



KIM CHUA

MEng (Hons), CEng, API 580, BOSIET, MIMMM, AMIChemE, AMIMarEST, NACE/AMPP

Managing Metallurgist

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Spoken Languages	English, Chinese (Mandarin & Hokkien), Malay

Kim Chua embodies the essence of a highly skilled and accomplished metallurgist. With a strong background in Chemical and Materials Engineering, she has been accredited as a chartered engineer by the Engineering Council and holds the API 580 certification for risk-based inspection.

Kim's expertise in failure investigation that extends to both destructive and non-destructive testing techniques, including metallurgical replicas, strain gauge measurements, and electrochemistry, has been honed through years of experience in various industries such as aerospace, defence, marine, motorsport, and petrochemical. She also co-patented a revolutionary rolling method for the production of wrought aluminium alloys, a testament to her innovative spirit and dedication to delivering high-quality work.

Since joining Brookes Bell as an in-house metallurgist in May 2018, Kim has undertaken investigations onboard, developed test protocols, attended joint witnessing at laboratories, and produced expert witness reports for litigations. Her exceptional skills and vast experience in metallurgy and corrosion make her an invaluable expert to our clients.

Academic Qualification

MEng (Hons) Chemical and Materials Engineering (1st) (University of Auckland)

Professional Memberships

Chartered Engineer of the Engineering Council

Member of the Institute of Metals, Minerals and Mining

Member of the NACE International (AMPP)

Associate member of the Institute of Chemical Engineers

Member of the Asia Pacific Institute of Experts

Previous Employment History

Lead (failure analysis) engineer at Suez WTS (previously GE Water)

Corrosion engineer at Element Global Corrosion Centre (previously Exova)

Senior product development metallurgist at Arconic (previously Alcoa)

Corrosion engineer at Quest Integrity NZL Limited

Surveying and Consultancy Experience

Investigation of:

- Claims involving ferrous and non-ferrous cargoes, including rails, steel coils, and various finished products, for handling damage, corrosion and contamination
- Claims involving structural degradation
- Claims involving iron ore cargoes
- Leaks and cracks to vessel structures, transfer lines, seawater cooling system etc
- Corrosion of ferrous and non-ferrous products, plant and machinery, including claims for sulphur damage to ships' structure
- Corrosion of stainless-steel cargo tanks, tank containers and other structures within chemical products tankers, including damage caused by phosphoric acid cargoes
- Damage repairs of LNG carriers
- Failure of wire ropes, including crane wires, lashing wires / chains, their associated equipment
- Failure of major items of vessels' structure/equipment, including cranes, propellers, intermediate shafts, hull structure, anchors, heat exchangers, turbine blades and engine components
- Failure of corrosion protection system including sacrificial anodes, MGPS and ICCP
- Component failures and quality issues; mechanical properties and chemical analysis of carbon steels, austenitic / duplex / super duplex stainless steels, nickel alloys, aluminium alloys and copper alloys