

Advanced NDT - Solutions for tube inspection Local expertise for global technology

Acoustic Eye's breakthrough, non-invasive solution for today's hard-to-inspect tubes up to 4" inner diameter enables ultra-fast, accurate inspection of boilers, Fin Fans and other heat exchangers, regardless of tube shape or material.

Advantages

Can test up to 4" inner diameter any shape or tube material
Ultrafast, non invasive, inspection, less than 10 secs. Per tube, 5sec for less than 6m tube – ideal for 100% inspections and emergence situation.
It can detect blockages apart from pitting or punctures- useful for detecting extent of cleaning, to increase efficiency of heat exchanger

Limitations

Defects originated from ID can be detected. Cracks cannot be detected.



Eddy Current Testing: Four frequency, eight channel eddy current system capable of inspecting any ferromagnetic or non-ferromagnetic heat exchanger tube in service.

Advantages

Can detect pitting, puncture, cracks, from ID or OD side of tube
Less time required compared to IRIS

Limitations

More time required compared to Acoustic pulse reflecometry.
Cannot detect circumferential location of defect in tube

Internal Oxide Scale Measurements of Boiler Tubes

The high temperature operation of steam boilers (in excess of 1000⁰ F or 500⁰ C) can cause the formation of a brittle iron oxide called magnetite on the inside surfaces of tubing. It reduces heat transfer and increase operating tube wall temperature. This shortens the creep life of tube. If detected in time, it can help for de-scaling decisions to increase the life and efficiently.

It is possible to judge the remaining life of the boiler tube by measuring internal oxide scale.



TCR performs **Helium Leak Testing**. Helium Leak Testing Instrument has a roughing capacity of 10 m³/h (7cfm) with usable helium sensitivity in the 10⁻¹¹ atm.cc/s range. The unit has a dedicated sniffing unit, based on a well-proven leak testing concept, and is also available for outboard leak testing applications.

TCR Advanced Engineering Pvt. Ltd.

36/2/9, 1st floor, Abhishek Complex, GIDC Estate, Makarpura, Vadodara-390010

Ph: (0265) 2657233 Fax: (0265) 2643024 Mobile: 09376255166

E-mail: testing@tcradvanced.com, Web-site: www.tcradvanced.com



| India | Kuwait | Saudi Arabia | Dubai |
Web site: www.tcreng.com

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