

Insurance - Forensic

OUR SERVICE FOCUS

For lawyers specialising in litigation who require an expert witness in modelling engineering failure, Matrix has over 35 years niche experience and knowledge in this area. As New Zealand's most experienced engineering analysis team, we offer an efficient and robust solution to model structural failure using advanced material modelling incorporating damage for a range of different materials and types of structures from large silos, yachts, medical devices through to small mechanical components.

SERVICE / SUMMARY

Detailed structural analysis using FEA, including static strength, buckling, vibration, fatigue assessment and fitness for service assessment. Non-linear capability to account for complex effects such as contact and material plasticity. Advanced CFD to understand fluid induced loads, vibrations, temperatures and overall system performance.

- Specialists in Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD) and Fitness for Service Assessment (FFS)
- Tried and tested courtroom experience
- Advanced analysis problems, e.g. parts in contact, bolted and bonded connections, combustion, fluid flows
- Proven seamless collaboration with legal firms over the years



PROBLEMS / SOLUTIONS

Matrix provides solutions for litigation lawyers requiring an expert witness:

Problem	Solution
Will the expert witness have niche knowledge in the area of modelling product performance, failure or checking the original design was code compliant?	Matrix have a strong reputation built over the past 35 years in using leading edge simulation tools to evaluate product performance and ensuring code compliance.
If a failure occurs in service, how do I identify the root cause of the problem?	Matrix has expertise in fracture mechanics, fitness for service assessments (analysis of damaged parts) and fatigue assessment.
How can an independent check of a witness's brief of evidence be performed when complex analysis results have been presented?	Matrix have proven experience at reviewing third-party reports and providing critical feedback on the validity of their conclusions.
I need someone who holds their ground in a courtroom cross-examination environment	Experienced, presentable and confident in a court environment, with sound knowledge of analysis methodologies.

CUSTOMERS / EXPERIENCE

- Expert witness for cases in NZ and overseas
- Have achieved settlement through thorough analysis of plaintiff's brief of evidence
- Up to date with the latest material failure methodologies

OUR TEAM

Meet our highly qualified and experienced mechanical engineering analysts:

- Don Campbell**, BSc, BE(Hons), PhD, CMEngNZ, CPEng (Mech), IntPE, NAFEMS Adv Reg Analyst, 45 yrs exp
- Paul Bosauder**, BE(Hons), NAFEMS Adv Reg Analyst, Advanced CFD, composites & non-linear FEA, 20 yrs exp
- James Hamilton**, BE(Hons), PhD, CMEngNZ, CPEng (Mech), IntPE, composites & non-linear FEA, 20 yrs exp
- Guido Quesada**, MSME, ASME, FEA, advanced Abaqus instructor, pipe joints, product development, 23 yrs exp
- James Cheng**, BE(Mech), ME(Mech), fracture mech, press vessel design, plastic injection moulding, 18 yrs exp

ABOUT MATRIX

Matrix provides solutions for engineering design and information management. New Zealand's first and largest team dedicated to engineering computing, supporting the process of innovation for over 35 years. Visit www.matrix.co.nz.