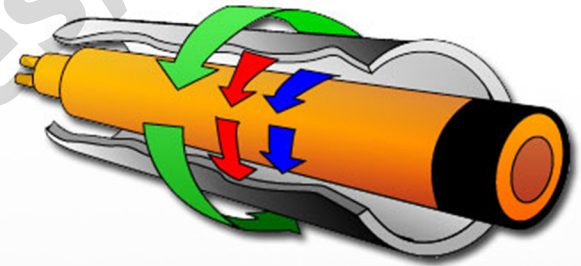


## Eddy Current



### What is Eddy Current Testing?

Eddy current is an electromagnetic technique and is completely non-destructive. It works on the principles of Electro Magnetic induction. There is no dangerous radiation or hazardous chemicals involved with this technique.



We specialize in the inspection of installed heat exchanger tubing used in:

- Commercial Air Conditioning
- Power Industries
- Pulp Industries
- Chemical Industries

Eddy Current is limited to testing metallic materials and works best on non-magnetic alloys. It can be applied to magnetic materials, such as Monel, Nickel, Ferralium or other Ferritic Stainless steels using magnetic saturation techniques.

### HOW INSPECTIONS ARE PERFORMED

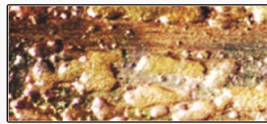
Our specially trained technicians insert an inspection probe down the full length of each tube being inspected and observe the eddy current response on the test instrument screen. Coils located in the inspection probe produce an electromagnetic field which is affected by changes in the tube wall such as wall loss and pitting.

TAI Services uses a computerized multi-channel, multi-frequency eddy current test system. Typical inspections are performed using both a Cross-Axial or Absolute and Differential channels displayed simultaneously.

The visual responses, often called "Signatures", are displayed on the test instrument's monitor for evaluation by the field technician (Analyst). The signatures coupled with the defect pattern, if any, are used to determine the damage mechanism. Recommendations for corrective action are based on the damage mechanism and the growth rate of the damage type.

## Eddy Current

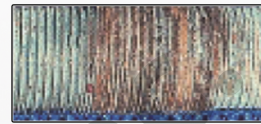
**EDDY CURRENT TUBE ANALYSIS** should be scheduled every 3 years unless damage is detected. If damage is detected, testing should be done every 1 to 2 years, depending on the type and severity. An Eddy Current test is recommended for new equipment to establish a base line.



**ID Corrosion**



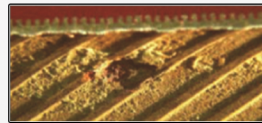
**ID Pit**



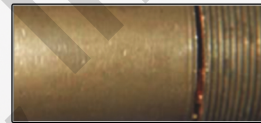
**OD Corrosion**



**Support Wear**



**ID Pitting**



**Radial Crack**



**Zipper Crack**



**Freeze Bulge**



**Condensate Grooving**

**FOLLOWING THE INSPECTION**, you will receive a comprehensive detailed report, easy to review and interpret which will include:

- Unit Type, Model & Serial Number, Date of Inspection.
- Details of Tube Specifications.
- Damage identified by Defect Category, its severity, & the percentage of the bundle affected by each type of damage.
- Recommendations for corrective action for each defect category.
- Identification of Tube Damage and location of damage by row and tube number.
- Color Tube Chart.
- Defect Graphs.
- Next Day Test Results by E-mail.

**INSPECT YOUR CHILLED WATER SYSTEM TODAY.** Erosion, Corrosion, and other phenomena can cause unexpected downtime of your heat exchanger, which can mean stopping production and unscheduled repairs.

Contractor: \_\_\_\_\_

Phone: \_\_\_\_\_

Address: \_\_\_\_\_

Fax: \_\_\_\_\_

City, ST, Zip: \_\_\_\_\_

Email: \_\_\_\_\_

Website: \_\_\_\_\_