

Kubota Research's P-Wave/PTIR(TM) IR Assisted Advanced Out Of Autoclave (OOA) Process

HOCKESSIN, Del., Aug. 27, 2012 (SEND2PRESS NEWSWIRE) – Kubota Research Associates, Inc. headquartered in Hockessin, Delaware, has developed a new P-Wave/PTIR™ IR Assisted Advanced Out Of Autoclave process to enhance adhesion properties as well as significantly accelerate the curing speed of thermoset resin systems for installing Adhesive Bonded Fasteners (ABF) such as CLICKBOND® studs and standoff onto composite fuselage and metal structures.

The TRL 7 process was demonstrated for the US NAVY Naval Air Systems Command (NAVAIR) through a NAVAIR SBIR Phase II N08-030 program and jointly evaluated at Bell Helicopter and the University of Delaware Center for Composite Materials (UDel-CCM).

OEM qualified room temperature cured structure grade two part epoxy adhesives such as Henkel Hysol® EA9394 and Magnobond® 6398 are used to install CLICKBOND® fasteners onto composite fuselages. These adhesives are extremely temperature sensitive for curing and typically set in 24 hours and cure in 5 to 7 days at 25 C/77 F. The P-Wave/PTIR™ process used with the same qualified adhesives can bond and cure the fasteners onto the substrate in less than 10 minutes. The process can be applied under a broad range of operating temperature conditions from -20 C (-4 F) to 50 C (122 F).

The process enhances wettability between the adhesive and substrates to significantly increase the fastener to substrate bonding strength. In addition, the P-Wave/PTIR™ ABF installation fixture is reusable and replaces the disposable one time use Pressure Application Fixture.

The P-Wave/PTIR™ IR Assisted Advanced Out Of Autoclave module and fastener bonding test results were exhibited at the 2012 NAVY Opportunity Forum. Kubota Research will participate the Matchmaking at The 2012 National SBIR Beyond Phase II Conference at Indianapolis, Indiana on September 10 – 13, 2012.

Kubota Research Associates is a member of the UDel-CCM University-Industry Consortium, a globally recognized center of excellence for research and knowledge in the advanced composites industry.

Mike Kubota, CEO of Kubota Research Associates said, "We are pleased to have established a working relationship with UDel-CCM. Our company along with our global partner Bell Helicopter looks forward to collaborating with UD-CCM to advance the development of P-Wave/PTIR technology to bring a new generation of cost-effective composite parts manufacturing methods to the industry."

A complete description of UDel-CCM and the Consortium can be found at <http://www.ccm.udel.edu> .

About Kubota Research Associates, Inc.:

Founded in 2000, Kubota Research Associates Inc. is a technology company that has developed and patented the award winning P-Wave™ technology, a unique new process for joining plastics and manufacturing advanced composites. The company manufactures and markets plastic joining systems, while providing custom-engineered composite fabrication solutions to the worldwide market.

The P-Wave/PTIR™ process technology invented by Kubota Research is a core technology for the development of a range of new continuous fiber reinforced thermoset and thermoplastic composites that have cost/performance characteristics exceeding the performance of conventionally manufactured composites.

For more information, visit the website <http://www.KubotaResearch.com/> and/or contact "Mike" Masanori Kubota, of Kubota Research Associates, Inc., at 302-683-0199.

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