

Can Coating Condition Monitoring help deliver just-in-time maintenance?

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Abstract

Corrosion Under Insulation (CUI) is a major problem for process industry operators, accounting for up to 10% of overall maintenance costs. One of the key challenges is the hidden nature of the problem due to the presence of the insulation and cladding layers preventing access to the equipment surface during normal operation. Other challenges include a lack of available data regarding the CUI environment itself, as well as accurate and reproducible methods to determine the condition of the substrate, protective coating and insulation without removal of the external cladding. Recent breakthroughs in Electrochemical Impedance Spectroscopy (EIS) based sensor technology has enabled the development of onsite monitoring systems which can provide advance warning of coating breakdown. This in turn creates the possibility for just-in-time maintenance to mitigate or prevent CUI, delivering cost savings in maintenance and operations.