

Eddy Current Inspection for HVAC, Aircraft, and Heat Ex-changers

High Frequency Eddy Current (HFET) for Wing Life Extension Programs

MISTRAS Group, Inc. provides High Frequency Eddy Current (HFET) testing in accordance with Structural Integrity Engineering STC #SA00364LA, Wing Life Extension Program for Dehavilland Twin Otter wings. This program allows the service life limitation to be extended beyond 33,000 hours or 66,000 flights, whichever occurs first.



The Wing Box Life Extension Program includes HFET on eight (8) inspection locations that include the main spar web splice and splice plate & associated web, main spar, rear spar, stringers, lower wing skins, wing trailing edge shroud, main spa fitting lug, wing to fuselage, and the nose spar web at Nacelle fire wall.

The Airworthiness Limitations section is FAA approved and specifies maintenance required under 43.16 and 91.403 of the Federal Aviation Regulations, unless an alternative program has been FAA approved.

Surface ET vs. Liquid Penetrant Testing

Both Eddy Current Test (ET) and Liquid Penetrant Testing (PT) are surface inspection nondestructive testing (NDT) methods that detect surface breaking/cracking. ET has several basic advantages over PT including:

- More sensitive for detection of tight cracks
- Can inspect through paint coatings
- Much faster for small areas
- Detects SCC in stainless steel pipes
- Locates cracks in stainless steel vessels/tanks. turbine blades, aircraft and aerospace structures and bolt holes

Eddy Current Testing (ET) for Industrial HVAC Systems

HVAC systems require tubular inspections of the absorption and centrifugal machine bundles for industrial facilities before the summer and winters seasons begin. Eddy-Current (ET) is used to detect and avoid tube leaks during operation. Absorption, generator, evaporator and condenser tubes are in-spected for common damages such as I.D. and O.D. pitting, freeze bulges, wear/wall loss, cracking in fins, copper deposits and more.

MISTRAS provides ET for chiller units for schools, hospitals, department stores (Kmart, Wal-Mart, etc.), and other commercial and industrial facilities.

Eddy Current Testing (ET) for Petro-chemical Ferrous and Non-ferrous Tubes

Petrochemical and Power plants experience various flaws in their heat exchanges. As a result, eddy current is used to detect I.D and O.D. pitting, cracking and SCC, induced corrosion, erosion, support wear and cracking at or in the tube sheets, wear/wall loss.

MISTRAS' Eddy Current technicians are certified Level II & III in multiple NDT disciplines, most with over 20 years field experience in ET and other methods. Our experts are stationed regionally throughout the country and worldwide.

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