

EXTRUSION SOLUTIONS



Chooses



*Wood-Plastic Processor
Uses ENTEK Extruders for
Producing Innovative,
4' x 8' Composite Boards*



JER Envirotech Ltd., based in Delta, British Columbia, Canada, is a company with a mission: to improve the quality of life for people worldwide by helping to provide quality, affordable housing. The company, founded in 2003, is already making a huge impact by providing its patented wood-plastic composite boards to provide housing throughout much of Asia.

In three short years, JER has gone public (listed as JER on the Toronto Stock Exchange), opened three facilities in Delta, BC, and additional processing plants in Malaysia and the Philippines. Another plant in India is already in the works. The company's unique composite boards, made out of a combination of plastic (virgin or recycled) and natural fibers (saw dust, rice husk, palm fiber, and banana fiber), are the same size as standard plywood sheets but less costly to produce and far more durable. Embarking on its mission to produce these wood-plastic composite boards, JER partnered with ENTEK and, today, employs ENTEK extruders throughout its operations.

Housing the World

Rely Diego, Executive Chairman and CEO of JER Envirotech, emigrated to Canada from the Philippines in 1996. Having grown up in Asia, he was well aware of the homelessness crisis affecting millions of people. With a degree in Foreign Service from the University of Santo Tomas in Manila, and a Certificate in Management from the Department of Trade and Industry in the Philippines, he set out to capitalize on his idea to develop a new type of composite building material that would allow for low-cost, mass-produced boards for constructing modest but solid, high-quality dwellings.

The opportunity was great, and JER tapped into that opportunity in a big way. "There are mass housing projects underway throughout Asia," Diego said. "We knew if we could develop a low-cost, high-quality composite board that has better properties than plywood, cement panels and other building materials, there would be a huge market for it."

Better Than Plywood

The JERtech™ Panel Board is the result of three years of development. It features many of the same characteristics as wood, e.g. it can be nailed, painted, and cut the same way. However, JER maintains it is less than half the cost of marine plywood and cement board, lasts at least 50 years, has minimal water absorption, is resistant to biological degradation (termite, insects, decay, etc.), and has good dimensional stability. In addition, it is produced with no chemicals and is fully recyclable.

(continued on page 3)

A Very Good Year

"I cannot emphasize enough the importance of lab trials, where you get a chance to have our staff, equipment and technology at your disposal"



As I write this column, we are already into November and I'm realizing we are nearing the end of 2006. At ENTEK, it has been an extremely busy year and we are thankful to all of our customers for their continued business!

This year has seen many highlights for our company, not the least of which was an outstanding NPE show in June in Chicago (see related story, p. 6). Our sales and marketing teams put their best foot forward to develop an eye-catching exhibit and generate interest in and traffic to our booth. Our engineering and manufacturing teams came through with exciting, innovative new products for our display. The result of these efforts was our best show ever, and we are seeing increased business activity and results because of it.

In This Issue

The JER Envirotech case history on p. 1 of this issue is an interesting story of a great idea that has become reality. In many ways, this is the story of most of ENTEK's customers, who come to us with ideas on new products but need help determining the best way to manufacture those products. This is where ENTEK's strengths lie, in helping customers develop and then optimize processing methods.

The article on p. 4 describes the way most of our customers' applications begin, which is with a trial at ENTEK's In-House Development Lab. I cannot emphasize enough the importance of these lab trials, where you get a chance to have our staff, equipment and technology at your disposal. If you're considering a new application or improving on an existing one, contact our sales staff about scheduling a trial. We welcome the opportunity to work with you!

As always, I encourage you to contact me anytime at khanawalt@entek-mfg.com.

Kirk R. Hanawalt

Dr. Kirk Hanawalt, Vice President/Chief Operating Officer, ENTEK Manufacturing, Inc.

ENTEK Safety Record Continues



In the Spring 2006 issue of Extrusion Solutions, we told you about ENTEK's celebrating a safety milestone: in January, the company had gone two full years without a lost-time event. As we go to press in November, we are proud to tell you that the company's record safety achievement continues. In October the company passed the 1,000 days/33 months milestone.

Steve Wilson, ENTEK's Safety Coordinator, said "We're proud of all our employees who work so hard to achieve safety every single day, and we hope to be celebrating again next year when we hopefully pass the 3-year milestone."



Screws On Sale!

Save up to
**25%
OFF!**



A significant part of ENTEK's business is the manufacturing of the highest quality twin-screw extruder replacement wear parts in the industry. Not just for ENTEK extruders, these parts are for other OEM's as well.

For a limited time, ENTEK is offering a wide variety of its spare parts at significant savings – up to 25% off!

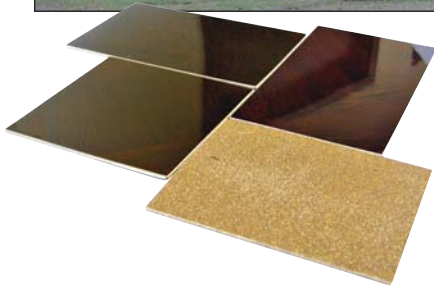
This sale applies to screw elements only, and is for non-ENTEK twin-screw extruders including ZSK, ZSE, and ZE brands. For a complete listing of available parts, follow this link to a special page on ENTEK's website: <http://www.entek-mfg.com/v2/inventory/>

How To Order

If you see a part on the list that you want, the next step is to call Tammy Heider at ENTEK at (541) 259-1068. She will discuss pricing and arrange delivery with you.

This promotion will continue through the end of November 2006, so hurry if you want to obtain quality replacement screws at great savings!

JERtech™ Panel Boards



(continued from page 1)

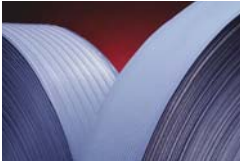
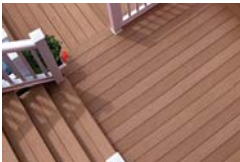
Current uses of the panel board include exterior and interior walls, partitions, ceilings, flush doors, cement forming, furniture, underlayment for flooring applications, substrate for countertops, or any application that requires moisture resistance. JER is working on developing the board for use as roofing material, and plans are underway to build entire houses with JER products. For the JERtech™ Raw Material Compound current uses are for extrusion and injection applications such as automotive parts (steering wheels, headliners, dashboards, door panels, sidings, etc.) and other industrial applications (for fencing, decking, skids and pallets, electrical boxes, sporting paraphernalia, spindles and crown moldings, etc.).

At a recent presentation at the Wood-Plastic and Natural Fiber Composites 2006 Conference in Baltimore, Diego showed a picture of one of the houses being built using JERtech™ boards. "This may not look like a house we would see in North America," he told the audience, "but to 2/3 of the world, it's a mansion." If JER's first three years are any indication, improving the quality of life for that 2/3 of the world's population may very well be an attainable goal. ENTEK is proud to be a business partner with JER, and salutes them for their socially responsible actions.

THE ENTEK LAB

Where It All Begins

ENTEK's In-House Development Lab – Where Customer Concepts Become Reality



ENTEK prides itself on its reputation for servicing customers from the earliest stages of their projects, right through to full production. Most, if not all, of our customer applications began with a trial run at our in-house development lab at company headquarters in Lebanon, Oregon.

How It Works

When evaluating your new extrusion application, keep in mind that if you need excellent mixing capabilities, the ENTEK lab is a good place to start. For a nominal fee our lab is available to you by the day. The fee includes ENTEK personnel and ENTEK processing expertise to help you with all aspects of your application, and make the most of your time. Should you decide to purchase an ENTEK E-MAX™ twin-screw extruder, your lab fee is refunded.

In addition to plastic we have seen just about every kind of filler, additive, and other types of materials in our lab. Recent gaylords in our lab have included:

- starch-based materials
- cement
- colorants
- agricultural products
- carbon black
- shredded newspaper

E-MAX extruders are used to compound highly viscous materials and not just for plastics applications. Other mixing applications include food, agricultural products, and pharmaceuticals. Besides being excellent machines for mixing/blending/compounding, E-MAX extruders have been used as reactors in reactive processing, devolatizers in removing moisture and other volatiles, and routinely in direct profile extrusion.

At Your Disposal

Our lab machinery and auxiliary equipment includes:

- high-speed (1,200 rpm), high-torque E-MAX 27mm and 53mm co-rotating twin-screw extruders
- loss-in-weight feeder systems for handling up to 8 ingredients separately, and feeding into several locations along the extruder for different process requirements
- dies
- vacuum stuffers, vacuum pumps, side feeders, melt pumps
- data acquisition equipment
- downstream equipment

More importantly, your day of processing also includes the invaluable support and expertise of ENTEK engineers, who will work closely with you to optimize your process.

"Every formula is unique," says Brian Qian Ph.D., ENTEK's Extruder Lab Manager. "In wood-plastic composites (WPC) compounding, for example, important variables include not only the composition ratio, but also the base resin type (PP or PE), its melt flow index and physical form (pellets or powder), wood flour type, its particle size and moisture content, lubricant package, and other additive packages."

"We use our expertise in mixing technology for each unique formula and test it in our lab, through proper screw geometry, barrel layout, protocol of feeding, stage of venting, and processing conditions. This has allowed our customers to achieve higher throughput rates, better quality, or even incorporate plastic waste into WPC that has a melting temperature 50°C higher than the wood decomposition temperature."

Getting Started

ENTEK has developed a single-sheet flyer that explains our lab services, and helps you get started with scheduling a lab trial. Follow this link to our website:

http://www.entekextruders.com/v2/products/lab_testing.asp

Or, call us today to learn more about setting up a trial at our lab, and taking the first step to making your ideas become reality!

EXTRUSION SOLUTIONS is an ENTEK Extruders publication.
Visit us at www.entekextruders.com



These industry leaders have something in common - they are but a few of the many ENTEK customers who started their product development with trials in ENTEK's In-House Development Lab!



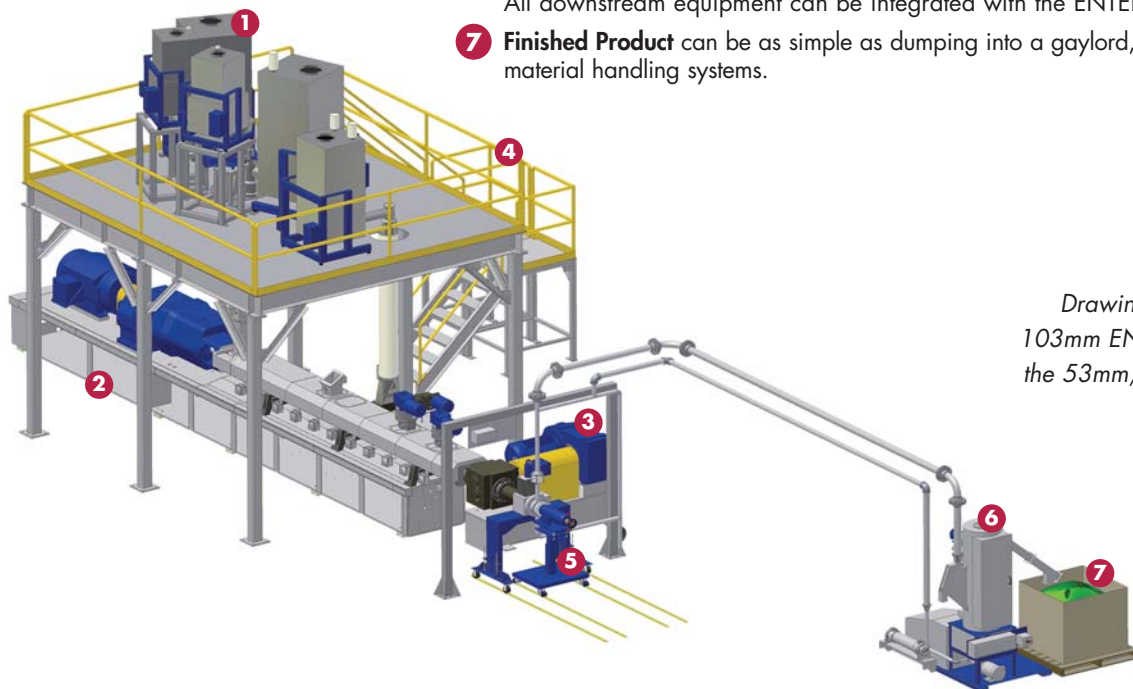
ENTEK Extrusion Systems for Pelletizing

Editor's Note: ENTEK is seeing substantially increased activity in compounding applications in recent months, so we have decided to focus on ENTEK Extrusion Systems for Pelletizing in this issue's "Systems Profile".

If your compounding requirements involve the production of plastic pellets, ENTEK has your extrusion solution. Whether you require strand, underwater, or hot-face cut pellets, there is an ENTEK system to fit your needs. In addition to providing you with an E-MAX™ twin-screw extruder for your pelletizing needs, ENTEK can assist you with complete system and turnkey plant expertise as well.

The schematic below illustrates a typical layout for an ENTEK Pelletizing Extrusion System. Please contact us anytime to discuss your specific pelletizing application. We're confident we can help you improve your productivity and as a result, improve your bottom line.

- 1 Loss in Weight Feeders** for accurate formulation and steady state operations. Feeder Controls are fully integrated into the extruder controls.
- 2 E-MAX™ Twin-Screw Extruders**
Extruder features segmented barrels and screws for optimization of any formulation. The co-rotating design yields excellent dispersive and distributive mixing for high throughput and consistent finished product.
- 3 Melt Pump** for pressure generation and control. Allows for combined compounding and direct profile extrusion.
- 4 Material Handling Feeder Platform** for easy access to feeders for maintenance and monitoring of feed material. The platform can be customized to handle a variety of material handling needs, from manual feeder refills to complete automation.
- 5 Pelletizer** can be ENTEK supplied or customer supplied. ENTEK will supply all adapters to incorporate the pelletizer to your ENTEK extruder. ENTEK can work with anything from underwater, hot faced or strand pelletizers. Pelletizer systems are fully integrated into the ENTEK extruder controls.
- 6 Temperature Water System and Centrifugal Pellet Dryer** for controlling circulation water and pellet temperature. The pellet dryer separates the pellet from the water stream, additional equipment can be incorporated to further reduce moisture and temperature from the pellets. All downstream equipment can be integrated with the ENTEK extruder controls.
- 7 Finished Product** can be as simple as dumping into a gaylord, to fully automated bulk material handling systems.



Drawing depicts a typical layout for a 103mm ENTEK system. Systems based on the 53mm, 73mm, and 133mm extruders are also available.



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What A Show!

NPE 2006, held in June in Chicago, was ENTEK's best show ever. We were proud of our booth, which generated a lot of "buzz" with its 20-ft. Mt. Hood backwall and "Taste of Oregon" refreshment center. We were even more proud of the record number of visitors that stopped by our booth to discuss twin-screw extrusion and compounding applications.

John Effmann, ENTEK Director of Sales and Marketing, said "NPE was phenomenal for ENTEK. We sold our new E40 twin-screw extruder on the show floor, and have sold numerous machines over the past 3 months due to meetings that were held at our booth. In addition, we have more international interest than ever before, and several active projects are underway that were initiated at NPE."

To all of you who visited us at our booth, thank you. For those of you who could not attend NPE, here is a brief re-cap of ENTEK's introductions at the show.

NEW – E-MAX™ 40mm Twin-Screw Extruder

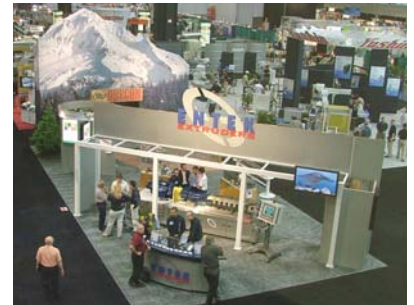
The latest addition to its twin-screw extruder line, the new E40 is ideal for custom compounding and running small lots of highly customized materials.

NEW – ENTEK Smart Control System

These new controls offer better power, flexibility and more detailed graphics than previously used controls, and offer advanced troubleshooting and diagnostics.

NEW – ENTEK Carbide-Lined Extrusion Barrels

ENTEK has developed a new manufacturing process for carbide-lined barrels that provides higher rigidity and better wear resistance than competitive barrels.



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