

EMAT thickness measurement



Surveying the wall thickness of the furnace and related tubing in conventional power plant is a major 'critical path' activity. Anything that can be done to save time, without sacrificing quality offers a significant commercial advantage.

The Problem

Traditional furnace tube surveys require expensive, time consuming, and often material deleterious surface preparation to enable the acquisition of ultrasonic thickness measurements.

The Challenge

To develop a reliable technique for ultrasonic thickness measurement of scaled furnace tubes, without the need for extensive surface preparation.

Our Solution

The development of specialised electromagnetic acoustic transducers (EMATs) linked to standard ultrasonic flaw detector which enable accurate tube thickness measurements through surface scale up to 5mm thick.

Product

- EMATs interface with standard ultrasonic flaw detector
- robust probes will last considerably longer than traditional probes
- no surface preparation required on tubes with up to 5mm of scale
- accurate method of determining erosion/corrosion rates.

Benefits

- significant initial survey time/cost savings from reduced preparation requirements
- significant time/cost savings in future targeted monitoring programs
- time/cost savings from reduced down time (e.g. evaluation of adjacent tubing damage in breakdown situations)
- extend plant life and reduce tube leaks through improved predictive maintenance (erosion/corrosion profiles).