Publication: Engineering News & Mining Weekly
Title: New tech to increase boiler inspection
AVE: 10627.04
Page: 53
Publish Date: 04 June 2021
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New tech to increase boiler inspection

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Material testing and inspection services specialist DEKRA Industrial's new non-destructive testing and inspection service – using the Fast Scanning Thickness- (FST-)Gage inspection technology – will place the company in a strong position as the leader in boiler and burner inspection in South Africa, says DEKRA Industrial MD Johan Gerber.

Inaccurate wall thickness measurements are a key contributor to the unreliability of boilers, which may result in unplanned forced outages owing to tube failures.

Therefore, the FST-Gage inspection technology is a high-priority initiative from DEKRA's global Industrial Inspection Service division, which ensures that boilers and furnaces function continuously using a fast, reliable, repeatable and proven thickness measuring testing method, adds Gerber.

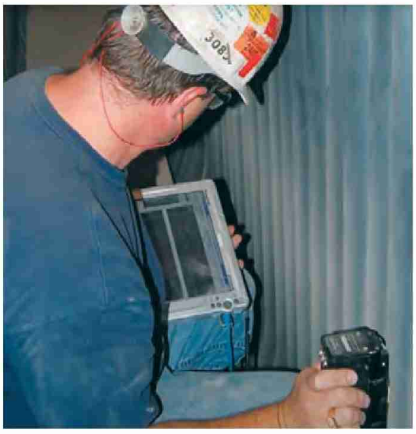
Gerber explains that the equipment consists of a hand-operated unit that is coupled with an electromagnetic acoustic transducer (EMAT) probe. This technology quickly measures the thickness of boiler tubes using an ultrasonic technique known as EMAT.

This technology differs from traditional piezo electric equipment because it generates and receives the ultrasonic wave through an electromagnetic acoustic mutual reaction with tested material, emphasises Gerber.

He also highlights that the ultrasonic EMAT technique introduces ultrasonic waves into the test object with two interacting magnetic fields, providing accurate thickness readings with minimum surface preparation.

Other advantages of this technology include the non-contact EMAT technique of the FST-Gage. This means it does not require gel, and the process will not entail surface cleaning. The equipment can also be used on all electric-conductive objects if the aim is to obtain a quick and accurate reading of its material thickness.

This technology permits 100% inspection of boilers instead of spot checking and is the only technology system capable of measuring remaining wall thickness on heavily corroded tubes, adds Gerber.



ON-SITE INSPECTION
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