Extrusion Solutions

THE LATEST EXTRUDING NEWS FROM ENTEK

danimer scientific llc CHOOSES ENTEK

Leading Bioresin Producer Uses ENTEK Extruders for Wide Variety of Eco-Friendly Applications

The bioresin revolution is in full swing, and industry forecasts show the demand for these types of materials increasing dramatically over the next few years. BCC Research estimates that the global market for biodegradable plastics will reach 1.2 billion pounds by 2012, more than double its estimated level of 541 million pounds in 2007.*

ENTEK Extruders are widely used in the bioresins field to not only successfully compound materials, but to help companies reduce their time to market with new products. One of those companies is DaniMer Scientific LLC, a Bainbridge, Georgia based company that manufactures biopolymers that are being used to produce a wide variety of environmentally friendly products.

First Twin-Screw Extruder

ENTEK's relationship with DaniMer began with a phone call in 2007. "I received a call from DaniMer, who had seen our ad promoting our work with bioresins and asking about our twin-screw extruders," said John Effmann, ENTEK Director of Sales and Marketing. "After a series of meetings they purchased their first twin-screw extruder, an ENTEK 40mm for development work."

Business is good at DaniMer – today, the 40mm extruder originally purchased for development work is now used for ongoing development projects and for running production lots of materials that are being validated by converters for new product launches. DaniMer recently purchased two larger ENTEK twin-screw extrusion lines that are operating around the clock in a new state-of-the-art facility in Bainbridge.

Reducing Dependence on Petroleum

With a mission to "reduce dependence on petroleum and enable people and communities to benefit from environmentally-friendly products", DaniMer specializes in developing custom bioresin formulations for a variety of applications in injection molding, extrusion coating, extrusion lamination, thermoforming, films and additives. Many of the company's products are based on Ingeo biopolymer from NatureWorks®. DaniMer also produces a number of proprietary bioresins that are based on unique technology developed by their team of scientists and technicians. One of DaniMer's recent product line additions is a family of biodegradable adhesives based on renewable materials rather than petroleum based materials.

One of the company's success stories was its development of the world's first commercially successful

extrusion coating resin that utilized PLA as the primary material for coating paper, paperboard and fabric. This FDA-approved bioresin is suitable for hot and cold serve applications and is BPI certified to ASTM standards as compostable. It was adopted for use by Green Mountain Coffee Roasters and International Paper when the companies unveiled their all natural, disposable hot beverage cup. Today this product is used by several large brand owners to produce a broad array of renewable, compostable containers that enable a greater sustainability profile in their product lines.

"DaniMer's mission is to enable our partners to create value for their businesses and customers through the use of renewable-based, compostable and biodegradable resins", said Daniel Carraway, DaniMer's CEO.

Processing Support

DaniMer has received support from the beginning from Bill Petrozelli, ENTEK's Technical Sales Manager. Bill is an expert on twin-screw extrusion and helps customers with training, processing expertise and overall service. "ENTEK'S technical support staff has been a key factor in our decision to invest in a long-term relationship with ENTEK. The world-class customer support we get from our partners at ENTEK is an important part of our ability to
keep development and production projects on track", said Carraway.

The Future is Green

As mentioned in the last issue of Extrusion Solutions, bioresins are clearly a very real, fast-growing trend in the plastics industry. ENTEK has seen a sharp increase in bioresin lab trials over the past few years. "A handful of companies including DaniMer Scientific saw this trend coming, and as developers of some of the first commercially successful bioresins and products, they are the innovators in this field," said John Effmann. "We are proud to be their machinery provider and look forward to a long-standing relationship with them."

** – from the report "Biodegradable Polymers", December 2007; BCC Research, Wellesley, MA USA, www.bccresearch.com.*

UPDATE

Leading Biopolymer Producer Continues to Expand, Increase Production

(Editor's Note: In September 2010, preceeding article ran as the cover story in Extrusion Solutions outlining ENTEK's relationship with DaniMer, a leading biopolymer producer based in Bainbridge, GA. This article provides an update on theDaniMer/ENTEK partnership, which will be shown in full force at NPE 2012).

DaniMer Scientific focuses on the use of sustainably produced, renewable resources to improve people's lives and work. One of the company's goals is to reduce our planet's dependence on petroleum, enabling people and communities to benefit from environmentally friendly products.

Since 2007, when DaniMer initially met with ENTEK and purchased their first twin-screw extruder for compounding biopolymers, the company has grown dramatically. In addition to building a new state-of-the-art processing facility in Bainbridge, DaniMer has increased production and purchased several high-output ENTEK machines for producing large volumes of biopolymers.

Biopolymers – Out of the Lab and Into Production

At NPE 2012, ENTEK will proudly show a 103mm E-MAX twin-screw extruder in its booth that will be used by DaniMer for high volume biopolymer production. "DaniMer has just recently purchased an ENTEK 103 mm twin-screw extruder to support the company's continued expansion in Bainbridge GA," said Scott Tuten, Senior Vice President at DaniMer. "We are scaling up production of the DaniMer Renewable Hot Melt Adhesives (RHMA) product line. The new extruder will help us reach our expansion goals of over 50 million lbs of new annual capacity."

Bill Petrozelli, ENTEK's Regional Sales Manager who services DaniMer, said that DaniMer's growth shows the viability of biopolymers. "The industry tends to think of these materials as a small, but possibly growing market," he said. "The reality is, as seen by DaniMer's growth and large capacity production, biopolymers are booming and are here to stay."

New Biopolymer Markets

With ENTEK's help, DaniMer has developed many novel biopolymers such as RHMA, ReNew Film Resins and Energy Stimulation Polymers for the oil service industry. "We are very pleased with our ENTEK machines and the impeccable service from the ENTEK team," stated Scott Tuten, Senior Vice President.

DaniMer has also expanded into Europe this year with a production facility located in the Czech Republic to service their European customers. One of DaniMer's core beliefs is building relationships. "We believe relationships are an integral part of our business, we do not use the term vendors nor customers, instead we refer to them as our partners," stated Blake Lindsey, President of DaniMer. "And we're proud to call ENTEK a partner."