SPECIAL REPORT | SLITTING/REWINDING

Includes New Technology Roundup, Directory, and Custom Marketplace p26

JUNE 2011

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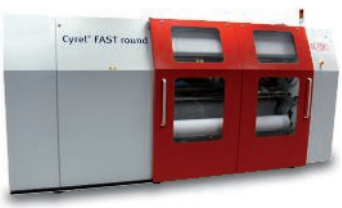

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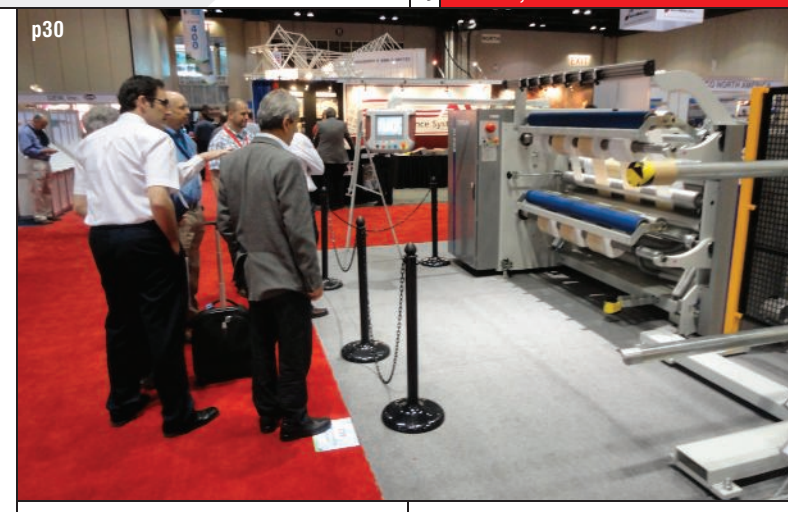
Photo courtesy Catbridge Machinery, Parsippany, NJ.

Tidland's Blade Sharpening System **p33**



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CARTON & BOX

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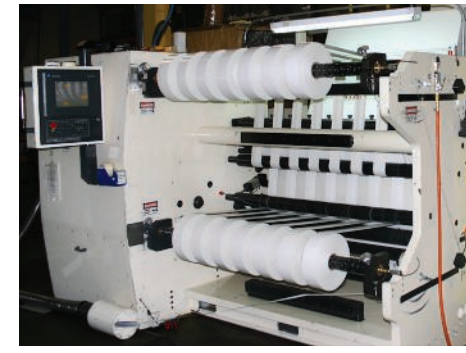

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One Sweet Delivery Option

The AirLiner, an inflatable, insulating plastic liner produced by Coldpack, San Diego, CA, offers delicate food items exceptional temperature control and protection from rough handling during shipping. The key to its success lies within the multiple layers of film, supplied by Danafilms, that form air-filled baffles for insulation. The number of baffles is directly related to the structure's thermal characteristics and acts as much as a cushion as a temperature control. The finished film uses metallizing technology to provide a thin, reflective barrier that refracts heat or cold back into the package. One truckload of AirLiners is roughly equivalent to 30 truckloads of bulkier foam alternatives. Visit www.coldpack.com.

▶**Danafilms | www.danafilms.com**

Self-Medicate Safely

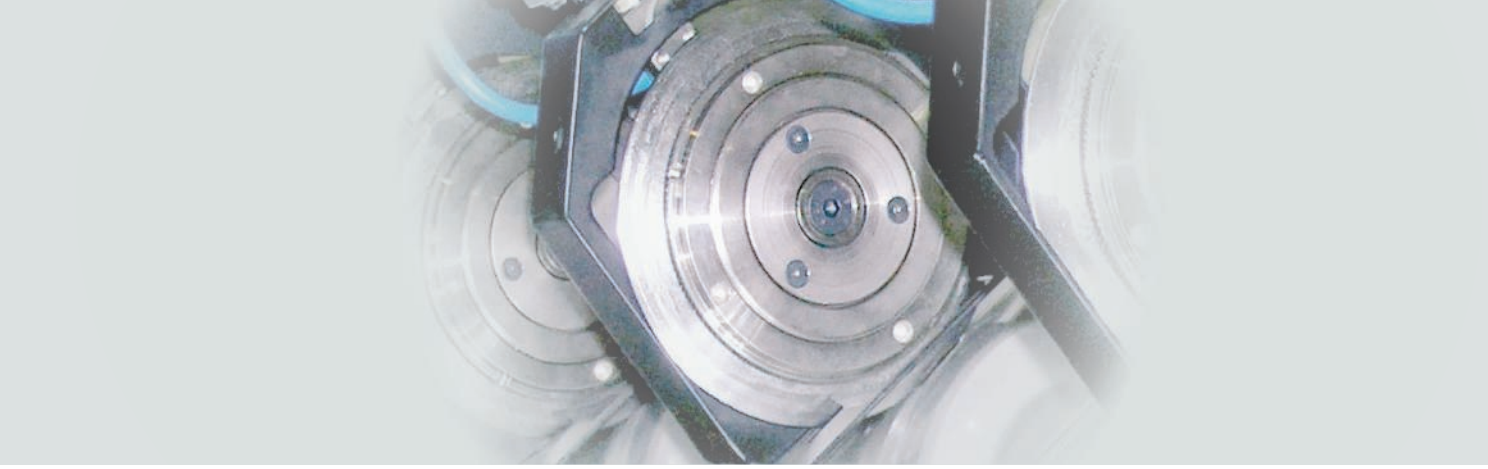
Schreiner MediPharm, Blauvelt, NY, introduces a multifunctional label for use with self-medicating autoinjectors and pens. A tamper-evident perforation provides assurance the device was not opened previously and that it contains the correct drug. The position of the perforation also ensures that once it has been opened, the cap cannot be closed again undetected. A transparent window in the label enables the user to visually check the fill level of the contents within. To prevent the user's hand from slipping during the injection, the label has a non-slip texture.
Visit www.schreiner-medipharm.com.

Fiber's Friend

The RB Dwyer Group, Melville, NY, helped Barn Dad Innovation Nutrition, a div. of Angle Foods, launch its Ultra Fiber DX product with a shrink-sleeve label printed on an RDP Marathon IVCO (Infinitely Variable Cylinder Offset) web press. The print technology is said to provide gravure quality and zero cylinder costs. The 360-deg image area contains nutrition facts on the back, while the front graphic includes a brilliant metallic green. The PVC label is printed in eight colors with UV inks for sustainability. Kelly Halbrock, marketing manager of Angle Foods, says, "The shrink label not only enabled us to have a large enough image area to write all the important information related to the fiber but also allowed for a tamper-evident band that ensured freshness and security." Visit www.therbdwyergroup.com.

▶**RDP Marathon | www.rdpmarathon.com**

Did *you* produce a cool converted product? Send details with a picture to yolanda.simonsis@penton.com.



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Please, Sir, I Want Some More

With great fondness for my high school literature class days, I recall Charles Dickens' frequently quoted *Oliver Twist* character infamously requesting a second helping of food. The quote serves well to liken what you're getting in this month's issue.

Not unlike how Dickens shared monthly installments of his novel in a magazine, titled *Bentley's Miscellany* (I'll claim no further similarity!), I'm starting with a second installment on last month's editorial but finishing with a visit to another favorite subject that warrants updated coverage on slitting/rewinding content.

Last month I asked you to share your secret for keeping pace with demand. I received an illuminating comment from LAR–i.e., a Loyal Anonymous Reader:

*Your optimism is always appreciated, and I believe supported by the success of the ICE USA meeting, the Critical Trends Survey, and the record attendance at the FTA Forum/INFO*FLEX. In our particular niche industry of envelopes, the backlogs are growing, and the converters are experiencing, for the first time in years, the ability to slightly raise prices.*

Photography by www.bauwerks.com

Yolanda Simonsis Associate Publisher/Editor

With regard to the machinery manufacturers, I believe there is a slight light at the end of the tunnel. Rebuilds and upgrades to existing equipment seem to be on the upswing, and there is increasing interest and actually some purchases of new equipment.

In the overall paper converting machinery industry, there seems to be significant new business for machinery and upgrades.

Hopefully, all this will continue, and as the users of equipment begin to make capital equipment investments in new machinery, the equipment manufacturers will recognize the need to expand their capacities to meet the demand. Right now we… are booked to capacity through the end of the year but fortunately can still solicit new orders because of the normal long manufacturing lead times. I just wanted you to know that I think you got it right in your most recent editorial.

Further comments are welcome on this subject!

Now, as for this month's focus on slitting and rewinding, I must admit some pride in the presentation of our new Contract Slitting Directory. I'll also admit that compared to previous attempts at providing a list of these services, this year's rendition is by far light years better. This year's Special Report on Slitting/Rewinding incorporates an innovation update by Catbridge's Michael Pappas, application stories from Atlas Converting Equipment, my outstanding new and improved Contract Slitting Directory, and an accompanying Custom Marketplace for contract slitting service providers. My undying thanks go to our "Web Lines" columnist Tim Walker for lending his expertise in developing a questionnaire with me as well as Metlon's Wayne Etchells for refining it; Cheryl Mangano for so expertly sending, receiving, organizing, and recording responses; and Michael Koch for artfully presenting this information.

Now, go enjoy another helping of knowledge!

My friends call me… Yo

Write to me at yolanda.simonsis@penton.com.

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Displacement vs Steering | Battle of the Web Guides

By Timothy J. Walker
Contributing Editor

In today's match, we have two well-known web guides ready to square off and try to finally decide which is the top web guide.

In one corner—weighing in at what is usually two rollers in a pivoting frame—is the displacement guide (also known as the offset pivot, a positive displacement, or a tabletop guide). In the other corner—sleek and trim in what is usually a single roller on a unique arcing motion—the steering guide.

Both of these famous guides have a long history of being the "right" guide for intermediate corrections of lateral web position. These two mighty guides long ago dismissed the slow, wanna-be end-pivoting roller with their speedy and stable performances.

Let's put these two top guide candidates through some battle scenarios and see if we can crown a champion.

Space | In a tight location, the displacement guide wins hands down. The displacement guide's twist-displace-twist action without web bending (pulling a web in its width direction) can fit in tight locations with spans as short as one-half to one web width.

When a steering guide is shoe-horned into a tight location with short spans, it reacts like a cornered wild boar. In short spans, a steering guide can only make minimum lateral shifts before the force to bend exceeds the traction available or the guide becomes a shear wrinkle factory.

SCOREBOARD	DISPLACEMENT 1	STEERING 0

Traction | Steering guides can struggle with traction. Like any roller, they need traction to overcome bearing drag and inertia losses, but they also need lateral traction to bend the web left or right.

Like a race car in a turn, when there isn't enough traction, they lose control. Displacement guides win the traction battle with their easy twisting of the web.

SCOREBOARD	DISPLACEMENT 1	STEERING 0

Wrinkling | Bending will create wrinkles at much smaller angles of correction that twisting, so displacement guides would seem to win this one, but steering guides can magnify their correcting angles with long entry spans. Even considering the span multiplying effect, displacement guides will have far fewer wrinkles.

SCOREBOARD	DISPLACEMENT 1	STEERING 0

Ease of Setup | A steering guide with one 90-deg wrapped roller seems easier to set up than the two-roller displacement guide, but each system has four rollers that need to be properly set with wrap angle and span lengths to work their best. However, steering guides need to be tuned to the entry span length, need to avoid the strange unstable steering geometry, and by far, get installed incorrectly more often by a 20:1 ratio.

SCOREBOARD	DISPLACEMENT 1	STEERING 0

Rate and Range Limits | Both guides can correct as fast as their actuators will move them. Both can be designed for large correction ranges. This one is a tie.

SCOREBOARD	DISPLACEMENT 1	STEERING 1

Upstream Corrections | The correction of a displacement guide occurs between the two rollers in the frame (or during the wrap of one large roller in single-roll displacement guides). A steering guide can exert its influence of a long, long entry span. This is where the steering guide excels.

If you have a long process span, such as an oven, you have two choices:

1. Wait until the web exits the oven and correct the web with a displacement guide.
2. Install a steering guide as the first roller at the end of the long oven span.

The displacement guide will be happy to let your web crash into the side of the oven. A steering guide will start correcting at the first error during startup and work to bend the web in the oven back to centerline. A steering guide has its limits, but it will open the non-crashing window of your long span process.

SCOREBOARD	DISPLACEMENT 0	STEERING 1

FINAL SCORE	DISPLACEMENT 5	STEERING 2

The winner? If you have anything other than a long-span correction need, the displacement guide easily wins "top guide" honors. However, if you are worried about a long span, the steering guide will do what no other guide can—limit the lateral shifting upstream and put the web on centerline downstream. PFFC

Web handling expert Tim Walker, president of TJWalker+Assoc., has 25 years of experience in web processes, education, development, and production problem solving. Contact him at 651-686-5400; tjwalker@tjwa.com; www.webhandling.com.

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Surface Resistivity Testing

By Dr. Kelly Robinson
Contributing Editor

Designing products to have good static performance is cheaper and more reliable than upgrading manufacturing lines so they can handle static-prone products. Good product designs sure beat traveling to customer sites to solve frustrating problems.

To dissipate static, we need to provide a conductive path to ground. However, making an insulating polymer even a little bit conductive is a big challenge.

One good strategy comes from realizing that static charges are only on the surfaces of polymer films, so we need conductive paths only on the surfaces of our polymers. A number of antistatic additives for polymers are available that provide a low level of surface conductivity, and coatings can be formulated to provide some conductivity.

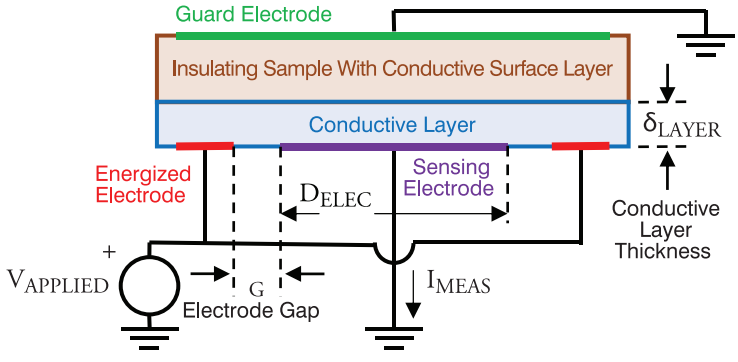

Figure 1. The resistivity of the conductive surface layer on an insulating sample is measured by applying a voltage ($V_{APPLIED}$) to the Energized Electrode (ring) and measuring the resulting current (I_{MEAS}) flowing from the Sensing Electrode to ground. The Guard Electrode protects the Sensing Electrode from stray currents.

Standard Test Methods for DC Resistance or Conductance of Insulating Materials, available at www.ASTM.org.

A significant improvement in resistivity measurements is reported by Adam Daire, "Improving the Repeatability of Ultra-High Resistance and Resistivity Measurements," Keithley Instruments White Paper 1808, Cleveland, OH (2001), available at www.Keithley.com. The alternating polarity method described in Keithley White Paper 1808 applies to surface resistivity measurements.

The surface resistivity of the sample in **Figure 1** is determined by measuring the resistance (R_{MEAS}) between a grounded circular electrode and an energized concentric ring electrode that both touch the conductive layer. To measure the resistance, apply voltage ($V_{APPLIED}$) to the ring electrode and detect the current (I_{MEAS}) that flows through the Conductive Layer to the circular Sensing Electrode. This current can be very small, commonly in the range of 1E–12 to 1E–7 amps, so ASTM D-257 recommends using a Guard Electrode to reduce variations caused by stray currents.

The volumetric resistivity (ρ_{VOL}) of the conductive layer is found from the measured resistance (R_{MEAS}) in **Equation 1** where A_{MEAS} is the cross-sectional area of the current path.

We almost never talk about the volumetric resistivity of a thin layer because the thickness (δ_{LAYER}) in Equation 1 is often so small (perhaps only a few molecules thick) that it is difficult to measure. One practical way to avoid this problem is to define surface resistivity ($\rho_{SURFACE}$) in **Equation 2**.

Now the surface resistivity ($\rho_{SURFACE}$) can be found in terms of easily measured parameters, and it is a good measure of static performance because surface resistivity determines how fast static charge will dissipate from our film. While the formal units of surface resistivity are ohms, the practical units of ohm/square have been adopted to distinguish surface resistivity from the resistance (R_{MEAS}).

Equation 1: $$R_{MEAS} = V_{APPLIED}/I_{MEAS} = \rho_{VOL}\, G/A_{MEAS} = \rho_{VOL}\, G/\pi(D_{ELEC} + G)\delta_{LAYER} \Rightarrow \rho_{VOL} = \pi\delta_{LAYER}\,(D_{ELEC}/G + 1)(V_{APPLIED}/I_{MEAS})$$

Equation 2: $$\rho_{SURFACE} = \rho_{VOL}/\delta_{LAYER} = \pi(D_{ELEC}/G + 1)(V_{APPLIED}/I_{MEAS})$$

Of course, to dissipate static, we don't need very much conductivity. In fact, the numbers are so small that it is easier to talk about surface resistivity, which is the inverse of surface conductivity.

Before we can determine what surface resistivities are needed for our products, we need to measure surface resistivity in a consistent and repeatable way. Surface resistivity measurements are so important that they are covered by ASTM D-257

The resistance (R_{MEAS}) should be measured carefully because it can be quite large. With an applied voltage of 1,000 V and a current (I_{MEAS}) of 10 pA, R_{MEAS} is 1E+14 ohms. Using a Sensing Electrode with a diameter (D_{ELEC}) of 50 mm with a ring electrode that forms a Gap (G) of 3 mm, the surface resistivity of our sample would be 5.6E+15 Ω/sq. PFFC

Static control expert Dr. Kelly Robinson, president of Electrostatic Answers, has 27+ years of experience in problem-solving and consulting. Contact him at 585-425-8158; kelly.robinson@electrostaticanswers.com; www.electrostaticanswers.com.

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Coating, Not Printing

By Mark Miller
Contributing Editor

Whether you work in the battery industry, the packaging industry, or the publishing industry, you have come across these two words: coating and printing. For as different as they are, it is easy to confuse the technologies and the capabilities.

Both processes provide an operator the ability to coat a thin film of fluid onto a substrate, but there are some fundamental differences in capability. Namely, the shapes that are possible.

Printing technology provides the operator with the ability to produce any shape a computer can form on a screen and translate through a print head. The images/pictures on a printed page are a good example. They can vary in size and shape and are printed dot by dot.

Coating, on the other hand, allows you to place a fluid in any shape you want—as long as it is rectangular! A good way to distinguish coating and printing is to imagine that printing is discrete and coating is continuous (mostly).

Of course, this rule of thumb has many exceptions, but discrete versus continuous is a good baseline to develop an understanding of the two technologies. The disadvantage of the shape limitation with coating for a coated/printed product is overcome with speed and continuous operation.

Coating technology includes fluid deposition through roller (gravure), slot die, and other continuous full-web applications. More broadly, other fluid coating techniques could be considered, but the confusion seems to lie in coating head technology and print head technology.

Examples of printing technology include inkjet and roller technology. The fine line occurs at the roller technology of printing and coating.

While I have already stated that coating is full web and continuous, techniques developed by operators and equipment suppliers alike have broadened the ability of coating heads to allow for intermittent coating and lanes of coating. This improvement on the capabilities of coating technology still is limited to the shape that can be properly displaced by a roll head or released from a slot die—a rectangle.

Why is this difference important to the world of printed and coated products? Let's take the RFID market. In developing a circuit that has a fluid to be placed on a substrate, an RFID system can require the fluid to move and snake around (**Figure 1**). This would be relatively easy with a print head but unusual for a coating head.

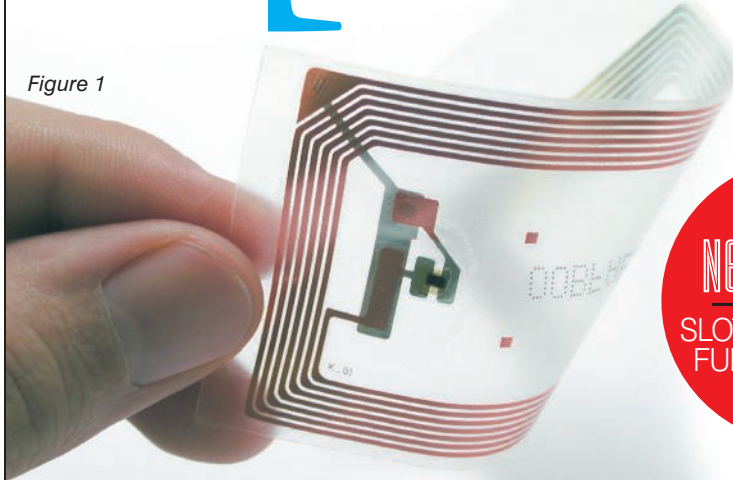
> In developing a circuit that has a *fluid* to be placed on a substrate, an **RFID system** can require the fluid to *move & snake* around.

However, to produce a Li-Ion battery, the fluid needs to be placed in rectangular patterns to match the final construction of the battery. Utilizing a coating technique for the battery industry allows for increased production speeds and improved accuracy over a continuous web. In addition, utilizing a curtain coating technique via a slot die, coating more than one fluid at a time is possible with one coating head.

Both techniques have limitations based on the rheology of the fluid being dispersed. In many cases, the rheology dictates the method and not the other way around. This chemical dependence forces an engineer to be aware of a wide variety of techniques and capabilities to solve the process problem.

As you can see, printing and coating both have advantages and disadvantages. The key is matching the application correctly with the system best suited for the fluid placement. For some applications, a coating technique will provide the necessary tools to optimize a product, while other applications may require a printing technique to meet the functionality. Remember: Coating *and* Printing Matter! PFFC

Figure 1



COMING NEXT MONTH

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People


A. Zhu


M. Gorczak


T. Reid


B. Mayfield


D. Bertelsman


T. Musselwhite

▶**Chemsultants Intl.**, Mentor, OH, adds Mike Hilston as research chemist and Jack Yeary as quality specialist.

▶**Michelman**, Cincinnati, OH, hires Wenqing (Allen) Zhu as business development manager, Asia Pacific, for its newly formed Global Fibers & Composites Business Unit.

▶Mike Gorczak is named central regional sales manager for **Mutoh America**, Phoenix, AZ.

▶Tom Reid, executive VP of **Catalina Graphic Films**, Calabasas Hills, CA, and owner of the **Coated Solutions** consulting firm, Westlake Village, CA, passed away from pancreatic cancer March 10 at the age of 57.

▶Barbara Ann Mayfield returns to the sales team at **Miltec UV**, Stevensville, MD.

▶**ISO Poly Films**, Gray Court, SC, hires David Bertelsman as technical manager.

▶Thomas Musselwhite is now sales specialist–Print and Web Processing, at **tesa tape**, Charlotte, NC.

CTI Has Great 2010

COLORADO SPRINGS, CO | Chromatic Technologies Inc. (CTI), the ink company that "makes the Rockies turn blue" on cold cans of Coors products, has signed multiyear contracts with new customers, including Anheuser-Busch, MillerCoors, and Molson Coors. CTI also expanded its cold-temperature indicators onto packages of brewed products sold in Central and South America, while bottles and cans of Coca-Cola products in Latin America now include the cold designators. CTI's staff increased by 58% during the past year and now works in a new 25,000-sq-ft facility.

Golf Outing To Aid Scholarship Fund

BROADVIEW, IL | The Annual DFI Scholarship Drive Golf Outing, scheduled for October 6, is again a fundraiser supporting the DiTrolio Flexographic Inst. Scholarship Fund. The outing will be held at Maple Meadows Golf, Wood Dale, IL.

Vince DiTrolio, founder/CEO, says, "Providing these scholarships is instrumental in establishing the next generation of flexo press operators. Due to rapid rates of growth and development in the industry, flexographic printing offers excellent employment opportunities and competitive wages."

The outing will be a Four-Person Best-Ball Peoria Scoring scramble with a shotgun start, cart, and lunch to follow. Golfers may register individually or as a team. Individuals or organizations interested in golfing or sponsoring the event should contact Tom Anderson at 708-343-4334.

▶**Pamarco Global Graphics**, Atlanta, GA, now services the offset tower and coating markets through its direct sales and technical channels from five manufacturing locations in North America and Europe.

▶Netherlands-based **Clondalkin Group** agrees to acquire the Printed Components business of **Catalent Pharma Solutions**, Somerset, NJ.

▶**Color-Logic**, West Chester, OH, certifies **Caldera Graphics**, a French RIP developer specializing in wide format printing applications, as a partner.

▶**Novamelt-Jowat**, Archdale, NC, celebrates the completion of its factory expansion with a ribbon-cutting ceremony. The expansion doubles the size of the manufacturing and storage facility.

▶**Keco Coatings**, Indianapolis, IN, acquires a second facility for its high-performance coating operation. The 40,000-sq-ft facility is located at 1102 W. 16th St. in Indianapolis.

▶The Barcelona, Spain, sub. of **Nordenia**, Greven, Germany, receives an award for outstanding print quality at the National Flexography Competition of the ATEF. The award went to wet wipe packaging for Deliplus Refreshing Towelettes in the category of flexible film printed by trichromy, cuatrichromy, or more.

▶**Hooven-Dayton Corp.**, Dayton, OH, acquires **Benchmark Graphics**, Richmond, IN. The Richmond plant will operate under the Hooven-Dayton name.

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OUR EXPERIENCE...YOUR ADVANTAGE

FTA Gets Flexo Engines Started at Forum/Info*Flex

By Claudia Hine, Managing Editor

INDIANAPOLIS, IN | The Flexographic Technical Assn. (FTA) held its annual forum and Info*Flex exhibition at the JW Marriott and Indiana Convention Center May 1–4. With a sold-out exhibit hall and standing-room-only conference sessions, attendees clearly are racing to meet the forum's goal: To set the pace for flexo packaging excellence.

*Yolanda Simonsis, assoc. publisher/ editor, and David Fay, national sales director, greet visitors to PFFC's booth during Info*Flex.*

FTA reports 1,600 package printers and their business partners attended this year's event, stating that long-standing attendance records were shattered. If you missed it, here's recap of two conference sessions of interest.

Benefits of Ultra-Thin Plates

At a conference session on flexo quality, P.J. Fronczkiewicz, senior technical advisor at Flint Group, Charlotte, NC, covered printing with ultra-thin (0.030 in.) plates, which consist of 0.007 in. of backing and 0.023 in. of polymer.

Although not new, these plates are not widely used. Fronczkiewicz says, "Only a handful of people are using very thin plates. I'm surprised they haven't been scrapped altogether." However, the plates offer ecological and user benefits that should be considered.

The biggest advantage compared to 0.067 in. plates is platemaking speed. While the thicker plate takes about 162 min to finish, the thinner plate is ready in 58 min.

In terms of environmental impact, VOCs from solvents used to develop the plate are reduced by more than 50%. Global warming potential (GWP), including plate, packaging, and transport, is an estimated 32% lower, and energy consumption is 40% lower.

The thinner plate is more flexible, offering better drape and reduced cupping for more even printing and reduced dot gain. They are easier to mount and handle.

There are some disadvantages, however. The thinner plates provide less solid ink density compared to the thicker plates, and they produce a hard lead (or dark border) at the edge.

A hard plate in 0.030 gauge is needed to avoid low densities, he says.

The thin plates are perfectly suited for surface screening and flat top technology to boost their performance, says Fronczkiewicz. Tape selection is important. Without surface screening, hard tape can be used to increase solid ink density and reduce hard lead edge. With surface screening, tape selection is less critical.

Making the transition to a thinner plate means changing to a larger diameter sleeve or cylinder to compensate for the difference. In either case, the transition will be gradual. Start with a common repeat for testing, and convert jobs as graphics change, he suggests.

Controlling Ink Dynamics

In a session on inks and substrates, Ed Dedman, director of emerging technology at Graymills Corp., Chicago, IL, encouraged attendees to "think like the ink" and consider what will happen to it as it flows through your process. This is the "forgotten component" in the flexo industry, he says. His presentation covered the four "C's" to controlling total ink dynamics: condition, clean, circulate, and control.

To condition the ink prior to printing means to control rheology. Inks should be mixed on a shaker, preferably in the inkroom, before use.

Because the ink could be contaminated with dried bits, metal shavings, and other foreign materials, filtration is important. Clean it by using a mesh filter and a magnet to catch shavings.

While pouring may be fine for short runs, pumping is the best way to circulate the ink. The correct pump can provide proper conditioning and reduce settling.

Controlling the specific attributes of your ink is important to achieve correct color. Use the right tools to control the pH, temperature, and viscosity, and keep the tools clean and calibrated. Dedman says it's critical to always adjust pH before adjusting viscosity. Because heat thins ink and can begin the curing process, a 5–10 deg C rise in temperature can increase your costs.

Dedman says much effort is given to prepress and controlling color, but the wet end of the press needs attention. Implementing the four C's can offer high impact for minimal cost.

To watch *PFFC*'s video interview with Jay Kaible, FTA's director of business development, visit "NEWS" on our website or http://bit.ly/kkIvpi.

Study Looks at Consumables

RESTON, VA | PRIMIR, the Print Industries Market Information and Research Organization, has funded a new research study entitled "Printing Industry Consumables Usage & Trends." The results of this research will provide an understanding of the usage trends for the many consumables used by various print processes and by major application segments. For more information visit www.primir.org.

Inks Certified Green

SCHAUMBURG, IL | INX Intl. Ink Co.'s EcoTech TC sheet-fed inks have earned verification and certification through the environmental standard EcoLogo Program. Certified inks include four EcoTech process colors and 11 blending bases, assuring that all environmental claims made by the manufacturer are understandable as well as accurate and reliable.

EVENTS

▶JUNE◀

20–22 | IMI Road Map to 2020 Annual Digital Printing Presses Conference, Information Management Inst., Hollywood Beach Marriott, Hollywood, FL; www.imiconf.com

▶JULY◀

10–15 | NPIRI Printing Ink Technology Summer Course, National Printing Ink Research Inst., Fox Valley Technical College, Appleton, WI; www.napim.org

13 | Webinar on an Intro to Modified Atmosphere Packaging II, MOCON, 10 A.M. CT; www.mocon.com

▶AUGUST◀

23–24 & 25–26 | Web Coating & Drying/Solution Preparation & Mixing, AIMCAL Converting School, Mercure Louvain-la-Neuve, Brussels, Belgium; www.convertingschool.com

▶SEPTEMBER◀

11–14 | GraphExpo, Graphic Arts Show Co., McCormick Place South, Chicago, IL; www.graphexpo.com

SVC Holds Ambitious Technical Conference

By Claudia Hine, Managing Editor

CHICAGO, IL | The Society of Vacuum Coaters held an ambitious TechCon Technical Conference April 16–21 at the Hyatt Regency on the Riverwalk. This year, in addition to traditional sessions, TechCon featured two symposia: "Manufacturing and Technology for Thin Film Photovoltaics" and "Coating Advances and its Impact on the Future of the Vacuum Coating Industry."

Günter Bräuer, Fraunhofer Inst. for Surface Engineering and Thin Films IST, Braunschweig, Germany, gave the keynote presentation for the latter symposium. Bräuer tackled the topic of magnetron sputtering, a field in which he's been involved since 1976. He covered milestones that have been achieved in the area of sputtering over the last decades, explaining why pulsed dual magnetron sputtering results in better films.

Predicting 2010 will begin the "decade of higher efficiency," areas for future exploration include High Power Impulse Magnetron Sputtering (HIPIMS) for thin films for applications such as photovoltaics.

In a technical session on Vacuum Web Coating, Klaus Schmidegg, head of research and development at Hueck Folien, a film converter in Baumgartenberg, Austria, presented a paper on "Optical and Magneto-Optical Properties of Thin Metallic Films and Clusters on PET Substrates." His talk included information on "touchskin," a proximity and touch-sensitive intelligent surface that replaces mechanical switches, sliders, and wheels with capacitive electronics. This human machine interface was created in a network of R&D partners.

The metallized PET fully integrates the capacitive controls in molded parts. As a result, the product is dirt- and water-resistant. Advantages include freedom of design with new shapes including seamless 3D surfaces; it can be backlit also. Schmidegg says the film offers robustness and cost efficiency.

More than 180 tabletops filled the exhibit hall, offering attendees an opportunity to learn about suppliers' latest products and services. SVC also held a 5K Fun Run/Walk and a Lake Michigan Cruise for participants to network.

Get M&A Report

CHICAGO, IL | BMO Capital Markets' sixth annual report on mergers and acquisitions activity in the packaging industry offers a comprehensive overview of packaging M&A activity globally and in North America, examining activity by sector, geography, acquirer type, size, and valuations.

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▶**Mesirow Financial**, Chicago, IL, acts as exclusive financial advisor to **Resource Label Group**, Franklin, TN, in its sale to a fund managed by **First Atlantic Capital**, New York, NY.

▶**Western States Envelope & Label**, Butler, WI, wins the 2010 Envelope Supplier Excellence Award at the Staples Print Solutions national sales meeting in Orlando, FL.

▶New Delhi-based **Zircon Technologies India** signs a letter of intent to purchase three additional finishing machines from **Rotocontrol**, Ahrensburg, Germany, following the successful installation of its first RSC slitter/rewinder.

▶**Inland Label**, LaCrosse, WI, installs its second Speedmaster XL 105-8+L press from **Heidelberg**, Kennesaw, GA. The press has a CutStar in-line sheeting unit, aqueous coater, Prinect Press Center with Intellistart operator guidance system, integrated Wallscreen, and Prinect Inpress Control color measurement.

▶**Xeikon America**, Itasca, IL, enters into partnerships with two industry organizations to offer business development services to North American label printers. The partnership with **InfoTrends**, Weymouth, MA, provides on-site, customized workshops designed to provide market strategies to capitalize on digital printing solutions. A separate partnership with **Karstedt Partners LLC**, Eden, NY, provides consulting and custom decision-making ROI tools to help printers evaluate digital printing options, including cost, print quality, and converting considerations.

▶**CTC Intl.**, West Caldwell, NJ, is appointed North American agent for the Flexor brand of label industry products manufactured by **EMIS**, Warsaw, Poland.

▶**McCourt Label Co.**, Lewis Run, PA, receives the Environmental Leadership Award for Process Improvement from the **Tag & Label Mfrs. Inst.**, Gloucester, MA.

75 Years for tesa

CHARLOTTE, NC | Company officials of tesa tape report this year marks the 75th anniversary of the first tesa-branded product being produced and made available by parent company Beiersdorf, Hamburg, Germany.

The brand got its name when Beiersdorf Co. held a contest among its employees to suggest brand names for its adhesive tape line. A secretary, Elsa Tesmer, submitted the word "tesa," which represented a combination of letters within her name.

The brand name was legalized, and the first tesa-branded product, tesa Klebefilm, a transparent film-backed tape, hit the market in 1936.

AT WORK

Wine Label Growth Fuels Investment

LA RIOJA, SPAIN | Argraf Group has installed a ten-color OMET X-Flex 430 press, fitted with three rotary die-cutting units. It also has an upper rail system for mounting the three cold foil stamping units, turn bars for reverse printing, a unit for printing on the adhesive, and a relief/embossing unit.

Martin Torroba, general manager of Argraf, says, "The investment was driven by rapid growth within the company's adhesive wine label sector. We have configured it precisely to meet our actual needs, with screen, cold foil, and plastic coating, but no offset."

▶**OMET | www.matik.com**

AT WORK

WS Packaging To Supply Labels & Labeling Machines

GREEN BAY, WI | WS Packaging Group has partnered with ILTI S.r.L., Mantoa, Italy, to expand its Automated Systems Div. (ASD) portfolio to include a series of rotary labelers for p-s label applications. WS Packaging has acquired the exclusive distribution rights of ILTI's equipment in the US and Mexico.

According to Scott Fisher, chief innovation and operations officer for WS Packaging, "Expanding our ASD family of products allows us to better support and grow with our clients' application needs. ILTI designs and manufactures superior rotary technology not found in North America today, and our combined capabilities provide the highest technical expertise to provide a single resource for both labels and application equipment to service the demanding needs of Fortune 500 clients."

▶**WS Packaging Group | www.wspackaging.com**

▶**ILTI | www.ilti.it**

ILTI rotary labeling equipment is available in four models, including the RP system (shown), its fastest labeler at 1,000 bottles/min.

Inkjet Printer, Media Make Durable Labels

Company reports FLEXcon's FLEXmark PP p-s label media is optimized for its VersaUV Series wide-format inkjet printer/cutters. The machines print and contour cut designs all on one device, allowing users to create labels in any shape through one seamless workflow. Combination of unit with the p-s media is said to produce durable, high-image quality labels for product ID and product promotion applications.
▶Roland DGA Corp. | 800-542-2307 | www.rolanddga.com

Printhead Combo Offers Economy

The combination of micropiezo printhead technology, fast-drying UV enhanced ink, custom media, and channel controlled user-friendly software interface provides large- and small-format imaging as an economical and ecological prepress solution for liquid and sheet polymer manufacturing applications. Printhead has the capability of imaging spot sizes as small as 3.5 picoliters and resolutions to 2,880 dpi.
▶Jetsetter Imaging Systems | 770-664-6624 | www.jetsetter-us.com

Print Labels With Security

Stand-alone label printing station can be operated remotely and perform many software functions using a keyboard with no computer attached, once label formats are downloaded from a computer. Thermal/thermal transfer label printers are said to offer flexibility of use, security, and standard, out-of-the-box features.
▶Tharo Systems | 800-878-6833 | www.tharo.com

Inkjet Press Has Wide Color Capability

The Tau 150 8C digital UV inkjet label press handles web widths from 4–6.5 in. at speeds close to 160 fpm. Standard color configuration CMYK+W can be completed with orange and violet, offering more than 90% coverage of the Pantone color gamut.
▶Durst Phototechnik | +39 04 72 81 01 11 | www.durst-online.com

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Carton & Box Reporter

Folding Cartons | Set-Up & Corrugated Boxes | Gable-Top Cartons | Aseptic Cartons | Trays

▶**American Forest & Paper Assn.**, Washington, DC, reports total kraft paper shipments in March 2011 were 140,100 tons, an increase of 2.1% compared to March 2010 and up 12.9% compared to February 2011. Total boxboard production in March 2011 increased by 2.2% compared to March 2010 and increased 11.1% from February 2011. Containerboard production for March 2011 rose compared to February 2011, with month-over-month average daily production up 0.8%

▶**Finn Industries**, Ontario, CA, joins the **Paperboad Packaging Council (PPC)**, Springfield, MA, as a principal member. PPC also reports its royalty-free Paperboard Packaging Recyclable logo is a registered trademark.

▶**Diamond Packaging**, Rochester, NY, installs its second eight-color Speedmaster XL 105 UV press from **Heidelberg**, Kennesaw, GA. The press has a special double coating configuration with initial flexo dispersion coater, four modular deliveries, and full interdeck UV capability.

▶**Hammer Packaging**, Rochester, NY, installs its first **Heidelberg** Speedmaster CX 102 press, choosing an eight-color model with CutStar roll sheeter, Prinect Press Center with Intellistart operator guidance system, integrated Wallscreen, and Axis Control color measurement and control system. An integrated UV system from Germany-based **IST** utilizes the new Electronic Lamp Control that enables the system to operate at very low energy consumption and take up 50% less floor space.

At Keller Crescent, a Martin Automatic ECP splicer is increasing productivity on a Muller Martini Alprinta press.

Keller Crescent Adds Splicer

GREENSBORO, NC | Keller Crescent has installed an ECP splicer from Martin Automatic to provide nonstop unwinding to a new Muller Martini Alprinta offset press. The new press and splicer are used to print literature for pharmaceutical packaging.

Although Keller Crescent runs Martin splicing equipment at its other facilities, this is a first for the Greensboro plant. Reports Jimmy James, press manager, "We chose the Martin splicer on the recommendation of the press supplier that it was the right machine for the work we need to do."

▶**Martin Automatic | www.martinautomatic.com**

▶**Muller Martini | www.mullermartini.com**

A student from the Boys and Girls Club in Lawrenceville, GA, shows off the sapling he learned how to plant in a recycled Kleenex box at Nordson's 2011 TICCIT program.

PPC Members Distribute Saplings

SPRINGFIELD, MA | Coinciding with the celebration of Earth Day in April, 18 member companies of the Paperboard Packaging Council (PPC) distributed more than 8,400 saplings to students and employees through TICCIT (Trees Into Cartons, Cartons Into Trees). Sponsored by the PPC, TICCIT is a national education program that promotes planting trees in recycled cartons as a way to highlight the importance of recycling and the sustainable nature of paper-based packaging. President Ben Markens says, "We are incredibly pleased that so many PPC members participated in the TICCIT program."

WHAT'S NEW **PRODUCTS**

See more products on p21, p32 & p44

Jogger Aerator Is Strong

The FLP Excalibur no-pit machine is described as strong, reliable, and long-lasting. Standard features include an automatic jogging feature; a push-button side guide for pallet centering; a solid jogging plate, which makes jogging fine paper easier; adjustable air volume; and adjustable vibration. Said to be easy to install and operate.

▶**Woodward Jogger Aerators | 201-933-6800 | www.WoodwardUSA.com**

Figure 1. Laser-enabled digital finishing of folding cartons can deliver three-dimensional concepts with high aesthetic impact.

Laser Levels Playing Field

Take a closer look at laser-enabled digital finishing, which can provide real-time flexibility, even when every sheet is different—the ultimate short order of one.

By William Dinauer and Eduardo Arteaga, LasX Industries, and Andrew Held, Coherent Inc.

The widespread use of digital printing has revolutionized the folding carton industry in terms of both processing speed and flexibility. In turn, this puts pressure on downstream finishing processes to deliver compatible speed and automated flexibility. A new generation of digital finishing machines is doing just that, thanks to the availability of compact, sealed lasers at the kilowatt power level.

Digital Printing–Flexibility To Maximize Visual Impact

Ideally, the folding carton is an industrial product with high aesthetic impact (see **Figure 1**). In today's competitive marketplace, innovative and eye-catching packaging gives a product an edge, allowing it to stand out on the shelves among dozens of comparable items.

With the rise of technological advancements in laser processing capabilities, folding cartons are no longer limited to simple paperboard containers. Laser processing creates new possibilities to add visual impact to folding cartons without decreasing processing speed.

Traditional die constraints hinder packaging design options, whereas lasers can offer flexibility to create both simple and intricate embellishments, patterns, and display windows in a wide array of materials in varying thicknesses. These design features add interest and showcase the package's contents or unique attributes, creating a lasting impression on consumers. Moreover, the final product enables improved interaction with the user and involves intricate cuts and tight angles that cannot be cut by die boards.

Fortunately, design innovation no longer requires a sacrifice of production efficiency. Laser modules offer multiple processing capabilities to create an array of features in a single workstation without the need for additional tooling or dies.

This includes adding features such as perforations, slits, display windows, and easy-open tear strips in addition to traditional score lines. Laser processing takes folding carton manufacturing to a new level of visual appeal while maintaining functional elements in a cost-effective manner, even when producing short runs.

Today, manufacturers often create a small run of a few thousand cartons to assess their real market impact. This small run flexibility and market agility have been enabled by high throughput digital printers. The latest models can print 22.5x14.3-in. single-sided sheets at 22 sheets/min. Some carton manufacturers are running two such printers in parallel for a top speed of 44 sheets/min. With lasers, maximum finishing speed is die-line dependent and also a function of paper thickness, but digital finishing can only become the absolute tool of choice if it can at least match 44 sheets/min, with headroom for future speed increases. The bulk of the folding carton market consists of paper products with a thickness of 9 mils or more, but plastic sheets and plastic-coated papers also are used, and these also must be processable at high speed.

By digital finishing, we mean finishing that is performed according to stored CAD/

CAM designs accessed and used in real time. Because smarter digital machines incorporate a bar code reader, a bar code then can be printed on every sheet indicating its particular finishing pattern. Contrast this to traditional physical tooling with die boards, in which new tooling is required for even the smallest change.

Digital Finishing with Lasers

The laser is the critical technology that has enabled digital finishing. It is an omnidirectional cutter with no tool wear issues that can be moved very quickly under computer control using low inertia mirrors. Plus, by changing the speed at which the beam is scanned across the carton, it is simple to use the same tool for cutting and scoring in a single process. Also, by switching the beam on and off, perfs can be created.

Which laser? There are now many types of industrial-grade lasers and the digital finishing of folding cartons needs a laser that can deliver several key benefits simultaneously. A laser cuts materials such as paper and plastic by applying intense local energy to vaporize or melt the target material. So first and foremost, it is critical that the laser beam is absorbed efficiently rather than reflected or transmitted.

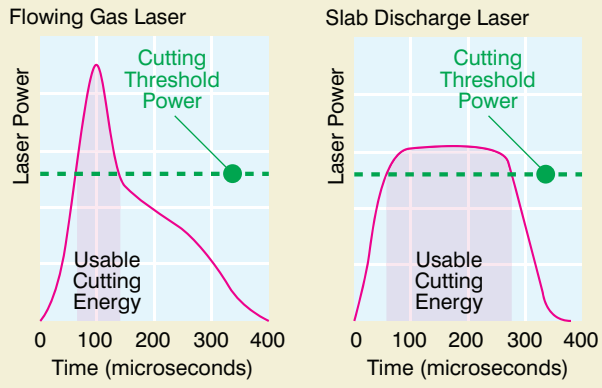


Figure 2. The pulse shape of two different types of CO_2 lasers. The slab discharge laser has a much faster rise time, meaning more of the pulse energy is used for cutting rather than causing undesirable peripheral thermal effects, e.g., charring.

But the absorption of light by paper and plastics is very dependent on wavelength. Therefore, the most important criterion is that the laser wavelength is one that can be absorbed efficiently by all the common materials used in folding cartons. This need is best met by the carbon dioxide (CO_2) laser, a very mature technology dating back nearly 50 years with eye-safe infrared output at a wavelength of 10 microns.

High Power Lasers with Smaller Footprint

Since one of the main values of a folding carton is aesthetics, the edge quality is very important. However, some infrared lasers like the CO_2 laser easily can create discolored and even charred edges that would be cosmetically unacceptable. In "laser-speak," this is called the heat-affected zone (HAZ) and must be minimized at all costs. It represents material that has been intensely heated by the laser but not quite heated enough for removal.

This HAZ can be virtually eliminated by using a laser that offers two characteristics—high beam quality and fast pulse rise time. Beam quality is important because the cutting/heating power of a laser is increased by focusing the beam to a small spot on the material. This spot must have clean edges rather than a fuzzy area with low power that would create a HAZ around the cut.

To avoid charred edges, it is equally important that the laser output be pulsed with fast rise and fall times. Sealed "slab discharge" CO_2 lasers meet both these criteria

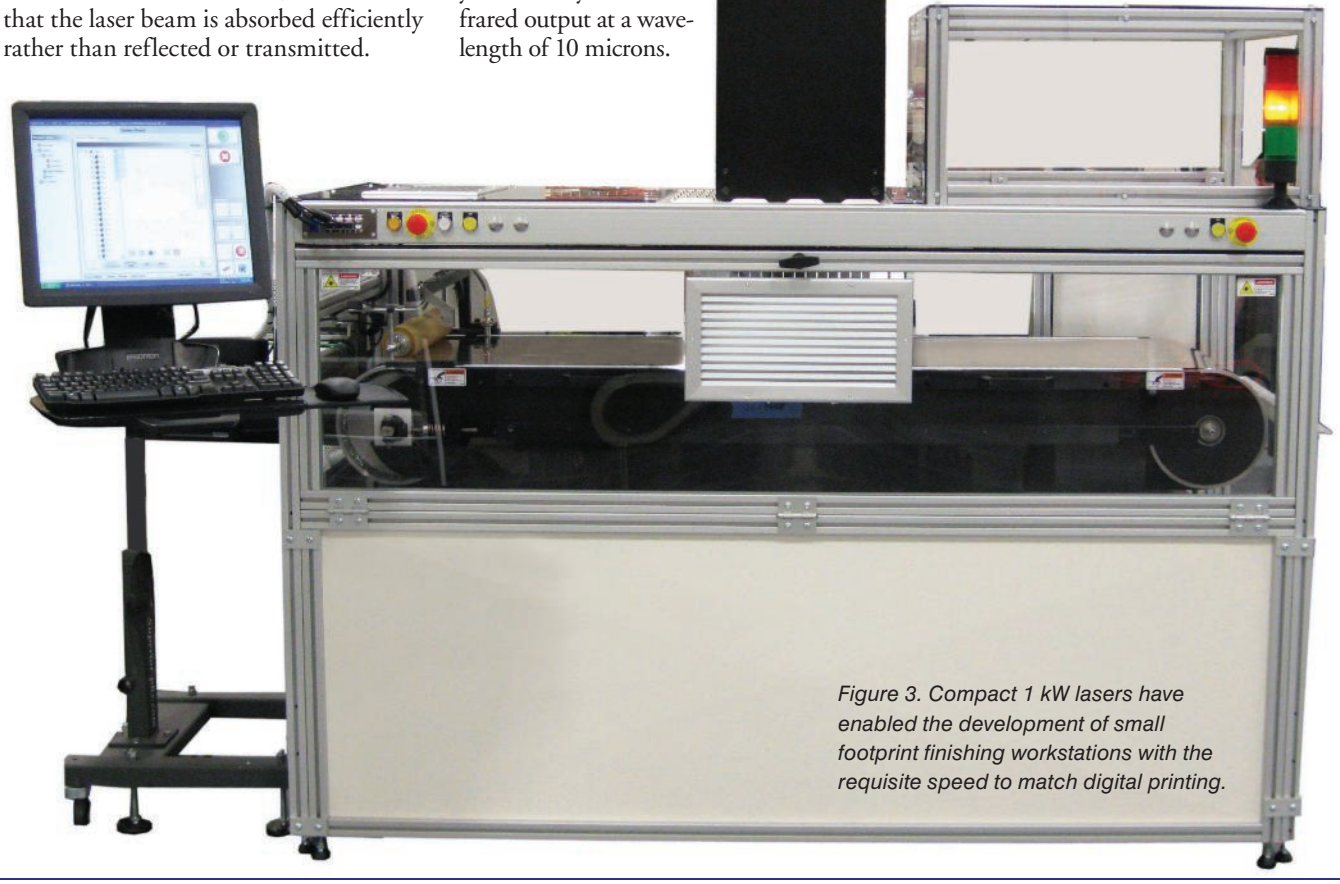


Figure 3. Compact 1 kW lasers have enabled the development of small footprint finishing workstations with the requisite speed to match digital printing.

as well as providing a very high power-to-size (and weight) ratio. As shown in **Figure 2**, their fast pulse rise time means most of the laser power is delivered well above the threshold for cutting, rather than just heating and charring.

Surprisingly, until recently there was no perfect laser for high-speed finishing of folding cartons. Most cartons are made primarily of paper, which is a relatively tough material to cut with lasers, particularly thicker paper and high-end papers with a high clay content. To deliver the 44 sheets/min target described earlier requires at least 500W and preferably a kilowatt of laser power, in order to confidently handle 160-lb and heavier paper stocks. But sealed slab discharge lasers were limited to 500W, limiting their speed in this application.

One solution was to use two slab discharge lasers, thereby increasing the size and cost of the machine, often to unacceptable levels. Another solution was to use a traditional flowing gas CO_2 laser, which made for an even larger and more complex system, negating many of the size, agility, and simplicity advantages of digital finishing.

Fortunately, this situation completely changed in 2010 with the development of sealed lasers at the 1 kW level. In addition to providing the necessary power and fast pulsing characteristics, these new lasers are more integrated than traditional carbon dioxide lasers, with the RF power supply incorporated entirely within the compact laser head.

As a result, one of these lasers can power a compact digital finishing machine (see **Figure 3**) that delivers all the advantages of edge quality, complex shapes, and single sheet flexibility and that can keep pace with two high-speed digital printers—even with thick and coated paper stocks.

Digital printing has had a huge impact on the folding carton industry. Now a new generation of laser-powered digital finishing machines is poised to have a similar far-reaching impact with software flexibility replacing hard tooling and the die-board going into the same obsolescence as the print blanket in this market.

William Dinauer is the owner and founder of LasX Industries Inc., St. Paul, MN, manufacturers of laser digital converting equipment and services for processing non-metallic materials at high production speeds. Dinauer holds an M.S. degree in Manufacturing Systems Engineering and a B.S. degree in Agricultural Engineering from the Univ. of Wisconsin–Madison. Contact him at wdinauer@lasx.com.

Eduardo Arteaga, commercial print digital finishing engineer, has been with LasX Industries for five years. He holds an M.S. degree in Mechanical Engineering from the Central Univ. of Venezuela and an MBA from Hamline Univ. Contact him at earteaga@lasx.com.

Andrew Held is product marketing manager, CO_2 lasers, for Coherent, Santa Clara, CA, manufacturers of the Diamond E-1000 and other CO_2 sealed laser systems. He holds a Ph.D. in Physical Chemistry from the Univ. of Pittsburgh. Contact him at andrew.held@coherent.com.

▶Supplier Info◀

▶LasX Industries | www.lasx.com

▶Coherent Inc. | www.coherent.com

Automatic knife placement systems provide consistency, accuracy, and reduced setup times.

Up & Running

Automation technology designed to reduce downtime at the slitter/rewinder is offering converters more efficiency and cutting waste significantly.

By Michael Pappas, Catbridge Machinery

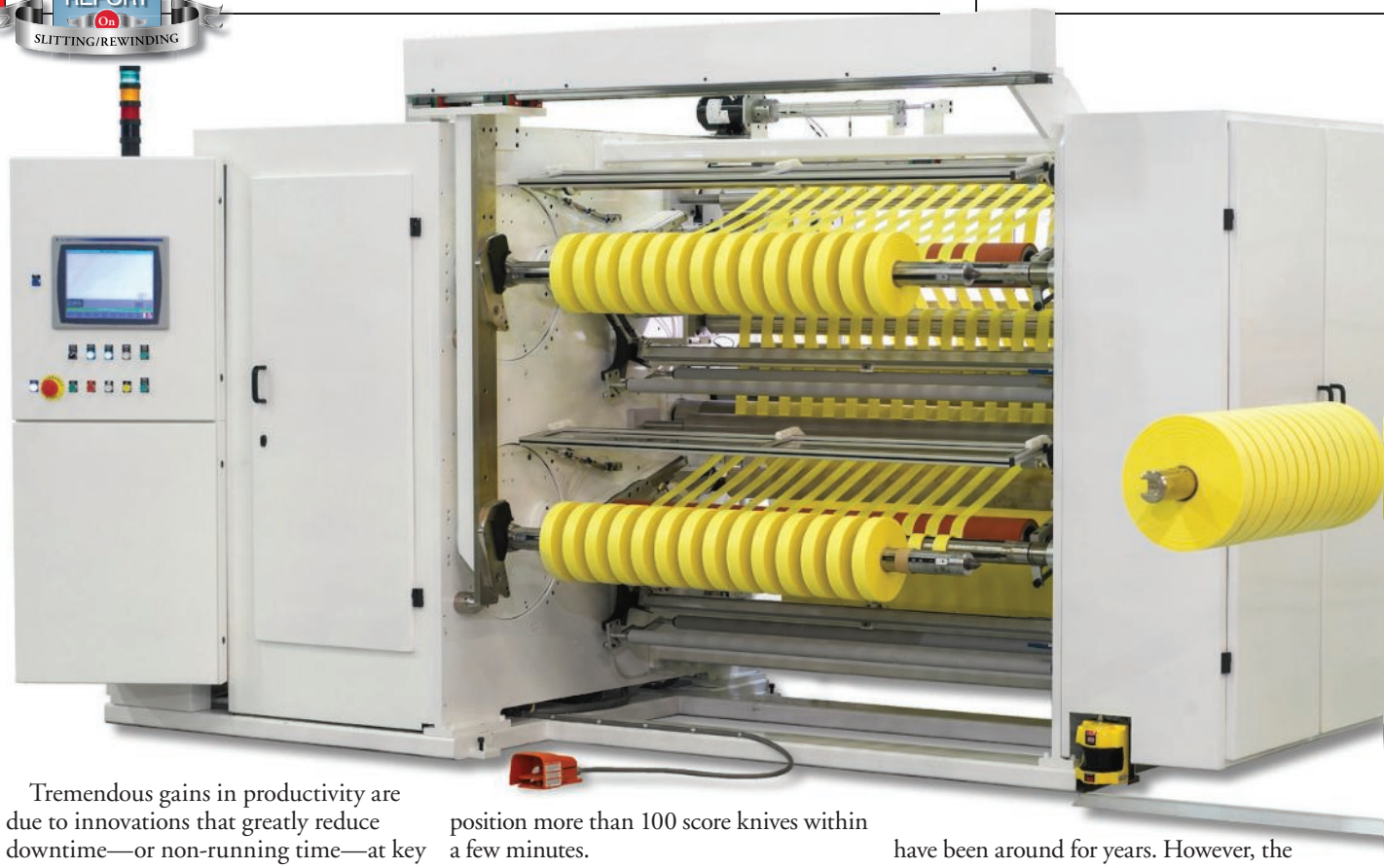
Recent innovations have improved the performance of slitter/rewinders dramatically, offering superior wind quality and impressive production rates. Turret winders incorporating the latest technologies, for example, can outproduce traditional winders by 200%–300% or more in some applications. Today's slitters also do a much better job of minimizing waste.

In the past decade, more powerful and sophisticated machine control systems have emerged. Utilizing PLC-based systems, slitters can integrate more automated features and functions. Automatic knife positioning, core positioning, and closed-loop tension are now more common on standard slitters.

▶Supplier Info◀
▶Catbridge Machinery | www.catbridge.com

For more solutions, products, services, and news, click on the Slitting One-Stop at www.pffc-online.com.

SLITTER/REWINDER **INNOVATIONS**



Tremendous gains in productivity are due to innovations that greatly reduce downtime—or non-running time—at key points in the slitting process. Major downtime causes are grouped in three areas:

- Loading jumbos rolls
- Getting ready for a new cycle between sets (unloading finished rolls and reloading cores)
- Setting up the slitter (knife changes) for a new job

To speed up loading jumbos rolls, a growing number of converters are using shaftless floor pickup unwinds for rapid and operator-friendly loading. While not strictly a "new" technology, chuck improvements and more flexible, functional designs have increased effectiveness. A variety of new two-position configurations, for example, allow a new roll to be loaded while the machine is running, an especially significant advantage for small orders using one jumbo roll or less.

The two greatest areas of downtime occur between jobs and between sets. For reducing downtime between jobs, automatic knife placement has become increasingly popular. Available for shear, score, and razor slitting, these systems greatly reduce setup times. For example, an auto score system can precisely position more than 100 score knives within a few minutes.

In addition to reducing setup times, automatic knife placement systems provide the added benefit of quality improvements and waste reduction by positioning knives precisely and consistently. The result is less rejected product, reducing losses and waste. Auto knife systems also incorporate PLC recipe storage for job repeatability. These systems provide the greatest return on investment for jobs with many cuts and jobs that don't run an entire jumbo roll, meaning many knife setups per shift.

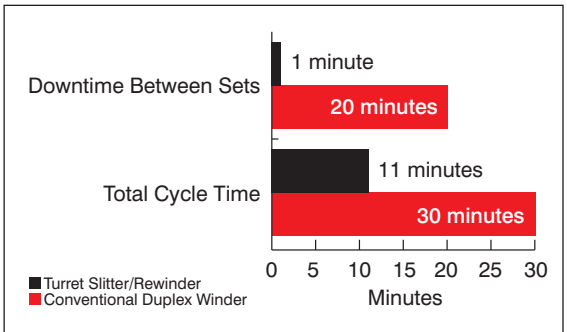


Figure 1. Turrets can achieve at least two to three times more productivity than conventional duplex winders. Total gains depend on number of cuts and roll length.

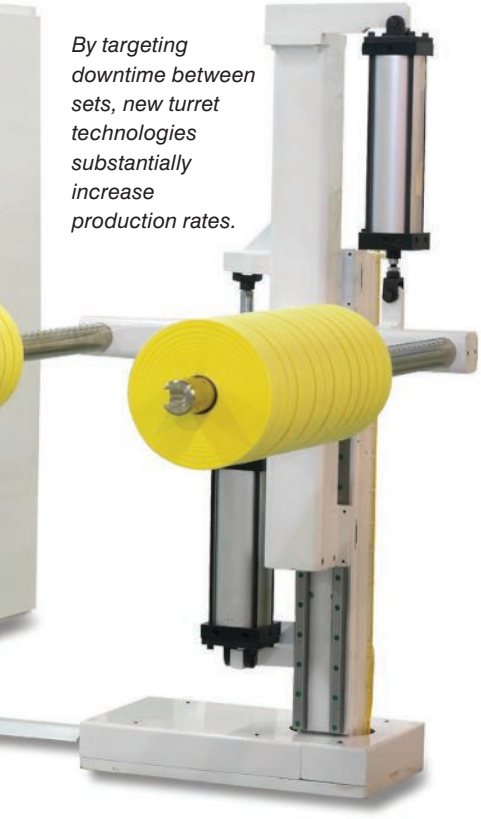
For downtime between sets, dramatic, business-changing time savings can be achieved on turret winders. Turret designs have been around for years. However, the recent incorporation of many new supporting features has allowed turrets to reach their full potential to reduce downtime.

Additionally, advances in tension control, web positioning, and rewind shaft technology allow center wind turrets to be used for a broader variety of material applications. Turrets are ideal for both high-volume, long-running, multiset orders and also short-length runs with lots of changeovers.

Automate the Cutoff

To make the most of the turret's time-saving capabilities, state-of-the-art technologies work together to fully automate the cutoff and transfer process between sets. And, importantly, these features save time without sacrificing quality, so high quality finished rolls can be delivered to customers.

The technologies needed for automation include improved, highly reliable cutoff and transfer systems that take advantage of the turret rotating disc design, allowing winding on one shaft while cores are loaded on the other. Additional technologies include tabbing to pre-tape the web and roll enveloping of tails onto both new cores, with no fold-back, and at the finished roll for tail wipe-down and seal.



By targeting downtime between sets, new turret technologies substantially increase production rates.

These features all function together to eliminate manual processes and substantially reduce downtime.

Fully automatic cutoff, transfer, and new core attachment can result in at least two to three times more productivity. For example, where downtime between sets is 20 minutes using a conventional duplex winder, utilizing a turret winder that completely automates the cutoff and transfer process reduces downtime to a minute or less (see **Figure 1**).

If run time to generate a finished roll is 10 minutes, a set now can run every 11 minutes with the turret, as opposed to every 30 minutes on a conventional design. Over an eight-hour shift, the turret can run 44 sets per shift compared to 16 sets with a conventional machine, nearly tripling production.

For reducing downtime between sets, another important innovation is automatic core positioning. Available for all types of slitter/rewinders, not just turrets, this technology also provides more accurate setups—ensuring that cores are aligned with the material—and eliminates startup waste.

Different from laser-based, operator-assisted core positioning, auto core positioning works in conjunction with auto knife placement. It precisely positions cores while the operator performs packaging or other finished roll discharge activities. This technology is useful for jobs with several narrow cuts.

Technological advances for particular materials can further improve performance. For example, closed-loop tension ensures better roll build and edge quality across the spectrum of flexible packaging films and laminations. Dual bowed rolls utilizing proper geometry help ensure uniform slit separation, even on narrow cuts for both paper and flexible packaging materials.

What's Right for You?

So how do converters decide what innovations best meet their needs and what level of automation can help maximize productivity and provide a worthwhile return on investment? Working with the vendor, converters can closely examine roll production data, looking at months, not just days, to determine the exact blend of work.

Factors to consider include job durations, changeovers per day, materials and cut ranges, roll length and diameter, run times, and specialty requirements such as inspection or cleaning.

Another consideration is flexibility for future needs. Web paths can be designed and machine frames prepared to accommodate a variety of future additions. Some examples include lasers for scoring, cameras for inspection, web cleaning technology, automated knife placement, tabbing, and different slitting methods.

As the last step in the converting process, slitting and rewinding carries the value-added weight of all plant processes: extrusion, printing, and laminating. Nowhere in the plant is a pound of material worth more.

Recent slitter innovations have helped minimize waste, create top quality rolls, improve ergonomics, and significantly reduce downtime. Full realization of profit—or very expensive losses—occur at the slitter, making the correct choice of the most efficient, productive slitter essential for maximizing a plant's bottom line. PFFC

Michael Pappas, president and founder of Catbridge Machinery, Parsippany, NJ, has an engineering background and 25+ years of experience in the converting industry. Contact him at 973-808-0029.

Capacity Needed

Expanding operations in Mexico and Brazil spur two converting operations to invest in new slitting/rewinding technology.

Edited by Claudia Hine, Managing Editor

Plemsa's latest slitter/rewinder, a Titan ER610, was purchased while on display at ICE USA.

Logistics played a role in the decision by Mexico-based Plasticos Especializadoes de Monterrey S.A. (Plemsa) to purchase a Titan ER610 compact slitter from Atlas Converting Equipment. Armando Vazquez Castillo, director of the Plemsa Plastics Div., saw the unit on display during a visit to ICE USA in Orlando, FL, in April.

"Our business has expanded rapidly in the last few years, and we needed additional high performance slitting capacity in Monterrey to keep up with increased demand," he says. "So it made complete sense to buy our second ER610 slitter from the ICE USA show, as it was already in Florida!"

The 65-in. (1,650-mm) ER610 is a twin-shaft cantilever slitter and a more sustainable slitting/rewinding solution. It has reduced power but all electric, oil-free operation without hydraulics and is designed to process lower volumes and shorter runs of flexible packaging materials.

The unit features a CCD edge-guide camera for reducing waste and has a running speed of 1,500 fpm (450 mpm) with an option for slit widths as narrow as 1.37 in. (35 mm).

▶Converter Info◀

▶Plasticos Especializados de Monterrey S.A. de C.V. | Bernardo Reyes 2625, Sin Nombre de Colonia 22, Monterrey, NL, Mexico | +52 8125-4534 | www.plemsa.com

Flex-Pack Production

Established in 1957, the Plemsa Group produces a range of flexible packaging materials, mainly for food applications, with facilities for blown film extrusion and coextrusion, flexo printing, lamination, slitting, and bag production. There are production facilities in Monterrey and at its group company, Plastinal, located in Mexico City. It also has offices in Guadalajara.

The Plemsa Group supplies flexible packaging throughout Mexico and since 1988 has developed substantial sales of its products to customers in the US, Central, and South America.

The Titan ER610 slitter can process a wide range of flexible materials including plain, printed, coated, or metallized film from 20–200 micron, a wide range of laminates, and paper from 30–200 gsm.

The unit features a 10-in. touchscreen control system and an integral edge-trim extraction system. The pneumatically controlled braking system is said to provide accurate web tension control, and a digital edge-guide system controls lateral movement of the unwind roll to ±2 in. (50 mm).

Optional features on the Plemsa machine include a static electricity control system, laser (line) core positioning, EU safety guarding, laser safety scanners, and shaftless unwind roll pickup from the floor.

"We have been very satisfied with the performance of the first Titan ER610 slitter, which we installed at the beginning of last year," explains Vazquez Castillo. "We have other older Titan SR Series slitters that have been running well for the last ten to 15 years, so we knew that reliability of the new Titan machine would not be an issue." PFFC

▶Supplier Info◀

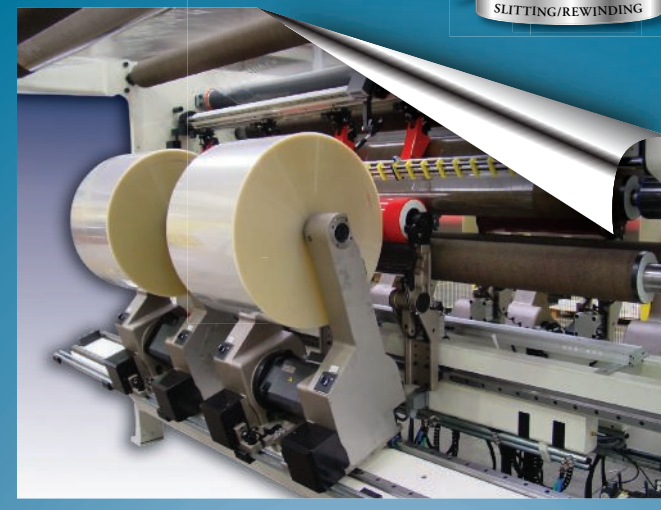
▶Atlas Converting Equipment Ltd. | www.atlasconverting.com

BOPP Producer Needs Nine

Videolar S.A., Manaus, Brazil, has just purchased six Atlas film slitters and three Titan secondary slitter/rewinders. This is in conjunction with three new biaxially oriented polypropylene (BOPP) film production lines. The film lines are to be installed in separate phases during the second half of 2011 and the first half of 2012 at the company's extensive, greenfield production site.

Atlas will provide three 327-in. (8.3-m) wide CW984 primary film slitters, three 112-in. (2,850-mm) wide CW800 secondary film slitters, and three 81-in. (2,050 mm) wide Titan SR8 twin-shaft cantilever slitter/rewinders for narrower width film slitting. One of each type of slitter/rewinder will be installed during the second half of this year.

Videolar is a newcomer to the world of BOPP film production. However, its activities are closely related to film production with a long history of successful business in the production of raw materials for polystyrene, video tapes, audio cassette tapes, and CD and DVD discs.



With more than 100 installations globally, the Atlas CW800 film slitter is used for both plain and metallized film.

Videolar's three 327-in. (8.3-m) wide CW984 primary film slitters are among more than 200 machines Atlas has installed worldwide that exceed 236 in. (6 m) in width.

The Titan SR8 can process slit widths as narrow as 25 mm (less than 1 in.).

The three CW984 primary BOPP film sliitters represent the biggest piece of the investment and are said to offer precise control of web and winding tension. The Atlas CW800 film slitter uses the same technology as the larger Atlas primary film slitters with a maximum speed of 3,280 fpm (1,000 mpm) and 48-in. (1,200 mm) unwind/rewind diameters.

The Titan SR8 cantilever slitter/rewinders have the capability of handling a variety of flexible materials up to 88 in. (2,250 mm) wide at high production speeds. They have a maximum rewind diameter of 32 in. (800 mm) and run at production speeds up to 2,300 fpm (700 mpm). The Titan SR8 slitters supplied to Videolar will feature a digital knife positioning system and an automated slit roll unloading system.

This significant new investment represents an important diversification in business for Videolar, which has seized an opportunity to produce BOPP film for the rapidly expanding flexible packaging materials sector in Brazil. With its newly discovered off-shore mineral wealth, the country has a rich source of crude oil to exploit in future years, which has no doubt been a major factor in the company's decision to become a key player in the production of BOPP film.

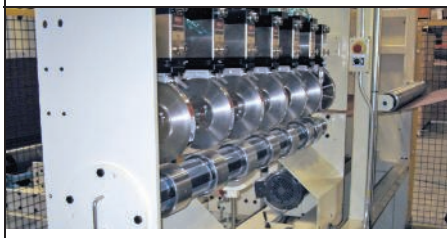
▶Videolar S.A. | www.videolar.com.br

Turn the page for New Technology Focus

FOCUS
SLITTING & WINDING

Cut & Wind Sensitive Materials

The Microslit CON cuts and winds materials from a width of 5 mm to a roll dia of 300 mm. Said to have short setup times, machine is designed for a production speed of 500 mpm and is suited for sensitive materials. Also said to offer sturdy construction, excellent roll configuration, and the most modern drive and cutting technology.
▶**Kampf Schneid-und Wickeltechnik | +49 2262 81-0 | www.kampf.de**



Change Cartridge Quickly

FOCUS A Rapid Change Slitting Cartridge is designed to eliminate setup time by allowing one magazine of slitters to be changed and preset while the other bank is in operation. Recommended for conversion of coarse materials that require frequent knife changes or short production runs that demand minimal downtime. Model includes two separate slitting rig assemblies mounted within frames that slide in and out of position in front of the rotary cutter. Each assembly has upper slitters that are air-loaded against bottom knife anvils. Bottom slitter rings are positioned laterally across air shaft that is driven by an AC motor.

▶**Maxson Automatic Machinery Co.** | **401-596-0162** | **www.maxsonautomatic.com**

Sharpen Your Own Blades

FOCUS

Blade sharpening system allows customers to maximize productivity and reduce costs by sharpening their own blades on their own timetable. Knife cartridge is inserted into the unit, sharpened, and ready for use in 90 sec.

▶**Tidland, a Maxcess Intl. co.**| **800-426-1000** | **www.tidland.com**

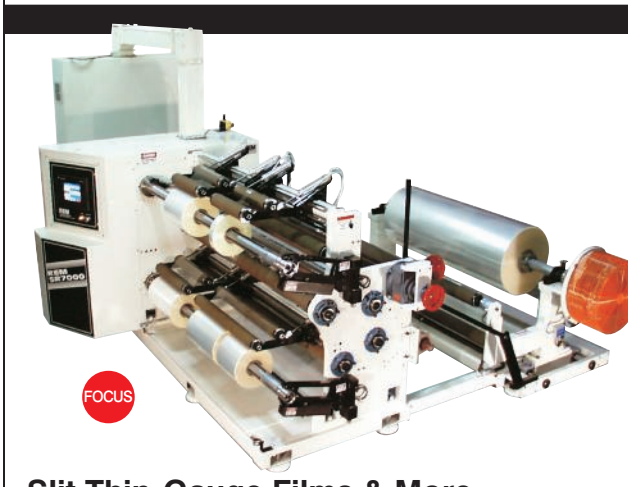
NEW **TECHNOLOGY**

Slitter/Rewinder Has Solid Frame

FOCUS

The 7250 slitter/rewinder features 2.5-in.-thick solid steel main frames; dual independent VSAC drives; counter balance rider roll; hydraulic actuated core chucks; adjustable bow roll; automatic line stop feature; and more.

▶CMS | 770-531-1267 | www.cms-inc-usa.com



FOCUS

Slit Thin-Gauge Films & More

Model SR7000 duplex slitter/rewinder is designed for thin-gauge films, foils, and packaging materials. Capable of running 84-in.-wide webs at 1,500 fpm, unit can handle 48-in.-dia unwind rolls while producing 24-in.-dia slit rolls at rewind. Pull rolls are placed before and after the slitting zone to assure isolation of tension zones. Web tensions as low as ¼ PLI are achieved using driven unwind and independent rewind drives with load cell feed back of locked core and differential winding techniques. Each model is customized to application.

▶REM | 920-729-6666 | www.rem-mfg.com

Slit to Narrow Widths

FOCUS

The T428 two-drum surface winder can slit and rewind most papers, nonwovens, and boards to narrow widths. Maximum speed is 2,500 fpm; web width is 72 in.; unwind diameter is 50 in. Equipped with shear slitting, but other options are available.

▶Elite Cameron | +44 0 1823 283411 | www.elitecameron.com

FOCUS

Slit Many Substrates

Diamond duplex center winder is said to offer performance with economy. Based on company's Sapphire technology, slitter features an integral unwind with an electric roll lift and a maximum speed of 500 mpm. Able to run a wide range of substrates, including paper, film, foil, and laminates, it is available in widths from 1,000–1,800 mm. Vacuum roller for tension isolation point means no nip rollers or S-wraps.

▶**Ashe America** | **802-254-0200** | **www.ashe.co.uk**

Winder Targets Mid-Range Markets

FOCUS

The SurfaStart 1000 servo-controlled winder is designed to meet the needs of the mid-speed and mid-width markets for coated paper, film, and nonwoven products. The company reports rolls of material up to 120 in. (3 m) wide at speeds to 1,000 fpm (300 mpm) can be slit and wound into shippable, high quality rolls to 60 in. (1.5 m) in diameter. Model incorporates a patented stationary knife transfer system, a bumpless primary to secondary winding position transitioning system, and programmable tension and nip control for winding rolls directly off the process line. The slitter mandrel, spreader roll, core accelerator, drum, primary arm indexing, and transfer knife positions are all servo-controlled.

▶**Davis-Standard Converting Systems** | **www.bc-egan.com**

FOCUS

Slitter Is Accurate & Robust

The 300 Sibtec automatic roll slitter with advanced control system incorporates twin-axis digital servo control for both indexing and cutting, said to result in highly accurate slitting. Robust machine is suited for heavy-duty, 24-hr operation, with changeover maximized between job production. Able to cut up to four different widths/cycle.

▶ALS | 44 0 1933 225 755 | www.als.ltd.uk

Flexible Slitter Has Short Web Path

FOCUS

The Genesis 700 center-driven duplex slitter/rewinder is said to offer flexible, targeted slitting capacity that's easy to implement. Reported benefits: compact footprint; short web path for improved rewind roll quality; bowed roller to remove wrinkles prior to entering slitting section; cantilevered air differential shafts with choice of direct friction or internal slip designs; and razor or shear slitting.

▶**Parkinson Technologies** | **401-762-2100** | **www.parkinsontechnologies.com**

Reduce Downtime With Automation

FOCUS

The Titan CT610 automatic turret slitter/rewinder is designed for high volume output with consistent turret changeover times of 20 sec. Standard features include differential winding technology and AC digital servo drives. Offers touchscreen operator interface; rewind closed loop control; and shaftless unwind stand. Fully programmable auto knife positioning is optional. Other options include core positioning, automatic core loading, automatic tape down, and more.

▶**Atlas Converting Equipment** | **704-587-2450** | **www.atlasconverting.com**

Slit, Rewind with Sensitive Control

FOCUS

The topslit, well suited for narrow or wide rolls with a large diameter, offers reproducible winding values, precise cutting tools, perfect finished roll removal, and short setup times. Features various cutting systems, a menu-driven operator panel, and rewind tension. Sensitive contact pressure control with a measuring roller, developed as a contact pressure roller, guarantees excellent winding results and optimal rewind hardness. Sensitive materials can be rewound using contactless winding.

▶**Goebel** | **+49 0 61 51 888-645** | **www.goebel-darmstadt.de**

SPECIAL REPORT On SLITTING/REWINDING

CONTRACT **SLITTING DIRECTORY**

*Good Manufacturing Practices. ⅞ = No answer.

Company Name	E-mail	Website		MATERIAL TYPE				SLITTING METHOD				
				PAPER	FILM	FOIL	NONWOVENS	RAZOR IN AIR	RAZOR IN GROOVE	CRUSH/SCORE	SHEER W/ COMMON SHAFT TOP KNIVES	SHEAR W/ INDEPENDENT TOP KNIVES
A.J. Oster Foils		www.ajoster.com				X					X	X
AccuFilm	plastic_film_slitting@accufilm.com	www.accufilm.com		X	X	X	X	X	X			X
Acucote Inc.	sales@acucote.com	www.acucote.com		X	X	X	X	X		X		X
Adhesive Tapes Intl.	info@atitapes.com	www.atitapes.com		X	X	X				X		X
Advanced Coating & Converting Systems	advancedcoating1@aol.com	www.hotmeltcoating.com		X	X	X	X	X		X		
Almetals, inc.	swarford@almetals.com	www.almetals.com				X						X
American Custom Converting	mikepaschen@acconverting.com	www.acconverting.com		X	X	X	X			X	X	X
AzCoat Inc.	azcoat@azcoat.com	www.azcoat.com		X	X			X	X	X		
Capture Global Integrated Solutions	info@capturegis.com	www.capturegis.com		X	X			X				X
Case Paper Co.		www.casepaper.com		X							X	
Chemsultants Intl.	info@chemsultants.com	www.chemsultants.com	See ad on p48	X	X	X	X	X	X		X	
Clampitt Paper Co.		www.clampitt.com		X								X
Clear Focus Imaging	headoffice@clearfocus.com	www.clearfocus.com		X	X	X		X		X		
Connemara Converting	cbconnolly@cmaraconverting.com	www.connemaraconverting.com		X								
Contract Converting	sales@contractconverting.com	www.contractconverting.com		X	X	X	X	X	X		X	X
Converted Products	sales@convertedproducts.com	www.convertedproducts.com	See ad on p43	X	X		X	X	X	X	X	X
Corydon Converting Co.	sales@corydonconverting.com	www.corydonconverting.com		X	X	X	X	X	X	X	X	X
Coy Paper Co.	info@coypaper.com	http://coypaper.com		X								X
C-P Flexible Packaging		www.cpflexpack.com			X	X		X	X			
Crusader Paper Co.	sales@crusaderpaper.com	www.crusaderpaper.com		X	X	X					X	X
Custom Converters	mkrause@customconverters.com	www.customconverters.com		X	X	X	X	X	X	X	X	X
Fairway Products	stephen.couchman@acmemills.com	www.fairway-products.com		X			X	X		X		
Filmquest Group	sales@petfilm.com	www.petfilm.com	See ad on p51	X	X		X	X	X		X	X
Filmtech, Inc.	ddeangelis@filmtechinc.com	www.filmtechinc.com			X	X	X	X			X	
Frank Lowe Rubber & Gasket Co.	info@franklowe.com	www.franklowe.com		X	X	X	X			X		X
Griff Paper and Film	inquiry@paperandfilm.com	www.paperandfilm.com		X	X	X	X	X	X	X	X	X
High-Tech Conversions	info@high-techconversions.com	www.high-techconversions.com		X	X	X	X			X	X	X
Impex Intl. Group	rrambhia@impexfilms.com	www.impexfilms.com	See ad on p51	X	X	X			X		X	X
Inarc Converting	inarcconverting@aol.com		See ad on p49	X	X	X	X					
Interfilm Holdings	info@interfilm-usa.com	www.interfilm-usa.com			X			X			X	
Jessup Mfg.	mgillette@jessupmfg.com	www.jessupmfg.com			X	X	X	X		X	X	X
K&L Services	mkamps@klservicesinc.com	www.klservicesinc.com		X			X				X	X
Kilborn Inc.	sales@kilborninc.com	www.kilborninc.com		X	X		X					X
LSH Materials	info@lshmaterials.com	www.hutchisonmiller.com		X	X	X	X	X				X
Materials Converting	mark@materialsconverting.com	www.materialsconverting.com		X	X	X	X	X	X	X	X	X
Materion Large Area Coatings	largeareacoatings@materion.com	www.materion.com			X	X	X					X
Matik Inc.–Goebel	sales@matik.com	www.matik.com		X	X	X		X	X		X	X
Matthias Paper Corp.	jmatthiasjr@matthiaspaper.com	www.matthiaspaper.com		X	X	X	X					X
McGrann Paper Corp.	dphillips@mcgrann.com	www.mcgrann.com		X								X
Medco Coated Products	customerservice@medcocoatedproducts.com	www.medcocoatedproducts.com	See ad on p47	X	X	X	X				X	
Metlon Corp.	info@metlon.com	www.metlon.com	See ads on p42, p51	X	X	X	X	X			X	
Miami Wabash Paper	atevans@miamiwabashpaper.com	www.mafcote.com		X		X	X					X

MAXIMUM INPUT ROLL WIDTH (INCHES)	MAXIMUM OUTPUT ROLL DIAMETER (INCHES)	UNWIND CORE INNER DIAMETER			REWIND CORE INNER DIAMETER			SLIT WIDTH RANGE (INCHES)		SLITTING TOLERANCES (INCHES)	THICKNESS RANGE (INCHES)	SPLICING		INPUT ROLL WEIGHT LIMITS (POUNDS)	GUIDING CAPABILITIES		TRAVERSE SLITTING CAPABILITIES	TYPE OF REWINDING			WINDER DRIVE OPTIONS			INDIVIDUAL BRANDING CAPABILITIES	CONFIDENTIALITY CONTROL	STRIPE SLITTING	LOG-ROLL SLITTING	GMP* INTEGRATED IN CONTRACT SLITTING
		3 INCHES	6 INCHES	OTHER	3 INCHES	6 INCHES	OTHER	MINIMUM	MAXIMUM			LAP SPLICE	BUTT SPLICE		EDGE	LINE		LOCK SHAFT	SLIP SHAFT (DIFFERENTIAL)	CENTER WINDING	SURFACE WINDING	COMBINATION CENTER-SURFACE WINDING						
60	40	X	X	X	X	X	X	0.250	60	±0.003	0.0008—0.040	X		4,000	X		X	X	X			X	X	X	X	X	X
80	34	X	X	X	X	X		1.375	80	0.003	8 mil (0.32 mil)—15.0 mil	X	X	4,500	X	X		X	X	X	X		X	X	X		X
62	45	X	X		X	X		2.0	62	±1/16	2 mil—18 mil		X	4,000	X			X	X	X		X	X	X	X	⅞	
65	10		X		X			0.250	63	±6%	3 mil—35 mil	X		1,500	X				X			X	X	X	X	X	X
30	18	X	X		X			0.500	30	±1/32	0.250	X	X	300	X		X		X	X			X	X	X		X
36	60			X			X	0.280	36		0.002—0.060	X		12,000	X			X		X			X	X			
135	60	X	X	X	X	X	X	2.250	129	1/16		X	X	6,000	X	X		X		X	X	X	X	X			X
48	48	X	X		X			3.0	46	1/32		X	X		X			X	X	X			X	X			X
6	8	X		X	X		X			8		X				X		X				X	X	X			
102	60	X				X		6.0	100				X					X			X			X			X
45	14	X	X		X	X		0.500	45	1/64	0.5—10 mil		X	300	X				X	X			X	X			
52	45	X		X	X		X	2.750	52	±0.005			X	3,000		X		X			X		X	X			
60	20	X	X		X	X		2.0	58	±1/32			X	400	X				X	X				X		X	
98	60	X	X	X	X	X	X	3.0	98	±1/32	20# tissue—32 pt board	X	X	10,000	X			X			X		X	X			
84	60	X	X	X	X	X	X	1.250		1/16	3/16	X	X		X	X		X	X	X	X	X	X	X			X
136	60	X	X	X	X	X	X	0.250	136	±0.005	1.00	X	X	4,500	X	X	X	X	X	X	X	X	X	X	X	X	X
63	32	X			X			0.500	63	1/16		X	X	3,000	X	X		X	X	X	X	X	X	X	X	X	X
60	50	X	X		X	X		6.0	60	1/32	0.07—0.10		X	2,500	X		X	X			X		X	X			⅞
50	24	X	X		X	X		2.0	29	±1/16	70 ga—340 ga	X	X	1,350	X	X		X	X	X							X
80	72	X	X	X	X	X	X	0.500	80	±1/64	0.008—0.072	X	X	7,500	X		X	X	X		X	X	X	X	X		
80	32	X	X	X	X	X	X	0.125	80	±0.002		X	X	5,000	X	X	X	X	X	X	X	X	X	X	X	X	X
103	30	X	X		X			1.0	100	±1/16			X	1,000	X			X			X		X	X		X	
90	36	X	X	X	X	X	X	1.0	90	±0.005	0.00025—0.025		X	3,000	X			X	X	X		X	X	X	X		X
130	40	X	X		X	X		0.500	130	0.05	0.0005—0.010		X	6,000	X	X		X	X	X		X	X	X	X		X
66	66	X			X			0.125	60	±0.015		X		300	X	X		X		X			X	X		X	⅞
65	40	X	X		X	X		0.250	65		0.00025—0.030	X	X	2,500	X	X	X	X	X	X	X	X	X	X	X	X	X
58	20	X	X		X	X	X	1.0	58		up to 1/8		X	1,000	X			X	X	X	X	X	X	X	X	X	X
5	24	X	X	X	X	X		1.0	62	1/16	0.00025—0.0014	X	X	2,500	X		⅞	X	X	X	X	X	X	X	X	X	X
										±0.005													X	X		X	X
80	25	X	X		X	X		0.250	79	±1/32	43g—14 mil	X	X	3,000	X			X		X	X	X	X	X			X
62	24	X	X		X	X		0.250	60	±1/16	0.080	X	X	1,000	X	X		X	X			X	X	X		X	
114	72	X	X	X	X	X	X	0.050	110	±0.01562	0.001—0.060	X	X	12,000	X	X		X		X	X	X	X	X	⅞		X
62	18	X	X		X		X	3.0	60	±0.0625	0.003—0.030			1,200	X			X		X			X	X			
32	31	X	X		X	X		2.0	32	1/16	0.0005—0.015		X	2,000	X				X			X	X	X			
72	36	X	X	X	X	X	X	0.125	72	±0.032	0.0005—0.125	X	X	2,000	X	X	X	X	X	X		X	X	X	X	X	X
62	24		X			X		0.040	60	0.001—0.005	0.00025—0.029		X	1,500	X	X			X	X				X	X		
400	60	X	X	X	X	X	X	0.250	100	0.010—0.020	0.0007—0.020	X	X		X	X	X	X	X	X	X	X	⅞	X			⅞
72	40	X	X	X	X	X		1.0	72	±1/32	0.005—0.024	X	X	4,000	X			X	X			X	X	X			
144	72	X	X	X	X	X	X	2.250	144	± 1/16		X		9,000	X				X		X		X				⅞
60	20	X	X		X	X		4.0	56	±1/32	0.002—0.010	X	X	1,500	X				X	X			X	X			X
54	20	X	X	X	X	X	X	0.008	48	±0.001	0.001—0.020	X	X	1,500	X	X	X		X	X			X	X			X
96	60	X	X	X	X	X	X	3.0	93	±1/16			X	7,000	X			X				X	X	X			

SPECIAL REPORT On SLITTING/REWINDING

CONTRACT **SLITTING DIRECTORY**

*Good Manufacturing Practices. ⅞ = No answer.

Company Name	E-mail	Website		MATERIAL TYPE				SLITTING METHOD				
				PAPER	FILM	FOIL	NONWOVENS	RAZOR IN AIR	RAZOR IN GROOVE	CRUSH/SCORE	SHEER W/ COMMON SHAFT TOP KNIVES	SHEAR W/ INDEPENDENT TOP KNIVES
Midland Paper	mkecustomerservice@midlandpaper.com	www.midlandpaper.com		X							X	X
MidStates Converting	don@msconverting.com	www.msconverting.com	See ad on p49	X	X		X	X		X	X	
Multi-Plastics.com	orders@multi-plastics.com	www.multi-plastics.com			X			X	X		X	
NC Converting	doug@ncconverting.com	www.ncconverting.com		X	X	X		X	X		X	X
Nichols Paper Products Co.	sales@nicholspaper.com	www.nicholspaper.com	See ads on p42, p47, p52	X	X		X			X		
Overwraps Packaging	support@overwraps.com	www.overwraps.com		X	X		X	X	X			X
Pacon Corp.	athompson@paconcorporation.com	www.paconcorporation.com		X	X	X	X		X		X	
Permapack Inc.	permapack@aol.com	www.permapack.com			X			X	X			
Platinum Packaging Group		www.platinumpkggroup.com						X			X	
Prime Converting Corp.		www.primeconvertingcorporation.com										X
Progressive Converting	mikek@pro-con.net	www.pro-con.net		X	X		X					X
Rayven	info@rayven.com	www.rayven.com		X	X			X	X	X	X	X
Reid Paper Co.	reidpaper@aol.com			X			X			X		
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thelamco, inc.	info@thelamco.com	www.thelamco.com		X	X	X	X		X			X
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▶The Holy Grail | 6 Tips for Winding

By Duane Smith, Product Manager, Specialty Winding, Davis-Standard Converting Systems

When winding film, the Holy Grail is to achieve round, hard rolls without defects. These areas require adherence to consistently achieve success:

▶Be sure the web material is as flat as possible
Process coming into the winder needs to be consistent
Basis weight and moisture variations must vary <5% across the web
The winding operation cannot improve the web material
▶Incoming web tension must be under control and measurable
Web tension cannot vary more than ±5% during steady state winding from setpoint
Web tension cannot vary more than ±10% during acceleration and deceleration
Transducers need to be provided for a direct readout of incoming web tension
▶Start winding with a good foundation
Wind on as large a core outside diameter (OD) as possible
Start winding on a good quality, well-dried core
Start winding with first wraps on the core as tight as possible

▶Wind with tapered roll hardness
After achieving a good hard start, taper the roll hardness as the roll winds
Gradually taper roll hardness through one or more of the TNT Principles
Taper the roll's hardness between 25%–50% of starting hardness
Hardness tapering prevents defects such as dishing, starring, buckling, telescoping while unwinding
▶Avoid winding too tightly as excessive roll harness can cause the following problems
Blocked rolls with sheet layers that fuse or adhere together
Exaggerated web defects, such as high caliper areas building on each other
Gauge bands that produce corrugations or rope marks in the tightly wound roll
Bagginess upon unwinding
▶Wind sufficient air in low areas and prevent stretching over high areas

▶Davis-Standard | www.davis-standard.com

MAXIMUM INPUT ROLL WIDTH (INCHES)	MAXIMUM OUTPUT ROLL DIAMETER (INCHES)	UNWIND CORE INNER DIAMETER			REWIND CORE INNER DIAMETER			SLIT WIDTH RANGE (INCHES)		SLITTING TOLERANCES (INCHES)	THICKNESS RANGE (INCHES)	SPLICING		INPUT ROLL WEIGHT LIMITS (POUNDS)	GUIDING CAPABILITIES		TRAVERSE SLITTING CAPABILITIES	TYPE OF REWINDING		WINDER DRIVE OPTIONS			INDIVIDUAL BRANDING CAPABILITIES	CONFIDENTIALITY CONTROL	STRIPE SLITTING	LOG-ROLL SLITTING	GMP* INTEGRATED IN CONTRACT SLITTING
		3 INCHES	6 INCHES	OTHER	3 INCHES	6 INCHES	OTHER	MINIMUM	MAXIMUM			LAP SPLICE	BUTT SPLICE		EDGE	LINE		LOCK SHAFT	SLIP SHAFT (DIFFERENTIAL)	CENTER WINDING	SURFACE WINDING	COMBINATION CENTER-SURFACE WINDING						
120	72	X	X		X	X	X	3.0	120	1/32	3 mil—24 mil		X	12,000	X			X	X	X			X	X			
60	50	X	X	X	X	X		0.750	60	0.015	0.01—0.125	X	X	3,500	X	X		X	X	X	X	X	X	X			X
75	21	X	X		X	X		2.5	50	±1/16	0.0005—0.0075	X	X	1,500	X				X	X			X	X			X
62	32	X	X		X	X		0.375	62	±1/32	0.50 mil—40 mil	X	X	3,000	X				X		X		X	X			X
74	55	X	X	X	X	X	X	0.750	72	1/32	30 pt		X	4,000		X			X		X		X	X			X
60	24	X	X		X	X		2.0	59	±1/32	0.0004—0.020	X	X	1,000	X	X		X	X	X		X	X	X			X
65	40	X	X	X	X	X	X	0.065	65	+1—0.001	0.005—0.250	X	X	2,000	X	X	X	X	X	X		X	X	X			X
60	24	X	X		X	X		2.0	45	+1/16—0	48 ga—3 mil	X		1,500	X	X			X	X	X	X	X	X			X
63	24	X	X		X	X		0.375	60	+1—0.010	50g—2 mil razor, 2 mil—10 mil shear	X	X	3,000	X	X	⅞	X	X	X			X	X	X	X	X
116	72	X	X	X	X	X	X	2.5	115	±1/32	2.0—30 pt		X	9,000		X			X		X		X	X			X
108	72	X	X	X	X	X	X	4.0	104	±1/32	0.036	X	X	10,000	X		⅞				X		X	X	⅞		X
63	31	X	X	X	X	X	X	0.200	60		0.0001—0.025	X	X		X		X		X	X	X		X	X		X	
65	36	X	X	X	X			1.5	65	±1/64		X	X	4,000		X		X			X		X	X	⅞		⅞
62	24	X	X		X			0.500	62	1/16	0.50 mil—5 mil	X		4,000	X	X			X		X		X	X			X
64	24	X	X		X	X		0.500	63	1/32	0.001—0.125	X	X	2,500	X			X	X	X			X	X	X	X	
32	50	X			X	X	X	10.0	32	±0.003				None			⅞	X	X			X	X	X	X	X	
72	50	X	X	X	X	X	X	4.00	70		18 ga—30 pt		X	5,500	X			X	X			X	X	X			X
60	60	X	X	X	X	X		0.375	60	±0.003	0.0005—0.125	X	X	10,000	X		X	X	X	X	X		X	X			
62	30	X	X		X			1.50	62	±1/32	0.005—7.0	X	X	4,000	X	X			X	X			X	X	X		X
83	40	X	X	X	X	X	X	0.125	80	±0.010	0.25—40 mil	X	X	4,000	X	X		X	X	X			X	X	X		X

Amplifier Easy To Use

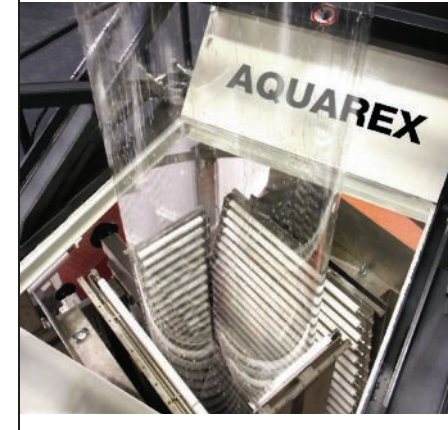
The A4 digital amplifier can be calibrated and zeroed with the push of one button. Can be used to remotely calibrate and graphically monitor both raw inputs from the load cells and amplifier outputs. Said to be easy to install and will work with most semi-conductor and foil-gauge tension sensing load cells.

▶**Montalvo Corp.** | **800-226-8710** | **www.montalvo.com**

Splice Film & Foil Efficiently

EasySplice FilmLine Plus adhesive tape is for high-performance splicing of film and foil webs during high-speed printing and coating applications. Product, designed for straight-line application across the prepared web, is said to offer fast and efficient web preparation time. Enhanced features reportedly allow for trouble-free splicing, even between challenging substrates such as thin films and foils.

▶**tesa tape** | **800-426-2181** | **www.tesatape.com**



Decreased Cooling Time for Blown Film

The Aquarex line blows film downward and uses water instead of air to quench the bubble, reportedly decreasing the cooling time by a factor of 30. The sudden freezing of the melt minimizes the buildup of crystallites in the plastic, creating an amorphous structure with excellent optical properties, company says, and the water quenching process also improves mechanical properties, such as puncture resistance and dart-drop-value. Highly amorphous microstructure improves sealability.

▶**Windmoeller & Hoelscher Corp.** | **401-333-2770** | **www.whcorp.com**

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Hybrid Inks Have No VOCs

TP UV Fusion hybrid inks for 3-piece metal decorating are formulated for indirect food packaging applications that require low-migration and low-odor inks. Inks have no VOC solvents and are free of both ITX and benzophenone. Said to provide high adhesion to a wide variety of base coated metal substrates, as well as excellent press stability and color balance.

▶**INX Intl. Ink Co.** | **800-631-7956** | **www.inxinternational.com**

Access Point for Hazardous Areas

The iWAP201A wireless access point is certified by ATEX for use in Zone 2 and 21 hazardous areas. The 802.11 a/b/g wireless access point has a 316L stainless steel enclosure to facilitate deployment in potentially explosive, harsh, wet, and corrosive environments. Model is equipped with a single radio and is easily configurable via a built-in web interface.

▶**Extronics** | **+44 0 1260 292655** | **www.extronics.com**

UV Print on Heat-Sensitive PVC

Company has demonstrated an LED UV printing system designed for heat-sensitive PVC sheet. Sheet-fed offset lithography printing system is powered by company's single, high-intensity PEAK LED-UV lamp and is capable of drying ink at top production speeds on paper, foil, and plastic stocks. LED UV wavelengths produce no IR energy, so reportedly they run cool in the press and produce no heat to the sheets or web.

▶**Air Motion Systems** | **715-425-5600** | **www.airmotionsystems.com**

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Metlon Corporation; Cranston, RI; Wayne Etchells; 401-467-3435; www.metlon.com *Custom Slitting and Traverse Winding. See ad in Services Section.*											•			•	•
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Technical Coating International; Leland, NC; David Stanbury; 910-371-0860; www.tciinc.com *90" Width Capability, Custom Coating Fabrics, Films and Papers*			•	•		•	•	•	•		•			•	
thelamco, inc.; Benton Harbor, MI; Brian McFall; 866-926-6101; www.thelamco.com *Specialists in Custom Toll/Contract Laminating, Coating and Slitter Services.*			•	•		•		•			•			•	•

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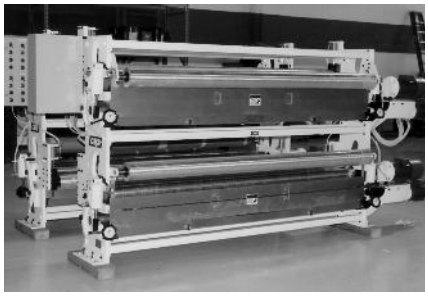

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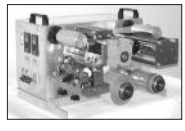

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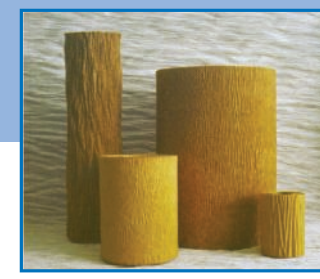

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Spiral Wrap
Wire Wrap
Bearing Wrap
Hose Wrap
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RS1106

2. How would you like to receive your FREE copy of *Paper, Film & Foil CONVERTER*?
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D ❑ Digital (free to all countries) P ❑ Print ($122 for international subscribers)

3. What primary converted product or package type do you manufacture? (Check only ONE)
Flexible Packaging
(Bags, Pouches, Wraps, Paper, Plastic or Foil) for:
1 ❑ Food and Related Products
2 ❑ Retail, Non-food Related
3 ❑ Medical/Pharmaceutical Products
4 ❑ Other Flexible Packaging (Specify) _____
Unprinted Rolls or Sheets
5 ❑ Film, Foil, Paper or Paperboard as a final product or for further converting (including Coated Substrates)
Tapes, Labels or Tags
6 ❑
Paperboard Packaging
7 ❑ Folding Cartons
8 ❑ Corrugated Containers
9 ❑ Fiber Cans, Tubes or Drums
10 ❑ Set-up Paperboard Boxes or Pressed and Molded Fiber Goods
Office Products
11 ❑ Envelopes
Sanitary Products
14 ❑ Containers
15 ❑ Tissue Products or Disposables
Manufacturers
17 ❑ Converting Machinery, Equipment, Materials & Supplies
Other
18 ❑ Specify _____

4. What is your primary job title? (Check only ONE)
T ❑ Owner, President, Vice President, Chairman/Board, CEO, Director, Manager, or other Executive/Management title
U ❑ Production Dir/Mgr, Chief Engineer, Project Engineer, Mechanical Engineer, Operations Dir/Mgr, or other Engineering/Operations title
V ❑ R&D Dir/Mgr, Technical Dir/Mgr, Designer, or other R&D or Technical title
W ❑ Purchasing Dir/Mgr or other Purchasing title
X ❑ Sales Dir/Mgr, Marketing Dir/Mgr or other Sales/Marketing title
S ❑ Other (Specify) _____

5. What width materials do you convert/print? (Check ALL that apply)
AA ❑ Less than 18 inches (45 cm)
BB ❑ 18 to 24 inches (45 to 60 cm)
CC ❑ 25 to 36 inches (61 to 90 cm)
DD ❑ More than 36 inches (90 cm)

6. How many people do you employ? (Check only ONE)
A ❑ 1 to 19
B ❑ 20 to 49
C ❑ 50 to 99
D ❑ 100 to 199
E ❑ 200 to 400
F ❑ Over 400

7. What printing processes are performed at this location? (Check ALL that apply)
A ❑ Flexible Packaging
B ❑ Tags & Labels/Tape
C ❑ Folding Cartons
D ❑ Corrugated Containers
E ❑ Printed Electronics (e.g., RFID Printed Electronics

8. What converting processes do you perform? (Check ALL That Apply)
48 ❑ Film Extrusion
79 ❑ Adhesive Coating
49 ❑ Extrusion Coating
52 ❑ Laminating
53 ❑ Slitting
54 ❑ Sheeting
55 ❑ Die-Cutting
56 ❑ Folding/Gluing
57 ❑ Embossing
58 ❑ Bag or Pouchmaking
60 ❑ Hot Stamping
65 ❑ Metallizing
66 ❑ Digital Printing
75 ❑ Flexographic Printing
76 ❑ Gravure Printing
77 ❑ Letterpress
78 ❑ Offset Printing
60 ❑ Screen Printing
60 ❑ Other (Specify) _____

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RS1106

June 1, 2011 Issue — valid until September 1, 2011. AFTER THIS DATE, PLEASE CONTACT SUPPLIER DIRECTLY.

Rick Heinl

▶President of Repacorp Inc.
▶**Motto |** If I can't make money at it, I may as well go fishing.
▶**Hobbies |** Golf and fishing.

▶How did you get into the converting business? I went to school for accounting and hated it. I took a job with Keebler as a salesman (elf) and was given an opportunity to work for Repacorp by my wife's cousin in 1978. Repacorp stands for "Representing A Corporation." I purchased the company in 1990 and decided I needed to control my customers' destinies. I bought my first press in 1993 and now have 34 presses in three locations.

▶How would you describe your management style? I believe you have to delegate to your employees and understand that to grow they are going to make mistakes. You just have to put controls in place to minimize the mistakes.

▶What is the key to growing a business in a bad economy? We decided to invest more heavily in digital and RFID so that when the economy improved we would be ready for new growth. This helped us divert from some of our products that were becoming more of commodities and invest in growth and niche areas, giving us a way to improve margins.

▶What is the biggest threat to the converting industry right now? I believe it's the fact that the industry is not growing as it used to, and so many small companies are unable to compete with the big guys, so they are being acquired. Also, the many price increases being introduced by everyone, which I think will continue, thus putting more pressure on all of us and squeezing margins.

▶What keeps you up at night? I recently did an acquisition and have had many sleepless nights associated with that, because you are affecting so many people's lives, and you don't want to screw them up. But you have to make tough decisions that are the best for your company and employees.

▶What do you know now that you wish you had known when you started out? I wish I knew that my company would be a success. I wouldn't have worried so much and perhaps wouldn't have had two heart attacks.

▶What do you most enjoy about your job? I love the people in this industry and my employees, along with my family that works with me, and the challenge it takes to make it all work.

> I had a supplier that wasn't shipping *on time*, and he told me if **I didn't like it**, I should buy my own press. **I did!**

▶What's the funniest thing you've witnessed on the shop floor? Every Halloween we give away cash prizes for the three best costumes worn by employees. It is amazing how a little thing like that brings everyone a little pleasure—you have to have some fun!

▶Who's your personal hero? My mom and dad. I come from a family of seven brothers and sisters, and I saw how hard my mom and dad worked just to put food on the table. I remember being on food stamps and the day my dad got a raise to $12,000 per year; you would of thought he hit the lottery. He passed away at 48, and Mom had to raise us. I get my strength, drive, and inspiration from them.

About Repacorp Inc.
▶31 Industry Park Ct., Tipp City, OH 45371
▶www.repacorp.com
▶Founded 1974; 3 plants; 143 employees
▶**Specialization |** Stock, thermal, thermal transfer, laser, and RFID labels.

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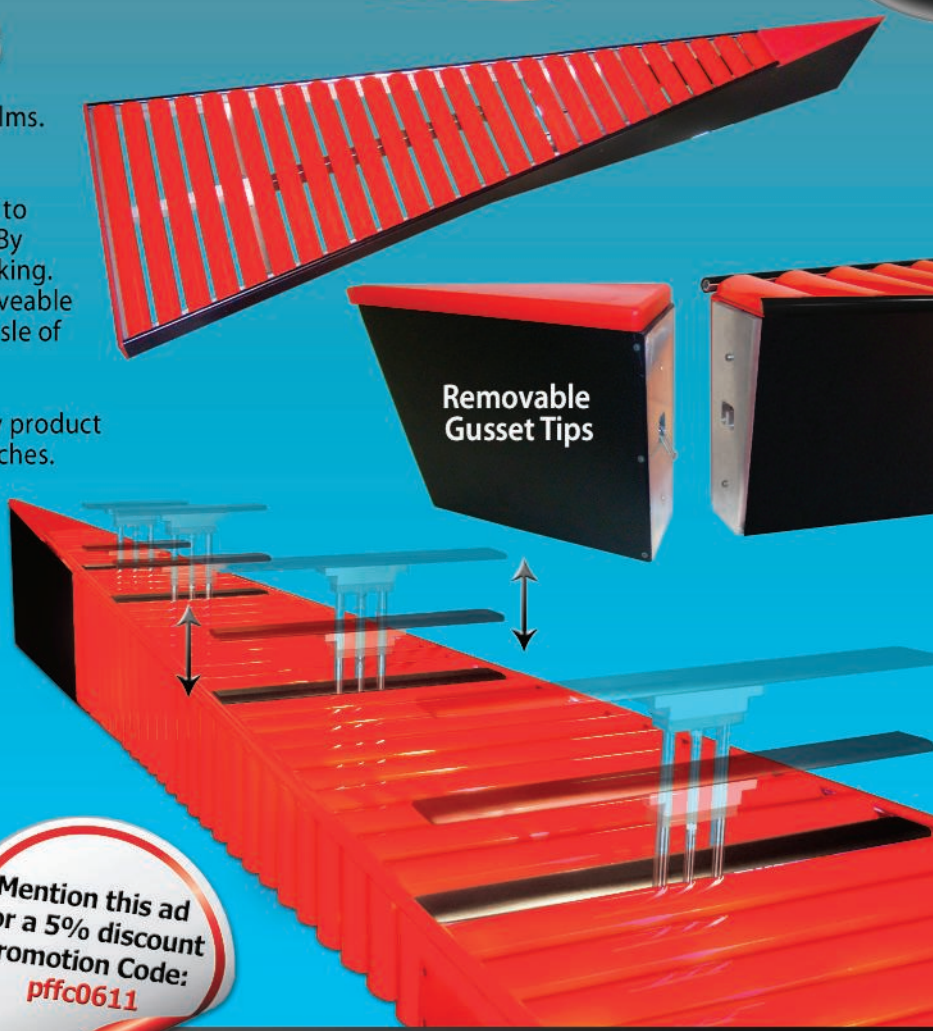

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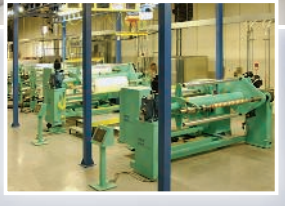

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