



REMOTE FIELD TESTING OF FERROMAGNETIC TUBES

Remote Field Testing (RFT) is the purely magnetic technique useful to detect flaws in materials with permeability sufficient to prevent significant penetration of eddy currents. RFT is primarily used to inspect ferromagnetic tubing since conventional eddy current techniques have difficulty inspecting the full thickness of the tube wall due to a strong skin effect in ferromagnetic materials. Eddy currents are also generated in tested material but particularly in the region near the excitation coils. However, the position of the receiver coils is far enough from the exciters that the influence of eddy currents is negligible. "Remote" magnetic fields are capable of passing through tested material. In penetrating the material, the magnetic field travels along the outside surface and the coils detect disturbances in the flux field in comparison to the primary magnetic field.

These can be very quickly scanned for both internal and external wall loss defects such as a corrosion, erosion, pitting, cracks, and wear scar.



RFT can be used to inspect any conducting tubular product, but is generally considered to be less sensitive than conventional current techniques when inspecting non-ferromagnetic materials.



Evaluating the quality of products by Remote Field Testing method is the most effective for ferromagnetic materials like low carbon steels, chrome molly, duplex in units like:

- Heat exchangers
- Feedwater heater
- Furnace tubes in vessels
- Texas Tower
- Went coolers with fin fan tubes



