

SEM-EDS & ELECTRON MICROPROBE ANALYSIS

Lucideon quickly provides information about chemical composition, distribution of chemical constituents, molecular structure, fracture surfaces and surface topography utilizing Scanning Electron Microscopes (SEM) and an electron microprobe, which is an SEM that has been optimized for flexibility and accuracy in elemental analysis.

APPLICATIONS

- Failure analysis
- Fractography
- Measurement of features
- Composition of debris/particulate
- Contamination/staining investigations
- Qualitatively identify alloys
- Identify products of corrosion
- Characterize elemental diffusion profiles
- Plating/coating thickness & composition

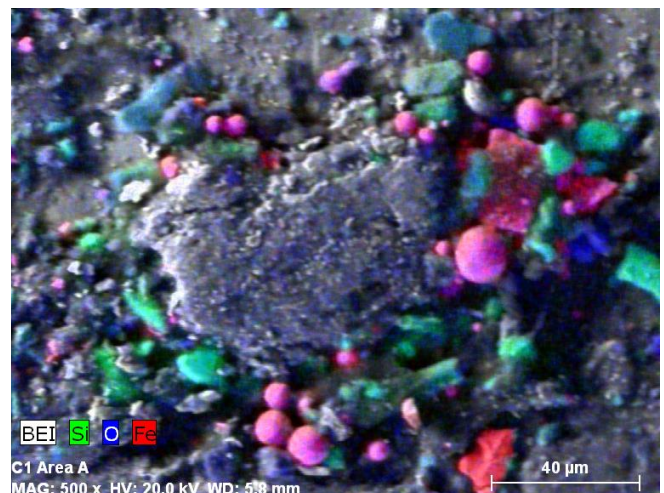
SEM FEATURES

- Operation in conventional high vacuum or variable pressure vacuum, which permits examination of metallic, non-metallic and non-conductive materials without coating or sample preparation.
- Large sample analysis chamber that accommodates samples greater than 250 mm (10 inches) in dimension, and a mass of 4.5 kg (10 pounds).

- Light element energy-dispersive spectroscopy (EDS), and wavelength dispersive spectrometry (WDS) to obtain qualitative and semi-quantitative chemical composition results.

X-RAY ELEMENT MAPPING

Thoroughly study a feature of interest by superimposing elemental chemical composition results on top of a surface topography map. A unique color can be assigned to each chemical element.



These techniques, can be combined with others available at Lucideon, to provide a fundamental understanding of what is happening in any material investigation.

MICROBE FEATURES

One of the world's fastest electron microprobes, with seven wavelength dispersive X-ray spectrometers (WDS) and a silicon drift detector energy dispersive X-ray spectrometer (SDD-EDS).