

# Kubota Research's P-Wave(TM) ImpacGard(TM) Enhances Composite Impact Resistance

HOCKESSIN, DE (SEND2PRESS NEWSWIRE) – Kubota Research Associates, Inc. headquartered in Hockessin, Delaware, has developed a new method to significantly increase the impact and shatter resistance of composite materials, which is easily applied as a post treatment.

A Kubota Research P-Wave(TM) radiation unit is used to consolidate a P-Wave(TM) Pseudo-prepreg layer, branded ImpacGard(TM), onto the surface of a reinforced composite without degradation associated with excessive heat energy. Demonstration samples were prepared using Kubota Research's patent pending P-Wave(TM) Pseudo Process Technology for advanced composite manufacturing, and an impact resistance evaluation was completed at the University of Delaware Center for Composite Materials (UD-CCM) by researchers M. S. Islam, A. Anwer and B. Gama. The tests were conducted at conditions equivalent to impact speeds of 5 to 9 mph, and results indicate that applying a single layer of Kubota's ImpacGard(TM) increases low velocity impact resistance up to 40% on a 3mm thick M30/8551 carbon/epoxy composite. ImpacGard(TM) has broad applications in the transportation and construction industries to improve advanced materials performance and safety. The P-Wave(TM) ImpacGard(TM) technology and impact resistance test results will be exhibited in the DuPont-Toray booth at the JEC Composites Show 2006 Paris Expo at Porte de Versailles in Paris France, held March 28-30, 2006.

Kubota Research Associates is a new member of the UD-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 UD-CCM. Our company along with our global partner DuPont-Toray looks forward to collaborating with UD-CCM to advance the development of P-Wave(TM) technology to bring a new generation of cost-effective advanced composites to the industry." A complete description of UD-CCM and the Consortium can be found at [www.ccm.udel.edu](http://www.ccm.udel.edu).

## Company Information

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(TM) technology, a unique new process for joining plastics and manufacturing advanced composites. The company manufactures and markets plastic joining systems, while providing custom-engineered plastic fabrication solutions to the worldwide market. The P-Wave(TM) Pseudo Process Technology invented by Kubota Research is a core technology for the development of a range of new continuous fiber reinforced thermoplastic composites that have cost/performance characteristics exceeding

the performance of conventionally manufactured composites. Research supporting the development of P-Wave(TM) Pseudo Process Technology has been done under NSF grant #0512869 from the U.S. National Science Foundation. Visit [www.kubotaresearch.com](http://www.kubotaresearch.com).

DuPont-Toray Co., Ltd.

DuPont-Toray Co. is a polymer material manufacturer and sells Hytrel(R), Kapton(R), and Kevlar(R) brand materials to the Japanese market. The company is jointly owned by DuPont and Toray.

P-Wave(TM) is a trademark of Kubota Research Associates, Inc. Hytrel(R), Kapton(R) and Kevlar(R) are registered trademarks of E. I. duPont de Nemours & Co., Inc.

For more information, contact Jim Callough of Kubota Research Associates, Inc., 817-847-5006.

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