RFT – REMOTE FIELD TUBE TESTING

Remote field testing (RFT) is being used to successfully inspect ferromagnetic tubing such as carbon steel or ferritic stainless steel. This technology offers good sensitivity when detecting and measuring volumetric defects resulting from erosion and corrosion.

Method of Inspection

RFT probes use one or several transmitter coils positioned +/-2.5 to 3 tube diameters apart from the receiver coil. The magnetic field created by the transmitter coil, travels through and out of the tube wall, radially and axially, towards the receiver. The magnetic field must travel through the tube wall again to reach the receiver. This is called through-transmission and is what defines RFT. The through-transmission allows external and internal defects to be detected with equal sensitivity. The indirect coupling path originates in the transmitter's magnetic field that diffuses radially outward through the wall. Anomalies anywhere in the indirect path cause changes in the magnitude and phase of the received signal and can therefore be used to detect defects.

Inspection Capabilities

- In the region of 400 tubes inspected per 12-hour shift.
- Flexible probes can be used for inspecting past bends.
- Capable of detecting generalized and localized wastage, both internal and external.
- Through-wall holes as small as 2mm in diameter are detectable depending on tube diameter, wall thickness and composition.
- The accuracy of defect depth measurement is in the order of ± 10%.
- A range of 10mm to 150mm ID can be inspected.