

Insight

Non-Destructive Testing and Condition Monitoring

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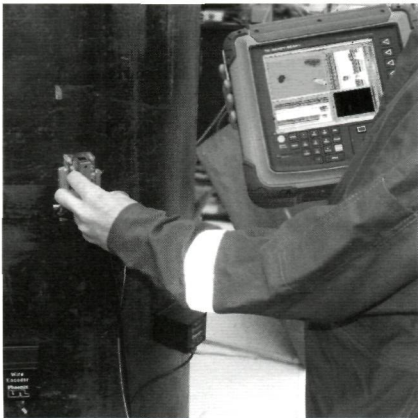
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COVER



Condition monitoring takes many forms and is often a combination of different quantitative techniques that facilitate a broad qualitative view of degradation trends, enabling long-term maintenance decisions to be made and effective strategies to be formulated. This month's cover image depicts typical corrosion detection or monitoring on a pressure pipe.

The technique used here is ultrasonic depth mapping, which combines a large volume of position-encoded quantitative data to display colour-coded topographical maps.

The maps give a visual impression of the overall surface condition, whilst at the same time specific points may be interrogated using computerised techniques for accurate depth or amplitude values. The equipment used in this inspection is the TD Handy-ScanRX ultrasonic acquisition system, with a Phoenix Tracer Scanner for positional tracking.

Each corrosion map in this application consists of approximately ten thousand thickness readings in a 100,000 mm² area linked to a colour scale that allows an engineer to instantly determine whether a critical thickness threshold has been reached. The technique is also used to image and monitor hydrogen damage in metals and to assess impact or other damage mechanisms in composites.

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