

EXTRUSION SOLUTIONS



At



Booth #1304
McCormick Place South
June 19-23

Stop by ENTEK's booth at NPE 2006 (#1304, McCormick Place South). It won't be hard to find us - look for the 20' replica of Mt. Hood! We'll be displaying our newest products and "Extrusion Solutions", including the unveiling of our new 40mm Twin-Screw Extruder with new ENTEK Smart Controls. We're also bringing some of our best Oregon-made refreshments for your enjoyment, and serving them daily after 2 p.m. Enjoy the show, and we look forward to seeing you there.

New Product Introductions

ENTEK will be introducing its latest addition to its E-MAX™ twin-screw extruder line at NPE, the new E40 Extruder. Ideal for custom compounding and running small lots of highly customized materials, ENTEK has introduced the E40 as a solution for extruders looking for a small-sized twin-screw machine for advanced research and development or production needs.

ENTEK will also display its new carbide-lined extrusion barrels. The company has developed a new manufacturing process for producing these barrels. This process uses a proprietary spherical carbide/nickel binder, which offers numerous advantages over the competition, including higher rigidity and improved wear resistance.

Also being introduced is the new line of ENTEK Smart Controls. The new E-MAX™ E-40 is the first ENTEK extruder to feature these controls, but these controls are now available for use with all E-MAX twin-screw extruder models.

They offer better power, flexibility and more detailed graphics than previously used controls, and provide users with advanced troubleshooting and diagnostic capabilities. Trending, historical tracking, and recipe control capabilities are all available through the controller's human-machine interface (HMI).

A Taste of Oregon

Under the 20' Mt. Hood is our "Taste of Oregon" refreshment center, where every day after 2 p.m. we will be serving Willamette Valley Vineyards* wine (Pinot Noir and Chardonnay), Rogue Ales** (American Amber, Dead Guy Ale, and Brutal Bitter IPA), Kettle Chips, Oregon hazelnuts and trail mix, and a variety of other "Oregon-made" products. Please join us to celebrate NPE with some of the best that Oregon has to offer!

*Visit Willamette Valley Vineyards at www.willamettevalleyvineyards.com

**Visit Rogue Ales at www.rogue.com



New ENTEK Products and Solutions

Our new carbide barrels represent what we think is a breakthrough manufacturing process ...



Welcome to our special NPE edition of Extrusion Solutions. If you plan on coming to Chicago to attend NPE 2006, be sure to stop by to visit us at Booth #1304 in McCormick Place South. If you won't be at the show, this newsletter provides information on the new products and solutions we will be featuring in our booth.

We at ENTEK are excited about these new product introductions, and we are also excited about the recent press conference we held at our headquarters in Lebanon, Oregon. In May we were visited by several members of the industry press, who toured our facilities and got a first look at the new products that are featured on pp. 3-4, as well as detailed presentations on the solutions that appear on p. 5. This was the first time ENTEK held a press conference here in Oregon and we are proud of all our employees who worked hard to put on a first-class event for the media.

At NPE

Our new E-MAX™ 40mm twin-screw extruder will be on display at NPE, along with our new ENTEK Smart Controls. The new 40mm extruder is ideal for customers who do custom compounding, and run small lots of many different materials. The new controls provide significant advantages by offering users improved graphics and diagnostic capabilities. Our new carbide barrels represent what we think is a breakthrough manufacturing process that will allow users to take advantage of what should be the longest life, highest-wear resistant barrels in the industry.

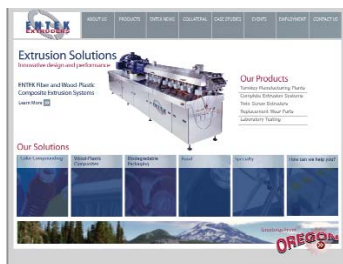
You can see all of this at our booth at NPE. You can also take a break at our "A Taste of Oregon" refreshment center, where we will be serving Oregon-made wine, beer and food products. Look for us under Mt. Hood, and we hope to see you at the show.

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

Sincerely,

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

ENTEK Launches New Website



ENTEK is proud to announce the launch of its all-new website. Visit us at www.entekextruders.com.

Bold graphics and simple navigation are key attributes of the new site, which is laid out to highlight "ENTEK Products" and "ENTEK Solutions". Complete company and product information, up-to-date news, and featured solutions for customers are on the site, which was launched just prior to NPE 2006. Technical specifications for the entire line of ENTEK E-MAX™ twin-screw extruders are also included, along with a chart of estimated throughput rates by material.

Visit our new site today and let us know what you think!

New ENTEK Extrusion Products to be Launched at NPE 2006



E-MAX™ 40mm Twin-Screw Extruder



ENTEK Smart Controls

New E-MAX™ 40mm Twin-Screw Extruder From ENTEK Ideal For Custom Compounding Applications

ENTEK will introduce the latest addition to its E-MAX™ twin-screw extruder line with the launch of its new E40 Extruder at NPE 2006. Ideal for custom compounding and running small lots of highly customized materials, ENTEK has introduced the E40 as a solution for extruders looking for a small-sized twin-screw machine for advanced research and development or production needs.

The E40 is a 40mm diameter twin-screw extruder that features a Henschel TGE gearbox. The E40 features screw speeds of up to 1,200rpm driven by a 150hp motor. A key feature of the E40 is that it is a self-contained unit, with PLC control, cooling system, lube system, and vacuum pump on board, with utility hook-ups in place for fast setup and operation.

Like all ENTEK E-MAX™ extruders, the E40 features stainless steel doors and shrouding with all wear components (screws, barrels, etc.) custom-built in the USA by ENTEK at its Lebanon, Oregon headquarters. Another feature of all ENTEK extruders is their design flexibility, whereby optional equipment can be easily installed. All E40 machines will be pre-tested at ENTEK before shipment.

New ENTEK Smart Control System

Also being introduced by ENTEK is the company's new line of Smart Controls. The new E-MAX™ E-40 is the first ENTEK extruder to include these controls, but they are now available for use with all E-MAX twin-screw extruder models.

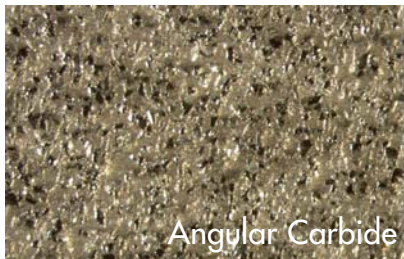
ENTEK Smart Controls feature Pentium 4 computers with 17" flat-screen displays and NEMA 4 keyboards for industrial strength operation. The monitor is separate from the PC, allowing for simple screen replacement if necessary. Featuring an Allen-Bradley PLC with 1.5MB of memory, each of these controllers can handle pre-programming of up to 45 heat zones, 10 feeders, and 100 recipes. USB connections allow for simple connection of auxiliary computer devices (e.g. USB flash memory, external mouse, etc). As with all previous controls, ENTEK continues to configure its controls instrumentation with off the shelf components to allow end users to easily source replacement parts.

These controllers offer better power, flexibility and more detailed graphics than previously used controls. Currently, ENTEK connects to our controls via modem and in the future those connections will be via Ethernet. This will allow for high speed networking with ENTEK Technical support personnel from anywhere in the world.

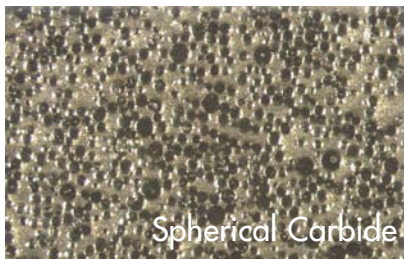
The new ENTEK Smart Controls offer users advanced troubleshooting and diagnostic capabilities. Trending, historical tracking, and recipe control capabilities are all available through the controller's human-machine interface (HMI). The system can link to detailed help screens, with help buttons programmed for defining alarms, contacting suppliers and vendors, and showing detailed schematic drawings in HTML file formats. This "help button" format is easily customized so users can check off boxes on the operator's screen to allow the functions they want.

Designed for simple addition of functions in the field, ENTEK Smart Controls are user-customizable and feature the ability to troubleshoot and control from a remote location. This makes it easier for maintenance people to troubleshoot problems that occur. In addition, users can operate multiple machines with one HMI through the use of Ethernet connections.

(continued on page 4)



Angular Carbide



Spherical Carbide

These micrographs were taken of a surface exposed to wear and show the higher-wear properties of spherical carbides over angular carbides. ENTEK now manufactures barrels using a proprietary process for applying spherical carbides to the barrel surface.

New ENTEK Carbide-Lined Extrusion Barrels Provide Higher Rigidity, Improved Wear Resistance

ENTEK has announced it has developed a new manufacturing process for producing carbide-lined extrusion barrels. This new process uses a proprietary spherical carbide/nickel binder, which offers numerous advantages over the competition, including higher rigidity and improved wear resistance.

Carbide barrels are used in extrusion applications to resist abrasion and corrosion caused by highly-filled materials. ENTEK has invested considerable time researching and developing a better way to manufacture barrels using spherical carbides, which compared to traditional angular carbides, can provide much better wear resistance. The new process developed by ENTEK shows proven, significant improvement in barrel wear resistance and ultimately, much longer service life. Some of these improvements include:

- 25% better wear resistance than angular carbides, 3x longer life than tool steel
- superior corrosion resistance due to nickel matrix
- thicker wear surface (.150" compared to typical thickness of .010"-.065" in competitive models)
- no weld lines in barrel due to ENTEK process – complete coverage of carbide throughout the bore profile eliminates splitting, chipping and premature wear
- improved apex strength due to ENTEK process – a metallurgic bond is used to bond the carbide to the base block, and spherical carbides have no sharp edges thus preventing cracking when under impact.

These new carbide barrels will be offered by ENTEK for both ENTEK E-MAX™ twin-screw extruders and other OEM extruders as well. They join the lineup of ENTEK replacement wear parts, including screw elements and barrels for co-rotating and counter-rotating twin-screw extruders.

BREAKING NEWS

ENTEK Announces Higher Throughput Capabilities for the Fiber and Wood-Plastic Composites Market

25% Greater Output Achieved Using New Screw and Process Technology

ENTEK has recently announced even higher throughput rates for processing fiber and wood-plastic composites. In recent trials the company has processed the following formulation on an E-MAX™ 53 twin-screw extruder at 25% higher rates:

Equipment

- ENTEK E-MAX™ 53mm Co-Rotating Twin-Screw Extruder with Melt Pump
- Screw Speed: 1,200 rpm maximum
- Motor: 300 hp

Finished Product

- Wood-plastic composite decking

Material Formula

- HDPE 30-40% weight
- 60 Mesh Wood Flour 40-60% weight
- Undried Wood Flour Moisture 4-12% weight
- Additive/Filler 4-15% weight

Actual Production Rate

- 1,600 lbs/hr (previous maximum throughput estimated at 1,200 lbs/hr)
- 25% more throughput via new screw and process technology for more effective wood mixing and moisture removal

For more information on this recent development stop by the ENTEK booth at NPE (#1304, McCormick Place South) or contact us!



Extrusion Solutions at NPE 2006

In the company's current ad campaign and at NPE 2006, ENTEK has selected five key market areas to highlight specific "extrusion solutions" the company has provided for customers in these markets. Stop by our booth #1304 in McCormick Place South to view product samples and learn more about how ENTEK can help improve your specific extrusion application for your specific industry!



Bioresins

- Customer: Plantic Technologies, Melbourne, Australia
- Product: Biodegradable Packaging Trays
- **Benefit:** ENTEK E-MAX™ 27, 53 and 103 Extruders Reliably Process Corn Starch-Based Materials With Little Downtime



Food Packaging

- Customer: Alcan Packaging Thermaplate, Russellville, AR
- Product: Dual Ovenable Trays
- **Benefit:** ENTEK E-MAX™ 103 Extruders with Feeders, Melt Pumps, Dies and Controls Operate Dependably at High Operating Temperatures



Color Compounding

- Customer: Penn Color Inc., Hatfield, PA
- Product: Custom Color Compounds
- **Benefit:** ENTEK Swing-Out Die Design Saves Time, Allows for Fast Screw Cleaning and Extraction – Ideal for Running Multiple Colors



Wood-Plastic Composites

- Customer: Louisiana-Pacific (LP) Corporation, Nashville, TN
- Product: Wood-Plastic Composite Decking
- **Benefit:** ENTEK Provides Turnkey Plants and Complete Extrusion Systems; E-MAX™ 103 Co-Rotating Twin-Screw Extruders Provide Industry's Highest Outputs



Specialty

- Customer: Johnson Controls®, Inc., Milwaukee, WI
- Product: Battery Separators
- **Benefit:** ENTEK Designed and Operates Turnkey Manufacturing Plant for Production of Highly-Filled Porous Sheet; Industry Leader in Production of Battery Separator Material

Who to Contact

Global Headquarters

ENTEK Manufacturing, Inc.
PO Box 39
250 N. Hansard Avenue
Lebanon, OR 97355
Tel. 541-259-1068
FAX 541-259-8018

Dr. Kirk Hanawalt

Vice President
Chief Operating Officer
E-mail: khanawalt@entek-mfg.com

John Effmann

Director of Sales & Marketing
E-mail: jeffmann@entek-mfg.com

Linda Campbell

Inside Sales Manager
E-mail: lcampbell@entek-mfg.com

Tammy Heider

Customer Care Specialist
E-mail: theider@entek-mfg.com

North America

Mark Mulone

North American Sales Manager
Tel. 978-766-6032
FAX 781-934-2248
E-mail: mmulone@entek-mfg.com

Bill Petrozelli

Technical Sales Manager
Tel. 704-662-9574
FAX 704-663-0522
E-mail: bpetrozelli@entek-mfg.com

Kenn Konetski

Midwest Sales Manager
Tel. 815-623-6580
FAX 815-623-5992
E-mail: kkonetski@entek-mfg.com

Europe

John Effmann

E-mail: jeffmann@entek-mfg.com

Linda Campbell

E-mail: lcampbell@entek-mfg.com

Asia

Tay Hwa Beng

Asian Sales Manager
Tel. +65 (0) 628 46122
FAX +65 (0) 628 40349
E-mail: hbtay@pacific.net.sg

Our Team at NPE 2006

If you're visiting NPE, be sure to visit ENTEK at Booth #1304 in McCormick Place South. Our team of professionals will be on-hand to meet with you and show you the many "Extrusion Solutions" that ENTEK can provide your company.

If you won't be at NPE, feel free to contact us anytime. We are ready to work with you to help improve your application. Whether you're looking for a turnkey manufacturing plant solution, an extrusion system, a twin-screw extruder, or replacement wear parts, ENTEK can help.



(left to right): ENTEK's booth team at NPE 2006: Andy Villeneuve, John Effmann, Kirk Hanawalt, Kenn Konetski, Tammy Heider, Linda Campbell, Brian Qian, and Mark Mulone

missing from photo: Bill Petrozelli, Larry Keith, Al Bailey, and Tay Hwa Beng



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