ITCL: Ready for Inspection
Eddy Current Array Tubes

What is it?

Heat exchangers are used to heat and cool various fluids across a wide spectrum of industries. This is especially critical to the power generation and petrochemical industries where fixed equipment reliability is paramount.

Tubes in heat exchangers made of such materials as austenitic stainless steel and Inconel are plagued by circumferential cracking, which conventional, single-coil Eddy Current Testing (ECT) cannot reliably detect.

Non-ferromagnetic heat exchanger tubing is susceptible to circumferential cracking in the vicinity of the tube sheet. These cracks are induced by the localised stress created during the tube-to-tube sheet rolling process.

Circumferential cracking is very difficult to detect and characterize with standard eddy current bobbin probes, currently the norm in the industry to inspect tubes.

ITCL can now reliably inspect these exchangers using Eddy Current Array (ECA) and very advanced analysis software for graphical display (C-scan), record keeping, and reporting.

Other benefits include:

Quantifying the circumferential extent of crack defects

- Accurate axial location and characterization of crack defects in the vicinity of the roll transition
- Unlike rotating probes, the solution can be used for full- length tube examinations
- Personnel without extensive ECT data analysis experience can view the solution's 3D data and be confident about the inspection results

As you can see, ECA technology can greatly improve the speed and quality of results in this challenging application.

Head Office: Elm Court,
Newbridge Road, Ellesmere Port,
Cheshire, CH65 4LY

+44 (0)151 356 7118

+44 (0)151 357 1669

enquries@itcl.org.uk

www.itcl.org.uk