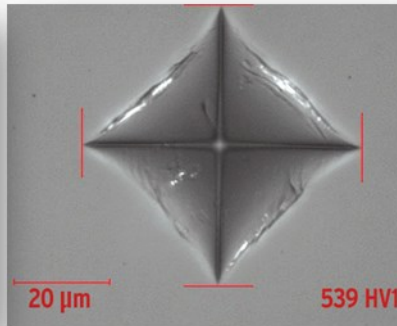
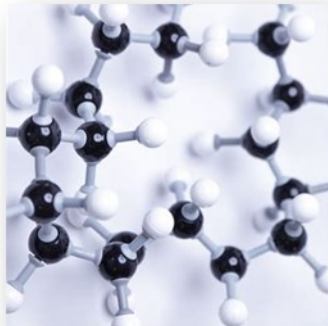


Materials Centre

Materials Analysis



The **Applus+** Materials Centre operates a complete materials analysis facility and service. Our experienced staff and equipment allow the analysis of various types of materials, including metals & alloys, ceramics, polymers & elastomers, and various composites.

Specific test equipment available in-house includes:

- Portable Optical Emission Spectrometer with Fe, Ni & Cu matrices
- Portable XRF Spectrometers
- Optical microscopy, including low magnification stereo zoom and high magnification microscopes
- Scanning electron microscope with Energy Dispersive Spectroscopy analysis
- 60 tonne Servo-Hydraulic Universal Testing Machine with Computer Control
- 500kg Electro-Mechanical Universal Testing Machine for polymers and elastomers
- Charpy Impact Tester
- Vickers Hardness Testing (5-250kg test loads)
- Vickers Micro-Hardness Testing (15-500gram test loads)
- Shore A & Shore D Polymer Hardness Testing
- High temperature vacuum/inert gas furnace for specialised heat treatment of samples and product development studies

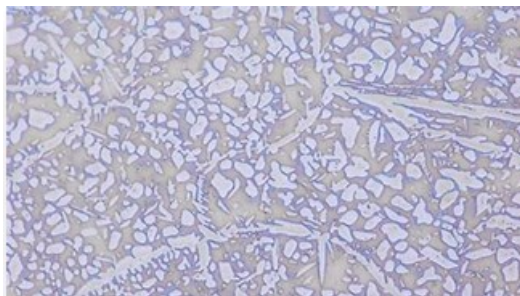
Expertise

The Materials Centre is currently managed and operated by a team of dedicated professionals with key expertise in materials science and technology. Our personnel have worked in the Oil & Gas, Mining and manufacturing industries for over 30 years, specializing in failure analysis of equipment, materials analysis and characterization.

Types of Analyses

Materials Analysis can be used to determine the following:

- Confirmation of supplied materials to original specification
- Certification of materials
- Certification of welds
- Manufacturing improvement
- Comparison of material grades against performance conditions and requirements
- Measurement of residual life of installed components
- Investigation of unknown materials and manufacturing methods
- Wear studies and analyses
- Corrosion studies and analyses



Additional Services

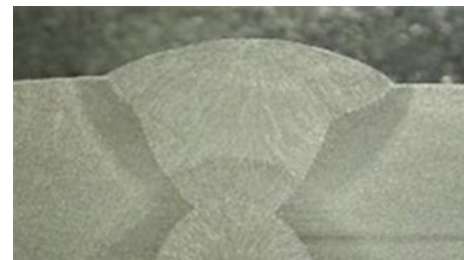
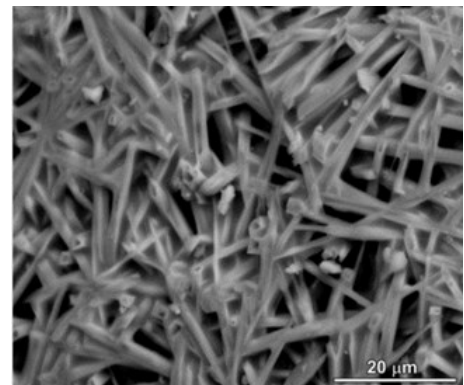
Applus+ provides the following services as individual packages or combined to provide a total Asset Integrity Management programme.

- Advanced (non-intrusive) Inspection Services.
- Sub-sea Inspection Services.
- Engineering Design Solutions.
- Risk Based Inspection Planning.
- Inspection Management Services.
- In Service Inspection.
- Plant Life Management.
- Metallurgical Services.

Importantly, **Applus+** can also call upon extensive in-house expertise and resources for advanced inspection and conventional NDT, providing a total capability for management of through life plant integrity.

Applus+, in collaboration with our local and international partners, has extensive experience in the application of these services to a wide range of industries including:

- Oil & Gas.
- Petrochemical.
- Refining.
- Ore Processing and Handling.
- Power Generation.



Applus⁺

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