

Daniel Zerfass | Senior Structural Engineer M.Eng., P.Eng.

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Professional Summary:



Daniel Zerfass is a senior structural engineer with over 30 years of experience. He has a master's degree in structural and environmental engineering. Daniel has a broad range of expertise that includes large residential, commercial and industrial buildings, oil & gas structures, drilling rigs and storage tanks. He has complete large scale projects in North America, Asia, Africa and Europe.

Daniel has deep understanding of forensic investigations in the insurance industry having been Lead Investigator for major Lloyd Register facilities. He has comprehensive knowledge of codes, standards and engineering best practices. Daniel has provided expert testimony in numerous insurance litigation cases.

Expertise:

- Forensic investigations to determine the root cause of structural failures and contributing factors such as misinterpretation of codes/regulations/standards or errors in design, construction and maintenance.
- Verify cause and extent of damage following extreme weather events. Provide repair specifications and repair cost estimates.
- Post loss inspections, audits, damage assessments, review of regulatory and OHS compliance.
- Project design quality assurance audits and validation; verify approvals and certification to codes and standards.

Education:

Master of Structural and Environmental Engineering, University of Alberta, 2003

Bachelor of Civil and Environmental Engineering, Faculty of Civil Engineering, Bucharest, Romania 1989

Licenses & Certifications:

Fire Protection, fire investigation and control - DNV (DET NORSKE VERITAS) accreditation.

Quality Engineering Industrial Buildings, Lloyds's Registry's affiliate - DNV accreditation.

Emergency Response Service for natural disasters - DNV accreditation

Quality Systems Certification - ISO TS29001-2010

Paralegal in construction industry - DNV accreditation

Standards Development Program - American Petroleum Institute (API).

Professional Associations:

Professional Engineer (P.Eng.), Alberta

Project Examples:

High-rise structural steel: Industrial building design, concrete foundations, slabs on grade, piles, grade beams and retaining walls. Recent examples include Hyduke Energy Services main office building and fabrication shop in Nisku.

Lloyd Register, Lead Investigator: Investigate non-conformance of codes and regulations, technical issues due to errors or omissions, occupational safety issues and environmental spills causing air, water and ground contamination. Projects in the North America, Latin America and North Sea.

Service Rigs & Drilling Rigs: Custom design of service and drilling rigs, approved under API 4F Monogram. NDT inspections, testing and certification. Projects completed in USA, Mexico, Ecuador, Brazil, Trinidad, Australia, Indonesia, Malaysia, India, Russia, China, Egypt, Libya, Tunisia and Algeria.

Refineries: Structural failure assessment involving design, performance and inspection. Led structural restoration and equipment decommissioning. Achieved environmentally clean restoration.

Storage Tanks and Reservoirs: Design storage tanks and reservoirs servicing oil and gas industry. Complete inspections, NDT testing and provide certifications.

Bridges: Design, fabrication, erection and failure analysis of high strength portable bridges used in oilfield infrastructure to transport heavy machinery. Quality assurance compliance review for bridge maintenance under Alberta Transportation jurisdiction. Conduct inspection of damages and specify engineering repair procedures and retrofit maintenance. Recent example includes oversized vehicle damage to the Athabasca River Bridge.

Cranes design: Detailed design review and inspection certifications for a variety of crane sizes and capacities for numerous industrial buildings located within Alberta.

Conveyors: Design and quality review of steel structures for complex conveyor systems. Quality oversight for fabrication and commissioning of conveyor, functional and efficiency improvements and specify conveyor maintenance requirements. Recent example includes multiple conveyors for clinker transport between the two major plants.

Marine Structures: Conducted technical review and quality audits of maritime semisubmersible platforms, specified corrective action procedures and provided final conformance reports to regulatory authorities for (API 2A) approvals. Examples include North Sea offshore platforms and Gulf of Mexico offshore platforms for Daewoo shipbuilding and Marine Engineering.

Professional Experience:

EFI Global, Senior Structural Engineer, 2023 - current

Forensic engineering and failure analysis of complex structural damage claims. Serving the insurance, legal industries and government.

MTT Recycling Technologies, Principal Engineer, 2020 - 2023

Project Manager of civil, structural and environmental engineering. Manage other engineering disciplines involving R&D for de-oiling spent catalyst and extraction of renewable energy materials using hydrometallurgy process.

Boundary Equipment Ltd., Principal Engineer, 2020 - 2023

Project Manager of various domestic and international projects for mining industry equipment. Provided detailed design of industrial buildings, critical mining, smelting or processing components. Prepared

specifications and contract documents and liaise with regulatory authorities for approvals. Provide general project management of mechanical, structural, civil and environmental engineering.

Zerfass Engineering Ltd., Principal, 2007 - 2018

Project Manager of various domestic and international projects applying expertise in mechanical, structural, civil and environmental engineering. Projects included detailed design of industrial buildings, cost estimating, tender specifications, construction project management and commissioning.

T&T Inspection and Engineering Ltd., Project Manager, 2001 - 2007

Project Manager within the Structural/Mechanical Group. Provided detailed design, design approvals and contract management for industrial and commercial projects. Examples include:

- Industrial buildings
- Bridges platforms and roads
- Oil and gas drilling and service rigs, offshore platforms and maritime rigs
- Tanks and oil reservoirs
- Towers cranes and portable cranes
- Digging equipment, lifting equipment, road maintenance equipment and forestry equipment
- Engineering compliance inspection for API, DNV, CSA, NIST, AISC and ASTM requirements.
- Custom designs and model simulation for oilfield equipment repair. Used customized CAD software (STAAD, Ansys and Solid Works).
- Coordinated all industrial manufacturing for T&T Engineering and Hyduke's various divisions.
- Hired and managed teams of engineers, designers and NDT inspectors.
- Stimulated business growth, increased revenue and transformed company into key industry player by securing ISO certification, making Hyduke Energy Services the first Canadian corporation to achieve API 4F Monogram license by American Petroleum Institute.

Herbert Wacker GmbH, Germany, Project Engineer, 1990 - 1999

Project Engineer within the Civil department. Designed and managed construction of municipal projects including sign of urban roads, bridges, buildings, water supply and wastewater management.

Cement, Lime, Plaster Engineering Consulting, Romania, Project Engineer, 1986 - 1990

Project Engineer in the Structural department. Design, construction and retrofit of heavy industrial plants and factory projects.