

ACCREDITATIONS

ISO 17025 – Accreditation body IANZ (NZ equivalent of NATA)

Southern QA Ltd is a Registered Laboratory in the field of Mechanical Testing

Accreditation categories 4.75, 4.81, 4.82, 4.83, 4.84, 4.99

Classification Societies:

Lloyds Register – Accredited Company for thickness measurement of hull structures

Det Norsk Veritas – Accredited Company for thickness measurement of hull structures

Bureau Veritas – Accredited Company for thickness measurement of hull structures

MEMBERSHIPS

NZ Non-Destructive Testing Association

American Welding Society

NZ Institute of Welding

Standards Association of NZ

Heavy Engineering Research Association

Recent Work Activities:

- **Rope access inspection of caustic tanks at Alcan Gove refinery (In conjunction with Geovert Aust Pty Ltd)**

Work Scope included:

- Establishment of ITP, inspection procedures and weld repair procedures to meet Alcan requirements
- MPI for SCC type defects in caustic tanks, evaluation of necessary repairs and testing of repair welds
- Inspection of Crane and ancilliary structures
- Reporting of all results to client requirements



- **Inspection of major structural steel construction projects including buildings, bridges, conveyor systems etc for various clients and installations**

Recent projects include:

- Christchurch C1 tower 24 storey steel frame building (client Pegasus Engineering)
- Inspection of Kawarau river bridge alterations, Queenstown (Client Fulton Hogan Ltd)
- Inspection of AMI Stadium, Christchurch roof support members (Client John Jones Steel Ltd)
- Dunedin Stadium – NDT of site welding on 4000T of structural steelwork

- **Inspection of Petro-chemical installations including pipelines and storage tanks for various clients and installations**

Recent projects include:

- ❑ New tank installations, McMurdo Station Antarctica (client Raytheon Polar Services)
- ❑ Lyttelton tank farm redevelopment (clients Acme Eng, Ewing Construction)
- ❑ Rope access inspections for recommissioning of Methanex Motonui plant
- ❑ Inspections to API 650, API 653 and API 1104



- **Inspection of boiler and pressure vessel manufacturing, including Radiography, ultrasonic testing and MT/PT inspections to British/European, American, Australian and New Zealand Standards, and final inspection by non-destructive methods.**

Typical work includes:

- ❖ Boilers and pressure vessels for Scotts Engineering Ltd, Lyttelton Engineering Ltd and other manufacturers.
- ❖ Inspections to standards such as AS 1210, BS 5500 and ASME VIII

- **In-service bridge inspections**

Current and recent projects include:

- ✓ Central Otago road bridges at Beaumont and Kawarau gorge
- ✓ West Coast road bridges – Cook, Fox and Karangarua rivers and Buller Old Iron Bridge

- **Non destructive testing of Hydro-electric generation equipment, including bearings, bolts, thrust bracket, shafts, rotors, runners, scroll casings etc**

Current and previous projects include:

- ◆ Manapouri half-life refurbishment project – Client Transfield Services Ltd
- ◆ Roxburgh Refurbishment – Client TGE Pty Ltd
- ◆ Benmore half-life refurbishment – Client Transfield Services Ltd



- **Inspection of ships hulls (thickness testing) and hull repairs**

Current and recent projects include:

- BV, DNV and Lloyds Register surveys
- Hull and tank repairs on vessels Milburn Carrier, Pelican, Rangatira, Machiavelli

- **Eddy current inspection of plant and structures**

Current and recent projects include:

- ✓ Central Otago Road bridges at Beaumont and Kawarau Gorge.
- ✓ Tekapo B power station generator rotor and thrust bracket welds
- ✓ Lyttelton road tunnel fan blades

- **Third party and independent review of NDT projects**

Current and recent projects include:

- ✓ Compilation of examination questions for ISO 9712 NDT exams
- ✓ Level 3 review of radiography on offshore to onshore pipeline and production plant

- **In-service inspection of heavy plant and construction machinery**

Current and recent projects include:

- Holcim Cement plant kilns and mills
- 100T to 400T excavator booms, dipper arms and carboodies (Hitachi, Caterpillar and Komatsu)
- Carter Holt Harvey MDF plant rollers, fans and digesters
- Test methods Ultrasonic weld and thickness testing, Eddy-current, Magnetic particle and Liquid penetrant



- **Establishment and maintenance of weld procedure and welder qualification records**

Current and recent clients include:

- Ewing Construction Ltd
- Southern Cross Engineering Ltd
- Mace Engineering Ltd
- Test standards AS 1554, AS 2980, AS 3992, BSEN 287/288, BSEN 15614, ASME IX

- **Supervision / procedure compliance monitoring of weld repairs**

Current and recent projects include:

- Excavator boom repairs for Doug Hood Mining / Gray Bros
- Scroll case repairs for Meridian Energy Limited Manapouri Power Station
- Caustic tank weld repairs at Alcan Gove Refinery

New Technologies and better methodologies:

Southern QA has invested in new technologies to enhance our range of services, and also regularly provides third party inspection, QA and expediting services.

- **Eddy-current weld inspection:**

- In-service detection of surface cracks without the removal of paint
- Eddy-current inspection can be applied to welds
- Saves time and money and retains the integrity of coating systems, whilst still providing effective surface flaw detection.



- **Third Party Inspections / QA services / Expediting:**

Southern QA has provided third party inspection and expediting services to a vast range of clients and industries for the supply of products including:

- ❖ Rubber goods manufacturing for the mining industry
- ❖ Electrical supply and instrumentation cables
- ❖ Plastic pipe and products
- ❖ CO₂ production plant
- ❖ Coal cleaning and handling equipment

- **Bolt Tension measurement and monitoring:**

- ✓ Ultrasonic bolt tension measurement is an accurate methodology for ensuring correct bolt tensions in critical fastener situations.
- ✓ The method is fast and consistent while torque spanners will result in variable tensions due to thread condition, lubrication differences, mating surface flatness etc.
- ✓ Ultrasonic bolt tension gauges will measure extension (to micron accuracy) or convert to load or applied stress.
- ✓ It is possible to have a regular checking program to ensure bolts stay correctly tensioned in service.

