



Areas of Expertise

- Engineering Assessments
 - materials, components, assemblies, systems and infrastructure
 - all engineered materials: metals, plastics, rubbers, ceramics, composites
 - coatings, sealants, adhesives, paints
 - interpretation of standards, codes and legislation
- Forensic Failure Analysis
 - failure mode & root cause
 - corrosion modes
 - recurrence prevention
- Incident Investigations
- Condition Assessments
 - corrosion, coatings, structural, materials, concrete & reinforcing, erosion
- Compliance reviews
- Condition Monitoring Programs
 - specification & assessment; NDT
- Specification Writing
- Remediation Advice
- Materials Selection & Testing
 - new or existing designs
- Manufacturing Optimisation
 - heat treatment & surface finishing
- Weld Fabrication & Assessment
- Testing Services
 - materials, chemical & mechanical
 - destructive & non-destructive

Qualifications & Professional Memberships

- Engineers Australia Fellow status (FIEAust)
- Masters Preliminary (MEngSc.Prelim)
- Bachelor of Engineering (BEng Mat)
- Materials Australia Certified Materials Professional (CMatP)
- AS ISO 9712 Non-Destructive Testing (NDT) Certifications
- Engineering Design Authority
 - significant & non-significant & changes for airframe & undercarriage components
- Project managed NADCAP certification
- NATA Quality Manager
 - mechanical testing & NDT
- Development & delivery of training courses
 - Materials engineering, NDT, heat treatment
- Certificate IV: Training & Assessment

Trevor Rowlands

Trevor Rowlands is the Engineering Director and lead consultant for Materials Solutions Australia, an engineering consultancy firm specialising in forensic failure analysis and investigation. With a robust engineering foundation spanning all engineered materials comprising components, assemblies, systems, and infrastructure, Trevor's expertise focuses on specialised applications, complicated or extreme service environments, and critical assets of high consequence.

Trevor has over 30 years of experience across hundreds of civil and Defence projects. His experience includes:

- Infrastructure, Machinery & Equipment
 - Alfred Hospital, Altona water recycling plant, Beca Group, Ballarat City Council, Casey City Council, Crown Casino, Davey Pumps, Eureka Tower Melbourne, FMG Engineering, Glen Eira City Council, Iveco, Jayco, Johnson Controls, Lend Lease, Monash City Council, Noble Park City Council, Penske Transportation, Reece Plumbing, Renold, Rio Tinto, Royal Children's Hospital Melbourne, Victoria Police Major Collisions Unit, Worksafe Victoria
- Legal & Insurance
 - AAI Limited, AIG, Allianz, Auto & General Insurance, Baker McKenzie, Barry Nilsson, Beca Group, Black Saturday Bushfires, Cunningham Lindsey, FM Global, Hall and Wilcox, HWL Ebsworth, King & Wood Mallesons, Lander and Rogers, Ligeti Partners, Maddens, Maddocks Lawyers, Meridian Lawyers, Moray & Agnew, Norton Rose Fulbright, Slater & Gordon, Sparke Helmore, Turks Legal, Wotton & Kearney
- Energy (Production, Transmission, Distribution & Storage)
 - Industrial plants, infrastructure and pipelines:
 - BOC, Exxon Mobil, GrainCorp, INPEX Icthus, Rio Tinto
 - Electrical transmission towers & distribution lines, and hardware:
 - AGL Energy, Ausnet Services, Central Power, Powerlink, SA Power Networks, Snowy Hydro, Suzlon Energy
- Aerospace
 - multiple Defence and civil aircraft platforms including Lockheed P3/AP3C Orion and C-130 Hercules, McDonnell Douglas F/A-18, General Dynamics F-111, Boeing 737, 767 and 777, Airbus A320, A330 and A340

Trevor has also been responsible for carrying out investigations and reinstatement of numerous distressed residential and commercial buildings, large fire or water damaged buildings, in addition to a wide variety of sizeable industrial projects.

Trevor is currently involved in providing expert assessments and remediation advice on complex infrastructure failures.