

# **Eddy current Vs ACFM; Friends or foes?**

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Both eddy current and ACFM are routinely used for the inspection of weldments without any need for the removal of protective paint coatings but rarely, if ever, are they used in conjunction with one another. Conventional eddy current techniques can be time consuming and require multiple scans to ensure the highest probability of detection. Interpretation of the signals is conducted in real time, can vary from operator to operator and generally results in no permanent record of the inspection data. ACFM requires fewer scans to inspect the same area and has a sensitivity comparable to that of eddy current. More data is available to the operator, aiding interpretation, and this data is permanently stored for review at a later time. The probes used in ACFM require a larger induction field than those typically found in eddy current probes so that the mathematical models used for the estimation of crack depth remain valid. This can result in significant signals when the weld geometry is complex and cause inaccuracies in interpretation. The footprint of eddy current probes is smaller and can be manufactured in configurations that reduce the likelihood that the presence of complicated geometry will significantly affect the inspection results. The presentation will discuss the various factors for consideration when deciding on the optimal method for the inspection of painted welds.