

Collision  
Reconstruction

Personal Injury

Electrical

Mechanical

Metallurgical

Civil & Structural

Fire & Explosion

Structural  
Reconstruction

352 Consumers Rd.  
Toronto, ON  
M2J 1P8

416.491.2525  
888.272.6671

## **Daniel P. Couture, M.Sc. (Eng.), P.Eng., ing., FEC, DFE, Designated Consulting Engineer**

416-491-2525 (Ext. 24)

daniel.couture@arconforensics.com

### **EXECUTIVE SUMMARY**

Daniel has over 30 years of engineering experience and has been a Senior Metallurgical & Mechanical Engineer at Arcon for over 15 years, completing more than 900 investigations during that time. He has been qualified as an expert witness before the Ontario Superior Court. His broad industrial experience prior to joining Arcon provides the basis for effective investigation of failures of equipment components. Dan is fluently bilingual in both English & French languages.

### **AREAS OF SPECIALIZED EXPERTISE**

- Power generation turbine failures (wind, gas, biomass, hydro-electric)
- Building material (steel, alloy, polymer) failure analysis & fractography
- Water transport system breaches
- Collision Reconstruction
- Heavy equipment mechanical failures (farming, mining, forestry)
- Fuel oil tank failures
- Pipe and pressure vessel ruptures & leaks
- Commercial chilling & heating system breakdowns
- Residential plumbing component failure analysis
- Fire suppression system deployments

### **EDUCATION**

- M.Sc. (Eng.), Metallurgical Engineering (1985) Queen's University
- B.E.Sc., Materials (1980), University of Western Ontario

### **QUALIFICATIONS & CERTIFICATIONS**

- Board Certified Diplomate in Forensic Engineering, National Academy of Forensic Engineers (NAFE) (2016)
- Designated as a Consulting Engineer, Ontario (2011)
- Fellow of Engineers Canada (2011)

### **PROFESSIONAL ASSOCIATIONS**

- Director at Large, National Academy of Forensic Engineers
- Professional Engineers of Ontario
- Ordre des ingenieurs du Quebec
- Ontario Society of Professional Engineers
- Society of Automotive Engineers
- National Association of Corrosion Engineers
- ASM International
- ASTM Member, Committee E58 on Forensic Engineering & Committee A01 on Steel, Stainless Steel & Related Alloys

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### **NOTABLE PUBLICATIONS & PRESENTATIONS**

- D. Couture, “*Forensic Engineering Investigation of a High-Voltage Transmission Line Anchor Failure*”, NAFE Conference (January 2020)
- D. Couture, “*Forensic Engineering Investigation of the Catastrophic Breakdown of a Diesel Engine in an Emergency Generator Set*”, NAFE Conference (July 2019).
- D. Couture, “*Forensic Engineering Investigation of a Self-Unloading Boom Collapse on a Great Lakes Freighter*”, NAFE Conference (July 2019), with Shawn Jay, P.Eng.
- D. Couture, “*Using Novel Ultrasonic Technique to Determine Fitness for Service of FRP Equipment, with Case Studies*”, NAFE Conference (July 2018), with Geoff Clarkson, P.Eng., FEC.
- D. Couture, “*Forensic Engineering Analysis of an Apartment Freezing Sequence Using Heat Flow Equations*”, NAFE Conference (July 2018).
- R. Henderson, J. Leblanc, S. Hawken, D. Couture, “*Using Forensic Engineering to Strengthen Your Case*”, presented at the Regulatory Compliance & Enforcement Council Training Forum (June 2018).
- D. Couture, “*Forensic Engineering Investigation of a Furnace Oil Supply Line Fitting Leak*”, NAFE Conference (January 2018).
- D. Couture, “*Forensic Engineering Investigation of a Fatal Farm Tractor Incident*”, NAFE Journal 2018;35(2):13-22.
- D. Couture, “*Forensic Engineering Analysis of Traffic Signal Timing & Speeds Prior to Collision by Rule-Based Triage of Indirect Video*”, NAFE Conference (January 2017) & NAFE Journal 2017; 34(1): 1-25.

### **PROFESSIONAL EXPERIENCE**

**Senior Forensic Engineer**, Arcon Forensic Engineers  
(May 2003 – Present)

Responsible for receiving mandates, assigning resources, pursuing investigations, developing conclusions from evidence using scientific methods and engineering principles, writing technical reports and providing support during litigation proceedings for clients in the insurance and legal services industries. Lead forensic engineer on more than 750 investigations on complex multiple-topic incidents. Qualified as an expert witness before the Ontario Superior Court.

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### **PROFESSIONAL EXPERIENCE (Cont'd)**

**Manager, Production & Inventory Control**, ASA Alloys  
(June 2000 – April 2003)

Responsible for annual, semi-annual and perpetual inventory control, reconciliation and valuation for holdings of stainless and specialty steels. Canada-wide customer technical coverage, including failure analysis, and material choice solution suggestions in stainless steel and specialty metals, for applications in machinery ranging from food equipment handling to oil field down-hole instruments to aerospace landing gear systems. Liaison with overseas suppliers to defend technical integrity of products. Responsible for ISO 9002-1994 standard compliance and maintenance through three audit cycles.

**Technical Director**, ASA Alloys  
(June 1996 – May 2000)

Provided bilingual metallurgical and technical assistance to customers on a Canada-wide basis for screw machine, presses, and assembly equipment in a wide range of industrial applications. Supervised technical training programs and competence testing for new employees.

**Principal**, The Improvement Strategist  
(September 1992 – May 1996)

**Research Associate**, Queen's University  
(February 1991 – September 1992)

**Consulting Metallurgist**, CN Rail Technical Research Centre  
(December 1989 – January 1991)

**On-Site Technical Adviser**, Biological Expedition to USSR  
(July 1989 – November 1989)

**Chief Metallurgist**, Alcan Wire & Cable  
(December 1987 – December 1988)

**Metallurgist**, Alcan Wire & Cable  
(April 1985 – November 1987)

**Research Assistant**, Queen's University  
(March 1983 – April 1985)

**Technical Service Representative**, Dupont Canada  
(August 1980 – March 1983)