

Corrugated TODAY

THE BI-MONTHLY PUBLICATION FOR AMERICAN AND CANADIAN INTEGRATED AND INDEPENDENT BOX MAKERS

JULY/AUGUST 2017

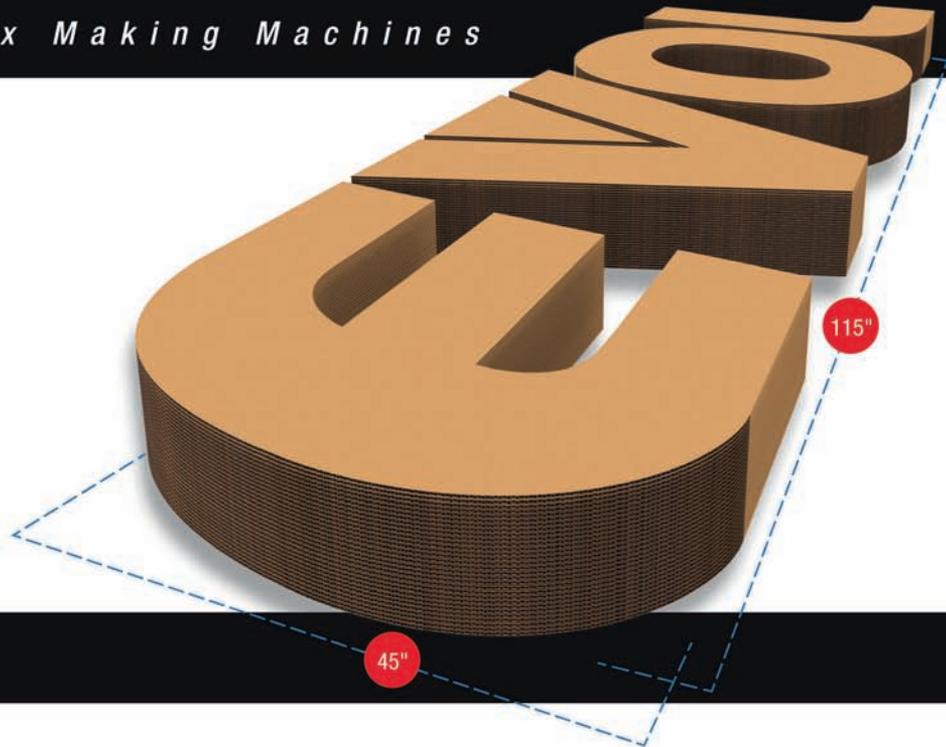
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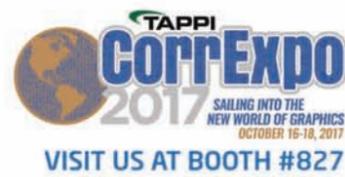
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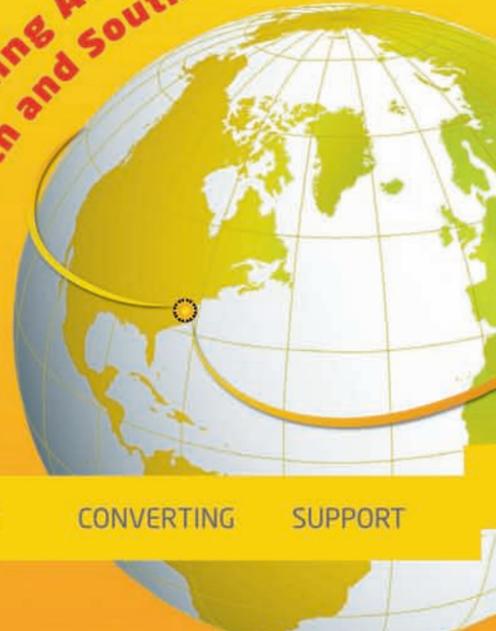


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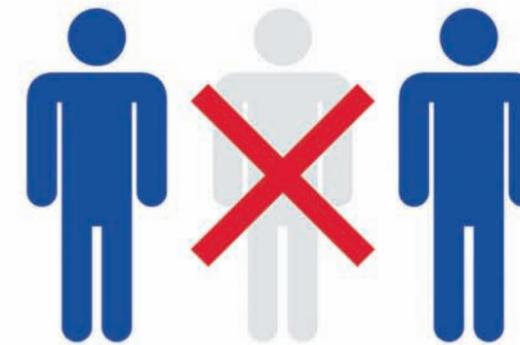
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JACKIE SCHULTZ

WHAT HAPPENS IN VEGAS DOESN'T HAVE TO STAY THERE

The famous tagline, "What happens in Vegas stays in Vegas" was created to drive tourism and to brand the city for something other than gambling. It's a catchy phrase that is used often, sometimes in context that has nothing to do with Vegas. I'm taking some editorial liberties and stretching its definition to spark interest in the Innovator of the Year competition. What better time to enter than this year when the winning entries will be announced at the AICC Annual Meeting, Sept. 25-27 at The Encore Hotel in Las Vegas.

Co-sponsored by *Board Converting News* and *Corrugated Today*, the competition is a perfect opportunity for box makers to highlight some of their innovations that have improved plant productivity and efficiency and served as a solution to a specific production or management problem, or enhanced the skill, safety and/or well-being of the work force.

The 2017 competition is open to corrugated, folding carton and rigid box AICC members and features innovations developed after September 2013. Innovations may include processes, equipment, systems or programs developed in the box maker's plant to benefit customers, end-users or the paperboard packaging industry through enhanced convenience, efficiency, quality, sustainability and safety.

Previous winning entries reflect extraordinary creativity in the form of employee wellness and recognition programs, production tracking and

efficiency and safety enhancing programs and devices, and tools that help plant, office and sales personnel.

The most recent box plant to receive the award was President Container for its 2013 entry: "The Math Class," Putting America Back to Work. The Middletown, N.Y., company determined that too few potential employees had the basic math and related skills to work and succeed in a box plant environment. Working with Orange County (New York) officials, a local business coalition and the State University of New York, President's managers developed an in-house math and skills class for potential employees, who attended the training course twice a week for six weeks. Those who completed the course were awarded with a job at President Container. The solution helped the company solve work force deficiencies, reduce unemployment and create better lives for those in the local community.

Sound Container, Chandler, Ariz., was a runner-up in the 2013 competition. Its entry featured new ideas for recycling and re-using wastewater, paper and ink.

In 2009, Jellco Container Inc. received the award for its entry: Optimizing for Productivity. The Anaheim, Calif., sheet plant organized its workplace to allow machines to run continuously, at maximum press speeds, 24 hours a day, five days a week, therefore avoiding the costs of starting and stopping. For instance, Jellco's flexo folder-gluer line is a self-contained work center complete with a control room where machine operation and product quality are

continuously monitored. Real-time productivity reports, order status and live video feeds of work centers, are available via inter- and intranets allowing plant management to immediately address any issues before they become time or product wasting problems. This enabled Jellco to be a low-cost provider while maintaining a healthy profit margin.

Taking second place in the 2009 competition was Central Container Corp. for its Going Lean and Green entry, and third place was awarded to Bates Container for its Quick Change Cart and Rack System for Printing Plates entry.

Other box makers to win the award include Royal Containers Ltd. for its Eliminator 2000: Reusable Strapping Machine; Great Lakes Packaging Corp. for its Tab Removal Device; and Kell Container Corp. for its Jumbo Press Folding & Gluing Unit.

No Gambling Necessary

The competition is video based. Entrants must submit a five- to six-minute non-commercial presentation with off-camera narration and a completed entry form to AICC headquarters by August 18. For competition guidelines, visit aiccbbox.org ■

Jackie Schultz

Feel free to contact me with story ideas, comments or suggestions. I can be reached at 440-356-2257 or e-mail jschultz@corrugatedtoday.com



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RSC WITH THE PERMA-LOCK TECHNOLOGY



ALPHA PAK



ICE PACK

PERMA-LOCK IS A REVERSE TUCK THAT USES A PORTION OF THE BOX'S END PANELS AS THE LOCK.

Ted Wiley, founder of Innovative Design Concepts, Inc. in Dover, Arkansas, likes to create corrugated packaging solutions for supply chain challenges. Over the years he has introduced a variety of innovative features incorporated into bulk bins, RSCs and trays. "The point of my designs is to make it easier for the people who have to use them," he says. "I approach it from the standpoint of people working on assembly lines and dealing with that package every day. I try to save companies money but at the same time keep the workers from getting hurt or experiencing chronic fatigue syndrome."

He developed a corrugated pallet, called "Egg Guardian," that can support over 20,000 pounds, and an eight-sided bulk bin, called "InstaBin2," that deploys with one person in under 10 seconds. "My eight-year-old granddaughter can assemble the bin," he says.

"Alpha Pak" is the latest design. It uses 10% less board and features Wiley's patent pending Perma-Lock technology, which locks the flaps into place, permanently closing the box without the need for tape, glue or staples. Once the

box is closed, unless it has a separate top, it cannot be opened without tearing.

A customer recently tested the Alpha Pak Ice Pack with the Perma-Lock technology. The wax coated C-flute box was able to support 50 lbs of crab meat plus 30 lbs of ice. The box was able to support more weight than the previous one the customer was using. "In my box the crab meat conformed to the corners better and they got 10 extra pounds per box. They were ecstatic about that," Wiley says. "With the Perma-Lock on the Alpha Pak Ice Pack, once you put the tab in, it doesn't matter if you lock it or not, the crab meat or whatever the product, will hold the flap down and lock it."

'Radical' Design

Perma-Lock is a reverse tuck that uses a portion of the box's end panels as the lock. "I make the lock out of the panel that's not even used. It's just there for support," he says. "I take that piece and flip it up through and back down again against itself."

The locking technology can be used on virtually any box style. "Any place you need a lock and with less board. It's

very versatile. There are 100 different designs," he says.

Wiley is a corrugated industry veteran who has worked for several integrated companies as a designer. Corrugated has been his livelihood and his hobby. "When I get an idea I whittle away until I figure it out," he says. After he designed the Perma-Lock RSC, he asked his wife who weighs 130 pounds to stand inside the box. He was able to pick it up and support her weight. "For a little box to hold that weight with no paper, glue or staples was just incredible," he says. "It was 275# 16- x 10- x 8-inch C-flute singlewall."

It can be run on any converting equipment. "There's no difference in the way the board is run, printed, or coated. The difference is the lock. It's actually rather radical, taking board that's not used to make the lock," he says. "On some designs, such as the Alpha Pak Ice Pack box, we are able to reduce the board by 8 to 12%. This is great for the environment and the user's bottom line."

Currently, three companies are licensed to use the Perma-Lock design. Wiley creates a custom CAD design for

each of the licensees. He says he has been contacted by companies worldwide interested in learning more, especially after they test the design on their products. A perfect example is the Alpha Pak Ice Pack's ability to transport crab meat and ice. "It worked, they loved it, so they ordered a truckload," Wiley says. ■

"THE POINT OF MY DESIGNS IS TO MAKE IT EASIER FOR THE PEOPLE WHO HAVE TO USE THEM," TED WILEY SAYS.

For more information, visit: <http://innovatedesigns18.wixsite.com/innovatedesigns>



PRODUCE TRAY

WILL E-COMMERCE DRIVE GROWTH?

AT THE SPRING AICC MEETING, MATT ELHARDT OF FISHER INTERNATIONAL REVIEWED THE DYNAMICS OF AN E-COMMERCE BOOST AND ITS EFFECT ON U.S. CORRUGATED MANUFACTURERS.

BY JACKIE SCHULTZ

E-commerce will be an important catalyst that drives future growth in corrugated demand, according to Matt Elhardt, Vice President of Business Development for Fisher International

During the Spring meeting of the AICC, The Independent Packaging Association, in Austin, Texas, Elhardt, presented an overview of corrugated demand and key issues affecting containerboard.

Online Internet shopping could provide the much needed boost to the

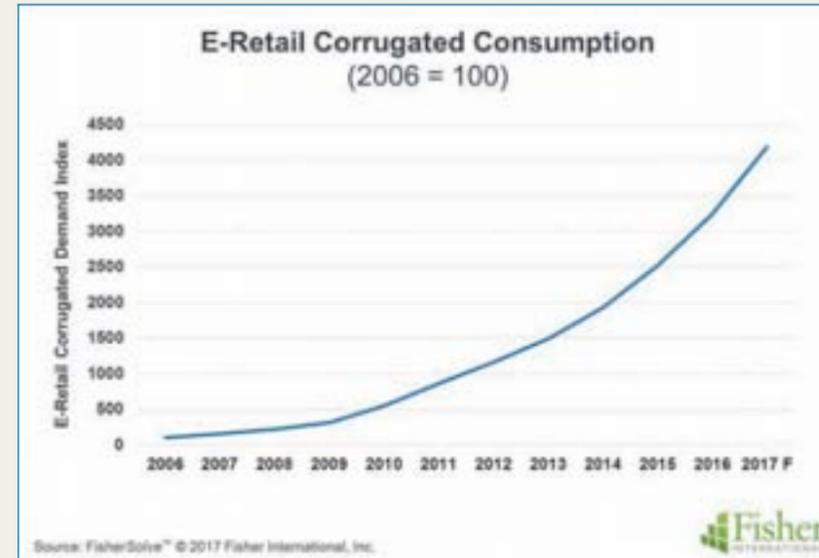
corrugated industry, which has been experiencing slow growth over the last few years. Shipments have grown about three-quarters of a percent since the recession, and consumption per U.S. household (msf/U.S. household) has averaged -0.1% between 1992 and 2016. "Consumers are not really consuming demonstrably more U.S. produced corrugated since the recession," Elhardt said.

The last two recessions have disrupted the way consumers use packaging, ultimately reducing the

"IN TERMS OF WHERE THE REAL OPPORTUNITIES ARE, I WOULD MAKE THE ARGUMENT WE'RE AT THE TIP OF THE ICEBERG."

consumption of corrugated. The first change took place in the early 2000s, when companies relocated their durable goods production overseas. The most recent recession prompted a change in how retailers and consumers used packaging, affecting several major corrugated markets. "There were some sectors that really got hurt during that last recession that used a fair amount of corrugated, primarily paper products," Elhardt said. For instance, copy paper has been declining about 4% annually, magazines have been declining about 7% annually, and newspapers have been experiencing double digit declines.

E-retail is a bright spot in the U.S. corrugated landscape. In his presentation, Elhardt showed a photo of Amazon's new cargo airline called "Prime Air." "You know you've got money when you can build your own jet company to compete with FedEx," he said.



Corrugated e-retail demand is 40 times larger than it was 10 years ago. "We're seeing tremendous growth. Year-over-year, Amazon's retail segment in the U.S. and corrugated related consumption is growing 30%," he said. "The question is how much further will this go?"

"I think there is a lot of good news here, and a lot of it is driven by Amazon Prime, which is also why Amazon is worth about \$400 billion."

While Amazon doesn't publicize

its Prime membership numbers, it is estimated that the company has 40 million U.S. subscriptions. Prime costs about \$100 annually and includes free shipping and free access to movies and music. "This year Amazon is going to make about \$7 billion off subscriptions," Elhardt said, adding that in the first quarter of 2017 his own family has placed 33 Amazon Prime orders, all packed in corrugated. "Multiply that by 40 million U.S. households."

The largest e-commerce category is electronics and appliances (34%), followed by entertainment and leisure (22%). At-home grocery could be the next largest category of opportunity for corrugated packaging. It is also one reason why e-retail sales are still a small share of total retail, Elhardt said. "Right now e-retail, which is touching all of our lives only has 3% penetration in the grocery space."

The e-retail percentage of total U.S. sales from 1999 to present is only 8%, so there is significant room for growth, especially in the grocery segment. "Somebody will find a way to crack the grocery nut. I might buy a new TV once every couple of years, but I buy groceries every week. In terms of where the real opportunities are, I would make the argument we're at the tip of the iceberg," he said.

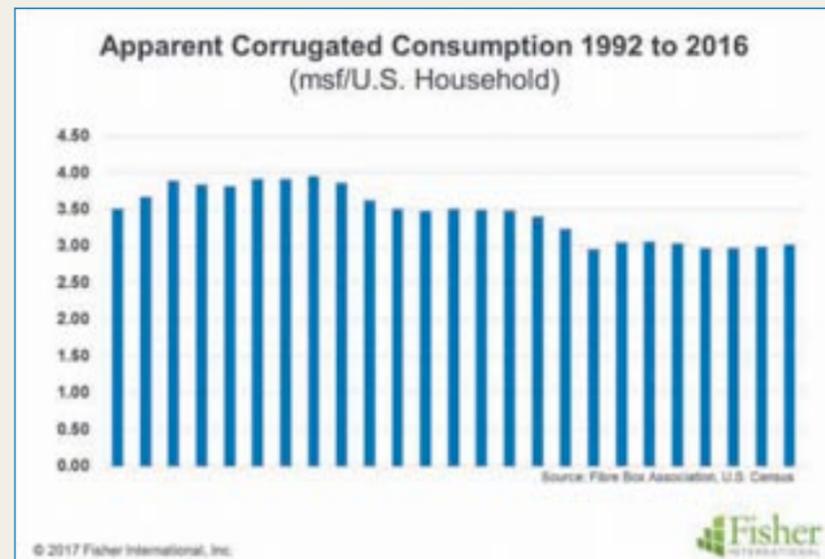
The challenge is keeping groceries fresh through the supply chain.

The cost to have groceries shipped directly to a consumer's front door is attractive. Elhardt purchased the same items both online and at the grocery store. The products bought online were 20% cheaper.

He suggested that online delivery of products was the new retail-ready. The groceries that he purchased through Amazon were shipped in a corrugated shipping container with inner corrugated partitions and air pillows for protection. "The good news is that's a lot of packaging," he joked.

Corrugated converters have an opportunity to provide packaging to this growing online market and at the same time help customers reinforce their brands with printing, especially inside the box. "I hope every retailer that is mailing a corrugated box uses an inside liner to convey their brand," Elhardt said.

As an example, he referred to a



State of the Industry

premium skin care product that was packed in a brown shipping container. The company's name and logo were printed on the inside white liner. The cost of the product was \$200 and the packaging was less than \$1. "Some of these businesses are saying, 'If you are buying a \$200 product, I want you to feel like it's Christmas. The beautiful packaging reinforces the consumer's decision to purchase the premium product. There is a lot of opportunity for corrugated companies to work with brands to communicate with customers and say, 'You made the right decision.'"

Elhardt told his AICC audience that they are well-positioned to take advantage of the growing e-retail market, with new businesses starting up and growing at a faster rate than at any time in the last 20 years.

Containerboard and OCC

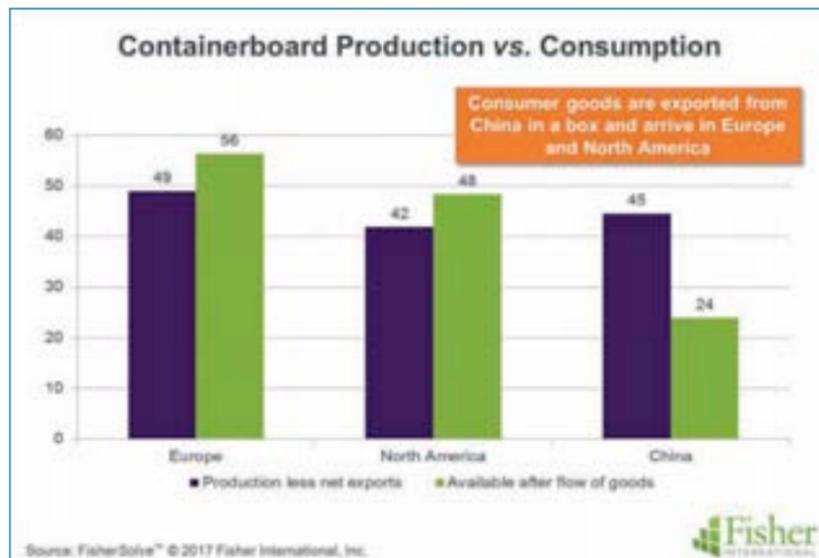
Looking at broader industry demographics, U.S. containerboard is a 38 million ton market. And much like corrugated shipments, production has been relatively steady since 2007, growing at about 1%.

The U.S. was the largest market for containerboard in the world until 2008 when China passed the U.S. in production. Today, China produces nearly 80 million tons (about 1 trillion sq ft) of containerboard.

The top five producing containerboard countries today are: China, U.S., Japan, Germany and Brazil.

China's containerboard production correlates with what is happening with OCC prices in the U.S. China uses nearly all recycled to furnish its containerboard machines. Chinese containerboard is more than 90%+ recycled grades, compared to the U.S., which is about 50:50, recycled to virgin.

China does not produce enough OCC



"THERE IS A DEFINITE MISMATCH IN TERMS OF TECHNOLOGY WITH RESPECT TO WHEN CONTAINERBOARD MACHINES WERE BUILT IN THIS COUNTRY AND WHERE THE CURRENT FLEET OF CORRUGATORS ARE."

so the country has to import it. "Right now the U.S. and Europe are like the Saudi Arabia of OCC. The whole world relies on us for its packaging. Consumer goods are exported from China in a box and arrive in Europe and North America," Elhardt said.

For years, there has been widespread speculation that the U.S. was running out of OCC. Elhardt disagrees. "If you read the AF&PA data, you might think we're close." AF&PA reports a 92% OCC recovery rate, however, he believes that number is overstated. Fisher International has the recovery rate closer to 70%, which means OCC is still plentiful.

OCC export prices have been increasing since January 2016, from \$132 to over \$150 per short ton. "If you're a recycled containerboard mill, this is your No. 1 cost. It's 40% of your total cost of production," he said.

Contrary to popular belief, OCC prices really aren't that volatile over the long-term and do tend to stay within the \$130 to \$170 price range. "If we're really running out of this raw material, how is it possible on a real dollar basis, the price has been remarkably steady?"

"OCC is a complex market with a complex, and long, supply chain. There will continue to be periods of volatility in the future," he added. "The recent price spike was predictable and had nothing to do with long-run scarcity. Today's OCC market is driven largely by dynamics outside of just OCC supply and demand in the U.S. These dynamics originate in Asia – and are caused by forces in addition to pure supply/demand."

Export Market

Net exports for U.S. containerboard have been relatively consistent over the

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State of the Industry

last five years and are an important part of U.S. containerboard operating rates. About 12% of U.S. containerboard is net exported, and kraft linerboard is about 20% export in terms of total capacity.

One of the reasons containerboard mills are tight right now is because of the consistent demand for U.S. virgin linerboard overseas, which is about 4.5 million annually.

The reason for the consistency, according to Elhardt, is that U.S. containerboard producers are low cost and competitive globally as a collective group and provide a high quality product.

Technology Mismatch

Elhardt made an interesting observation about current U.S. paper and packaging technology, highlighting the mismatch between paper machine and corrugator technology. The average linerboard machine in the U.S. was built in 1974 and has a technical age of 29 years. China, on the other hand, has built 80 million tons of capacity in the last 20 years.

He said U.S. containerboard mills could use some reinvestment. "The U.S. is an older vintage of machine and

that has some consequences for the industry."

Paper machines built in the '60s are producing about 30% of U.S. capacity. More than half of corrugators were installed in the '90s.

"There is a definite mismatch in terms of technology with respect to when containerboard machines were built in this country and where the current fleet of corrugators are," he said. "We see that most dramatically in terms of a cost opportunity and efficiency opportunity in trims. You have this whole pool of containerboard machines that are ill fitting for today's corrugators. That is an opportunity for the industry."

Due to financial constraints, this technology gap wasn't addressed until recently as companies began making money.

He acknowledged that investing in paper machines has been a risky business. "Globally, as paper producers we are nearly equally as likely to shut a machine down that we spent \$10, \$20, \$30 million on as we are to keep it running."

Containerboard capacity has

remained relatively balanced to demand, with operating rates hovering in the high 90s this year.

Machine conversions have represented a large share of new U.S. containerboard capacity over the last 10 years. In fact, there have been more conversions than greenfields. "That's not unique to the U.S. Worldwide there has been about 34 conversions from predominantly printing and writing grades to containerboard and nearly all of them are operating, so it is a viable concept," Elhardt said.

These conversions and recent greenfields are an opportunity for U.S. producers to offer lighter weight grades of containerboard, which still tend to be on the heavier side compared to other parts of the world, although U.S. basis weights have been decreasing since 2009.

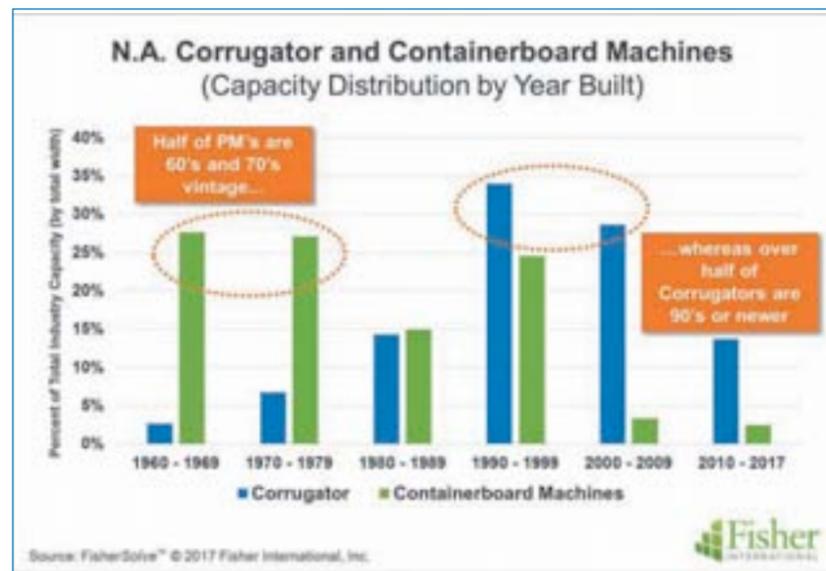
"Conversions, greenfields and machine reinvestments are an opportunity to put in the technology and capability we need to continue to be competitive with the rest of the world and build the same performing box with less paper," he said.

"The U.S. containerboard industry is balanced, and healthier than it has been. We expect that to continue which should be a long-term positive," he concluded. ■



Editor's Note: Data and analytics for this article are from FisherSolve™, a business intelligence resource for the

pulp and paper industry. Matt Elhardt, VP of Business Development at Fisher International, can be reached at melhardt@fisheri.com



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DUSOBOX'S NEW FACILITY, ESPECIALLY THE DIGITAL PRODUCTION AREA, PRESENTS A "WOW" FACTOR SELDOM SEEN IN CORRUGATED.

BY JACKIE SCHULTZ

It has been just under a year since Dusobox relocated to a new 150,000-sq-ft facility. Continued growth prompted the move into a larger, more modern space, and that growth has not stopped.

No moss gathers under this company or its third generation owner and CEO, John Kelley. Located in the shadow of Disney World in Orlando, Fla., the independent corrugated manufacturer was recently named one of the top 50 fastest growing companies in Central Florida by the Orlando Business Journal. Florida Governor Rick Scott was scheduled to visit on June 16 to announce the state's monthly employment data.



CEO JOHN KELLEY IN FRONT OF THE HP SCITEX 15500 DIGITAL PRESS.



THE NEWEST INVESTMENT IS TWO ESKO KONGSBERG C64 TABLES WITH I-BF60 FEEDERS.

THE INDEPENDENT CORRUGATED MANUFACTURER WAS RECENTLY NAMED ONE OF THE TOP 50 FASTEST GROWING COMPANIES IN CENTRAL FLORIDA.

In May, Dusobox invited customers, prospective customers, industry representatives, suppliers and local business leaders to an Open House to show off the new facility. "It's all about getting our name out," Kelley says. "This is not your average box plant." Indeed, the company is a showcase of cutting-edge technology, idea inspiring workspaces and truly innovative workflow and eye-popping decor.

The layout was designed for high quality, quick turnaround and continued growth. Kelley says the level of execution and productivity compared to the older facility is like night and day. "In the other building



THE WALLS IN THE DIGITAL PRODUCTION AREA ARE COVERED WITH DESIGNS THAT WERE PRINTED ON HP LATEX MACHINES.

I had one door and four docks and everything had to come in and out of that one door. I now receive from six doors and ship from 10. And it's a planned flow as opposed to just squeezing in a machine where there was room. The material flow in this building is incredibly well thought out."

The sales and design offices are open spaces with plenty of seating and work tables conducive to creative thinking. Dusobox has five designers. "The whole vision is highly

collaborative," Kelley says. "I didn't want everyone hiding behind emails and computer screens. In the digital world, it all has to happen fast."

Digital Showplace

Digital technology has transformed this traditional corrugated facility into what Kelley likes to refer to as the box plant of the future. While Dusobox continues to satisfy its commitment to customers wanting brown box and multi-color post-print flexography, the

DIGITALLY PRINTED SAMPLES.



real eye-popping area is the enclosed, temperature controlled room next to the analog equipment.

Walking through the doorway is like stepping into another world. The space is dedicated to digital printing and cutting. On the floor are an HP Scitex 15500 digital press and two Esko Kongsberg

C64 tables with I-BF60 feeders. There is also a "Printing experience area" where customers can meet with Dusobox representatives and compare the different printing technologies.

The walls are covered with designs that were digitally printed on HP latex machines. "We can refresh this as much

as we want. It's permanent until we want to change it," Kelley says. The designs, some of which have a three-dimensional look, were created by Dusobox's art department. On one wall is a cheetah with piercing green eyes that follow you as you walk around and on another wall is a nod to the company's major suppliers, including HP, Göpfert, Esko and Bobst.

Kelley says he wanted the transition from the traditional production area to the digital space to be "highly impactful." Based on the comments from some of the guests, he achieved his goal. Representatives from integrated and supplier companies all gave glowing reviews using words like, "Amazing," "Incredible" and "Wow."

"This is what the growth of Florida looks like – it's not tourism, it's companies like Dusobox," said Genean Hawkins McKinnon, President of McKinnon Associates, Inc., a strategic consulting firm.



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Next year Dusobox will be installing the recently-announced HP C500 digital press. Kelley already has a spot for it next to the five-color Göpfert Evolution high board line rotary diecutter. The C500 is a production machine that does not need climate-controlled seclusion. It can print 2500 sheets an hour compared to the 15500, which prints 130 sheets an hour.

Zero Defect

Dusobox offers flexo, digital and litho-lam products for a wide variety of industries. The plant runs as much as 21 million sq ft of board a month.

"Ninety five percent of what we do is diecut, printed, laminated, folded and glued. We're not the typical sheet plant," Kelley says.

KELLEY VIEWS DIGITAL AND ANALOG PROCESSES AS COMPLEMENTARY WITH EACH PLAYING AN IMPORTANT ROLE IN THE CORRUGATED INDUSTRY.



DUSOBOX INVITED CUSTOMERS AND LOCAL BUSINESS LEADERS TO AN OPEN HOUSE IN MAY. PLENTY OF SAMPLES WERE AVAILABLE.

The analog production equipment reflects the highest technology available. The plant has eight converting lines, the newest being the Göpfert. The machine has full color management and an inspection system that will catch any printing errors.

The plant also has two Automatän litho-laminators, a Bobst Visioncut platen diecutter, a Hooper five-color printer-slotter, a one-color S&S flexo folder-gluer, a Bobst Expertfold folder-gluer, a Bobst Pacific folder-gluer and Geo M Martin bundle breakers. ACS and EAM Mosca provided the material handling, and Balemaster and GF Puhl installed the baling and waste collection systems.

The installation of the Visioncut two and a half years ago with Power Register, Bobst's state-of-the-art system for print-to cut-accuracy, was the catalyst for Kelley's commitment to installing cutting edge technology. "We will employ the utmost technology of any new equipment that we put in for quality control," he says.

Kelley views digital and analog processes as complementary with each playing an important role in the corrugated industry. "In 15 years I don't know if that will still be the case, but certainly it will be in the next 10. That's part of the reason why I only invested in five-color for the Göpfert, knowing what we're going to do in digital," he says. ■



THE INSTALLATION OF THE BOBST VISIONCUT WITH POWER REGISTER WAS THE CATALYST FOR INSTALLING THE MOST CUTTING EDGE TECHNOLOGY AVAILABLE.

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VALUING THE BOX AS MUCH AS THE PRODUCT

PEACHES OFTEN HAVE A LONG JOURNEY FROM THE FARM TO THE STORE. CORRUGATED PACKAGING PLAYS A VITAL ROLE IN MAKING SURE THEY ARRIVE UNHARMED AND RETAIL READY.

BY JACKIE SCHULTZ

The next time you bite into a juicy sweet peach, credit the corrugated box that ensured its safe delivery throughout the long and bumpy ride to the store, and the man who likely played a major role in growing that peach and sourcing its packaging.

Chalmers Carr III is President of Ridge Spring, S.C.-based Titan Farms, the largest peach grower on the Each Coast and the second largest independent grower of peaches in the U.S. He oversees 5800 acres of peaches that require a lot of corrugated boxes – about 2.5 to 3 million annually. The company also grows broccoli and bell peppers.

Carr is extremely particular about

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CHALMERS CARR III AND HIS WIFE, LORI ANNE, PURCHASED TITAN FARMS IN 2001.



TITAN FARMS IS THE LARGEST PEACH GROWER ON THE EAST COAST AND THE SECOND LARGEST INDEPENDENT GROWER OF PEACHES IN THE U.S.

how his peaches are packaged. He dislikes RPCs, even though he has to use them because some retailers specify them. Corrugated is his material of choice. "The corrugated industry is under valued in the supply chain in the produce industry," he says. "It's not just a box. It is a box carrying a very precious commodity. We can't produce what we do without corrugated."

Up to 90% of Titan Farms' produce is packed in corrugated, the majority of which is supplied by Pratt Industries. The peaches are shipped to major

retailers and grocers nationwide. "We are a supplier to most major retailers on the East Coast. Our normal shipping point is San Antonio to Chicago, Miami to Maine," Carr says. "Probably 70% of the country's population is within that reach."

With wide geographic coverage comes the responsibility of ensuring delivery of a highly perishable fruit through a less than forgiving supply chain. It's the ultimate test for a corrugated box.

Each box holds 25 pounds of peaches, stacked nine high, 72 per pallet. "That box has got to go through an awful lot to protect a very valuable high dollar crop. Peaches are about a dollar a pound so that's \$25 worth of product that you're asking a \$1 box to protect," Carr says. "You're asking that box to go through a pretty tough environment. It's got to be taken from the line to the cooler, from the cooler to the truck, the truck to the store's cooler and then the store environment. It's handled at least six times."

The peaches' safe arrival to stores

like Walmart, Costco and Wegmans, is testimony to the boxes' ability to protect the produce during their journey from the grower's cooler to their final destination, which can take anywhere from 10-14 days. They have to endure major swings in temperature, from 34 degrees F with 90% humidity in coolers to 90 degrees F with 90% humidity in the trucks.

The FedEx of Peaches

In 2015, Carr invested in one of the most advanced produce packing lines in the country. The new line is gentler on the fruit and provides greater accuracy in sizing and color sorting. It can handle 4000 boxes an hour.

The peaches begin their journey through the line at 34 degrees F and finish at 40 degrees F. The temperature change makes the fruit sweat. "That moisture gets pulled into the box," Carr says. "What we're worried about is stacking strength and corrugated integrity when the box goes into the cooler. It's a high moisture environment and long periods of storage, anywhere

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from five to 14 days. Corrugated taking in that moisture can cause strength degradation.

"You're asking an awful lot of a box. It's not something you take lightly. You trust your partners because they have to understand your goal and your mission. When people start quoting me cheaper prices, it's simply because they really don't understand my business and want to get my business based on price," he says.

In the last 10 to 12 years Titan Farms has gone through several corrugated design changes in an effort to find the best solution. With the evolution of each box style, Pratt was able to maintain stacking strength and reduce fibre and ultimately cost.

Initially, the box was designed with corner posts to give it additional stacking strength. "We were able to pass some significant savings to Titan Farms when we converted them to a corner post design from the traditional tray," Cliff Vilcheck, Pratt Director of Agricultural Packaging, says.

For protection from the moisture rich environment, Pratt applied Propel™, a water-based coating

that is FBA certified recyclable and repulpable. The coating was developed in collaboration with Cascades Sunoco, manufacturer of FluteShield® and SurfShield™ high performance wax replacement solutions.

The new design offered several advantages, according to Vilcheck. "The corner post is a stronger design and in conjunction with the application of Propel we were able to take basis weight out of the design while maintaining its strength."

The next change was to switch to a bliss box, which uses even less board than the corner post. "The bliss design allows you to put more basis weight in the ends and lighten up the wrap. This also allowed Titan Farms to further reduce paper," he says.

"We are very pleased with the performance of Propel, which was developed with Cascades Sunoco to incorporate some of their innovative technologies," Vilcheck continues. "Propel has allowed us to reduce paper while maintaining box performance characteristics."

Pratt has been Titan Farms' corrugated supplier for the last eight

years. Previously, another integrated company was supplying the boxes, which had a moisture resistant film.

In addition to product protection, sustainability and environmental practices are also important to Carr, which is another reason why he liked Pratt's solutions, particularly Propel's recyclability and repulpability. "That was one of my reasons for switching to Pratt. The recyclability was a big thing to us. We supply to Walmart and they want to know what you're doing to save the environment because their stockholders want to know. It's all about sustainability."

He says Pratt presented a report that outlined the number of trees and acres of forest that he would save by using its product versus a competitors. "That's pretty substantial when you think about it. That was a big deal to us."

He knows that most paper companies can tell a similar sustainability story. "But it doesn't mean that everybody else is doing it. The fact that Pratt has a recycling plant in Conyers Georgia, means a lot to us."

The Propel coating does not affect the runnability of the liner and medium, which is corrugated on a 110-inch BHS corrugator. The sheets are then converted on a six-color Ward rotary diecutter and a laminator.

Pratt ships the boxes to Titan Farms flat in bales. They are erected on a case erector and then fed into the packing line where they are filled with product and then sent to the cooler. The cooler can hold 80 tractor-trailer loads of packed product. Generally, the peaches ship within two days after they are packed.

During peak season, Titan Farms will pack 40 truckloads a day. "We will be running at least three different corrugated graphic boxes so each one

CARR IS AS PASSIONATE ABOUT CORRUGATED AS HE IS PEACHES AND SAYS THERE ISN'T ANYTHING THAT COULD DISCOURAGE HIM FROM USING IT BECAUSE OF THE ADVANTAGES IT OFFERS OVER RPCS.

of those is a different SKU and because of sizes, there could be five different SKUs with each box. It's nothing to be running 12 different products at one time," Carr says.

Brand Integrity

Titan Farms' boxes are graphically appealing, with bright colors and eye-catching designs on flood coated solid black backgrounds. The boxes have won numerous awards. Most are flexo printed.

"My boxes are very high graphic boxes," Carr says. "If I'm willing to spend that on the box, I'm willing to make sure the quality in the box is good. If you have a high quality box, you're causing people to look at it. And the best thing is once they see it, they remember it and don't have to look at it again so I don't have a rival problem. I've built my reputation on my brand and my graphics, and people know my box and my quality and the two go hand-in-hand."

Carr does not mind spending an extra 7 to 10 cents for multiple colors. "When you think about that across 2.5 million boxes, you can do the math real quick. But at the end of the day it supports what my company stands for. We want to have a high integrity box and high integrity graphics on the box. The same thing is true for the quality of our produce. People say you can't be the largest and have the best quality. I completely disagree. We're the No. 2 grower in the country and we feel like we offer top quality," he says.

Carr says the bliss-style box with the Propel coating has been a proven solution. Customers have not complained about failed boxes. "When you're having issues, retailers don't mind picking up the phone and telling you that your peaches have spilled all over the truck," he says.

He attributes the partnership with Pratt to finding the right solution. "They have carte blanche and I don't worry about it. They do what they need to do. Our reputation could be just as damaged by having a

bad box that failed as it could be by having bad peaches in a box so you have to have quality suppliers and they have to understand your mission."

Carr is as passionate about corrugated as he is peaches and says there isn't anything that could discourage him from using it because of the advantages it offers over RPCs. "With plastic we are vulnerable from a food safety standpoint. Nobody seems to be paying attention to the risks that we've got there. If we have a food safety event in peaches, all peaches are guilty and you're out of favor immediately. I don't know why we're closing a blind eye to this."

He adds, "I can bring in 18,000 corrugated boxes on a truck, compared to 3000 plastic crates. And another thing is you lose all graphics. You lose all that branding. If you want to put a potato in an RPC, put a potato in it, but don't put my peaches in it. I do too much for them to go into a non-labeled package. You're putting me back into a commodity category, and I don't want to be a commodity. I didn't work hard to be just another peach." ■




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A FINAL NOTE ABOUT INK

PART 3 OF THIS SERIES REVIEWS PROCEDURES FOR EFFICIENT INK MANAGEMENT.

BY DICK TARGET
'ON TARGET' CONSULTANTS

In previous articles, I have discussed ink management, the chemistry of ink and the importance of color control. For some time, I have been focused on how we manage ink, as I truly believe that there are many opportunities in every plant to improve the printing process, manage ink costs and deliver a superior box to customers.

I have often thought that due to poor printing practices, we have too much unscheduled downtime and too many customer complaints, each of which contribute thousands of wasted dollars every year.

In costing a box, we can easily identify and trace material cost, labor and overhead. Our ink costs somehow

get buried in these numbers. Some plants have different prices that they charge for one-color boxes and other arbitrary fees for multi-color boxes. They are rarely traced against specific orders. This is because it is very difficult, if not impossible, to measure ink coverage on a particular order. I challenge everyone to review with accounting their annual ink cost. You may be surprised how large these numbers can be.

How many orders are returned for poor coverage in block printing, wrong shades for specific company colors and logos and cert stamps that are not readable? These are all a result of poor ink management. I look at this, however, as an opportunity. With a little effort, we can positively influence our customer service, reduce unscheduled downtime and improve our position in the market.

The following are some procedures

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Reviewing The Process

that I have successfully implemented in a number of plants in many different countries.

Meetings

Schedule "technical" meetings several times a year with your ink supplier. Always start the meeting with a brief discussion and identify the annual dollars spent with the supplier. This quickly identifies the importance of the meeting. I encourage everyone to learn to be a demanding customer. We as box makers are a group of the best suppliers in the world. Our customers are very demanding. Demanding customers can make us better suppliers. Review how your ink is purchased. Do you buy the ink on consignment or straight out purchase orders? Are you buying the right ink? Does your supplier offer technical support? Do they offer pH neutral or pH stable inks? Learn and understand the difference. Their processes are not the same.

Inventory

Review and take inventory of the ink in your plant. Ink does have a shelf life.

It is not possible and very costly to print with old or expired ink. It always causes extensive and costly unscheduled downtime. How many boxes do we send directly to the hopper due to old ink? Many times, old ink has been adjusted and modified just to complete previous orders either last week or several months ago. Those colors will never be the same again. Please, purge your ink inventory! Ink should be thrown out one year after the date of manufacturing. I recommend that you ask your ink supplier to increase the font size of the manufacturing date so that everyone can see it easier and better manage ink inventory.

Maintenance

With all of these discussions regarding the mechanical side of ink, we must not forget to be proactive in maintaining the proper chemistry (rheology) of inks during the process. Box plants spend a considerable amount of money every year on their inks. The crews and supervisors should have an easy to manage process guaranteeing maximum performance and consistency of the inks. An easy solution is for the ink supplier to

offer a "pH adjuster." The crews can add several ounces of this product to the ink bucket once an hour. I have discussed this in previous articles. A process that is coordinated with the ink companies will assure the plant a successful and profitable environment where everyone wins. Again, the intention here is to be sure that we all understand the properties of inks so that we can collectively maximize the performance so that we are better printers and competitors in the marketplace.

Anilox Rolls

Review your anilox rolls and be sure that you are understanding the design and type of rolls in your plant. Many times, plants will have a variety of rolls on different flexos and diecutters. Each design and cell volume delivers a different amount and layout of ink in a variety of colors and shades. We as an industry should do a better job of managing this concept.

The anilox rolls in the print stations are the same as the corrugator rolls in the singlefacers. They must be understood, properly maintained and



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Reviewing The Process

cared for so that they have a productive life delivering exact and predictable volumes of ink to printing plates on each order. In the perfect world, each and every cell in the anilox roll should evacuate completely every time it comes in contact with the surface of the printing plate. If you look at a full cell from the side, you will notice a small bubble on the tip of each cell. The surface friction of the ink helps keep the ink in the cell as long as the bubble stays in contact with the sidewalls of the cell. When surface of the printing plate comes in contact with the tip of the bubble, the bubble breaks and all the ink should fall out of the cell. This only happens when the chemistry of the ink

THE VACUUM TRANSFER SYSTEMS ARE AN EXCELLENT DESIGN THAT OFFER THE PLANT MANY OPPORTUNITIES.

is correct and consistent. This is one of the ways we control color in our process. As a side note, this is also the reason why printing plates need to be properly secured to the print cylinder so that the contact is precise and consistent with the surface of the anilox roll. The volume of ink in the cells also determines the color and the shades. Consider this point when transferring jobs from press to press. The anilox rolls should have the same volumes in order to print the same colors, press to press.

Detergent

Also be very aware of the pH of the detergent used in the cleaning process. The maximum pH should be no higher than 10.5. Anything higher than this number will start to cause mechanical

separation between the ceramic coating on the anilox rolls and the substrate (roll body) itself. The results are cell failure, inadequate ink transfer and poor printing. This can be a very costly mistake as we are talking thousands of dollars in repair costs plus additional unscheduled downtime and poor printing due to improper care and maintenance of anilox rolls.

Mounting Straps

Also, please be careful in choosing the mounting straps that use plastic clips. Plastic clips are the preferred design. There have been times when metal clips have fallen off during manufacturing and then are delivered into the anilox roll nips. The roll is now damaged and not usable. This always happens in the working area of the anilox roll and then this roll needs to be replaced. This is another cause of unscheduled downtime. Again, this is very costly. A high percentage of the anilox roll business today is "Repair business" caused by poor handling and process damage by the crews.

Print Stations

The corrugated industry uses different types of print stations. One design uses pull collars and another uses vacuum transfer systems. These are both unique, offering different opportunities for the box plant. They also offer very different air environments for the flexo inks.

A vacuum transfer print station offers a high volume air environment for the ink. The vacuum offers a negative air environment within the print station. Ink suppliers should be told this as they need to supply an ink with slower reacting amines in order to maintain the proper rheology. Pull collar print stations have a more static air environment and just need normal speed amines in

order to control the colors in their inks. The vacuum transfer systems are an excellent design that offer the plant many opportunities. We just need to be aware of the differences. I would suggest separate ink inventories in order to accommodate various print station designs.

The other major design variation is the wiper roll vs. the chamber doctor blade system. The two-roll wiper roll system delivers the ink in an atmospheric environment where normal evaporation occurs in the process. Ink suppliers need to know this so that they can supply the correct ink for this process. The chamber doctor blade systems as we all know, deliver the ink in an enclosed, controlled environment to the anilox roll. This is actually a more efficient system as this enables us to deliver a more precise amount of ink for demanding printing requirements. Both of these systems have been extremely successful; however, we just need to include our ink suppliers in the process.

Please take time to review your ink systems, ink designs and all of the various points that I have discussed in these ink articles. My only intention is that we improve the overall performance in your plant and make you a better and extremely competitive box manufacturer in your market.

As always, enjoy your job! ■



Dick Target is a regular contributor to Corrugated Today. He is the owner of "On Target"

Consultants in Lower Gwynedd, Pa., and teaches flexo and diecutter calibration short courses for TAPPI. He can be reached at dicktarget@gmail.com

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MACHINE MAINTENANCE ROUNDTABLE

Participants include: Rob McCann, Process Optimization Manager, Bobst North America; Dwayne Shrader, Vice President, Griffin Communications, Inc.; Bob Thompson, Service Manager, SUN Automation; Mark Peyton, Manager, Aftermarket, SUN Automation; Tom Pearce, owner, Pearce Corrugated Consulting; Chris Harris, Process Engineer, WPR Services.

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CHRIS HARRIS, WPR SERVICES

DWAYNE SHRADER, GRIFFIN COMMUNICATIONS

What types of PM (Preventive/Predictive Maintenance) should be routine at a box plant?

Harris: A consistent one! Stick to the PM plans even when you feel product must run. Challenge your scheduling groups to factor in PM schedules.

McCann: Routine maintenance should follow the OEM guidelines, keeping in mind that PM should follow a 52-week schedule rather than the same weekly tasks performed 52 times. Most equipment suppliers will lay out their

recommendations based on a daily/weekly/monthly/bi-annually/annually schedule or some equivalent. Too often the same parts or areas of the equipment that are easily accessible get the recommended attention and lubrication but not necessarily the internal components.

SUN Automation: We call it the "big four" – lubrication, cleaning, calibration and observation. The first point seems obvious. Lubrication is important and everyone knows it. But gear boxes are an

area often overlooked. If they are being lubricated, we find that the oil is not getting changed out and cleaned often enough. If oil runs low, performance suffers. Box plants are naturally dirty and dusty. Most do not remove the dust; it just seems to get moved around. The dust needs to be removed. Once the plant is thoroughly cleaned, you need a good filtration system to filter the air. Some investment in plant filtration would help minimize dust and help machinery and products work better. If dials do not

match the physical location, then the machine does not run properly. That's where calibration is important. Things get out of calibration for any number of reasons (mechanical failure, electrical re-set, server fault). You may be putting more pressure on the system than needed if you do not calibrate properly. Proper setting of the machine results in the least amount of machine wear, tooling wear and produces the best possible product. Operators use work-arounds all the time. This is where observation comes in. Plants have to talk to the operators and observe how the machine is being run. If plants do not listen to the complaints of operators, they will miss small problems, which will become bigger problems.

Shrader: Lubrication is probably one of the most important PM items and the one that will have the greatest influence, either positively or negatively, on machine uptime. General daily housekeeping is also important to the productivity, quality and safety of machine operation. Just making sure that build-ups of ink and paper dust are removed from the machine and any filters, and any type spills, leaks or debris are cleaned up on a daily basis can have a significant affect on the productivity and quality of finished product from a work center. Also daily, or at the beginning of each shift, crews should do a quick scan of the safety features of the machine to make sure guards are in place and latches and safety controls are functioning properly.

Pearce: Routine PM should include all activities for both operating and maintenance personnel that will prevent unplanned downtime and safety, quality, productivity and waste issues. Included in the PM should be routine, scheduled, and executed tasks in the areas of: major equipment – corrugator, flexo folder-gluer, rotary diecutter etc.; support



equipment – compressed air, boiler, scrap handling system (baler and shredder) etc. Note: Many times these support areas can account for unplanned downtime as large as the major machine; building and support – structural roof systems, paving, electrical systems, railroad track, etc.; fire and security – fire systems, sprinklers, fire extinguishers, security access systems and procedures, etc. A PM would include preventative checks and follow-up process, lubrication, alignment and rigorous deep cleaning of key internal components.

What are the benefits of OEM maintenance programs/contracts versus home-grown in-house programs?

Shrader: There can be many advantages. First of all, no one knows the equipment better than the company that designed and built it. Many times these programs include options, often at discounted rates, such as equipment condition or performance surveys, or advanced level calibration that the plant would have to pay full price for on an a la carte basis. These programs also free up the plant maintenance personnel to attend to more

production critical tasks. They also can be very beneficial for smaller operations that may have limited maintenance assets.

McCann: The advantage of OEM maintenance is the knowledge and expertise gained from working on the entire install base of equipment rather than working off a fixed set of circumstances at one facility. The results of seeing the machinery in different environments and applications leads to the OEM having a greater ability to identify potential issues.

SUN Automation: Quarterly OEM visits reduce cost of ownership overall by properly training personnel and helping to identify issues before they become larger problems that affect productivity and quality. An OEM has a broader picture of its machine's history and maintenance needs. This insight is critical. We all know there is frequent personnel turnover in plants and often the techs who were originally trained by the OEMs when the machine arrived, leave and then expertise is lost or diminished.

Harris: OEM maintenance programs give you the best qualified technician for a specific task. They are performed in an expedited manner and in some cases

the work is warranted. This of course comes at a price. The price however could be justified when comparing it to paying maintenance OT or ignoring a PM schedule altogether. The negative with an OEM program is that you lose the involvement with your maintenance staff. The in-house program gives you complete ownership of the machinery but is the PM being performed correctly and in a timely fashion? I'm a big fan of mixing the two.

Pearce: An OEM program can be very beneficial to new start-ups or in support of management teams intending to run the machine at design speed and/or capacity. These OEM programs bring highly trained technicians familiar with the equipment. Compare this to an in-plant technician who must be familiar with and capable of working on all equipment in the plant. In-plant systems can improve this situation by assigning "machine champions" to key machine areas, serving as the technical expert and responsible for performance along with the operating crew. A big difference is the cost-benefit relationship; an OEM program is much more expensive. The benefit should be a machine maintained at near OEM levels and capable of

operating at design-speed and quality. Also in need of consideration, it will cost more to maintain a machine running at optimum speed day in and day out! The OEM program may be a three- to five-year program so the plant can grow the technical expertise to then assume the appropriate maintenance program. Otherwise, the plant must develop a detailed and systematic plan for training maintenance personnel to improve their expertise while the machine is operating, which is a very difficult task. Therefore, it is difficult to compare the cost-benefit as most plants do not maintain or operate their equipment at design!

Is PM more critical to today's equipment versus machine designs of 10 or 15 years ago? And with many of these older machines still in operation do they require significantly different programs from newer machines and equipment?

McCann: Preventative maintenance on today's equipment is more critical due to the current production environment. Converters are facing tight deadlines from their customers and any unplanned machine downtime puts added strain

on the production schedule. If PM can identify and hopefully eliminate potential failures, this goes a long way toward meeting deadlines. As for the actual PM, the maintenance programs are not significantly different, although there is definitely a shift from pure mechanics toward electronics and/or automated functions. So in this case the PM crew needs to be properly trained on the newer technologies.

SUN Automation: PM is very critical for today's equipment. There is more technology, which means there is a greater need to keep things running optimally at all times. Today's new machines are also run at higher speeds so it's critical to inspect and maintain them properly. Failure to do so will decrease their reliability and speed. This causes loss of production and drives customers away.

Pearce: PM is critical as equipment is more sophisticated in its controls and even more dependent on the base mechanical components being in excellent condition. In addition, design speeds are being pushed creating even more important emphasis on machine condition. The tolerances for wear and TIR (Total Indicated Runout) etc. should all be much tighter, or at a minimum within tolerance. The PM program must identify wear items and problems before breakdowns occur. It is imperative on new high-speed equipment that predictive methods are used to identify issues/ variations. This testing can be completed while the machine is operating, giving real data for managers to act on proactively. I do not feel the PM requirements are significantly different, although the routine hours and schedule must be closely monitored to assure it fits with the operation, speeds and quality required.

Harris: New equipment is running much faster and with more parts. An older machine has to be PM'd more often

because it has less parts that everyone is familiar with. Newer machines have more parts, requiring additional skilled technicians. The beauty with an older machine is that every maintenance person is familiar with it and PMs are performed quickly. The beauty of a new machine is that it runs faster and produces more.

Shrader: PM of a 10- or even 20 year-old machine that is actively running production is just as important as that of a new machine. I don't know that it is more critical for the latest generation of machinery, but it can be quite different depending on the machine design. Many of the new machines being sold today are very similar in design to those being sold 10, 20 or more years ago in many cases. However, the quality of components used have greatly improved in most cases. The genre of servo or direct drive machines typically require less mechanical maintenance as in most cases gear trains are eliminated or greatly reduced. However, these machines often require a technician with more of an electronic/electrical background than a mechanical technician.

There seems to be two different schools of thought on PM, "Run it until it breaks," and "Predictive Maintenance." What do you see as the pros and cons of each?

SUN Automation: "Run it until it breaks" works for the guy who gets to claim the production numbers while he's running the machine too hard and too fast – without proper maintenance. Down the road, when this guy is gone or moved up the chain of command, the whole operation suffers as the machine diminishes in effectiveness and the quality of the product declines. Not only does production suffer, employee morale does too. Predictive maintenance is always the better way. Well documented PMs will start providing life cycles for components. Doing this will allow you to replace components prior to failure. There are at least two major benefits of this; decreased downtime and a more reliable, faster machine.

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McCann: "Run until failure" is one way to operate but presents a much higher risk of unplanned downtime. If this method is adopted then it needs to be properly planned out. For example, if you plan to run a motor until it fails then you need to have this motor in-house and have the staff ready and available that can make the swap when it does fail. If you have both, it could work. However, if you run until failure and then need to order the new parts, this puts the equipment down until the parts come in. This is even a greater risk on older equipment where the manufacturer may not stock all components and must special order or fabricate certain parts. The "predictive" model should identify potential failures based on usage and historical data. This would then give a maintenance staff the information needed to make an informed decision as to course of action.

Shrader: If something is going to break it will break at the most inconvenient time. Then everyone is scurrying to order parts or service, offload production to another work center, or call the customer and beg for one more day on delivery. Predictive or Preventive Maintenance allows the plant to schedule downtime and adjust its production schedule accordingly in advance so as to, hopefully, not have unexpected production interruptions. A plant manager once argued that whether he followed a strict PM regimen, or made repairs when there was a failure, he invested practically the same amount of time and wasn't wasting money on parts that still had a usable life. Rescheduling production didn't seem to be a problem for him.

Pearce: "Run it until it breaks" is a philosophy and practice that is created by poor performance and underperforming management systems. The plant normally is operating in a "circle of despair," continuously having

unplanned breakdowns, poor quality and upset conditions that contribute to a lack of time to plan for prevention of these issues. Unfortunately, most poor performing plants operate with this philosophy, compounded by newly assigned managers responsible for a quick turnaround in results that rarely happen. Movement from unplanned and reactive maintenance to planned maintenance takes time and perseverance. Usually, this movement only occurs after a last push effort to assure the plants' survival by returning the operating equipment condition to "near OEM" and instituting preventative practices to maintain. "Preventative/Predictive Maintenance" is the best long-term program and process for assuring the equipment will be maintained at a level that can assure the expected results can be delivered. Predictive maintenance using thermal imaging, shock pulse, vibration and other methods can be beneficial to eliminate unplanned breakdowns. The detractors from doing these are 1) belief that these measures can truly predict changes and deterioration in the equipment and 2) cost of conducting these predictive tests on a regular/routine basis. If the true costs are tracked for the cost of "Breakdown" Maintenance (including customer satisfaction), more plants would implement a preventative maintenance program.

Harris: Time is money when you have to stop for scheduled maintenance, however, it's a lot more money and time when a machine breaks from lack of maintenance. With more self-diagnostics scripts being created, Predictive Maintenance has become a very popular topic. Maintenance personnel can be immediately notified as to what part has failed and in some cases how it failed. Timers can be added to your pulleys, bearings, motors etc. and alert you ahead

of time when a part needs to be replaced. This gives you time to schedule the work. Some people claim that predictive maintenance techniques can save you money over time.

How does the time and/or cost of PM play into the decision to replace a piece of equipment?

SUN Automation: It's really about the overall health of the current machine that determines when to replace it. Generally, new machines can be more costly to run, to employ the right skill level of employee to run them and to replace parts. Older machines cost less if they were taken care of correctly and proper PM was done. If the cost to repair is more than the cost of a new machine and you can find the same or better quality and speeds, you replace. However, we've seen a tremendous life-span on older machines which have been maintained well their entire life. The key is predicting lifecycles of parts so you know when to replace them before they fail.

Pearce: The cost to operate is always a consideration when deciding to replace equipment. The ability to maintain and improve the equipment must be a consideration, along with Internet access for remote troubleshooting by available technical resources 24/7. Consumable components should also be considered as technology has advanced to achieve items like lubeless slit and knife blades.

Harris: I would love to have the ROI formula for this one. You have to add up how much money you spend year over year on replacement parts, PM time, machine downtime, product quality, product quantity, up hour labor costs. Then compare that to what a new machine would be. Don't forget that a \$5 million machine looks nice when you bring a customer into your facility and the value add is that it lands a nice account!

What's the break point where converters decide it's time to replace rather than repair?

Pearce: In my opinion, the equipment should be replaced when its reliability or unplanned downtime is too excessive or new technology is significantly better designed and must be taken advantage of to remain competitive.

How should board converters schedule and document maintenance? For example, charts, spreadsheets, maintenance tracking software, videos?

Shrader: Depending on the size of the organization and the infrastructure, any of these can work. Spreadsheets and calendar reminders may work fine for some smaller operations. Larger organizations may have enterprise software that contains an equipment maintenance module which is tied into production scheduling, generates maintenance schedule and repair orders, etc. There are also a number of 3rd party equipment maintenance tracking and management programs available that can be customized to meet a plant's requirements. Many OEMs today offer maintenance modules built into the machine control or operating system. These can range from "help and instruction" systems to systems that communicate to the organization's internal systems and /or directly to the OEM's service group or other outside entities.

McCann: Documenting performed maintenance is imperative. This can range, as mentioned, from simple spreadsheets to PM software. The advantage of a maintenance tracking program/software is that this will incorporate OEM recommendations as well as in-house findings and experience. This could then be put on a platform that makes it very visible of what and when maintenance is needed. This is a great tool to make it clear to those responsible for production schedules to allocate the machine time and just as importantly for budgetary purposes.

Harris: You need to capture as much knowledge as possible so that it can be shared. This starts with the maintenance schedule. Make sure each department is aware when work needs to be performed so that no one is surprised. Make use of today's technology to capture symptoms and solutions and catalogue them for future reference. Share the knowledge.

Pearce: Maintenance software is not necessary, and at the start may not be ideal as it is good to have the PM person use written skills versus a yes/no checklist. Not having the software should never be used as a reason for not starting a PM program. Everything should be in writing; checklists,

2 color jumbo, one piece

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checks, actual readings etc. A software program makes that data collection easier and manipulation easier, but it is something that can be grown into. The PM calendar should be published in advance, and followed on a regular/routine basis supported by the entire management team, including scheduling, sales and production.

SUN Automation: The best tool for each plant is the one the plant consistently updates and maintains. Nothing matters more than this. How you go about this is really up to each organization and no one system is better than another.

Who is the best person to conduct PM?

Shrader: This again depends on the organization's infrastructure and the complexity of the task. Regardless of organization size, Rule No. 1 – Leave the electricity to the electricians! Daily housekeeping should be the job of the operating crew. Lubrication is probably a job for the maintenance or PM crew if you are lucky enough to have one. Above that it's a question of if the plant's maintenance department has the knowledge, capability and equipment to perform the task. I believe most plants understand their capabilities and know when to reach out for help.

SUN Automation: It helps if there is a "Machine champion" who has the

on-going, overall picture of how the machine runs and what is needed to keep it operating properly. It's beneficial to include machine operators so they can develop a better overall understanding of the machine.

Pearce: An operating technician and maintenance technician that has the responsibility, tools and training to properly conduct a PM. OEM classes and training seminars are an excellent opportunity for the proper training.

Harris: The OEM.

When should a box plant consult with the machinery supplier?

Pearce: OEMs should always be consulted as they have the most information on their equipment, issues and repairs. Many times there are upgrades available to fix the root cause of an ongoing problem. It is in the best interest of the OEM to help and assist as it impacts the supplier's reputation and future sales.

McCann: A box plant should contact a machine supplier for PM when there is a gap in expertise with the in-house maintenance staff or when "best practices" / SOPs are not established.

Harris: Immediately. They are the experts in preventive and predictive maintenance techniques for their machine and can provide you with appropriate options based on your needs. ■

SUN Automation: Consult with a machinery supplier anytime the machine isn't meeting expectations. Box plants need to talk to the floor and to the maintenance teams often and consistently to know what's going on with the machines. It is also critical that operators do not develop so called "quick fixes" which might repair something temporarily but don't address the real issue that may be more systemic.

Shrader: Certainly when the machine is still in the warranty period. Aside from recommended PM, let the OEM do the work, or at least authorize the plant to make the repair. This will avoid the "warranty void if seal broken" scenario. Beyond that, whenever you have a question about the procedure. If you're not exactly sure how something fits, or how to repair or replace it, call the OEM. It may save you a lot of time and money.

Is there anything that you would like to add?

Shrader: In industries that see a lot of turnover of personnel, quality documentation is essential to proper long-term operation, maintenance and life of equipment. Documentation serves as a reference and learning tool for new operators and crews, but it also serves as a standard for experienced crews. Over time habits and practices can be developed, or forgotten, that can lead to unsafe practices, inefficiency and maintenance neglect. Industrial equipment, especially large equipment and equipment lines we see in the packaging industry can have hundreds of lubrication points. If a lube point is missed once, especially if it is not in plain view, there's a good chance it will be missed again, or totally forgotten. This will almost always result in a premature and unplanned failure at the most inopportune time. ■

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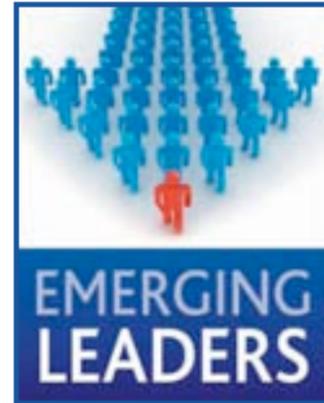
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LEARN FROM YOUR PAST AND MAKE YOUR OWN FUTURE



BY ALLIE O'BRIEN
KEMIART, US INC.

We hated when they would hand us clay-coated samples to color on instead of printer paper or a coloring book; try taking a crayon to one of those. Little did I know, these samples would be a major part of who I was going to become, turn in to my future and become my career. And there's no better place to be.

But it's not all about the samples – it's about Forest Board Corporation's history, about Kemiart US, Inc. and all the struggles along the way that has led us to the mature business we are today. It wasn't always pretty. It was hard work and the fear of failure.

There was a point early on when my parents were close to pulling the plug. It was on my dad (Steve O'Brien) to get out there in the days of road maps and payphones. He wasn't just working to make comfortable pay. He was on the grind to put food on the table and fighting for his family and he worked like his life depended on it.

The Power of Knowledge

It was day one in the office when my dad handed me a stack of books, some dating back to the 1980s, and said, "You need to read these." "What the Printer Should Know About Paper" was one of the first

We sat in a small office in Ridgewood, N.J. Tubs of cheese balls and Tab were always readily available. There was a distinct smell of coffee and the carpets were an old forest green. My sister and I would do anything to entertain ourselves the days we went to the office with our parents. There were the times of attempting to put 2-ply Kemi white top through the printer – that didn't work.



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books I read. Reading through the pages, the aggressive note taking began. The investigating hasn't taken a back seat since. It's so important to be prepared and learnt. When further explanations are needed, I resort to videos on YouTube. As a sales person, I strive to be a valuable resource.

The AICC has been an invaluable source for continued learning, adding new courses and webinars frequently to its website. Although, at a glance, not every course appears relevant to a paper supplier, there has been valuable take-away from each.

IT WAS DAY ONE IN THE OFFICE WHEN MY DAD HANDED ME A STACK OF BOOKS, SOME DATING BACK TO THE 1980s, AND SAID, "YOU NEED TO READ THESE."

Within the first month, I completed and received certifications in all three corrugated basics courses. "The History of Corrugated" sparked an idea for a product that would be a solution to a problem. From this, I was able to have prototypes manufactured and currently hold a patent-pending through the USPTO for design and utility.

Along with the AICC online options, the 'in class' courses with certifications have been great. "Flexography: Raising the Standard," led by trainer Scott Ellis, gave me insight into other perspectives and careers in the industry and plant operations, while also teaching information I'm able to use with customers on an educated level. Taryn Pyle asked to use my response, "By

thinking of and making changes and implementing new procedures, first we must suffer through failure before we can see what we need to do in order to be successful. The course I attended has helped me see what is possible" as a quote for the AICC. There can be something applicable learned from almost anything.

The course "5 Sales Strategies That Work," led by trainer George E. Moretti, targeted sales representatives for sheet plants. There was still so much to take away, both from different perspectives and helpful tips and tools. I want to understand the corrugated process from the pulp to the finished product.

The Packaging School is a great online course certification degree program taught by Dr. Andrew Hurley of Clemson and a fellow Clemson Alum and Director Sara Schumpert. The courses range from corrugated to metals and glass. There is an advantage to learning about all forms of packaging and assess what is trending.

Any industry magazine is always a goldmine for current events and topics of discussion. There are articles and columns that may directly affect your business. It's necessary to understand the corrugated industry in order to be successful, but also to understand what's going on with politics, laws and legislation, taxes, the economy and business. Sometimes there are articles to help get ahead, stay motivated and become inspired. In my first copy of Forbes, one quote has given me new perspective in business and in life, "The opportunity of a lifetime must be seized within the lifetime of an opportunity." When something great comes along, take action because that opportunity could be gone tomorrow.

Some of the best lessons have come from my dad, Paul Zelinsky, Kerry Remley, Tom O'Brien, my mom and

Chris Jordan. There is so much to be gained by listening to those who have been in your shoes. My grandfather told me to stay humble. My dad told me not to talk about how much I travel because no one cares.

It's the hard work, the blood, sweat and tears of those before me that drive me to do my best every day. Learning about how hard Pockey (my grandfather, Tom O'Brien) worked, then how my dad stepped in to the preprint world and continued to grow from there. I'm honored that they see in me the potential to continue as 3rd generation and take things even further by thinking outside of the box.

IT'S THE HARD WORK, THE BLOOD, SWEAT AND TEARS OF THOSE BEFORE ME THAT DRIVE ME TO DO MY BEST EVERY DAY.

As much as I look up to them, I want to make a positive name for myself, other than by Steve O'Brien's daughter or Tom O'Brien's granddaughter. I want to be known as Allie O'Brien, prove myself through trust and gain respect through knowledge. ■

Alexandra 'Allie' O'Brien is a 3rd generation Sales Associate for Kemiart, US Inc., covering a territory of 23 states. She graduated from Clemson University with a Bachelor of Science in Business Administration with a concentration in marketing. She is a member of the FTA and a member and ambassador of the AICC Emerging Leaders Group.

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WRINKLING IS USUALLY THE RESULT OF A MISALIGNMENT ISSUE.

RUNNING LIGHTWEIGHT PAPER

A FEW BEST PRACTICES IN HANDLING AND CORRUGATING WILL OVERCOME ANY CHALLENGES AND ENSURE SUCCESSFUL RESULTS.

BY REX WOODVILLE-PRICE HARPERLOVE

In order to remain competitive, the corrugated industry faces ongoing pressure to reduce the amount of fiber used to make a box. Years ago, paper mills responded to the challenge by making lighter weight liners, which had similar mechanical properties as traditional grades. These new lightweight liners had names like High Ring Crush or High Performance. Many staple grades were replaced by a lighter counterpart, which gave similar ECT (Edge Crush Test) values when used in combined board. One of the first and still one of the most prevalent grades is 35 lb liner substituting for 42 lb liner. Eventually other grades followed along, such as 55 – 57 lb liners replacing 69 lb liner for many applications.

Although the trend to use increasingly lighter papers has been going on in Europe even longer, the past decade has seen it gather momentum in the Americas. These lighter papers bring

with them a few challenges. Let's look at some common issues when running lightweight papers. We are referring to liners lighter than 33 lbs per MSF.

Tensile Strength

Lighter paper typically has lower tensile strength than heavier paper. This means it is more likely to break if subjected to abuse. Damage to the edges of the roll becomes more of a concern because tears on the edges of lightweight papers are more likely to be the starting point of a web tear out. Web tear outs cause downtime and waste. To avoid damage to the paper, care needs to be exercised while transporting and storing roll stock. To compound this issue, damage to the outside of the roll will likely affect more lineal feet of paper because thinner paper is not as strong.

Even though its lower tensile strength is ultimately what makes

lightweight paper less resistant to tear outs, even very lightweight papers (under 18 lbs per MSF) are capable of running and being spliced at high speeds. What they will not tolerate however, is poor tension control or a machine that is out of parallel.

Basis Weight	Average linear feet in a roll
10 lbs. MSF	97,000 feet
26 lbs. MSF	32,000 feet
35 lbs. MSF	28,000 feet
42 lbs. MSF	19,000 feet
69 lbs. MSF	12,000 feet
90 lbs. MSF	9,000 feet

When paper runs over a roll that is out of parallel, tension will concentrate on the tight side and it will be easier to tear. If there is damage to the edges of the web, the problem is amplified.

Because of the higher possibility of a tear out with thinner paper, it becomes more important to keep all machine components that contact



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the paper, level, square and in parallel. Accumulations of tape on the splicers' rollers will have a larger impact on lighter weight papers and can cause web ruptures as tension peaks during a splice sequence.

Density

Lightweight papers are usually denser by design. The mills press them to make them more rigid and therefore improve their mechanical strength (i.e. ring crush). Denser papers will absorb heat more quickly, which is an advantage as we increase run speeds, but care must be taken to ensure they are not overheated and too much moisture is removed.

Cracked Scores

Cracked scores can occur with lightweight liners because they have lower tensile strength and can easily

overheat and be dried out due to their higher density. Managing paper temperatures at the corrugator and combined board moisture exiting the corrugator are the best ways to prevent cracked scores.

Washboarding

Lightweight liners are more susceptible to washboarding if adhesive application is not controlled. Any excess adhesive that ends up on the sides of the flutes will pull the liner down towards the side of the flute and cause washboarding. Uneven adhesive application (due to an out-of-parallel metering roll) will be more evident with lightweight papers and may manifest itself as washboarding on one side.

Wrinkles

Lightweight paper is more vulnerable to wrinkling because it is thinner and more

pliable. It will take a smaller variation in parallelism to cause wrinkling in thinner paper.

If we take care in handling roll stock, keep our machines in good running order and ensure that proper paper temperatures are maintained on the corrugator, running lightweight papers can be as uneventful as running traditional papers. ■



Rex Woodville-Price is Special Projects Manager for HarperLove, Charlotte, N.C. He has worked in the corrugated industry for 28

years as a Project Engineer for Interfic, Sales Engineer for Goettsch, and Packaging Maintenance Engineer for Chiquita's Packaging Division.



FROM LEFT, MIKE GEIGER AND RON HERMES OF GREAT NORTHERN CORP., STEPHAN KEIMER OF BICKERS AND RICK MORRIS OF GRAPHIC WEST PACKAGING MACHINERY.

GREAT NORTHERN AUTOMATES FULFILLMENT

THE INSTALLATION OF A BICKERS GLUING TABLE AT THE CHIPPEWA FALLS SHEET PLANT YIELDS SIGNIFICANT LABOR SAVINGS, IMPROVED SAFETY AND CONSISTENT HIGH QUALITY.

With record low unemployment in the U.S., corrugated manufacturers are seeking innovative solutions to automate their more labor-intensive processes. Great Northern Corp.'s, Chippewa Falls, Wis., sheet plant is a perfect example. In May, the plant installed a Bickers GlueJet gluing table to

automate the gluing of in-store point-of-purchase displays. The sheet plant has a large fulfillment center that shipped more than six million orders last year. "We do everything from simple two-piece glues and collating of parts to support packaging lines, but the bulk of what

we do is full-blown display work," Ron Hermes, Logistics Manager, says. Many of the displays require some type of gluing, which until recently, was done manually on an assembly line with hot melt glue guns. That gluing process has now been transferred to the new Bickers GlueJet XY gluing table, which automatically applies any kind of glue, hot or cold, onto any type of substrate. The table has four independent workstations so it can handle four different jobs simultaneously. Operators are positioned at each corner and load stacks of corrugated pieces, up to about 35 inches high, onto the machine for gluing. Then they remove the sheets, one at a time, after the gluing is completed.

"The Bickers machine is able to glue at a higher speed and it's also more consistent in its application," Mike Geiger, Fulfillment Supervisor, says. "With four operators doing independent jobs, we can now use those folks who were doing the gluing on the production line to add value to other aspects of the project. It helps in two ways; it is faster than gluing by hand and it helps us to better allocate the labor on the floor."

Hermes adds, "Depending on the piece, we can glue on the machine between two to five times faster than we can by hand. It's a tremendous uptick in efficiency and it's spot on in its accuracy. The glue application, pattern and amount of glue are perfect every time. It's really pretty cool."

The Search

Great Northern had been looking for a way to automate the gluing process for a while. The company wanted to speed up the process and increase safety. "Putting 350 degree glue down by hand was a safety concern," Geiger says.

"DEPENDING ON THE PIECE, WE CAN GLUE ON THE MACHINE BETWEEN TWO TO FIVE TIMES FASTER THEN WE CAN BY HAND," RON HERMES SAYS.

"Also, we are always seeking out ways to automate the fulfillment process and help value add with the labor that we have because labor becomes harder to find. I began the task of trying to find such a machine. I wasn't sure that anything existed."

In fact, equipment vendors told Geiger that an automated solution didn't exist. However, during his search he came across Bickers, a European company based in Germany. There are about 250 Bickers GlueJets installed worldwide. Graphic West Packaging Machinery is the U.S. agent that sold the machine to Great Northern.

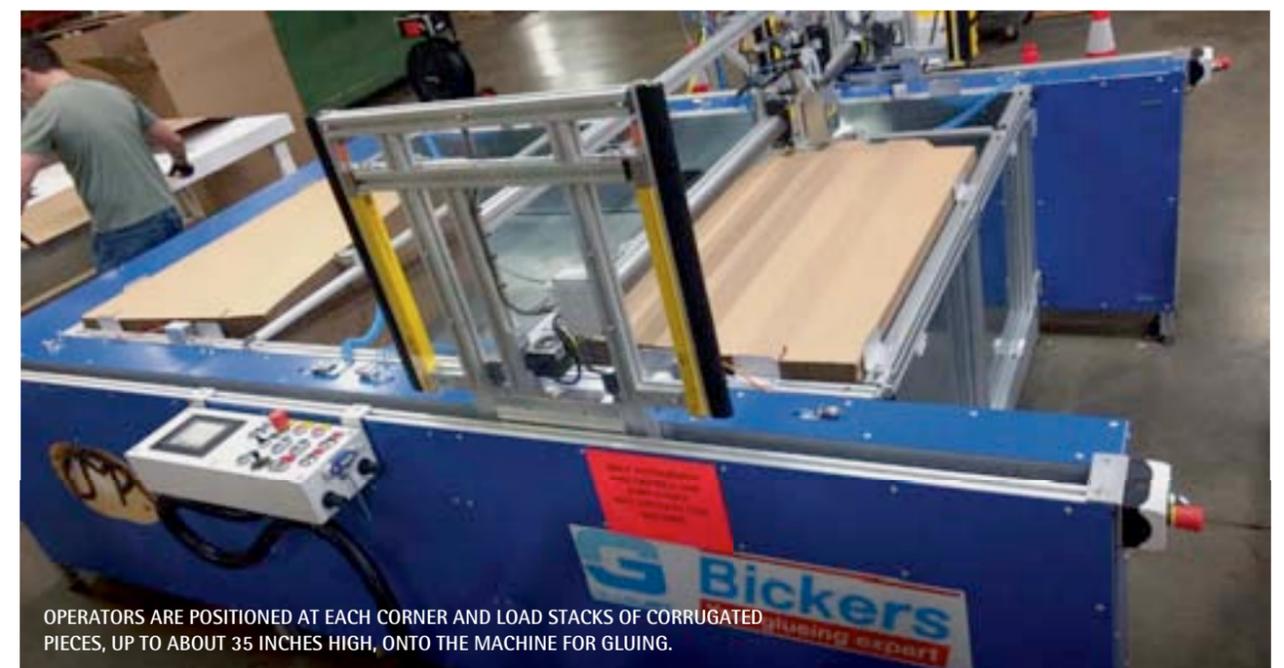
Great Northern chose a larger format model (1700 x 2500mm) that can accommodate a 60- x 98-inch sheet. "We looked at capturing 99% of the sheet sizes that we glue by hand," Geiger says.

The gluing table is used for P-O-P displays and components. "We are working with large volumes and this helps us to bring those parts to the assembly line," Geiger says. "It helps both with our efficiencies on the line and safety. We don't have to wheel a hot melt applicator onto a production line and worry about power and heat."

The GlueJet is used primarily for corrugated, although Great Northern has used it to glue PET windows on large dump bins. Geiger says the machine offers a lot of opportunity in terms of its application in the fulfillment center.

Machine Efficiencies

The machine is user-friendly and programmable for fast makeready. It can be programmed to glue any pattern, including curves, half circles, arcs, and



OPERATORS ARE POSITIONED AT EACH CORNER AND LOAD STACKS OF CORRUGATED PIECES, UP TO ABOUT 35 INCHES HIGH, ONTO THE MACHINE FOR GLUING.



THE GLUING TABLE HAS FOUR INDEPENDENT WORKSTATIONS SO IT CAN HANDLE FOUR DIFFERENT JOBS SIMULTANEOUSLY.

wave patterns. As part of the training process, operators had to program the machine to write their name.

The machine will save up to 1000 different patterns, which is a valuable feature for Great Northern for repeat jobs. "Many of our simple two-piece packaging type gluing operations are repeat jobs. This memory feature cuts setup time down to almost nothing. The operator just puts the corrugated in the machine and turns it on," Hermes says. "In the last week in a half that we've had it in operation, we used the table to glue more than 12,500 pieces."

The machine has a built-in clock actuated output, which sets a constant production pace. Operators can program pause cycles between each piece or they can control the cycle manually with a foot pedal.

"It used to take us hours to work through a part and now we're down to

five minutes to set up and a minute to run," Geiger says. "The program is simple and easy to operate, easy to understand, and easy to maintain. It took a complex problem and reduced it to ease of use and simple maintenance. They've done a great job of designing the machine."

"We fully expect to cut the labor that we had for gluing at least in half, and we do a lot of gluing," Hermes adds. "As unemployment decreases, it's at an all-time low in our area, temporary labor becomes very difficult to find and that is what is pushing Mike and I to look for those technological improvements that drive labor out of the process and at the same time drive our costs down and make us more competitive in the market."

Impressive Startup

Bickers installed the machine at the Chippewa Falls plant on May 1 and it was gluing displays by May 4. "The technicians that Bickers and Graphic

"WE ARE ALWAYS SEEKING OUT WAYS TO AUTOMATE THE FULFILLMENT PROCESS AND HELP VALUE ADD WITH THE LABOR THAT WE HAVE BECAUSE LABOR BECOMES HARDER TO FIND," MIKE GEIGER SAYS.

West sent over to train us were awesome. We have received tremendous support so far from those folks," Hermes says.

Remote access to Bicker's facility in Germany assists with troubleshooting. Technicians are also available by phone.

Hermes and Geiger are so impressed with the machine that they are already thinking about a second one. "With the performance of the machine and its ability to work with people and be collaborative, we will be able to apply the labor in other ways. Instead of stopping a production line for a hand glued piece we can streamline the production line," Geiger says.

"We anticipate this being the best thing we've done as far as a technological advancement for some time," he continues. "We struggled to find technology that works in our fulfillment center because of the infinite variability associated with our display business. We don't do things 100,000 or a million times very often. This is one piece of equipment that could instantly be put on the floor and used for virtually every application. We benefitted from it right away. It's not something that we only pull out for a particular job like some of our equipment. This will work for virtually any gluing application that we have." ■

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K6 Flexo
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K1 Jumbo
98" X 196", 98" X 210"





Corrugated Packaging Division Council

Appointed Members:

Greg Arvanigian

President
Arvco Container Corporation

Tim Benecke

Vice President and COO
The Royal Group

Joe Dieffenbacher

Manager – Engineering & Capital Purchasing
Container The Americas
International Paper

Matt Fritzeen

Vice President of Operations
Unicorr Packaging Group

Craig Hoyt

President
Buckeye Boxes Inc

Chris Krumm

Vice President Operations
CorrChoice

Fred Rossi

Director, Converting Capital
Planning & Execution Engineering
Westrock

Ed Stuczynski

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Menasha Packaging

Eli Townsend

Director of Manufacturing Services
Packaging Corporation of America

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Geo. M. Martin Company

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Niagara Sheets

Josh Reich

(Young Professionals Chair)
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Greenguard Engineered Coatings

Glenn Rogers (Fiscotec Chair)

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Pratt Industries

John Semenske

(Supplier Advisory Chair)
Regional Sales Manager
BW Paper Systems

Division Leadership

Corrugated Division Chairman

Roger Mills

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Corrugated Division Vice Chairman

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Operations Manager
Packaging Corporation
of America

Division Chairman Emeritus

Miles Fletcher

Corrugated Division Sales
Manager
MarquipWardUnited

Corrugated Packaging Division

Account Manager

Kristi Ledbetter
TAPPI

Calendar of Events

Chicago TAPPI Annual Golf Outing

August 15, 2017
Ruffled Feathers, Lemont, IL

2017 CorrExpo

October 16 – 18, 2017
Providence, Rhode Island
www.correxpo.org

Chicago TAPPI Meeting

November 7, 2017
Oak Brook Marriott,
Oak Brook, IL
www.tappi.org/chicagotappi



Troubleshooting “Flexos” and “Die Cutters” Sustain Board Caliper and Improve Printing Course

DATE:

Sunday, October 15 and Monday, October 16

LOCATION:

Rhode Island Convention Center, Providence, RI

INSTRUCTOR:

Dick Target



Are you looking to identify and address downtime issues? Do you need to develop a better understanding of machine calibration and how to maintain proper board caliper during the converting process? If you answered yes to either of these questions, then the TAPPI Troubleshooting “Flexos” and “Die Cutters” Sustain Board Caliper & Improve Printing Course is for you.

This course delivers a complete presentation on efficient and cost-effective methods of box making. This is an easy to understand presentation of the manufacturing process including ink management, effective setup techniques and machine calibration.

“Whether you have a flexo-folder-gluer or a rotary die-cutter, the basic machine design for both is very similar,” Target explains. “We show course attendees a basic calibration method for all the machines in the plant. There is a real need for this information – in this industry there is a frequent turnover of employees, and in many cases the machines are not being operated properly.”

During the course, Target discusses a sort of “Holy Grail” subject for the corrugated industry: the one-box setup. “Everyone in the industry talks about the one-box setup concept; very few people know how to do it,” he says. “Normally it will take 10 or 15 boxes to set up a new order; we’ll show you how to do it in one or two. That’s a lot less waste, and a lot more uptime.”

Target also covers centerlining, a calibration process used to help box plants maintaining the caliper of the sheet. “In today’s market, plants around the world are using

lighter weight linerboards. If you have the wrong caliper settings, the sheet will fail,” says Target. “I’ll show crews a centerline calibration so that, instead of losing 15 thousandths, they only lose one or two.”

This course is being offered in conjunction with the 2017 TAPPI CorrExpo Conference and Trade Show to be held October 16 - 18 at the Rhode Island Convention Center in Providence. There are special discounts available to box plants and options for discounts on taking the course along with the conference, or simply taking the course and attending the trade show at no additional charge. Visit www.correxpo.org for additional event information and registration rates. If you have been waiting for this course to come to your area, this is the perfect opportunity to take advantage of this training for your plant in addition to experiencing a premier industry trade show and conference.



Dick Target



“Sailing Into the New World of Graphics” at 2017 CorrExpo

The theme has been set for 2017 CorrExpo which will be held at the Rhode Island Convention Center in Providence October 16 – 18. *Sailing Into the New World of Graphics* is the perfect theme for a program that will be rich in content related to the challenges and rewards of digital printing and high graphics. Content will include sessions and panels related to **Digital Press Operations Options, The Technology behind Digital Magic, Operations Planning in a Digital Operation, Transitioning Your Graphics from Traditional to Digital, Getting the Best Results with Digital Printing, How to Maintain Productivity while Running High Graphics, and How to get the Best Results from Your High Graphics Operation.** In addition to these relevant topics on digital and high graphics, the two day program will also offer sessions related to **The Future of the Corrugated Workforce, Future of Maintenance in the Corrugated Industry, The Future of Quality Control and Inspection Processes in the Corrugated Industry, and The Future of Material Handling.** If you missed the panel discussion last year at SuperCorrExpo on the 1500' Per Minute Corrugator – Why not 2000? we will be repeating this panel in Providence and will have plenty of room for all to attend!

Jim Craig, Olympic Gold Medalist and Goalie for the 1980 U.S. Hockey team that defeated the Russians will be the Keynote Speaker to kick off the program on Tuesday morning. Jim will be followed by the always popular What's New session which will showcase innovations introduced to the market after January of 2016. On Wednesday morning the program will begin with a panel of experts who will discuss the many aspects of digital printing and answer questions related to this critical topic. Never before have so many experienced speakers related to one topic been gathered together to help you sort out the pros and cons of digital and help you keep your business competitive. Running concurrently with the digital and high graphics sessions presentations will be offered related to the future of the corrugated industry in general and address topics related to the changing workforce,



maintenance, material handling and quality control.

In addition to the full program, there are over 130 exhibitors who have reserved booth space this year and this will be a gathering of all major suppliers to the industry. The trade show will be open from 12:00 – 5:00 on Tuesday, Oct 17th and 12:00 – 4:00 on Wednesday, Oct 18th.

If you are looking for opportunities to network and get in touch with colleagues and customers there are plenty of options for that at CorrExpo! A welcome reception in the Rotunda Room at the Rhode Island Convention Center on Monday evening will be a great place to start. On Tuesday there is a reception on the exhibit floor from 4:00 – 5:00 followed by an offsite evening event at the Squantum Association. This authentic New England Clam Bake, sponsored by Alliance Machine Systems International and AG Stacker, Inc, will be an evening that will allow attendees to experience one of the unique specialties of this part of the country. The always popular Corrugated Classic Golf Tournament will be offered to attendees on Monday, Oct 16th at the Rhode Island Country Club. Space is limited so get your golf registrations in early!

TAPPI would like to thank our Platinum sponsor, ARC International and our Gold Sponsors, Mitsubishi and SUN Automation. We appreciate your continued support and the support of all of the CorrExpo sponsors and exhibitors! Registration is open now at www.correxpo.org and to receive the best discounts register before September 15, 2017. The box plant deal with discounted pricing is again available so that plants can send multiple people for one low price.



OCTOBER 16-18, 2017

RHODE ISLAND CONVENTION CENTER & THE OMNI PROVIDENCE HOTEL



KEYNOTE SPEAKER

JIM CRAIG

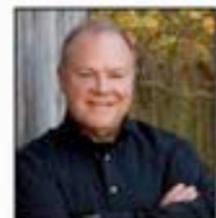
Olympic Gold Medalist, Goalie
1980 U.S. Hockey Team

PROGRAM TOPICS WILL INCLUDE:

Operations Planning for Digital
Getting the Best Results from Digital and High Graphics
Transitioning Your Graphics from Traditional to Digital
Corrugated Industry – the Future of Material Handling
1500' per Minute Corrugator – Why Not 2000?



WWW.CORREXPO.ORG



TRAVELS WITH LARRY

Familiar Names, a New Location and a New Attitude

April 19-20, 2017 (right before PaperCon2017) Kristi Ledbetter, TAPPI's Converting Division Manager, and I had the privilege to revisit a company that I had the pleasure of writing about several years ago.

Do these names ring a bell? Ron Diedeman, Chris Kyger, Paul Aliprando and Greg Jones. How about SUN Automation Group?

Kristi and I spoke to owners every time we turned a corner. Every employee is an owner. Those same owners decided to make an even larger investment in their customers.

By the way, Ron Diedeman came out of retirement two years ago to rejoin SUN as their new President. Plans were made with everyone singing out of the same hymnal and, as they say, the rest is history. And, in this case, the future.

Their 183,000 square foot facility is designed to give their customers what they need, when they need it.

The new facilities allow for more growth and innovation for their owners and customers.

Speaking of innovation, while we were there a camera crew was filming a spot on Innovation, Renewability and Sustainability in the packaging industry. If all goes well this segment should run on The Discovery Channel later this year.

In the words of Chris Kyger, current Vice President "The future of Sun Automation is bright." Chris is heir apparent to the position of President in 2018 upon Ron Diedeman's second retirement.

In addition to Ron and Chris, our thanks go out to Paul Aliprando - Vice President of Digital Technologies, Greg Jones - Director of Sales and Marketing, and Simona Georgescu of Adduco Communications.

For more information on SUN Automation please go to www.sunautomation.com

For more information on TAPPI please go to www.tappi.org

Remember, there are two types of people in this industry, TAPPI members and those who should be.

Until next time...

Signature of Larry Ledbetter



Manufacturing: from lead edge feeders to new rotary die cutters



Ron Diedeman busy as ever and still with a smile on his face.

TAPPI CORRUGATED ROAD SHOW

AUGUST 14, 2017 NEENAH, WI



A one day seminar that brings training and networking opportunities on key topics from experts in the industry to help you maintain a competitive edge.

An In-depth look into the Process Variables for the Doublebacker & Glue unit



PRESENTER:

JON PORTER

SENIOR TRAINER/ PROCESS SPECIALIST, JPORTER CONSULTING

Participants of this course will increase their working knowledge of the Doublebacker bonding process, maximize their runnability across all board combinations and improve board quality.

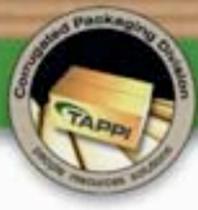
This session is about:

- ▶ Getting the most from your hot plate section
▶ The bond is focused on the bottom liner
▶ Various board grades included coated liners like Kemi

10:00 AM to 3:00 PM (lunch provided)

Rate is \$85 for a single registration or \$75 each for a group of 3 or more people from the same location. Space is limited.

Register Today! TAPPI.ORG/ROADSHOWS



TAPPI Corrugated Packaging Division Announces Call for Nominations

TAPPI's Corrugated Packaging Division is seeking nominations to fill two elected positions on the Corrugated Packaging Council (CPC). Nominations are being accepted for 2 industry members for a three year term and applications are available on the Corrugated Packaging Division page of the TAPPI website www.tappi.org.

Nominations will be accepted until August 4, 2017 from all members of TAPPI's Corrugated Packaging Division and voting will take place by email from August 30th through September 29th. The election results will be announced at the 2017 CorrExpo® event, October 16-18, 2017 in Providence, RI.

Completed applications should be submitted to Kristi Ledbetter at TAPPI, kledbetter@tappi.org.

Led by Roger Mills as Division Chair, and Eli Townsend as Vice-chair, the CPC is the advisory board whose members work together to provide leadership, guidance and support to TAPPI in the effort to serve the members and associates of the corrugated industry. As the governing body of the division the CPC consists of both appointed members and elected members and meets face to face twice a year to discuss strategies for the TAPPI Corrugated Packaging Division. The CPC includes nine appointed members from International Paper, Menasha Packaging, WestRock, Packaging Corporation of America, The Royal Group, Arvco Container, Pratt Industries, Unicorr Packaging Group, CorrChoice and Buckeye Box. Each of the elected members fulfills a three year term and the current elected positions include members from Fosber America, Geo M. Martin Company, The Haire Group and ARC International. The current Chairs of the Corrugated Division Technical Committees and the Supplier Advisory Committee complete the council.

TAPPI is proud to welcome Tim Benecke and Matt Fritzeen as the newest appointed members of the CPC. Tim is Vice President & COO of the Royal Group, and Matt is the Vice President of Operations at Unicorr Packaging Group. Both Tim and Matt bring a wealth of industry experience and TAPPI history to the CPC and will be great



Tim Benecke



Matt Fritzeen

assets. Following his retirement from WestRock, John Telesca stepped down from one of the appointed positions this year after serving on the CPC since 2009. TAPPI is truly grateful for the years of dedicated service and input that John gave to the Corrugated Packaging Division.

TAPPI's Corrugated Packaging Division focuses on the manufacture and use of corrugated containers and associated packaging materials and products. It serves as a forum for knowledge sharing in the corrugated packaging industry. The division is comprised of members who work for converters, suppliers, consulting companies, and others in the converting industry.

Sponsor a Student or a Young Professional with a TAPPI Membership

- \$35 per membership
- Given to undergraduate students or YP's in their first year of employment in the paper or packaging industry
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- More details at www.tappi.org/sponsorstudents

NEW NAME. NEW LOOK. NEW POSSIBILITIES.

TAPPI PLACE has changed its name to International Flexible Packaging and Extrusion Division



WHAT'S IN A NAME?

A lot, actually. The global flexible packaging industry has undergone tremendous change over the years. But the need for access to quality education, innovation and technical advancements has not. In fact, that need has increased.

As the Division's efforts evolved to help develop, support and share access to global advancements across the entire supply chain, our name was changed to reflect that:

"We serve the global flexible packaging industry as the leading source of inspired and innovative solutions for consumer packaged goods providers and marketers."

OUR MISSION IS TO PROVIDE ACCESS TO:

- ▶ Innovations and technical advancements
- ▶ Best practices
- ▶ Forums on relevant and leading-edge topics
- ▶ High-value educational opportunities
- ▶ Global networking opportunities

OUR GOAL:

- ▶ To help ensure the transfer of innovative technologies across Flexible Packaging's entire supply chain.



To learn more about TAPPI's International Flexible Packaging and Extrusion Division, or how to join one of its exciting teams, please visit <http://tappiflexible.org>



ON-SITE INK MANAGEMENT

IS THERE VALUE FOR YOUR BUSINESS WITH THIS APPROACH?

BY JAMES WEGEMER
INX INTERNATIONAL INK CO.

The world of acquisitions, consolidations, closures, and the latest technology solutions remain an ongoing part of the constantly changing corrugated world. Businesses are all looking for any change that can improve their competitiveness and profitability, or simplify their business. From the package buyer, to the brand owner, to the end-user; all face added pressure in the value chain. Ten years ago we looked at whether on-site

ink management was a tool that might help corrugated converters capture some of that elusive value. Does it still apply today? In my opinion, this business tool is even more relevant today than it was in the past. To help understand this, let's look at what on-site ink management means. Many people equate this with making ink at their corrugated plant rather than ordering the ink from their vendor. Making ink is a part of the

process, but it is only one part. In fact, it is one of many components of a properly established on-site ink management program – much like replacing spark plugs is a part of major engine service.

Fully undertaken, on-site ink management has many valuable components, which might include:

- Color matching
- Color proof preparation
- Ink requirement scheduling
- Inventory management, cost-effective press return management
- Job costing
- Repeat run ink estimating
- Management reporting
- Ink dispensing
- Usage reporting
- Regulatory reporting

How much, or how little of the capabilities you use is a decision you have to make; and it should be done in conjunction with the support capabilities of your ink vendor. This type of program is not for everyone.

The decision to undertake on-site ink management is impacted by many variables, such as:

- 1) Mix of products used – standard inks vs. special inks
 - Number of specials
 - Repetition of specials used
 - Lead time on specials needed
 - Quantity of specials needed
- 2) Inventory status and objectives
 - Quality of inventory – good vs. obsolete
 - Current “obsolete ink” usage program
 - Storage space available
 - What’s needed to fill the supply chain
 - Distance from your vendor
- 3) Real cost difference of inks made on-site vs. purchased from a vendor’s location

- 4) Space for system components
 - Lab – color matching and QC; if chosen as a part of your specific program
 - Ink dispenser
 - Ink bases and finished ink storage
- 5) Need or desire for specific job run reports and continuous data collection
- 6) “Soft Value” and positive image created by this tool

If we look at some of these factors more closely, it will help to better understand how the pieces fit together. In many cases, on-site ink management of water flexo inks for corrugated may not include making several GCM workhorse standards. In a number of cases, for cost reasons, larger volume GCM colors may be purchased from your ink vendor, not made on-site. There can be exceptions,

and these need to be considered when calculating the volume of ink that would be provided by the dispenser. An automated or manual ink dispenser uses bases and letdown vehicles to produce finished inks. It is not uncommon to use more than one letdown vehicle, based on press configurations, substrates printed, and product specifications, such as rub resistance and gloss, etc. In most cases, only one set of color bases is used. The color bases, combined with the appropriate letdown vehicle, should be designed to satisfy your complete range of products. When making GCM inks on-site, you would use the same colorants and an appropriate letdown vehicle, suited to the application parameters and end product expectations. It can be cost-effective to make some GCM colors

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Ink Management

on-site when you consider all the costs and supply chain aspects.

Most users generally consider the number of special colors needed and the volumes as the basis for on-site dispensing. The plant could use 200,000 pounds of more expensive specials and still not be justified in going to an on-site program if those pounds were only a handful of colors.

If, however, the 200,000 pounds were 120 colors, of which only a core group of 40 or 50 repeat regularly, an on-site program might be for you. Mix is a good starting indicator. Many converters order more than is needed "just in case." When you have many colors and the orders are generally small; two to five kits of each color, dispensing on-site may be valuable. (See example below.)

Different Press Demands

I had mentioned that an on-site ink management approach might be even more relevant today than it had been in the past. In today's world there are more and more multi-unit, higher graphics capable presses, with water-based and UV coating capabilities, going into corrugated companies almost every month. Some of these presses are set up with quick-change anilox systems, which allow the converter to print many different substrates; from line work through difficult process graphics on the same press.

When these types of production flexibilities are translated into "What inks are going to be needed?" the world becomes a more complex place. In an ideal world, the flexibility you have in

production should create an ability to fine-tune and customize your printed corrugated packaging to meet the growing expectations of print buyers and end customers. The world of today is not the world of 10 years ago. Being able to meet all of your printing needs, with products and support provided by on-site ink management, may give you an edge you cannot get when simply ordering inks and having them shipped in by your vendor.

Inventory Concerns

Inventory is an investment of money. Unused ink in inventory is a potential loss if it becomes obsolete or dormant. Some converters use obsolete inks and press returns in black. This uses the product, but not in the most cost-effective fashion. If you have a large

Example of On-site Ink Management Annual Net Savings

- The plant buys 250,000 pounds of specials each year at a cost of \$630,000. There are more than 100 specials, and some are always changing.
- The plant has 50,000 pounds of inventory, and 10,000 pounds are GCMI colors and 40,000 pounds are specials. Managers expect to use all of the GCMI colors, but 20,000 pounds of the specials are obsolete or will not repeat.
- The plant requests that 10 specials be matched using the base colors and letdown vehicles that would be used on the dispenser. Comparing the price of the inks as they would be supplied from the dispenser to the current prices for those inks as purchased, savings of around 13% might be expected.
- The sales manager and general manager feel an automated system with a color computer will definitely attract new customers, but this should not be used in the value calculation unless absolutely necessary.

Savings:

Direct Ink savings: $\$630,000 \times 13\% = \$81,900$
 Inventory savings based on using obsolete inks in special colors instead of black @ average savings of \$2.50/lb
 $20,000\text{lbs} \times \$2.50 = \$50,000$

Savings from not purchasing finished inks **\$131,900**

Financial Cost Estimate: (Assuming system is purchased)

Cost of dispenser = \$60,000
 Annual depreciation cost = \$18,000
 Cost of lab = \$45,000 (including room and equipment)
 Annual depreciation cost = \$13,000
 Cost of supplies/operating = \$5,000
 Cost of operator-annual = \$60,000

Total annual cost to buy and operate system (Capital costs amortized over four years) **\$101,000**

Net Savings

Savings on ink purchases from using on-site system \$131,900
 Annual cost of installing, operating ink system \$101,000

Total Annual Net Savings **\$30,900**



Mark & Mike Mazzocco
Packaging Innovators

Color Sells!
Efficiency Makes It Profitable!

" We redefined the wine box industry by taking 3 color shippers and converting them to high graphics POP display boxes.

Using JB's full product line we run 7 color boxes at approximately 10,000 sph. This has been so successful we've recently added an additional, fully JB-equipped 5 color press."



number of specials, you will likely have obsolete ink. You need to assess how your current program works to use up old ink, or even press returns.

A dispenser, particularly an automated dispenser, can change the quantity of material in this category. As you become more familiar with dispensing and start to produce smaller quantities of special colors, the excess ink produced can be reduced, resulting in a more manageable total inventory. In "Best in Class" operations, part kits of colors are dispensed to finish jobs. Excess ink is almost eliminated and returns are minimal.

If a color computer is used to assist matching with an automated dispenser, overages and press returns can be built into future color needs. Use of color in color is a much more cost-effective approach than using color in black.

When you make an ink on-site, the component costs should be less than the purchase price of a finished ink from a vendor location. Manufacturing cost is the reason. How can it be measured?

The best way to do a cost comparison is to select a number of specials that you already purchase – 8 to 15 should be a good number. Ask your ink vendor to match these specials using the color bases and vehicles that would be supplied for the on-site dispenser. In following this process, you must be very clear on how matches and proofs are to be done so you are comparing apples to apples. Ask that the corresponding "dispenser recipes" be supplied with each color, just as if you were dispensing the ink. You will also need to be supplied with a price list for the bases and vehicles that would be used on the dispenser.

By comparing the cost of the ink as it is currently supplied to the cost of the ink as it would be made on the dispenser,

**A WELL LAID OUT
DISPENSER AND LAB CAN
BE A POWERFUL TOOL
WHEN WORKING WITH
YOUR CUSTOMERS.**

you can see what your savings would be. Comparing the average savings for colors you had matched and looking at total specials used, you can estimate how much you can save by dispensing on-site.

Choosing The Right Space

When considering a move to on-site ink management, you must ensure you have the right space available. Consider the dispenser, the base/extender inventory, finished ink inventory, any lab space, filing space for proofs, etc. It is easy to estimate space needs and this should be done early in the process.

As we said earlier, on-site ink management is not just making ink. An automated dispenser can provide a myriad report information, depending on its software and daily data input. Think of what is important to you and discuss this with your ink vendor.

Finally, there will be soft savings that are difficult to measure. These will be different for every company. A well laid out dispenser and lab with a color computer, light booth, automated proofing system and qualified manager can be a powerful tool when working with your customers. You can deal with unexpected variables like moving a job to another press with different anilox configuration or changing substrates at the last minute. Perhaps you can save three, four, or five hours of press downtime each week, such as the ability to respond quickly to customer requests.

This data can be a key component when measuring the value of on-site ink management.

Each case needs to be looked at individually. Dispenser costs will vary, as will lab and labor costs. Nothing is free. Whether you buy the dispenser or your vendor owns it, whether you supply the labor or your vendor does, all components have a cost attached. These will affect the total cost when making financial decisions.

It is also important to remember that everything will not go through the dispenser. For example, metallics and fluorescents will not be made on-site. In total, these may be small purchases, but it is important to consider them in the process.

INX International has extensive experience with on-site ink management, and over the years we have seen numerous customers adopt this approach to meeting product and information needs; while they improve response time, production flexibility, and profitability.

On-site ink management, is it right for you? If you are serious, take the time to explore this option carefully. It could bring real value to your business. ■

Note: All financial references in this article are for illustration purposes only and are not intended to reflect specific pricing for any individual product or group of products.



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We are dedicated to meeting your needs...period.

FLATBED DIECUTTER REPORT

FOR JOBS MORE SUITED TO FLATBED DIECUTTERS, CORRUGATED CONVERTERS HAVE A WIDE RANGE OF MACHINE OPTIONS

The choice of diecutting process – rotary or flatbed – is often determined by work mix and volume. Flatbed systems are well-suited to more intricate multi-out layouts and shorter run work. The flatbed diecutter can create all of the designs produced by a rotary diecutter, however, there are limitations on speed and size. The advantages of the process lie in the speed of setup for repeat work and the cost and availability of tooling. In the last year numerous leading manufacturers

have upgraded their machines and introduced new technology to the market. In the pages that follow we review many of these developments.

Wide Spectrum

From the sheet plant focused Visioncut to the productive Masterline models for high output integrated box plants, Bobst offers a wide range of machines for corrugated and microflute diecutting.

The high performance Mastercut platform is available in two sheet formats

and each size of machine incorporates innovative solutions that deliver accuracy and productivity. Power Register is included as standard on all Mastercut machines. Additional innovations include a platen section that optimizes diecutting force and reduces makeready time, smoother sheet transport and a non-stop delivery allowing for uninterrupted production. The 1.7 (1700 x 1300mm) (67- x 51-inch) and 2.1 (2100 x 1300mm) (82- x 51-inch) versions bring the latest flatbed diecutting technology to bear at speeds of 7500 and 7000 sheets per hour respectively, enabling production in excess of 6500 sqm (70,000 sq ft) per hour. The Mastercut 1.7 and 2.1 are available in standard or mirror versions and can be complemented by an in-line Masterflex-XL or HD printing press, and/or modular peripherals, to create the impressive Masterline conversion, or print and conversion line.

A comprehensive range of peripherals, including loaders, breakers and palletizers is available for all Bobst diecutters, ensuring that users are able

to maximize the productivity of their equipment. Among these are the Loader-AF, which ensures consistent feeding and maximum throughput; the Loader-ML, a high-speed stream feeder designed with nano/microflute and litho-laminates particularly in mind, while still superbly feeding heavier board; and Breaker 2 Flat Track which forms complex layers ready for palletization, allowing users to automate the process. Special transport belts on this unit reduce the surface pressure on the product, which significantly reduces the risk of marking. These special belts also mean that the product moves from diecutter to palletizer in a level plane, which makes for smooth and steady production. The unit is also easy to set and operate and has a small footprint.

The Bobst mid-range diecutter for corrugated and microflute applications – Expertcut 1.6 – has been designed to fit into the center of the range. Expertcut brings versatility, performance and reliability to mid-volume producers who do not need the higher speeds or larger formats of the Mastercut range, yet still need to be highly productive. With job changeovers in less than eight minutes, running speeds of up to 6000 sheets an hour and a small footprint, Expertcut delivers impressive productivity per square foot of floor space used. Its platen movement means improved performance and better control over the diecutting process, while the machine also features innovations in the feeder, stripping section and delivery that result in fewer interruptions and further productivity gains. Two clever custom packs are available for the Expertcut 1.6. An Accuracy Pack boosts the already high cutting precision of the machine by adding Bobst's Power Register system, which is particularly useful when running litho-laminates or board made from



BOBST BREAKER 2 FLAT TRACK

pre-printed liners. While a Productivity Pack delivers a speed upgrade, a lifted delivery with 300mm (12-inch) batch height and a new continuous feeding device prevents interruption in the flow of sheets during evacuation of the batch.

Small, simple and efficient, the Visioncut 1.6 offers one of the lowest total cost of ownership in its category. Delivering 4800 sheets per hour and job changeovers in less than 10 minutes, uptime on the Visioncut 1.6 is maximized thanks to its clever machine construction. In addition, the Visioncut 1.6 can be equipped with the new Power Register system as an option, making it a powerful tool for diecutting litho-laminates.

Along with innovative equipment, Bobst also delivers best in class service support to users. A worldwide network of service centers is home to hundreds of service technicians who provide technical advice to customers as well as on-site interventions. These teams are supported by spare parts and logistics staff who ensure customers get the spare parts and consumables they need. Bobst also offers a range of service products that include maintenance programs, training courses, e-services and machine

enhancements. New service products include a Platen Conditioning service, which removes the oxidation that can build up on beams, chases and platens over time and protects the machine against further corrosion. The service can reduce makeready times on diecutters by between 25 and 50% and the cutting force needed to run jobs by up to 30%.

Proven and Predictable

Baysek Machines, Inc. offers proven diecutting solutions to accomplish simple to complex converting for companies of all sizes, independents and major integrators alike. Founded with the objective to successfully bridge the gap between traditional flatbed and rotary anvil diecutting, the unique Baysek method conquers some of the biggest converting challenges in the industry today. Shear cut, 100% strip waste, accurately count, and precision stack nick-free finished units via a single operator at the control of an easy touch screen. The innovative technique significantly reduces operational costs while increasing quality of finished product yielded.

The flagship model C-170 has a large die format handling 55- x 67-inch

Flatbed Diecutters



BAYSEK C-170

sheets, F-flute through doublewall with solid/thin board capability. One operator, quick setup, and no makeready has setups and changeovers running as quickly as 10 minutes. The output is as many as 60 fully stripped, neatly stacked and counted, nick-free diecuts per cycle at a rate of 1800 sheets per hour. With an optional auto-load and extended out-feed conveyor, operation is literally reduced to the touch of a screen.

Lead edge registration suction cups secure the picked and placed sheet to the die on the feed side. The reciprocating flat die is compressed between two rotary anvils, the top roller protected with a semi-soft anvil sleeve. Waste is automatically stripped and removed up the waste hood as finished pieces are simultaneously held within each die form via vacuum suction cups. All pneumatically extracted waste is immediately directed to an existing recycling bin or baler. On the delivery end of the machine, finished units are accurately counted and neatly stacked via unload suction cup assemblies. Clean, orderly finished loads are ready for shipping preparation load after load.

The larger model C-210 offers all

the capabilities and features of the C-170 with a 63- x 82-inch sheet size, outputting the same high quality finished units at a rate of 1400 sheets per hour. All Baysek models are ideal for converting nick/tag and angel hair free, basic brown items to the highest quality food and pharmaceutical grade items.

The smaller model, Air Logic, utilizes the same diecutting method as its predecessor, delivering equally high quality finished product with a sheet size of 48- x 60-inch at a rate up to 1000 sheets per hour. The Air Logic was engineered as an affordable option for small runs and startup companies looking to grow. All dies utilized on the Air Logic are transferable to the C-170 and C-210 for cost efficiency and ease of transition when trading and upgrading to a larger Baysek diecutter.

Ergonomically designed for versatility, reduced manual labor and safety, a quick return on investment is expected. Baysek machines are built to last and run at maximum speed around the clock. The method is proven, predictable, and profitable. Large enough to serve and service with prompt professionalism,

yet small enough to treat each customer with the individualism deserved, Baysek stands ready to assist with the latest in innovation and exceptional after sales care.

Simple to Operate, Maintain

SUN Automation Group® has added Ashahi platen diecutters to its wide range of proven solutions for increasing production, efficiency and profitability. Along with its industry recognized service and support, SUN now markets Asahi platen diecutters in North and South America. The models marketed in the America's are the CartonMaster AP-165 E2, the AP-165 E3 and the AP-2100. The CartonMaster product line is simple to operate and maintain compared to competitive product lines. Utilizing a mechanical indexer for chain drive provides a lower cost of ownership overall.

Shipped complete with minimal machine re-assembly required on-site beyond simple installation of electrical cabinets, suction blower, drive motor, oil cooler and platforms, typical installs take two days with only one week of on-site training – decreasing downtime and improving efficiency and cost-savings. Known for its high accuracy, optimal performance and lasting durability, Asahi's machines offer speeds between 5000 and 7000 IPH.

In lieu of grippers, the Asahi has pins for piercing the lead edge of sheets as grippers are not as effective with warped sheets. Platen diecutters offered by others generally require heavier nicks in cutting dies to transfer the sheets thru the cutting, stripping, and hammer phases of their single action operation. Asahi does not due to the use of its double action movement during the same phases of operation. This results in a smoother cut profile.

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LiquiBor™ is a replacement liquid for powdered borax, providing all the performance benefits of traditional powdered borax while completely eliminating the health and safety risks of employee exposure to airborne borax dust.

From: Management
Sent: Monday, April 3, 2017 10:30 AM
To: Corrugator Crew
Subject: LiquiBor™

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Flatbed Diecutters



ASAHI CARTONMASTER
FROM SUN AUTOMATION

Incredibly versatile, the newly designed Lap Feed System was developed to improve productivity, quality, and consistent feeding of microflute, laminated, and normal corrugated up to doublewall. It allows for the sheet to be pulled from the hopper section, singular, squared, and registered, prior to being spiked for transfer into the press section. The Auto Alignment System (AAS) allows the machine to automatically register sheets in board direction for consistent and accurate print to cut registration. The AAS will detect Asahi's recommended targets and can be programmed to detect the wedge targets used by other systems.

Easily integrating other technologies is another benefit of the Asahi machine. For example, Bobst's "Centerline Mounting" can be used on the Asahi machine with easy integration at assembly prior to shipment.

All models are fully enclosed on top to eliminate outside dust, dirt, water, etc. from contacting the surface of the sheets as they are being processed. All grease fittings over the sheet path have cups to catch drips as to not allow grease contact with sheets.

Fast Setup

Hitek Equipment has been bringing Marumatsu diecutters to the North American market since 1990. Every year the company makes improvements to run faster, better, and more efficiently.

The Diamond sets itself apart from competitors by being able to set up in under five minutes and provide stripping.

The Diamond uses vibration stripping to eliminate the cost of stripping dies while still providing efficient stripping. This eliminates a costly part of the job for many customers. The machine is a perfect fit for anyone who is running short to medium orders. Setups on other machines can take as long as 60 minutes. The Diamond can set up and run an order by the time other machines have only set up their job.

When running display orders, it is common to have jobs that require larger sizes. The KT-2517 is a machine like no other and was designed exclusively for the large display market providing versatility, size, and speed. This is where the KT surpasses the competition with a maximum size of 67- x 99-inch. The KT is able to run materials from 0.010-inch to AB doublewall. Having this versatility has given owners of the KT the ability to efficiently service the display market.

KT-2517 FROM HITEK
EQUIPMENT



The KT uses the proven chaseless die system to reach setup times in less than five minutes. It can set up and run a display order in the same amount of time other machines take just to set up. The KT can be hand fed or automated, again providing flexible options for customers, without losing the speed and efficiency of the diecutting process. With speeds up to 2100 sheets per hour, it is able to handle large orders while maintaining efficient speeds. The KT is the machine to push you past your competitors.

For Digital Print

Headquartered in suburban Chicago and serving clients throughout North America, Young Shin USA represents the sales, service, parts and training for South Korean-based Young Shin Industries' flatbed diecutters and German-based STOCK Maschinenbau's laminating, labelers and in-line systems. The flatbed diecutter line includes the Zenith 210S Plus that was introduced in late-2016; the highly-featured Giant, Meridian and Revotec; and the recently introduced Quest 270 made specifically to address the changing dynamics brought about by the rapidly expanding global digital printing industry.

Accommodating diecutting requirements for the growing volume of short- and medium-run digital print output, anticipated to reach \$187.7

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YOUNG SHIN QUEST 270

billions in 2018, Young Shin Industries specifically designed and engineered its new Quest 270 flatbed diecutter to serve as an affordable, easy-to-operate and highly-dependable production diecutter for digital print output. The Quest 270's rapid setup and cost-effective turnaround has broken new ground in solving the costly and time-consuming task of addressing the shorter runs produced by today's digital printers.

Final testing of the Quest 270 is nearing completion at Young Shin's South Korean factory utilizing input from leading digital printers for corrugated organizations to continue to refine the final performance criteria and operation of the diecutter. Young Shin anticipates deliveries to begin on a global basis in September to fulfill the growing roster of advance orders already received for this high-performance diecutter.

Yielding significant time and cost savings, the Quest 270's integrated features incorporate quick makereadies of 10 minutes; the ability to run matrix scoring; speeds of up to 10 sheets per minute; and the option to run substrates up to 76.2mm / 3-inch and triplewall corrugated.

The current and anticipated increase in digital printing will necessitate solutions such as those provided with

the Quest 270 to effectively manage the diecutting of the burgeoning volume of short- to medium-run output.

Startup Option

Flatbed diecutting continues to grow in North America. Traditionally referred to as a "rotary-only" market versus many other parts of the world, in recent years the U.S. and Canada have discovered many of the advantages involved with platen diecutting, making flatbed cutting soar to unparalleled new heights. Uncompromised accuracy, consistent cut lengths, clean cut lines, matrix scoring and litho-lam capability are just some of the advantages found in today's flatbed diecutters.



ETERNA FROM THE HAIRE GROUP

A proven, cost-effective way to get into platen diecutting is with a clamshell-style machine. The Brausse PE160 is a proven example of that with its perfect blend of performance and safety. Its large 65- x 52-inch mobile bed opens the door to a variety of work, including displays; and its size also allows an increased number of "everyday" jobs to be run more efficiently with multiple-out operation. Infinite impression settings via dual cams, multiple safety features, top North American support and reasonable investment cost all combine to make the PE160 a top choice for sheet plants; particularly as a lucrative complement to value-added label lamination.

A logical follow-up machine can be a specialty folder-gluer to enhance diecut designs and increase resulting margins. The 51- x 82-inch Eterna "Manifolder" TC2100, for example, allows plants to offer new high-demand designs such as lockbottom capability to maximize their profits; and it accomplishes it with a very affordable investment cost. Especially by including key standard features, such as a servo-driven backfold, ability to support up to six extrusion heads, and a machine size that addresses most of today's box and tray sizes. The Manifolder's

affordability puts more power into the punch of most glued diecuts. No longer is it necessary to invest in an oversized machine with size capabilities that ultimately go unrealized.

Eterna machinery is an example of useful technology successfully coupled with a high level of world class North American support. Technicians have the insight and experience to keep their machinery running at its peak; and as a proud member of The Bobst Group, Eterna's company depth is second to no one's.

The Haire Group has always prided itself with bringing only the best new machinery offerings to its many customers, and Eterna machinery is a perfect example.

New Partnership

In January, KBA North America began distributing flatbed diecutters from Iberica AG S.A as the exclusive North American distributor after its parent company, Koenig & Bauer, acquired Iberica. The new subsidiary, KBA-Iberica Die Cutters S.A., is a Barcelona-based producer of medium and large-format flatbed diecutters.

The two companies have combined their R&D resources to introduce new features to the diecutters as they become available. It is a cross pollination of sorts, with KBA sharing its well-known feeder and registration technology, and Iberica providing its diecutter engineering expertise.

For the corrugated market, KBA-Iberica offers the I-Press 144 K. The 56-inch flatbed diecutter can accommodate sheets up to 5mm and includes many advanced electronic devices. It offers high-speed production, exceptional registration and user-friendly setup and operation.

The 144K has both circumferential



KBA-IBERICA I-PRESS 144 K

and lateral registration cameras that guarantee sheet to sheet registration. This feature for the front and side-lay registration is called OPMR (Optical Print Mark Register). A fully automatic non-stop feeder and a full logistics system, completely removes manual handling of incoming and outgoing piles.

The Fast Flow® pneumatic locking system in the chase offers perfect positioning of the cutting form and reduced makeready times. The air clamp system can lock the chase in 15 seconds.

The I-Press offers many specialized features, including lateral displacement of the pile by a laser system to ensure perfect positioning. The touch screen can control total movement of the sheet. The operator can easily advance or delay the arrival of the sheet to the front lays, thus improving the register at high production speeds.

The feeder design provides perfect feeding of the sheet and reduces setup time and optimizes operator time. The side register is controlled through a sensor, which perfectly positions the sheet before it enters the press. With the absence of a physical stop, this side guide can accommodate all types of material with no issues. A double sheet detector is incorporated into the side-lay. Micrometric control allows for manual adjustment of the side-lay position.

Short-Run Solution

As the demand for short-run capabilities

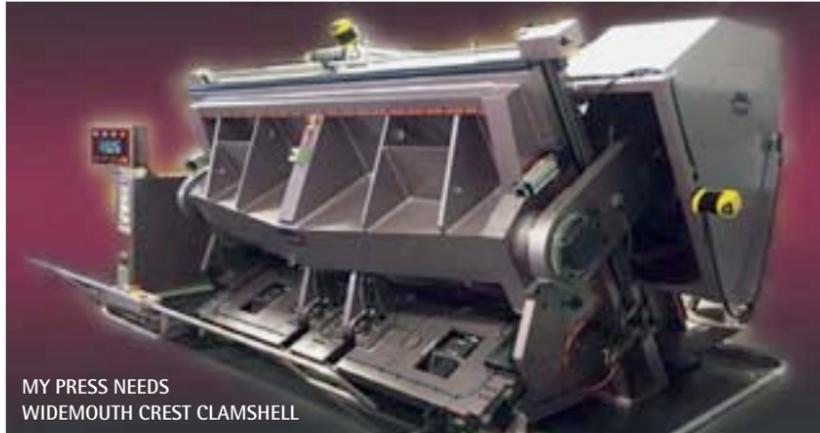
continues to grow, converters are seeking ways to make shorter runs profitable while maintaining quality. Consumer brands, in particular, expect fast turnaround jobs with customized retail and P-O-P displays on thicker substrates, including corrugated, corrugated plastics and newer substrates such as Falconboard®.

My Press Needs (MPN) No More Make-ready Crest Clamshells are a cost-effective short-run solution, designed to deliver greater speed, quality and capacity. The versatile machines diecut virtually any substrate with fast setup times, ramping up the number of jobs run and shipped per shift. The large format 63- x 108-inch Crest runs a true 600 sheets/hour with two operators, while smaller Crests run upward of 1200 sheets/hour. The results, according to Crest customers, are significant increases in production, decreased lead time, improved accuracy, reduced waste from setup, and lower operating costs.

While run speed is important, MPN's focus is setup time. The critical element in short runs is how fast the press operator can set up, run the job, and repeat the process time after time – getting more jobs on and off the press per shift. Larger runs (10,000 or more) that require automation are not MPN's focus. Short runs are the Crest Clamshells' niche.

For converters looking to expand short-run revenue opportunities, the

Flatbed Diecutters



Widemouth™ is the answer. It harnesses the Crest's versatility while providing the flexibility to diecut thicker and exotic substrates, including up to 1-inch Falconboard, Ultra® Board, Foam Core, Honeycomb, corrugated and more.

The Widemouth diecuts 60-70 times faster than tables, alleviating finishing bottlenecks while providing edge quality similar to tables. Capable of cutting multiple sheets at the push of a button, the Widemouth changes from a standard .937-inch knife to up to a 3-inch knife in less than three minutes. No filler plates are added or removed; the process is completely automated through a six axis servo system. The result is mass production capabilities – a revenue producing option not possible with tables.

It takes more than just a press with a large opening to successfully diecut today's exotic substrates. The right combination of press, tool and cutting surface is required. To master this combination, MPN has partnered with Dicar Inc. and National Steel Rule to develop the technology converters and printers need.

MPN's newest technology – the Soft Cut™ System – eliminates makeready by using a serrated knife that cuts into a urethane pad. Developed in partnership with Dicar, Soft Cut is designed to

diecut rigid plastics in sequence with no adjustments in up to 80% of all jobs. The patent-pending system consists of a Dicar urethane pad on a magnetic carrier mounted on a Crest Clamshell. In testing at MPN's R&D lab, Soft Cut has successfully diecut nearly 50 different materials in sequence without any adjustments. By providing the same edge quality as diecutting with heat – even though it's cut cold – Soft Cut offers greater efficiency and reduced setup time with zero makeready.

Designed and manufactured with high-quality, durable materials, all Crest Clamshells are built to handle even the harshest corrugated environment. Ranging in size from the smallest 20- x 26-inch to the 63- x 123-inch 3M for the corrugated market, even the largest Crests are among the most compact available, requiring less floor space than other clamshell presses, shuttle feed presses and tables.

In addition to large format, corrugated and P-O-P displays, applications include screen and digital printing, packaging and folding carton, foil stamping and embossing.

Sold worldwide, all MPN clamshells are CE certified and exceed ANSI and OSHA standards. Large Crests include standard options like the AC Inverter motor drive to provide variable speed

control; single die chase to aid mounting dies; a hard cutting plate, and three laser safety scanners.

MPN offers training and consulting beyond the sale, including die design, application techniques and technology selection. MPN Services, the company's service division, provides Crest owners preventive maintenance, emergency service, and phone consultation through independent servicers nationwide.

Tooling Investment

Ireland-based Truform Laser Dies and U.S.-based Container Graphics (CGC) – partners since the early 2010s – share a common philosophy when it comes to investments in new flat die tooling.

New technologies and process improvements from CGC and Truform bring better margins to clients but also improve their carbon footprint and environmental reputation. It is a win – win. The companies supply tooling that is designed to last, thereby reducing waste. Through a combination of carefully selected raw materials, the tooling seeks to maximize performance while reducing lifetime cost. In parallel, both companies' design and manufacturing capabilities are used to best effect so that the tools are fit for purpose and achieve minimum downtime. All of these benefits are designed to achieve greater efficiency and hence to lower the overall cost to clients.

The spend on diecutting tooling can be seen as a liability or as an asset. The purchasing culture around this is critical and the distinction very important. The return that can be achieved when the correct tooling is used way outstrips any costs that exist. Investing in the right tooling, even at additional expense, will without question result in better yields and greater return. Low cost tooling will

Crest Clamshell Widemouth

“This revolutionizes the die cutting industry.”

—Jim Blee, Orora Visual



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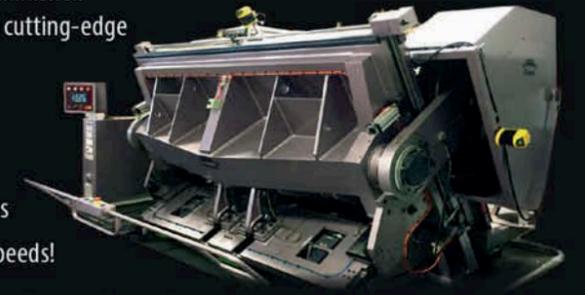
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Flatbed Diecutters

not last as long nor perform as well.

Simply put – converters can buy a good die or a cheap die, but they can't buy a good die cheap.

Container Graphics and Truform invest heavily in R&D for raw materials, automation and internal processes and understand the needs of high performance machines. This investment has a cost that can be reflected in overall tooling cost. Both companies are well-known for their innovations and have a broad knowledge base. This knowledge is harnessed to ensure that flat dies perform to customer expectations and that the tools allow autoplatens to run at top speed with minimum downtime.

Recent developments in CGC/Truform flat die technology include methods to achieve excellent shelf-ready and tamper-proof functionality through a blend of cutting and perforating rule options. The companies also, through careful design of elastomer shapes and material selection, achieved better diecutting and ejection, leading to better on-press performance and longer die life. Recent patents registered are now being used on flat dies with excellent results. CGC's patented LinerGuard™ system (equally effective on flat and rotary dies) reduces liner cracking and

aids in gluer performance. CGC and Truform also offer a flatbed calibration system that has successfully resulted in reduced job changeover time and improved machine performance. All of these, and other developments, help clients to maximize the utilization of their machines while simultaneously achieving environmental goals.

Truform represents Container Graphics' product offering throughout Europe and is licensed to produce CGC rotary cutting dies.

Durable Ejection

Developing a system specifically for the diecutting industry means that all the important features of the perfect ejection material are taken into account. Even though the Dutch company PolyMX introduced new material for rotary dies, it is useful for flatbed dies. Ejection material influences not only the cut of the box, but also defines the lifespan of the cut-crease plate. By using the right ejection material (the right height, quality and hardness) dies can better spread the pressure and therefore increase the lifespan of cut-crease plates.

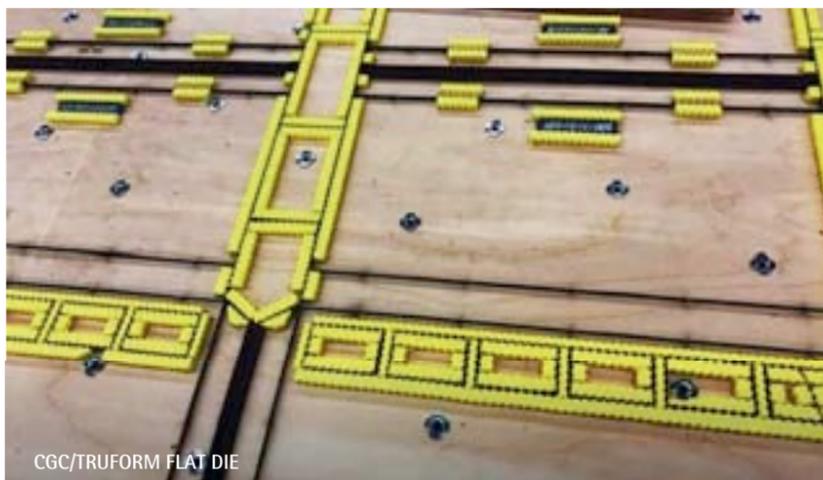
Thanks to a variety of hardnesses, recognizable by their individual colors, and working at only one height, the

diecutting process is careful and precise. The result is higher production output with very low tolerance values. Diecutters can work faster and more neatly thanks to minimal ink absorption, at lower cutting pressure. The end result is a perfect finished product. A better dividing of pressure results in shorter setup times of the dies at the machine.

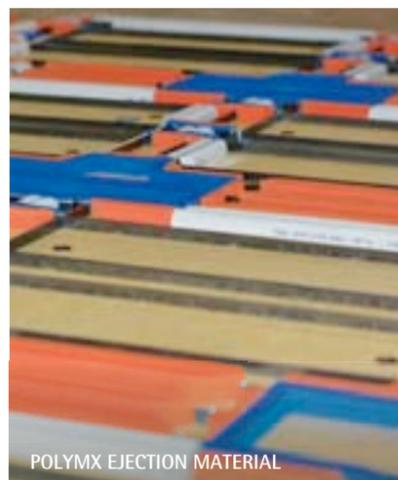
The possibility of limiting the number and size of the nicks is a recurring wish of customers and a challenge of each producer. With Polytop MX® this is no longer a challenge. It has more than once shown that when the right hardness is used in combination with the correct height, the number and size of the nicks can be reduced.

PolyMX is considered a pioneer in the diecutting industry, thanks to the high quality and durability of Polytop MX. The company is said to be the first to introduce the color system that distinguishes between degrees of hardness.

Complementary to supplying products, PolyMX also offers technical support during the implementation of the system. A must where it concerns working with an ejection system, which enables maximum performance diecutting. ■



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SUN AUTOMATION GROUP POISED FOR BRIGHT FUTURE

FOLLOWING YEARS OF TREMENDOUS SUCCESS, SUN ANNOUNCES NEW LEADERSHIP AND A STRONG FOCUS ON INNOVATION.

When President Ron Diedeman came out of retirement and returned to SUN Automation Group three years ago, he led the company on a journey that included a strong focus on a more customer-centric business model.

That vision was quickly rewarded when the company experienced a tremendous uptick in orders and rapid growth in the years that followed. In late 2016, the company's growth led to an investment in a large facility in Glen Arm, Md.

In April, Diedeman announced he will retire in May 2018 and Vice President Chris Kyger will take over as President. "I look forward to building on the tremendous legacy and success of Ron's leadership," Kyger says. "He will always be an integral part of the SUN family and we wish him well in his 'second retirement.'"

Kyger joined SUN over a decade ago and has more than 25 years in the corrugated industry having also worked for Langston, Staley and United Container Machinery. He has worked in the areas of sales, parts, service and rebuilds. He brings 20 years of management, customer relationship and technology experience to his new role as President.

Building on the legacy and success of Diedeman's leadership, Kyger and the

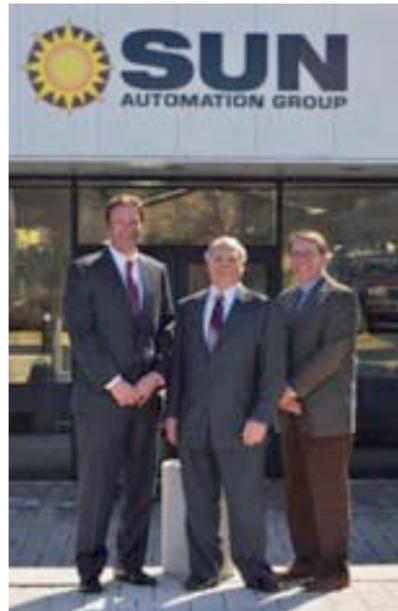
team are now focused on innovation and technology to fuel the customer-centric approach Diedeman spearheaded for the past three years. With the focus on innovation in mind, the company knew it needed a visionary to help support some of its most innovative solutions. Just as Diedeman's retirement and Kyger's position were announced, SUN also brought on corrugated industry veteran Paul Aliprando as Vice President of Digital Technologies.

SUN believes Aliprando's expertise and knowledge will bring the company's CorrStream digital printer to the next level of success. Working alongside SUN's engineers, Aliprando will utilize his experience in the industry to develop new partnerships and support the marketing and sales of the CorrStream digital printer technology. As a former sales and marketing Vice President for Mitsubishi Heavy Industries, he led sales teams and marketing initiatives for the global company.

"I am looking forward to working with the incredible talent at SUN Automation Group," Aliprando says. "Innovation is at the forefront of SUN's business model and the CorrStream technology is a very exciting project to lead."

As the leadership team evolves, SUN plans to focus on what has really made it a leader in the corrugated industry: the customer.

"Being part of such a tremendous leadership team and innovative corporation is truly an honor," Kyger



LEFT TO RIGHT: CHRIS KYGER, RON DIEDEMAN AND PAUL ALIPRANDO

IN APRIL, DIEDEMAN ANNOUNCED HE WILL RETIRE IN MAY 2018 AND VICE PRESIDENT CHRIS KYGER WILL TAKE OVER AS PRESIDENT.

says. "Working with Mr. Diedeman, the board of directors and our dedicated employee-owners is tremendously rewarding." Kyger looks forward to continuing to grow SUN Automation Group and celebrate new achievements and milestones. "The future of SUN Automation is bright," he says. ■


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DIGITAL PRINTING AND CUTTING IN-LINE

JS MACHINE OF CHINA LAUNCHES ITS LATEST OFFERING TO CORRUGATED BOX MAKERS AROUND THE WORLD – THE JS-CUBE 760.

BY DANIEL BRUNTON

Considered the Holy Grail by many a converter and OEM, the development of a machine that can digitally print and diecut in-line has been a challenging proposition. It appears, however, that one OEM has indeed achieved what many consider either impossible or impractical. Using a recent Expo in Shanghai as the springboard, JS Machine unveiled its newest development, the JS-CUBE 760 digital in-line press.

"Fast digital printing is the mainstay of our new digital printing system with associated in-line cutting system," says George Mills, Executive VP & Chief Technical officer at JS Machine. "The unit has been designed to handle the rapid production of many orders of small quantities and can print a different image for each and every box that is produced."

Mills continues, "The nozzle system at the core of the digital printing system is

manufactured by a world class industry leader. Also of note is the inclusion of our own-developed 'pick-n-place' robots that use visual image recognition for each sheet, both at the feed unit and at the take-off."

The placing of slots and tabs is accomplished by a servo-shear system that diecuts the required slots and tabs. The printing unit can change orders on a piece-by-piece basis, while the remainder of the unit can change orders in less than 10 seconds.

Specifications

The new line has a design width of 760mm (30") and a feed length of

DESIGNED TO HANDLE THE RAPID PRODUCTION OF MANY ORDERS OF SMALL QUANTITIES AND PRINT A DIFFERENT IMAGE FOR EACH AND EVERY BOX THAT IS PRODUCED

1800mm (71"). Thanks to its modular design and support extension, it can handle sheets up to 2200mm (87"), 2500mm (98") and 2800mm (110"). It features Ricoh print heads that

support grayscale printing and CMYK as standard. There is an option to add special colors as well. The print heads are on-demand piezoelectrical inkjet technology, running UV inks and the company says print heads should have a working life up to three years. They also confirm that a water-based ink option is available as well.

Print resolution can be set at 600 x 150 dpi, 600 x 300 dpi, 600 x 600 dpi or 600 x 1200 dpi depending on requirement. Based on the resolution chosen, the press can run at 168m (550') per min (150 dpi), 84m (275') per min (300dpi) and 60m (196') per min (600dpi). To help ensure best print



reproduction, an optional dust removal device can be fitted to ensure only clean sheets pass into the press. An automatic sheet height sensor guarantees that the board does not get too close to the print heads and a vacuum transfer belt moves the sheet through the print engine.

The diecut unit can produce sheets from 420 x 210mm (17 x 8") up to 760 x 1800mm



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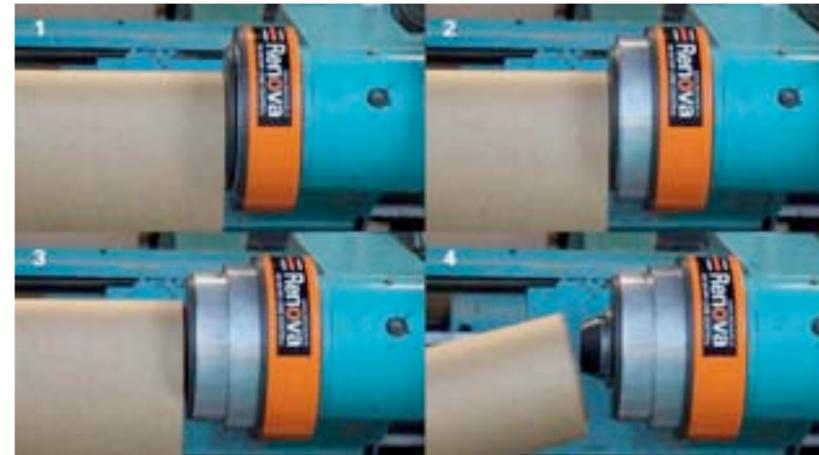
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(30 x 71"). An oscillating device works with the parallel 'pick-n-place' robot for automatic stacking of the printed and diecut pieces.

The line is 17m (56') long and 4.5m (15') wide. It weighs in at 13 tons and runs in an operating environment ranging from 64 degrees Fahrenheit up to 80 degrees Fahrenheit.

"This is a real game changer," concludes Mills. "The feedback we got from the many visitors we saw at the Expo in China proves that we are on point with this new machine. The JS-CUBE 760 digital in-line is what the industry is after and it is available now. The first few machines will be installed at box plants over the course of the coming months." ■



ONE OF A KIND

DUPLEX PATENTED ROLL EJECTOR CHUCK – FROM RENOVA OF ITALY.

"Customers reported cases of damaged cores when poor quality or reduced thickness cores were being used, resulting in fragile cores and sensitivity to surface damage," explains Ugo Re, Sales Director of Renova.

"This can then lead to slip-grip and paper waste problems and missed core and roll ejection from the roll stand."

With feedback from customers and collaboration with leading machine builders, Renova designed its Duplex roll ejector chuck. It combines the high quality of Renova's mechanical torque activated chuck and a pneumatic telescopic piston (87 psi). This patented system always ensures:

- Perfect grip to any core, right from the first phase of work due to the huge contact area of the jaws and the minimum space between the jaws and the inner part of the core. The Duplex does not damage cores, so they can be reused;

- No more blocked rolls on roll stand, thanks to automatic ejection of every dimension roll, even in the case of a damaged core. The piston, which is

concentric to the chuck, ensures a coaxial thrust force applied directly to the roll, for a total thrust force of 4550 lb + 2275 lb;

- Zero end-of-roll waste, meaning cost savings as no more paper is wasted;
- Higher safety level during the roll change. Duplex eliminates the manual intervention of levers and other tools for the discharge of blocked rolls;
- Maintenance free, as Duplex can be cleaned on the roll stand and no replacement parts are needed.

The overall dimensions of the Duplex respect the existing design dimensions and do not interfere with the roll width. Duplex replaces conventional complex ejection systems that present kinematic motions by levers or components subjected to bending. It fits all roll stands without an existing core ejection system and is easy and fast to install – no modifications to the machine are needed.



DUPLEX IS IDEAL WITH TURBOREX PATENTED ECO-FRIENDLY PNEUMATIC BRAKE FOR THE UPGRADE OF YOUR ROLL STAND



Product Review

Every year a wider range of Duplex models is available, for diameters of 3", 4", 70mm and 100mm:

- CK-X single diameter roll ejector chuck, which is inclusive of roll stand arm shaft and rotary joint;
- CK-XC single diameter roll ejector chuck, which is provided with mounting flange and rotary joint;
- CK-XC/SDD double diameter roll ejector chuck, which is provided with mounting flange and rotary joint.



Box. The box integrates the original command panel of the machine and allows users to command and control the pneumatic retraction of the piston of up to four Duplex units (two per roll stand) – while the existing management of the roll stand operations remain unchanged. ■

Demonstration videos can be found at www.renova-srl.it
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Duplex Control Box

The pneumatic retraction of the piston is made possible through the Duplex Control

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Flexo Post-Print Solution

Bobst's new THQ (Très Haute Qualité) FlexoCloud Technology is considered a quantum quality shift in post-print flexo. The technology, which was developed by Graphilabel, a specialist in graphic solutions for narrow web, security and anti-counterfeit solutions, was unveiled at a technical seminar attended by leading printers and converters from Europe, the Middle East and the U.S. "This innovative technology enables amazing results," said Dominique Ravot, Sales & Marketing Director, Bobst Lyon. "For post-print flexo on corrugated board, it brings unmatched quality at lower cost in one pass. The feedback we received from the seminars has been overwhelmingly positive and supports our belief that the THQ FlexoCloud represents the opportunity for our customers to make the difference and increase their market share." According to Bobst, THQ FlexoCloud is an easy-to-use flexo solution for corrugated board. There is no need for special skills and the technology requires only three key elements: THQ ceramic rolls (supplied by Bobst), THQ CMYK inks plus varnish for high graphic jobs (supplied by Siegwirk exclusively to THQ FlexoCloud customers) and THQ printing plates (supplied by Graphilabel) that are the core due to a unique color separation algorithm. It is associated with ultra-high precision, a larger range with four colors and enables excellent anti-counterfeit security printing through invisible coded messages. During the seminar, Bobst ran live demonstrations on a Masterflex-XL THQ FlexoCloud. The demonstrations illustrated how the technology reduces ink consumption as well as the number of printing plates and easily operates at lower cost in one pass. Those who attended the seminar discovered how to print a larger range of liners and achieve a 65% gamut coverage with the four process colors. Furthermore, print samples demonstrated the accuracy of print, be it in the repeatability of orders or ultra high quality of print. THQ FlexoCloud Technology is available on a wide range of new Bobst post-print flexo machines.

Anilox Roll Cleaner

Pamarco has spent a significant amount of time studying print related issues and how anilox roll maintenance plays a key role in print quality and productivity. In this drive to increase consistency and print fidelity, the company has developed a new wash concentrate for use in water-base ink systems. Ultrawash Green has been tested extensively in the packaging industry and has demonstrated its performance.



The new cleaner is designed to be used in three ways, cleaning the inking system, including the pump, chamber and anilox, pumping the diluted product through the inking system. Using this process in conjunction with the "cleaning plate" produces remarkable results, the company reports. The second way is cleaning the anilox by hand using a micro fiber pad or brush. And finally, it can be diluted and used in an ultrasonic tank.



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Digital Production Machine

The new HP PageWide C500 press offers production capacity of up to 270 million sq ft of board annually and is powered by proven HP PageWide thermal inkjet technology. A robust direct-to-board digital corrugated solution, the press prints on 4.2 ft wide sheets using an innovative corrugated media handling solution with a virtual belt. Customer beta testing is scheduled to begin at the end of this year, with commercial availability planned for 2018. "This post-print corrugated solution is yet another step toward digital conversion of traditional printing, offering savings in waste and setup time and improved supply chain efficiencies, in addition to high-quality color graphics, easy customization, and unique versioning capabilities," said Eric Wiesner, General Manager, HP PageWide Industrial Division, HP Inc. "The HP PageWide C500 will help converters to differentiate with capabilities that only single-pass thermal inkjet and aqueous inks can deliver." The single-pass, digital post-print C500 solution is designed for any sized corrugated facility for printing applications from shippers to high-quality graphics boxes, on coated and uncoated papers, without need for lamination, all in offset-replaceable quality. The press will offer a fully integrated stack-to-stack workflow including an in-line overprint varnish (OPV) solution. Converters will benefit from a smooth integration to the HP PrintOS ecosystem and industry MIS, enabling an easy migration to digital with existing IT (MIS) infrastructure and prepress workflow.



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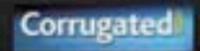
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The 2017 Innovator of the Year competition is held in conjunction with the AICC 2017 Annual Meeting, Sept., 25-27, 2017 at The Encore Hotel, Las Vegas, Nevada.

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