Vertical and Horizontal Penetrations, Live Webinar, April 21, 2022, 1 hour.
- PDHengineer.com, Wind Force Calculations on Low Rise Buildings, Live Webinar, April 20, 2022, 2 hours, tested.
- Society of Plastics Engineers, An Overview of Nylon Resins, Live Webinar, April 14, 2022, 1 hour.
- American Society of Plumbing Engineers, Water Heating System Design 101, Live Webinar, March 23, 2022, 1 hour.
- Society of Plastics Engineers, Rubber O-rings, Live Webinar, March 17, 2022, 1 hour.
- ASHRAE Self Study Courses, Load Calculations (I-P) (AIA), February 27, 2022, 2 hours, tested.
- Society of Plastics Engineers, Polymer Molecular Weight: A Key Factor in Plastic Performance, Live Webinar, April 14, 2022, 1 hour.
- Society of Plastics Engineers, Fourier Transform Infrared Spectroscopy in Failure Analysis & Compositional Analysis, Live Webinar, January 19, 2022, 1 hour.
- PDHengineer.com, Engineering Ethics: The St. Francis Dam Failure, Live Webinar, December 14, 2021, 2 hours, tested.
- Society of Plastics Engineers, Thermal Dependency of Plastics, Live Webinar, December 9, 2021, 1 hour.

- PDHengineer.com, Basics of Water Treatment, Live Webinar, November 22, 2021, 2 hours, tested.
- PDHengineer.com, Programmable Logic Controllers: How They Work and How to Make Them Work for You, Live Webinar, September 28, 2021, 3 hours, tested.
- PDHengineer.com, Engineering Ethics, Principles, and Case Studies, Live Webinar, July 26, 2021, 2 hours, tested.
- PDHengineer.com, Plate Heat Exchangers, Live Webinar, May 21, 2021, 3 hours, tested.
- PDHengineer.com, Design for Stress and Strain, Live Webinar, April 9, 2021, 4 hours, tested.
- PDHengineer.com, Design for Fatigue Analysis, Live Webinar, March 12, 2021, 4 hours, tested.
- ASPE Online Webinar, "Electric Tankless Heater Design, Application and Pitfalls, November 26, 2020, 1 hour.
- SPE Online Webinar, "The Consequences of Ductile-to-Brittle Transitions in Plastics, December 10, 2020, 1 hour.
- SPE Online Webinar, "Fractography in Plastics Failures," September 3, 2020, 1 hour.
- SPE Online Webinar, "Understanding Wear of Plastics," October 29, 2020, 1 hour.
- ASPE Online Webinar, "Introduction to Heat Pump Water Heaters," September 22, 2020, 1 hour.
- ASHRAE Online Webinar, "Humidity Control: Avoiding Five Common Design Problems," September 22, 2020, 1 hour.
- PDHengineer.com, Laws and Rules for Florida Engineers (Renewal Cycle 2019-2021), Live Webinar, September 15, 2020, 1 hour, tested.
- ASHRAE Online Webinar, "COVID-19 Pandemic Technology Considerations," September 9, 2020, 1 hour.
- ASPE Online Webinar, "Application for Smart Management in Commercial Buildings," June 24, 2020, 1 hour.
- ASHRAE Online Course, "Guideline 36: Best in Class HVAC Control Sequence," Live Webinar, May 28, 2020, 3 hours.
- ASHRAE Learning Institute Online Course, "Variable Refrigerant Flow Systems: Design and Applications," Live Webinar, April 30, 2020, 3 hours.
- ASHRAE Self Study Courses on Psychrometrics (1 hour), Refrigeration System Parameters and Key Performance Indicators (0.5 hour), Refrigerants (2 hours), and Compressors (2.5 hours), April 8, 2020, total of 6 hours, all tested.
- PDHengineer.com, Hazardous Area & Electrical Equipment, Live Webinar, March 6, 2020, 2 hours, tested.

- PDHengineer.com, Overview of the Electric Power Industry, Live Webinar, January 28, 2020, 3 hours, tested.
- PDHengineer.com, The Greene Turbine, Live Webinar, January 20, 2020, 2 hours, tested.
- University of Wisconsin, College of Engineering and Engineering Professional Development, PE Ethics Workshop IV: Truths, Half-truths, Deception, Omissions, and Outright Lies, September 27, 2019, 2 hours, tested.
- Alabama Board of Licensure for Professional Engineers and Land Surveyors, An Ethical Conversation, July 24, 2019, 1 hour, tested.
- Texas Board of Professional Engineers, Professional Engineering Practice Update/Ethics, Live Webinar, July 11, 2019, 1 hour, tested.
- PDHengineer.com, Forensics Engineering – An Overview, Live Webinar, April 18, 2019, 7 hours, tested.
- PDHengineer.com, Steel Design Introduction, Live Webinar, February 20, 2019, 7 hours tested.
- PDHengineer.com, How Things Break: Fatigue, Live Webinar, January 30, 2019, 4 hours, tested.
- PDHengineer.com, Introduction to Fluid Mechanics, Live Webinar, May 23, 2018, 4 hours, tested.
- PDHengineer.com, Engineering Triumphs – Sports Projectiles, Live Webinar, February 28, 2018, 4 hours, tested.
- PDHengineer.com, How Things Break: Thermal Effects, Live Webinar, January 30, 2018, 4 hours, tested.
- PDHengineer.com, Engineering Triumphs – Cement Manufacture, Live Webinar, January 22, 2018, 4 hours, tested.
- Unified Investigations & Sciences, In-Service Webinar Series, Essentials of NFPA 1033, June 2016-January 2017, 8 hours, tested.
- CPE Solutions, LLC, Lubrication Principles, January 2, 2017, 2 hours, tested.
- CPE Solutions, LLC, Fluid Power—Hydraulic Principles, January 2, 2017, 4 hours, tested.
- PDHNow.com, Florida Ethics 2017-2019, June 18, 2018, 1 hour, tested.
- PDHNow.com, Florida Laws and Rules for Professional Engineers, Biennium Cycle 2017-2019, June 16, 2018, 1 hour, tested.
- CPE Solutions, LLC, Accident and Injury Protection Part 2, June 14, 2016, Live Webinar, taught by Derek Finger, PE, 2 hours, tested.
- CPE Solutions, LLC, Cathodic Protection Systems for Civil Works Structures, May 30, 2016, 5 hours, tested.

- CPE Solutions, LLC, An Introduction to Inspection of Boilers and Unfired Pressure Vessels, May 30, 2016, 3 hours, tested.
- OSHA Asbestos Awareness Training, Safety Compliance Management, Inc., March 5, 2016, 2 hours, tested.
- Hazwoper Refresher Course in Compliance with 29 CFR 1910.120 Standard, Dallas, Texas, February 13, 2016, 8 hours, tested.
- Engineering Ethics 2016, Rossiter & Associates, Grapevine, Texas, February 9, 2016, 2 hours.
- Texas AgriLife Extension Service and Texas Sea Grant, Texas Commission on Environmental Quality Provider No. 0409, Course Code 923, Web-Based Soil and Site Evaluation Basic Introduction, August 27, 2015, 8 hours, tested.
- International Association of Arson Investigators, CFITrainer.net, Explosion Dynamics, August 8, 2014, 4 hours, tested.
- International Association of Arson Investigators (IAAI), CFITrainer.net, NFPA 921 and 1033 2014 Editions: Important Revisions, May 20, 2014, 3 hours, tested.
- CPE Solutions, LLC, An Introduction to Steam Boilers and Turbines for Power Plants, April 13, 2014, 4 hours, tested.
- Unified Investigations and Sciences, Inc., OSHA 29 CFR 1910.1200-Globally Harmonized System of Classification and Labeling of Chemicals, February 3, 2014, 1 hour, tested.
- Genco Associates in cooperation with the University of North Texas, Asbestos 16 Hour O&M Worker, February 28, 2012, 16 hours, tested.
- International Association of Arson Investigators, Fire Investigator Scene Safety, November 14, 2011, 3 hours, tested.
- American Society of Plumbing Engineers, Radiant Cooling Webinar, May 25, 2011, 1 hour.
- American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., Ground Source Heat Pump Systems, April 21, 2011, 4 hours.
- Rossiter & Associates, Reported Violations of the Texas Engineering Practice Act and Board Rules, March 27, 2011, 1 hour, tested.
- American Society of Plumbing Engineers, 55 continuing education self-study short courses since 2003, 55 hours, tested.
- American Society of Plumbing Engineers, webinars on Gray Water Systems, Natural Gas and LP Sizing, LEED Point Strategies, all taken in 2010, 3 hours.
- Buehler LTD, Mr. George Vander Voort Summer Lecture Series on Micro- Indentation Hardness Testing, Advances in Metallography, World Trade Center, How to Conduct Failure Examination, August 13, 2009, 4 hours.

- Hazwoper Course in Compliance with 29 CFR 1910.120 Standard, Dallas, Texas, July 2, 2009, 40 hours, tested.
  - Advanced Testifying Skills for Experts, SEAK, Inc., Naples, Florida, November 2007, 14 hours.
  - Investigations of Electrical & Appliance Related Fires, IAAI/AHAM, Arlington, TX, June 2007, 22.5 hours, tested.
  - Communication Skills and Ethics, Rossiter & Associates, Dallas, Texas, March 2006, 4 hours.
  - In Search of Professional Excellence, Rossiter & Associates, Dallas, Texas, March 2005, 4 hours.
  - Failure Modes and Effects Analysis, University of Wisconsin Extension, Madison, Wisconsin, September 2000, 20 hours.
  - Hydronic Heating Systems, A. O. Smith Water Products Company, Irving, Texas, August 1998, 24 hours, tested.
  - Managing Continuous Improvement, A. O. Smith Water Products Company, Irving, Texas, March 1998, 24 hours.
  - Training the Engineering Expert, University of Wisconsin Extension, Madison, Wisconsin, October 1995, 24 hours.
  - Role of Warnings and Instructions, University of Wisconsin Extension, Madison, Wisconsin, March 1994, 24 hours.
  - Society for Plastics Engineers, multiple webinars including Introduction to Failure Analysis, Prevention of Plastic Product Failures, Polymer Failure Analysis, Polymer Degradation, Environmental Stress Cracking, Lifetime Prediction of Plastic Parts—Creep failure, Fourier Transform Infrared Spectroscopy in Failure & Compositional Analysis, Rubber Technology, etc. Since November 2009, 14 hours.
  - Commercial Water Heater Sizing School, A. O. Smith Water Products Company, Irving, Texas, January 1994, 24 hours, tested.
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## LICENSES AND REGISTRATIONS

Professional Engineer State Registrations (Licensed to practice as both Mechanical & Metallurgical except as noted):

Alabama (Mechanical)	Missouri
Arizona	Nevada (Mechanical)
Arkansas	New Mexico
California (Mechanical)	New York
Colorado	North Dakota
Florida (Mechanical)	Ohio
Georgia	Oklahoma
Illinois	Pennsylvania
Kansas	South Carolina
Louisiana (Mechanical)	Texas
Michigan	Utah
Minnesota	Wisconsin
Mississippi	Wyoming

Certified Fire and Explosion Investigator, NAFI 4925-1142

OSHA 40 Hour HAZWOPER

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## PROFESSIONAL ORGANIZATIONS

- ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers)
- ASPE (American Society of Plumbing Engineers)
- ASM International (former Executive Committee local chapter)
- SPE (Society of Plastics Engineers)
- AMPP (Association for Materials Protection and Performance, Formerly NACE)
- NAFI (National Association of Fire Investigators)
- FEWA (Forensic Expert Witness Association)

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## PATENTS

- U.S. Patent 5,797,358 Control System for a Water Heater issued August 25, 1998
- U.S. Patent RE 37,745 Control System for a Water Heater issued June 18, 2002

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## **AWARDS**

- Unified Investigations & Sciences, Inc., Subsidiary of Sedgwick Corporation, Top Ten Award, Recognition for High Performance in Engineering Investigation, 2017
  - Unified Investigations & Sciences, Inc., Subsidiary of Sedgwick Corporation, Pinnacle Award, Recognition for High Performance in Engineering Investigation, 2016
  - Unified Investigations & Sciences, Inc., Subsidiary of Sedgwick Corporation, Pinnacle Award, Recognition for High Performance in Engineering Investigation, 2015
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## **PRESENTATIONS**

- Dents Don't Equal Damage & Rust Won't Equal Replacement, "What the Hail?" Conference, Zelle Law Firm, MME Forensic Consulting, Irving, TX, February 2026.
  - Dents Don't Equal Damage, "What the Hail?" Conference, Zelle Law Firm, MME Forensic Consulting, Irving, TX, February 2024.
  - Claims Involving Mechanical & Metallurgical Expertise, Unified Investigations & Sciences, Dallas, TX, June 2014.
  - Welding Damage Claims, American Welding Society, North Texas Section, Unified Investigations & Sciences, Arlington, TX, January 2012.
  - Materials Science, Easy as 1-2-3, Dallas Fire Department, Unified Investigations & Sciences, Dallas, TX, July 2008.
  - Materials Science in Claims Investigations, Hanover Insurance Company, Unified Investigations & Sciences, Dallas, TX, April 2008.
  - Water Heater Claims Issues, National Association of Subrogation Professionals, A.O. Smith Water Products Company, Las Vegas, NV, October 2001.
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## **PAPER WRITTEN**

- A White Paper Review – Hail Damage to Metal Roofs, Bradley N. Plank, PE, March 28, 2017.