TUBULAR EDDY CURRENT TESTING

DACON INSPECTION SERVICES

FOR ALL YOUR INSPECTION NEEDS

Eddy Current is notably the fastest and most preferred tube inspection technique available. Eddy Current however can only be used on non-ferrous materials like Brass, Copper, Copper-Nickel and Stainless steel.

Local defects as well as overall wall-loss can be detected and quantified. EC can detect both internal and external defects and distinguish between them. Cracks can be detected depending on their size and orientation. By applying Multi frequencies, defects under support plates can be detected and to some extent quantified.

Theory

The probe used in Eddy Current examination contains a coil which generates a changing magnetic field. When the probe is inside a tube of a conductive material this magnetic field will cause eddy currents to flow in the tube material. The amount of eddy currents that can flow in the tube depends on the condition of the tube at the location of the coils.

The Eddy currents will in their turn generate a magnetic field which opposes the original magnetic field of the coil. The resultant of the two opposing magnetic fields influences the impedance of the coil in the probe. This means the impedance of the test coil depends on the condition of the tube. Signals that represent the impedance of the test coil and thus the condition