

Beckwood Press Company and Triform Sheet Hydroforming

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Press Release:

Beckwood Press Company Partners with Oak Ridge National Laboratory to Develop Advanced Composite Materials & Manufacturing Processes

St. Louis, MO – Oak Ridge National Laboratory (ORNL), a world leader in the research and development of advanced materials and economical green energy solutions, has awarded Beckwood Press Company a contract to manufacture a custom hydraulic press for the compression molding of various composite materials. The research and development efforts made on the press will ultimately contribute to automotive and aerospace industry lightweighting efforts, intended to produce higher performance products with improved fuel efficiency. Scheduled for completion in September 2015, the 100-ton custom press will feature a 36”x36” work area and integrated multiple zone heated platens for precision temperature control.

In addition to the custom hydraulic press, ORNL will install a Triform Model 16-5BD Fluid Cell sheet hydroforming system (also manufactured by Beckwood), which features 5000 PSI of maximum forming pressure and a 16” diameter forming area. The Triform 16-5BD allows for the formation of complex geometries with the use of a pressurized diaphragm, which can be programmed to apply a range of forming pressures to accommodate the various materials being formed. The inherent flexibility of the Triform process – which includes the ability to dwell, or maintain pressure on the part for extended periods of time – along with the ability to use inexpensive tooling (including 3D printed tooling), will enhance ORNL’s ability to conduct critical material and manufacturing-process research, per their project objectives.

“It is our goal to make this lab the intersection of our 3D printing capabilities and composites processing,” said Jesse Smith, Manager of Industrial Partnerships & Economic Development Science & Technology Partnerships at Oak Ridge National Laboratory. “It is going to be a very impressive showplace for industry, and we are excited to have Beckwood on our team!”

The Beckwood machines will be used at ORNL by the Institute for Advanced Composites Manufacturing Innovation (IACMI). Led by the University of Tennessee and headquartered in Knoxville, the IACMI’s main goal is to develop new low-cost, high-speed, and efficient manufacturing and recycling process technologies that will promote widespread use of advanced fiber-reinforced polymer composites. Through the new IACMI Institute, a world-class team of leading industrial manufacturers - such as Beckwood, material suppliers, software developers, government and academia will focus on lowering the overall manufacturing costs of advanced composites by 50 percent, reducing the energy used to make composites by 75 percent, and increasing the ability to recycle composites by more than 95 percent within the next decade. Beckwood is a proud supporter of the IACMI and all of its goals and initiatives, and through the contributions of these machines is working diligently to achieve “Resource Member” status.

“Beckwood is honored by every partnership we forge,” said Beckwood’s President, Jeffrey Debus. “Manufacturing organizations rely on our 40 years of experience to provide advanced manufacturing solutions that increase their capability, and competitiveness in the marketplace. But this particular Department of Energy opportunity, and the long-term impact their research & development efforts could have on the automotive and aerospace industries, is special,” he continued. “The opportunity to contribute in this manner, and be a part of this important, macro R&D effort, is something that gives our group of engineers and manufacturing professionals great pride.”

About Oak Ridge National Laboratory:

Oak Ridge National Laboratory (ORNL) is the largest US Department of Energy science and energy laboratory, conducting basic and applied research to deliver transformative solutions to compelling problems in energy and security. Headquartered in Knoxville, TN, ORNL’s diverse capabilities span a broad range of scientific and engineering disciplines, enabling the Laboratory to explore fundamental science challenges and to carry out the research needed to accelerate the delivery of solutions to the marketplace.

About Beckwood Press Company:

The Beckwood Press Company is a leading hydraulic press manufacturer, located in St. Louis, MO USA. They offer quality, custom hydraulic presses for virtually every industry & application, including a line of temperature controlled presses for compression molding, composite forming and high-temperature Hot Forming / SPF applications. Beckwood also manufactures the Triform line of Sheet Hydroforming Presses in both Fluid Cell and Deep Draw configurations, hydraulic ring expanders / sizers, hot joggle presses, as well as a line of stretch forming machines for both extrusion, sheet / leading edge applications. Get the latest news from Beckwood at <http://www.beckwoodpress.com/news>.

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