

# Axient Capability Highlight: Non-Destructive Testing

## Executive Summary

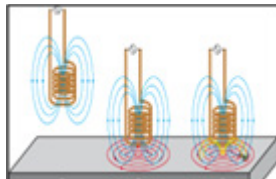
Non-destructive Testing is a broad group of analysis techniques used in the science and technology industry to evaluate a material component's or system's properties without causing damage. Because NDT does not permanently alter the article inspected, it is a highly valuable technique that can save money and time in product evaluation, troubleshooting, and research. Axient supports Non-destructive Testing (NDT) programs for the Army AMCOM Corrosion Program Office, supporting the Active and Reserve NDT soldiers in the field.

Axient provides NDT Level 3 services, including the qualification and certification of company employees, audit assistance, training per ASNT CP-195, NAS 410, NAVSEA NSTP-271, AAR C-III, M-1002 Appendix T guidelines, and program overview.

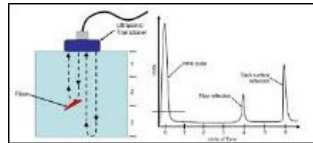
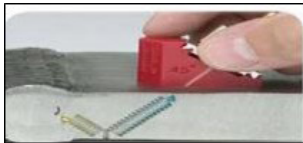
Courses offered are NDT 101, PT, MT, VT, UT, ET, Radiation Safety, Welder Workmanship to NAVSEA, and Level 3 Review/Exam prep.

## KEY TEST METHOD FEATURES

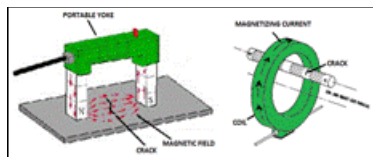
**Eddy Current Testing (ET):** Versatile method used to detect near-surface defects in conductive materials without removing the coating. An electromagnetic conductor is used to generate a magnetic field. When this field cuts into the surface of the test piece, it creates eddy currents in the material. Disruption of the current flow identifies suspect defects.



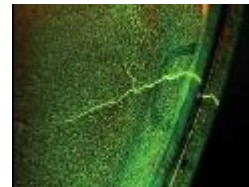
**Ultrasonic Testing (UT):** Utilization of ultrasonic energy above 20,000 Hz sound waves to interrogate the internal structure of a part. Ultrasonic Testing is an effective means of inspecting metallic and composite materials. The induced sound wave propagates through the test material and reflects and refracts from internal discontinuities or geometric features.



**Magnetic Particle Testing (MT):** Magnetic particle testing is an NDT method to reveal surface and subsurface discontinuities in ferrous materials. When correctly performed, it establishes a magnetic leakage site where the flaw lies on the part's surface, providing defined indications.



**Penetrant Testing (PT):** A method to detect surface-breaking discontinuities in nonporous materials. Inexpensive, portable, less training. Capable of detecting small discontinuities on both ferrous and non-ferrous materials, magnifies apparent size, and permits 100% coverage.



**Bond Testing:** The increased use of composite materials with higher attenuation characteristics than traditional metallic structures has driven the need for alternate inspection methodologies. BT enables us to inspect more attenuative materials that would impede conventional ultrasonic evaluations. For example, bond testing modes can interrogate single laminate cured composites or individual laminates bonded as a secondary bond, sandwich panel skin to core construction, and bonded metallic skins.

