SIGMA ENERGY SOLUTIONS

Heat Exchanger Deposit Analysis

Sigma Energy Solutions (Sigma) can provide expert heat exchanger deposit analysis services. Our knowledgeable, experienced experts in this field can provide advice and recommendations based upon analysis results.

Sigma's laboratory team has over 20 years experience in the analysis of deposits associated with heat exchangers. While there are a range of 'standard' approaches and methods to fall back on, our experienced staff excel in devising analytical strategies to return the most cost-effective and technically appropriate results. This is made possible by combining available techniques with Sigma Energy Solutions expert knowledge and skills.

Fouling

- water-formed deposits – scales
- biofouling
- silt and sediment (both natural and process generated)
- transported corrosion products

Corrosion products

- generalised corrosion
- pitting corrosion
- microbiologically influenced corrosion
- under-deposit corrosion

Techniques available

- scanning electron microscopy with energy dispersive analyser (SEM / EDA)
- x-ray diffraction (XRD)
- polarising optical microscopy (POM)
- fourier transform infrared spectroscopy (FTIR) c/w microscope attachment
- atomic absorption spectroscopy (AAS)
- HP liquid & ion chromatography (HPLC and IC)
- UV visible spectroscopy (UV-Vis)
- thermal analysis (TG-DTG-TMA)

Advantages of using Sigma Energy Solutions

Sigma has established relationships with other laboratory services, enabling the provision of economical bulk rates for routine analysis (such as ICP).

Sigma has a key advantage in the analysis of deposits – the staff undertaking this work have the experience and case history background to enable them to focus on meaningful results and observations. Rather than only producing data for others to interpret, our team will provide advice and recommendations, addressing specific issues identified.

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