



A SUPERIOR MEANS TO INSPECT COMPOSITE LAMINATES

Acoustocam focus

COMPOSITE MATERIALS NEED A NEW NDI TECHNOLOGY

Honeycomb and solid composite laminates hold a lot of promise. Yet from an integrity and damage assessment perspective, composite materials present a whole new set of challenges. What on the surface may appear "OK" may in fact be damaged or compromised inside. Ultrasonic detection of sub-surface flaws, damage and defects is a very difficult and time-consuming effort typically requiring certified and experienced technicians that are always in demand and not necessarily readily available. With composites it gets more difficult with concerns for foreign objects, ply drops, waviness, porosity, voids and crush core.

Compounding this matter is finding hidden flaws traditionally is a complicated procedure requiring extensive training and data interpolation. Imperium's ultrasonic technology obviates the need for this level of sophisticated training, thereby providing a means to significantly improve product quality and serviceability of composite materials with an easy-to-use, cost-effective solution for this pervasive issue.



Modern Aircraft Readiness Needs Innovative NDI Tool

Ultrasonic detection of sub-surface flaws, damage and defects is a very difficult and time-consuming effort typically requiring certified and experienced technicians that are always in demand and not necessarily readily available.

Finding hidden flaws in aircraft structures traditionally is a complicated procedure requiring extensive training and data interpolation. Imperium's ultrasonic technology obviates the need for this level of sophisticated training, thereby providing a means to significantly improve air squadron readiness with an easy-to-use, cost-effective solution for this pervasive issue.



Getting the most from the research analysis of composites

Why choose Imperium's Ultrasonic camera, the Acoustocam?

AcoustoVision: Touch-screen Graphical User Interface



Imperium offers a variety of pulse-echo and through-transmission NDI solutions. These solutions provide an effective non-destructive testing method to uncover minor flaws and cracks. Imperium's patented and state-of-the-art "Ultrasonic Camcorder" radically improves the non-destructive inspection methods and means to view sub-surfaces. Acoustocam is compact and utilizes an open systems architecture based on Intel® and Microsoft® which allows Imperium to add valuable features and functions, such as Remote NDI which enables a team of certified technicians and operators to participate as a team in a real time Wi/Fi network inspection. This open systems architecture also allows Imperium to provide software enhancements and updates without necessarily returning equipment by utilizing the internet to download.

Dawnbreaker® in conjunction with the U.S. Navy recently highlighted Imperium in its Winter 2010 edition of Profiles in Success as one of only a few early-stage revenue growth companies who successfully commercialized products funded by the U.S. Government's Small Business Innovation Research Grants.

Advanced composite research centers and universities typically have an insufficient amount of expertise and ultrasonic equipment, yet require an easy-to-use, reliable tool to conduct NDI. With limited capital budgets and multiple equipment needs for their organizations, engineers and professors who are typically not certified ASNT technicians wish to take advantage of some of the "exotic" and proven types of ultrasonic tools available. When they view a demonstration of the Imperium Acoustocam they appreciate how easy-to-use, convenient and reliable the results are versus traditional UT tools.

Imperium's commercial success includes sales to the United States military services, e.g. Navy, Air Force, Army and NASA, OEM manufacturers including Boeing, Bell Helicopter and Airbus, composite manufacturers, e.g. Hexcel, and a number of university and advanced research centers including Georgia Tech, the University of Bologna - DIEM, Deakin University of Australia and the University of Singapore.

SMARTER INSPECTING: TALENT AND THE RIGHT TOOL



INSTANT: Patented real-time, 2 dimensional C-scan image incorporates Imperium's proprietary Digital Acoustic Video imaging array, DAV™.

INTUITIVE: C-scan is easier to interpret than an A-scan image. Allows non-specialized users to operate and generate crisp C-scan and A-scan images.

SIMPLE: AcoustoVision™ GUI is a Windows® based touch-sensitive screen application.

FLEXIBLE: Acoustocam™ is a portable and network-ready system that includes battery and supports Wi/Fi for remote non-destructive inspection and workgroup collaboration.

CONVENIENT: Lighter, smaller and more rugged i600 camera head is easier to operate.



To learn more, contact Imperium or one of our authorized resellers worldwide, or visit our website

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