

Andrew Piercy

Principal Engineer • Failure Investigation & Consultancy • Intertek CAPCIS • Manchester

OBJECTIVE/PROFILE

Andrew has more than 34 years' experience of corrosion and metallurgical investigations and testing. Main areas of expertise are corrosion and corrosion-related failure analysis, metallurgy and mechanical failure analysis.

SKILLS

- Corrosion and metallurgy of copper and its alloy
- Coatings inspection
- Failure analysis
- Corrosion and corrosion mitigation
- Material selection

EXPERIENCE

Principal Engineer • Failure Investigation & Consultancy • 1989 to date

2008 – present, Principal Engineer, Failure Investigation & Consultancy

Various Roles • CAPCIS Ltd • 1986 to 2005

2002 – 2008, Senior Engineer, Failure Investigation & Consultancy

1994 – 2002, Engineer, Failure Investigation & Consultancy

1989 – 2002, Technical Officer, Metallurgy (CAPCIS-UMIST/CAPCIS Ltd)

Examples of some projects undertaken include:

Oil And Gas:

- Investigation of corrosion and explosion of 10" oil production flowline in Algeria.
- Investigation of corrosion of offshore oil export lines.
- Investigation of pitting corrosion of gas injection well tubulars.
- Investigation of cracking of gas compressor martensitic stainless steel impellers.
- Investigation of compressor dry gas seals and o-rings.
- Investigation of corrosion of Aluzinc-coated steel cladding for a new onshore oil & gas process plant in Kazakhstan.

Coatings and Non-Metallics:

- Investigation of failure of offshore gas processing facility coating system.
- Investigation of failure of painted offshore wind farm cranes.
- Investigation of galvanising quality on new collapsible IBCs.
- Investigation of blistering of coated petroleum product cargo tanks aboard a tanker.

Chemical Process & Pharmaceutical:

- Investigations into the stress corrosion cracking of austenitic stainless steel pipework, vessels and heat exchangers.
- Investigation of failure of steam tubes from pharmaceutical site waste heat boiler.
- Investigation into leaking of stainless steel IBC vessels.
- Investigation of high temperature cracking of nickel alloy bellows.
- Investigation and modelling of erosion-corrosion of pharmaceutical slurry transport pipe.



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**Legal and Insurance:**

- Expert for claim relating to corrosion of stainless steel brackets in final settlement tanks.
- Expert for claim relating to failures of hotel hot water heaters.
- Investigation into corrosion of stainless steel potable water pipework in a new hospital.
- Expert for personal injury claim relating to failure of an aluminium lighting column.
- Expert for a claim relating to faulty coating applied to fuel tanks.

Manufacturing:

- Investigations into cracking of guide tubes for automotive hydraulic actuators.
- Investigation of failures of industrial welded panelled doors.
- Investigation of apparent pitting corrosion in cell phone transmitter cabinets.
- Design guidelines for use of brasses and other copper alloys for a shower systems manufacturer.

Transport/Highways:

- Inspections and auditing of stainless steel road tankers plus assessment of corrosivity of chemical loads.
- Investigation of collapsed steel lighting columns.
- Investigation of cracking and corrosion of underground railway rails.
- Hardness survey and replication of historic cast iron bridge structure.
- Investigation to determine the cause of external staining and corrosion on stainless steel door furniture on a new build rapid transit system in the Middle East.

Shipping and Defence:

- Investigation of pitting corrosion of CuNi alloy cooler tubes aboard HM submarines.
- Co-author of Defence Standard 02-781 for protection of seawater heat exchangers and pipework system.
- Co-author of Defence Standards 02-862 for naval fasteners.
- Investigations of CuNi seawater boxcooler failures.

Food and Brewing:

- Condition assessments of brewery vessels.
- Investigation of cracking (SCC) of stainless steel hot liquor lines.
- Investigation of SCC of stainless steel falling film milk evaporator.

Water Industry:

- Review of literature related to the influence of water quality on cuprosolvency.
- Examination of corroded extraction ductwork from a water treatment plant.

Buildings and Infrastructure:

- Condition assessments of district heating systems and communal heating systems from apartment buildings.
- Investigation into the leakage of copper potable water tubes at a hospital in the Middle East.



- Determination of the mechanism and cause of staining and corrosion of external cladding on a new-build retail outlet.
- Condition assessment/surveys of columns and beams in listed buildings undergoing renovation.

Quality Control Technician • Eva Brothers Ltd • 1987 - 1989

Metallurgical Technician • University of Salford • 1985 - 1987

EDUCATION & PROFESSIONAL QUALIFICATIONS

BTEC HND Metallurgical Studies • 1985 • Manchester Polytechnic
Corrosion Engineering & Control • 1991 • Corrosion and Protection
Centre, UMIST

Professional Member of The Institute of Materials, Minerals and
Mining (MIMMM) • 2012

Chartered Engineer (CEng) – The Engineering Council • 2012

ICorr Paint Inspector Level 1 • 2009 - 2019