

**Practice Areas:**

Mechanical
Plumbing
Automotive

Mark@EntropyEC.com



Mark W. Passamaneck, PE

Mr. Passamaneck is a mechanical engineer with eighteen years of experience in the forensic field. His forensic background includes the investigation of commercial and residential mechanical products and systems and associated failures, damages and injury causation. In addition, he has extensive experience evaluating failures and accidents involving commercial, consumer, off-road and race vehicles.

LICENSURE & EDUCATION

Licensed Professional Engineer in CO, CA, AZ, NCEES registered
BS, Mechanical Engineering, University of Colorado at Denver, 1997
Master's level coursework in Mechanical Engineering at the Univ. of CO
Certified in Hazardous Waste Operations and Emergency Response (HAZWOPER) OSHA 29 CFR 1910.120(e)
Certified in DOT Haz-Mat Transportation, 49 CFR 172, 704 (1-4)
Certified Radiation Safety Officer, CRS RH 8.6.1
Certified Installer for several specialty piping systems for gas (CSST) and water (PEX)
NPGA certified: Basic Principles and Practices, Vapor Distribution System Installation, Appliance Installation, GASCheck®, 2007
Boiler Maintenance & Operator Course, NTT, 2005
Automotive Plastic Part Design, ETS, 2003
Vehicle Fire Investigation, Lee S. Cole & Associates, 1999
Uniform Plumbing Code, IAPMO, 1997

WORK HISTORY

President, *Carbon Arms Corp.*, 2011 to present
President & Principal Engineer, *Entropy Engineering Corp.*, 2008 to present
Vice President & Principal Engineer, *Western Engineering & Research Corporation*, 2006 to 2008
Project Engineer, *Western Engineering & Research Corporation*, 1997 to 2005
Engineering Technician, *Analytical Engineering, Inc.*, 1995 to 1997

AUTOMOTIVE & MECHANICAL SYSTEMS ANALYSIS

Mark Passamaneck is a nationally recognized expert in plumbing system and component failures. He developed and managed the plumbing analysis group at Western Engineering while working on thousands of cases. His extensive plumbing expertise includes fire suppression systems, scald cases, material analysis, appliance failure analysis and code and standard compliance. He investigates failures and performance problems of HVAC systems including the design and installation of radiant heat systems. He investigates CO poisonings, as well as the cause of fires and explosions due to natural gas and propane fired equipment. He has experience working in a manufacturing setting, successfully passing several Federal regulatory audits. His depth of machinery and materials knowledge allows him to conduct testing, analysis and certification for manufacturers and to evaluate machinery accidents including human factor issues. He has designed, constructed and driven race cars in competition. He performs vehicle accident site documentation and analysis, inspections of failed automotive systems and components, and investigations related to vehicle fires. Mr. Passamaneck is proficient in several types of welding, machining, and manufacturing processes, and he has extensive expertise in material behavior and fracture mechanics for both metals and polymers. He has extensive knowledge related to firearms, cartridge reloading and shooting incidents.

PUBLICATIONS

Lead Poisoning and the Shooter, The Canadian Marksman®, Summer/Autumn 2003; *A Primer on Sewer Backups, NASP Subrogator®*, Fall 2005; *Plumbing Products Liability Primer, NASP Subrogator®*, Winter 2006; *The Glock in Competition*, Taylor, Carver, Passamaneck, ISBN 0-9662517-4-1; *Warnings and Labels and Instructions... Oh my!*, ECS, issue 1 vol 3; *Forensic Engineering* (monthly column) *PS&D®*, 2010. Mr. Passamaneck has also had several articles published in newsletters and firearms related periodicals. He has presented numerous seminars on plumbing, mechanical systems, automotive failures, accidents and forensic engineering.

AFFILIATIONS

American Society of Materials, American Society of Mechanical Engineers, American Society of Plumbing Engineers, Society of Automotive Engineers,, International Code Council, Pi Tau Sigma (Honorary Mechanical Engineering Fraternity).