

Particle Probe

▶ Grid Probe

▶ Identify Potentials

Support regarding changes in fuels and process adaptations at preferably regular intervals.

▶ Reduce Corrosion and Fouling

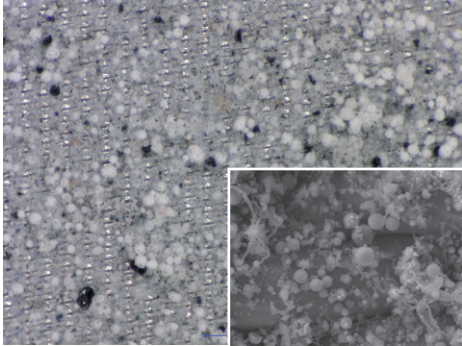
Recognize the opportunities provided by the boiler design, change the mode of operation and fuel as required.

▶ Avoid Corrosion and Fouling

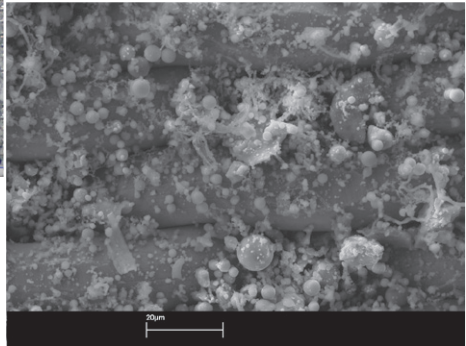
Evaluate effects of unavoidable changes in the working process in a timely manner.

▶ Application

- high proportion of ashes, low proportion of salt

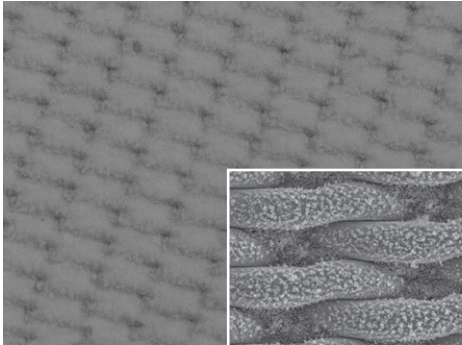


light microscope

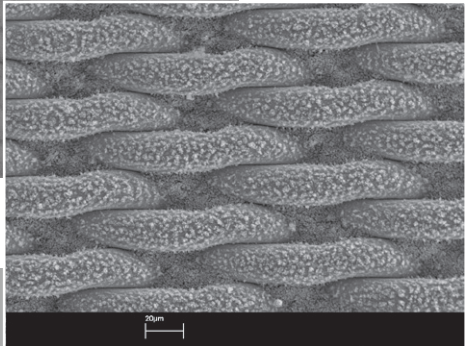


electron microscope

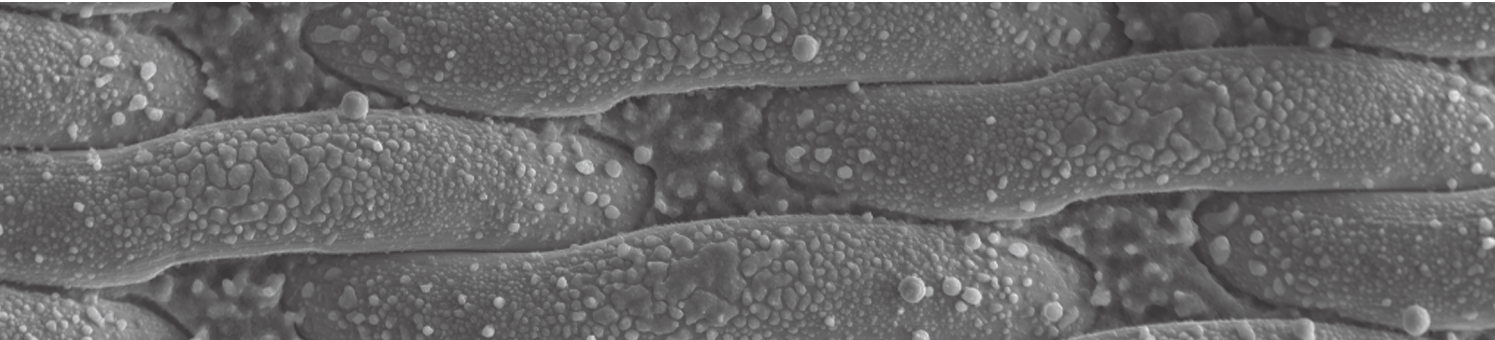
- high proportion of salt, low proportion of ashes



light microscope



electron microscope



► Design and Operating Principle of the Probe

- The cooled respectively uncooled probe is briefly inserted in the flue gas stream.
- The flue gas is sampled isokinetically through a grid with a micro-mesh. Salts and ashes are being deposited on the wire surface and in the meshes.
- Irrespective of the flue gas temperature the probe can be installed at any position along the flue gas path.

► Analysis

- Salt-ash deposits are analyzed. Depending on their proportions, they provide information about potential corrosion and fouling.
- The characterisation of deposits is based on their composition and their aggregate state. Saturated salts are being deposited on the wire surface as "aerosol sludge".
- Vertical sections are used to create particle profiles (e.g. reaction rims)

