

A QUICK GUIDE TO EDDY CURRENT NDT.

ETHER NDE specialises in Eddy Current NDT. We manufacture Inspection Equipment, Probes and Accessories for successful Eddy Current testing.

Eddy Current Testing can be a very complex subject. This guide will only scratch the service of the subject however our website, www.ethernde.com has some very useful and more in-depth papers on Eddy Current and NDT available for download.

WHAT IS THE DEFINITION OF EDDY CURRENTS?

Eddy-current testing uses the principle of electromagnetic induction to detect flaws in conductive materials. A excitation coil carrying current is placed in proximity to the component to be inspected. The alternating current in the coil generates a changing magnetic field which interacts with the component and generates eddy currents. Variations in the phase and magnitude of these currents are monitored either using a second coil, or by measuring changes to the current flowing in the excitation coil. The presence of any flaw will cause a change in the eddy current field and a corresponding change in the phase and amplitude of the measured signal.

WHAT ARE ADVANTAGES OF EDDY CURRENT TESTING?

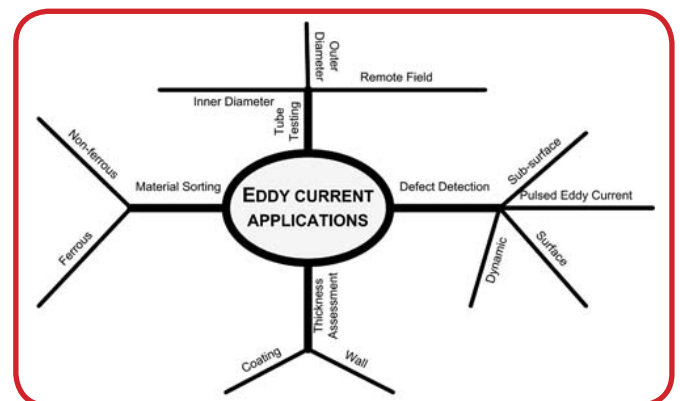
- Provides a faster scanning speed than conventional ultrasonic testing (UT).
- Unlike UT, requires no fluid couplant.
- The surfaces need minimal preparation.
- Eddy current testing can be used through several millimetres of coating.
- Can detect very small cracks in or near the surface of the material.
- Physically complex geometries can be investigated.
- The testing devices are portable.
- Provide immediate feedback.
- There is no need for the test probe to contact the component.

WHAT APPLICATIONS CAN EDDY CURRENT NDT BE USED FOR?

Eddy Current Testing can be used for a wide range of applications and is becoming increasingly recognised as a good, cost effective and reliable alternative to Ultrasonics and Liquid Penetrant.

The Applications that Eddy Current Testing can apply to include:

- Defect Detection including Surface and Sub-surface crack and corrosion detection.
- Material Sorting for both ferrous and non-ferrous metals.
- Coating Thickness Assessment.
- Wall Thickness Assessment.
- Tube Inspection including ID Heat Exchangers, Remote Field and In-line Inspection of Tubing.
- Ferrous Weld Inspection.
- Dynamic Hole Inspection.



ETHER NDE has the full range of equipment needed in order to carry out any type of Eddy Current testing.

You can find us online at www.ethernde.com or feel free to contact us directly at sales@ethernde.com.

Don't forget to follow us on Twitter at www.twitter.com/ethernde, Facebook including our dedicated Eddy Current Facebook page at <http://www.facebook.com/pages/Eddy-Current-NDT/126737050714762> and LinkedIn at <http://www.linkedin.com/groups/Eddy-Current-NDT-3132523>