

NCC PUTTING ITS UNIQUE LITECAST® PROCESS TO WORK FOR NASA

When NCC expanded its patented Litecast® process to include carbon fibers and various polymers, the Center caught the attention of NASA. In August 2003 NCC received grant funds from NASA Glenn Research Center (GRC) in Cleveland, Ohio through the Center For Research In Electric And Aerospace Technologies (CREATE) at Cleveland State University. The grant was awarded for Litecast® applications on space structures including satellites.

NCC's first step was to apply Litecast® to thin walled carbon fiber reinforced advanced composites. NCC's newly installed precision controlled die cast machine is being used to support development on this project and fabricate prototypes. The unique die cast machine's ability to control shot size and metal cooling rates play a pivotal role in the bonding mechanism between the metal and the composite structure while precise pressure control allows NCC to cast around thinner and hollow parts.

Casting process control is especially important for this project because it allows NCC to vary pressure during the die cast operation to prevent damage to the composite substrate while producing a lightweight yet extremely strong structure. In addition NCC can monitor and

control the thermal environment during fabrication to optimize the attachment mechanism. NCC's Litecast® will also deliver other advantages to NASA products. To read more about this project, see NCC's Litecast® technology featured in the June issue of Reinforced Plastics magazine.



NCC's Litecast® offers robust joining solution.

NCC has also created a display using Litecast® for NASA Glenn Research Center. NASA Glenn is holding a public Open House June 12 – 13 from 9 a.m. to 5 p.m. The display is a three-dimensional Litecast® structure with hollow carbon and glass composite tubes.

It has been electronically wired to demonstrate NCC's capability to embed electronics. Following the Open House, the display will travel with other NASA exhibits to two other locations. For more

information contact Dr. Brian Knouff at bknouff@compositecenter.org.

NCC AND VECTOR SHOWCASED IN WASHINGTON D.C.

NCC and Vector joined more than 90 area business leaders for the Dayton Development Coalition's 20th Annual Community Leader Fly-In to Washington D.C. May 5-6. Activities included a reception held in the Hart Senate Office Building to honor Ohio's Congressional Delegation, Wright-Patterson AFB and the Springfield Air National Guard.

NCC and Vector were one of just four organizations selected to set up a table top display at the reception. NCC unveiled the theme "Model For Technology Transfer For Manufacturers." Unlike any other organization, NCC helps manufacturers manage the risk for new ventures by renting the floor space and equipment required to launch new production processes on an as needed basis. In addition to Vector's ability to supply military aerospace, defense and commercial aviation customers with composite solutions at a savings of more than 40 percent when compared to conventional composite products, the new company served as prime example of NCC's ability to nurture manufacturers while providing critical technology processes and vital infrastructure support.

Ohio Congressmen David Hobson, Michael Turner, John Boehner and



Ohio Senators Michael DeWine and George Voinovich addressed the group and acknowledged its representation of the region's top priorities. Speaker of the House J. Dennis Hastert also spoke to the group.

The evening reception was well attended. The event included visits by Congressman Turner and Dennis Kucinich and Senator Voinovich. Staffers from each office also attended the reception – individuals as important as the legislators themselves due to their direct access and ability to bring exposure to key topics and organizations.

The NCC/Vector display attracted a large number of staff and generated much discussion. According to NCC president Lou Luedtke, NCC is making significant progress in gaining recognition for the Center's economic impact on its region and the state of Ohio. The annual Leader Fly-in will continue to be an important advocacy event for NCC.

VECTOR TO EXHIBIT, PRESENT PAPER AT THE ACMA NORTHWEST CONFERENCE

Vector Composites Inc. will exhibit and present a paper at the 2004 ACMA Northwest Conference. The conference is being held in Seattle, Washington at the DoubleTree Hotel Seattle Airport June 14 - 15. Vector President John Weidner will present a paper called Low Cost Aerospace Parts.

Weidner will discuss the fact that the industry's demand for cost effective, high performance materials is rising making the lightweight, high strength, corrosion resistant properties of composites a natural choice. While the costs often associated with composite fabrication techniques have been a challenge, NCC's **Rapid Fiber Preforming** and closed molding expertise offers a dynamic solution.

New Aerospace Business Development Manager David Widauf will deliver the keynote address The USU Wright Flyer. The Northwest Composites Conference provides an important venue for manufacturers to gather the latest knowledge on processing techniques, industry updates, and cutting edge applications.

NCC INTRODUCES VECTOR, ROLLS OUT NEW TRADE BOOTH AND GENERATES ATTENTION AT SAMPE

NCC rolled out a new trade show booth and marketing materials at the SAMPE 2004 Symposium and Exhibition in Long Beach, California to showcase key technologies like its **Rapid Fiber Preforming**, closed molding expertise, patented Litecast® technology and new initiatives in Long Fiber Thermoplastics (LFT).

The Center also introduced Vector Composites Inc. In addition, a paper was presented. Jennifer Chase Fielding and Lt. Allison Jacques, Air Force Research

Laboratory (AFRL) Materials and Manufacturing Directorate, Wright-Patterson Air Force Base; Chenggang Chen, University of Dayton Research Institute (UDRI); and Juan Borges, National Composite Center presented a paper titled Vacuum Infusion Processes For Nano-Modified Aerospace Resins. The team's program was well attended drawing nearly 100 participants.

SAMPE is geared toward the high-end composite market. The largest number of booth visitors expressed interest in NCC's low cost closed molding applications for the aerospace market generating a significant number of leads. Leads were also generated for NCC's performing technology. NCC representatives were able to visit member company AIRTECH Advanced Materials Group based in Huntington Beach, California and tour the manufacturer's facility.

NCC's West Coast member companies also took advantage of NCC's presence to visit the Center's booth. NCC would like to thank its West Coast members for stopping by. To take its appreciation for members a step further, NCC would like to begin featuring a member company each month in the newsletter. You'll want to read more about AIRTECH, showcased in next month's edition.