

FLEXible CONVERTER

A NEWSLETTER DEDICATED TO THE SUCCESS OF FLEXCON CUSTOMERS

Unlock the Code of Collaboration

In what was called a “marvelous resonance between two minds” and one of the greatest collaborations in history, James Watson, a reserved ornithology student, and Francis Crick, a brash, outspoken physicist, made one of the most important biological discoveries of the century when they gave the world the DNA double helix, unlocking the code of life.

Their sharing of knowledge and expertise, and their passion for answers are lessons for all of us. It proves what can happen when individuals, teams, or organizations – all with different skills, diverse backgrounds, and divergent areas of

expertise – come together to ultimately produce something profound. That’s why the very art of collaboration is such an important concept to FLEXcon and why we seek these partnerships at all levels – from raw material suppliers to co-suppliers to converters to original equipment manufacturers and brand owners.



Two alliances that we have recently announced, one with EFI, maker of Jetrion® UV inkjet presses and ink systems, and another with Reflexite, a developer of retroreflective microprismatic technology, have yielded unique products that will grow your business. The initiative with EFI is designed to streamline the Underwriters Laboratories recognition process for print service providers who want to ramp up shorter run production of UL recognized durable labels such as barcodes and product warning and instructional labels. It also is geared to allow you to cultivate more business in the consumer products arena and meet the demands of over-the-counter and pharmaceutical product labeling, identification and tracking. The other collaboration pairs Reflexite’s microprismatic films with FLEXcon adhesives and release liners for truck and trailer, school bus, and fleet vehicle safety applications. You can read more about the alliances with EFI and Reflexite in this issue of the FLEXible Converter.

Collaboration presents a unique opportunity for all of us, no matter what industry we hail from. FLEXcon is a firm believer in the concept of sharing information for the collective good; specifically, we can support each other by sharing our experiences and our critical assessments. Along with the inherent competitive advantages, collaboration is one of the best ways to share not only knowledge, but success as well.

Neil McDonough
President and CEO

Leveraging Digital

FLEXcon-EFI Jetrion Alliance Rollout Yields Growth Options

Whether you’re a go-to shop for small-to medium-sized jobs, kicking the tires of new digital printing technologies or trying to capitalize on the capabilities of digital platforms you already have in house, your efforts to build business have probably led you to seek new ways to expand and retain your customer share.

Digital printing technology provides such market and performance benefits as no plates, easy set-up and quick-turnaround times, reduced labor and waste, as well as new label applications you can offer your customers. Moreover, the market for digitally printed packaging and labels, which is presently worth about \$2.4 billion, is set to increase due to several reasons, most notably because of a growing demand for shorter runs and more personalized jobs, according to a report by Pira International, formerly known as the Printing Industry Research Association. Pira’s report indicates that the market will expand by nearly three times and grow by an overall 182 percent and reach close to \$6.8 billion by 2014.

The supply chain costs pressures, available skills and sophisticated technologies have converters and print service providers, brand owners and OEMs alike asking for help, namely with how to build their respective businesses.

FLEXcon offers a variety of off-the-shelf and custom products that embrace digital technologies. While you may recall the article in the Spring 2010 issue that focused on HP Indigo-printable substrates, this article will concentrate on how FLEXcon and EFI, maker of Jetrion® presses, have teamed up to produce a press-ink-label substrate combination that will:



FLEXcon substrates, like COMPUcal® EXCEL™ and THERMLfilm SELECT®, when printed on Jetrion presses provide a streamlined approach to the UL recognition process.

- Streamline the UL recognition process down to a simple paperwork transfer, with no additional testing for barcodes, warning, instructional and nameplates for durable goods, power tools, appliances, medical equipment and

consumer electronics. FLEXcon makes it easier with PGJ12 UL-recognized films like COMPUcal® EXCEL™ and THERMLfilm SELECT®;

- Increase business in the realm of consumer products, including beverage, health and beauty, and household chemical products. FLEXcon has optiFLEX® films for that no-label look;
- Meet the demands of over-the-counter and pharmaceutical product labeling, identification and tracking. FLEXcon’s PHARMcal® is ideal for pharmaceutical product labeling, while CryoFLEX™ meets the critical environment requirements of cryogenic sampling.

EFI/Jetrion 4000 Series UV Inkjet Systems

Relatively new to today’s digital label printing industry, EFI’s Jetrion 4000 Series UV inkjet presses have become increasingly popular in the durable labels market due to their durable UV inks, high-quality print capability, smaller footprint and lower price tag – compared to alternative label printing technologies. Likewise, FLEXcon’s COMPUcal EXCEL and



Increase business in the realm of consumer products, including health and beauty, with that no-label look using optiFLEX films from FLEXcon.

THERMLfilm SELECT films are UL-compliant products, durable and ideal for a host of applications, including barcodes, warning, instructional and nameplate labels for lawn tractors, cordless drills, washers and dryers, respiratory devices and cellular telephones.

For prime labeling, optiFLEX films bolster

In This Summer Issue

President’s Message	1
Leveraging Digital	1-3
FLEXcon Receives OSHA Award	3
Alliance between FLEXcon and Reflexite	4
People in the News.....	5
Films, Functions & Opportunities Seminar	5
Film Review	6
TechTips	7, 8

aesthetics for health and beauty, household and chemical, and beverage products, projecting the brand to appeal to the choosy consumer. While PHARMCAL films do the same with over-the-counter products, they also are a useful product identification tool in clinical environments for product vials and syringes, as is CryoFLEX for cryogenic applications.

Jetrion 4000 series UV inkjet systems – while fairly new to the durable and consumer product label market – are increasing in popularity due to a number of factors. First and foremost is the durability of Jetrion’s inks, which impart robust graphics and white-ink capability for single-pass opacity. Unlike other digital ink systems, Jetrion inks do not require overlamination to prevent damage from abrasion and UV light. This factor alone results in significantly increased efficiency to the converter and cost savings to the end user, not to mention far less waste. Minimal make-ready, no plate costs, and the ability to print pre-die cut rolls further increase cost savings. Secondly, Jetrion presses offer near photo quality graphics rivaling that of competitive digital ink systems, and full color and variable

information can be printed simultaneously. By combining the ability to print static and variable information all in one pass, and removing the need for overlamination, the overall cost, waste and impact on the environment are drastically reduced.

The Jetrion 4000 was the first narrow web digital press suited to economically run lengths of 50,000 labels and beyond. The system is the perfect fit for a variety of markets, such as food and beverage, automotive, electronics, pharmaceutical and many more. The Jetrion 4830 is a wider version with throughput increased by more than two times. The Jetrion 4830 can be added as a complementary piece of equipment to increase current printing efficiency or it can replace multiple, lower productivity printers so you can become more profitable and productive than ever before.

“Jetrion® press owners, who are increasing shorter run production of durable and consumer product labels now have the advantage of a one-stop shop and a single-source for products carrying a UL recognition,” says John Bennett, vice president of FLEXcon’s Product Identification Business Team. “Specifically, the presses, inks and substrates jointly carry PGJ12 UL recognition, a classification shared by very few thermal transfer ribbon products.”

“The demand among print service providers, brand owners and OEMs for

more substrate and production options as well as UL-recognized products in order to build business continues to rise,” says Dr. Kenneth Stack, Jetrion’s senior vice president and general manager of EFI-Jetrion. “By working together, FLEXcon and Jetrion have significantly simplified the UL recognition process, as well as provided a package of presses and substrates designed to work in tandem to produce higher-quality, durable graphics in less time, with less waste and on a smaller budget.”

COMPUcal® EXCEL™ and THERMLfilm SELECT®

Whether it is a power tool, an electronic device, or an automobile, labeling for these types of applications must identify the product and the manufacturer as well as display crisp images that reinforce product branding and product quality. Pressure-sensitive labels are ideal to support high-quality printing and superior legibility.



Pressure-sensitive film labels can endure exposure to harsh chemicals, such as oil and gasoline.

Along with digital technologies, like Jetrion, FLEXcon’s UL-recognized COMPUcal® EXCEL™ and THERMLfilm SELECT® product lines have cross-technology printability

via many thermal transfer and solvent technologies. It also features compatibility with conventional inks, superior durability and resistance to the harshest chemicals and solvents. And whether the job requires a conventional or digital platform, these films when used with Jetrion 4000 series presses and inks do not require overlamination to prevent damage from abrasion and UV light; a built-in efficiency for the print service provider, a savings to the end user.

Leading the field of Jetrion-FLEXcon UL recognized films are two VBS Supreme products, THERMLfilm SELECT 20970 and THERMLfilm SELECT 31800.

Ideal for compliance, warning and brand identity labeling on such appliances as dishwashers, THERMLfilm SELECT 20970 is a 2-mil gloss-topcoated clear polyester that provides excellent resistance to heat and abrasion. THERMLfilm SELECT 31800 is a 2.6 mil gloss-topcoated polypropylene that is geared for compliance labels for consumer electronics, which contain critical product model numbers and specifications. This information allows the retailer to

identify the product and track inventory.

Likewise, THERMLfilm SELECT 21940, a 2-mil gloss topcoated, white polyester, and THERMLfilm SELECT 22940, a 2-mil gloss-topcoated, silver matte polyester are VBS Better products ideal for nameplate/brand id and warning and instructional labels for appliances, power and hand tools, medical equipment, recreational vehicles and automotive interiors, exteriors and under hoods.

Aside from branding and consumer interest, product tracking labels using COMPUcal EXCEL and THERMLfilm SELECT films stand up to the rigors of the manufacturing process in order to help OEMs streamline production, improve efficiency, and ensure traceability. This is critical because improperly selected or adhered labels can literally grind production to a halt or slow critical quality control or recall efforts.

Unique topcoating extends die life and gives greater than four times as many die revolutions before retooling than traditional top-coated label stocks. That means you get cleaner, consistent matrix stripping, which improves die-cutting efficiency. Plus converters and print service providers have the option of using less expensive, standard film dies to further reduce converting costs.

COMPUcal® EXCEL™ 21440 (white) and COMPUcal EXCEL 22440 (silver) are 2-mil PET films that provide excellent resistance to chemicals, moisture, smudging and scratching, making it ideal for logos, safety and warning and compliance labels for outdoor power and heavy equipment. These VBS Better products offer a high shear, high peel, permanent acrylic adhesive that resists cold flow and ooze, and bonds well to low- and high-surface energy plastics, painted metal and powder-coated paint. The Value product in this line, COMPUcal EXCEL 20450, is a 2-mil clear PET film with a general-purpose, permanent acrylic adhesive that is ideal for nameplate/brand id and compliance labels.

Prime Label FLEXcon-EFI-Jetrion Products



The FLEXcon-EFI-Jetrion alliance has also yielded prime labeling solutions that are ideal for a host of consumer products, including food and beverages.

The FLEXcon-EFI-Jetrion alliance has also yielded prime labeling solutions that are ideal for food and beverage, health and beauty, household and chemical; and over-the-counter (OTC) and ethical pharmaceutical labeling and flexible and semi-squeeze packaging applications.

These products include optiFLEX PP 200 H Clear, optiFLEX PP 230 H White and PHARMCAL PM 150 Clear, CryoFLEX PEWM White and CryoFLEX PPW White. These films, like COMPUcal® EXCEL™

and THERMLfilm SELECT®, do not require overlamination to prevent damage from abrasion and ultraviolet light when printed with Jetrion 4000 series presses and inks. That saves print service providers a step, provides a cost savings and minimizes waste.

FLEXcon's optiFLEX PP 200 H Clear, a VBS Value product, is a 2-mil clear polypropylene film provides the crisp clarity needed for that no-label look, while offering the conformability required for applications with challenging compound surfaces. optiFLEX PP 230 H White, a VBS Value product, is a 2.3-mil white polypropylene that offers the same capabilities. These films are resistant to shrinkage, moisture, humidity, and product contents, and are ideal for a variety of consumer consumables and feature FLEXcon's V-882 adhesive. The clear polypropylene film has a 44PP-8 release liner, while the white polypropylene has a TRACrite® 120 release liner.

PHARMcal PM 150 Clear, a VBS Supreme product, is a polyester that is not only an ideal solution for OTC product prime labels, but it is also a solution for syringe and vial applications. FLEXcon's PHARMcal line also includes polypropylene, polyethylene and vinyl clear

and white films that provide eye-catching readability, crisp high-end graphics and environmental and chemical resistance. This PHARMcal film also meets ethical pharmaceutical labeling challenges such as steam-sterilization, conforming to tight radii and maintaining integrity for the life of the product.

For clinical environments, FLEXcon's CryoFLEX, VBS Value thermal transfer-printable films, provide cool solutions for cryogenic specimen applications. CryoFLEX PEWM White (polyethylene) and CryoFLEX PPW White (polypropylene) have been test to -112°F (-80°C). Among other benefits, CryoFLEX also has a liner suitable for optical sensing on most thermal transfer printers.

Conclusion

Market forces are rapidly driving the need for digital in the world of label printing, and the number and variety of products requiring instructional, warning or product identification labels will continue to increase.

In order to achieve compliance while maintaining speed-to-market, design engineers, converters and print service providers will come to rely on knowledgeable label material suppliers and printer manufacturers who understand these evolving requirements and provide the proper materials and printing systems for each product. Just as FLEXcon and EFI have benefited from its alliance, converters and print service providers can capitalize on the benefits of this partnership to successfully navigate the regulatory compliance landscape, for in a global economy, ensuring that OEMs are using symbols to communicate safety information is as practical as it is essential.



Jetrion presses and ink systems can be used with FLEXcon substrates to cut both production costs and waste.

Images are examples of applications that can be printed on Jetrion 4000 series UV inkjet presses.

FLEXcon Receives OSHA Regional Administrators Award

FLEXcon recently received the Regional Administrators Award from the Occupational Safety and Health Administration (OSHA), the federal agency's highest award and recognizes companies, individuals or organizations that distinguish themselves through extraordinary contributions, commitment and leadership in the Voluntary Protection Program (VPP).

Each year, Marthe Kent, regional administrator for OSHA's Region One, selects a VPP company for its management involvement and leadership and support of VPPs. FLEXcon was chosen from the 96 VPP sites in New England.

Plant 4PS Supervisor Ray Fredette, Plant 4 Supervisor Bob Garrity, Weekend Night Supervisor Hector Peterson and Night Shift Supervisor Rob Tyler accepted the award from OSHA officials during the recent VPP Region One Chapter Conference, held in June at the Sugarbush Conference Center in Carrabassett Valley, Maine. Ray then presented the plaque to Neil McDonough on behalf of all FLEXcon supervisors and employees during the June Executive Team meeting.

Earlier this spring, FLEXcon's Spencer, MA, campus celebrated its 15th year as a



Bob Sands, OSHA's Region 1 VPP manager, Plant 4PS Supervisor Ray Fredette, Shift Supervisor Rob Tyler, Plant 4 Supervisor Bob Garrity, Weekend Night Supervisor Hector Peterson, and Darwin Irish, Director of Risk Management, accepted an OSHA Administrators Award on behalf of FLEXcon during the June VPP Region One Chapter Conference in Carrabassett Valley, Maine.

STAR Site in OSHA's Voluntary Protection Program.

"We are extremely proud to receive this award and of the fact that FLEXcon's Spencer campus has been a VPP Star facility for the last 15 years," says Michael Engel, FLEXcon's Chief Operations Officer. "Our VPP achievements are proof of the outstanding dedication and commitment of FLEXcon employees

at all levels of the organization in helping to create and maintain a safe and healthful working environment."

Engel added that FLEXcon's efforts under the direction of Darwin Irish, Director of Risk Management, were championed by Brian Burgess, a safety engineer who prepared FLEXcon for OSHA's on-site evaluation and led FLEXcon's VPP Team successfully through the evaluation process last December.

Created by OSHA in 1982, the VPP recognizes and partners with businesses and worksites that show excellence in occupational safety and health. VPP participants develop and implement systems to effectively identify, evaluate, prevent and control occupational hazards to prevent employee injuries and illnesses.



Ray presented the plaque to Neil McDonough on behalf of all FLEXcon supervisors and employees during the June Executive Team meeting.

Alliance reflects well on FLEXcon and Reflexite®

The market for reflective films is expanding every day. Federal and state safety marking and sign regulations have made this a viable and extremely profitable niche, with annual sales of \$1.2 billion and growing. Fortunately for converters, a new alliance between FLEXcon and Connecticut-based Reflexite® has enhanced their ability to take advantage of this expanding market.

At the heart of this collaboration is an effort to bring customers the widest possible variety of retroreflective films. FLEXcon offers an extensive line of engineering grade reflective films, which were for many years the primary product in the retroreflective market. However, as New Business Development Manager Brian Ayers learned, Reflexite was selling an increasing number of products utilizing microprismatic technology. The microprismatic technology offers a premium product that provides an enhanced degree of reflectivity. FLEXcon saw an opportunity for the two companies to share their expertise and offer a complete line of products to their respective customers.

"Reflexite® is very well known for its retroreflective products, and FLEXcon is well known for its extensive adhesive technology," Brian said, adding that both FLEXcon and Reflexite have



Microprismatic films ensure high visibility for safety vehicles, such as zig-zag pattern on this ambulance at the University of Connecticut.

the same competitors and both discovered there would be some real synergy with an alliance. "For example, if a municipality needs to purchase day-bright colors, we can meet those specifications for our converters with the aid of Reflexite's Daybright line," he said. "That's just the start of it. Together, we can focus on even more value-added solutions. It's not only about reflective surfaces, but anything that deals with the reflection of light. We look forward to helping customers find those specialty niches in the reflective light field."

Steve Plomin, Transportation Market Manager at Reflexite, agreed, and added that both companies are exploring how they can continue to expand the market for their customers. For example, Sales Representatives from both Reflexite and FLEXcon will be available to make joint visits to explain the benefits of their combined product lines and to help converters select the best possible products for their application opportunities.



Reflexite's V82 product is ideal for school bus applications, where state and federal guidelines require the highest degree of reflectivity for safety purposes.

More Than Meets the Eye

The addition of Reflexite films to FLEXcon's current retroreflective film line will provide OEMs, converters and end users with the most state-of-the-art retroreflective technology, while still offering the proven, but traditional glass bead technology that makes up FLEXcon's REFLECTAmark® line of products.

While glass bead films are best suited for applications requiring 250 candle output or lower, microprismatic films are ideal for applications with federally mandated candle outputs of 600 to 1000. These can include school bus markings as well as truck and trailer applications and agricultural machinery.

And when it comes to reflective surfaces, there's more than meets the eye. That's because the technology behind retroreflective signs and markings is only visible at the microscopic level. But although physically small, this technology makes a huge difference.

There are three basic types of reflection. With diffuse reflection, the light hits the surface and it is reflected in every direction, literally diffusing across a range of directions. Specular reflection is the type of reflection created by a mirror; light hits a surface at a specific angle and is reflected back at an opposite, but equal angle. Finally, there is retroreflection, where the light is reflected directly back toward its source, usually in the pattern of a cone.

In the case of microprismatic technology, the light is reflected off of three facets, and offers total



When it comes to fleet markings, safety is of primary importance. Heavy equipment, such as this truck, must have the highest level of visibility.

internal reflection. This means that the prisms are highly efficient from an optical standpoint. In this case, the triangular shape of the prisms means that more reflective elements can be contained within a smaller geographic area than with the glass beads. Furthermore, microprismatic films are virtually indestructible, retaining their reflective properties much longer than glass beads. Due to its value-added features, microprismatic technology comes with a higher cost.

FLEXcon-Reflexite: Durability and Reflectivity

FLEXcon-Reflexite products are VBS Supreme products because of their durability and the high percentage of reflectivity.

Reflexite V82 offers the highest level of reflectivity available (800 to 1,000 candle power) and is outdoor durable for 10 years. The reflectivity of Reflexite V90 Daybright®, a registered trademark of Reflexite, is 300 to 500 candle power, and has a 5-year outdoor durability. While Reflexite warranties the reflectivity of V82 and V90 Daybright for these periods of time, printable versions of both films are warranted for three years. All FLEXcon-Reflexite products are designed for rugged outdoor use on the sides and rear of trucks, trailers, school buses, farm equipment, fire/EMS vehicles and all types of mobile and industrial equipment.

FLEXcon stocks Reflexite's microprismatic films in multiple colors, with certain colors offered in both printable and non-printable versions. All are coated with FLEXcon's V-344 adhesive and backed with a 90 PFW Reflexite logoed release liner, as rolls or sheets.

Brian noted that by joining together, FLEXcon and Reflexite can now offer customers a one-stop-shopping approach for all their retroreflective film needs. We can leverage the core competencies from both companies to grow the marketplace as a whole. The result is more opportunities and more growth for our customers.

To learn more about how FLEXcon and Reflexite can help you take advantage of retroreflective film opportunities, please contact Brian Ayers at 508-885-8465 or e-mail him at BAyers@FLEXcon.com.

**Reflexite® V82, Reflexite® D66, Reflexite® V90 Daybright® and Reflexite® D60 Daybright® are manufactured by FLEXcon. Reflexite and Daybright are registered trademarks of Reflexite Corporation and are licensed to FLEXcon Company, Inc.*

People in the News



Michael Merwin Promoted to Market Development Specialist

Michael Merwin, Technical Service Representative, has recently been promoted to the position of Market Development Specialist. With more than 30 years at FLEXcon in manufacturing, and most recently technical service, converters, fabricators as well as OEMs rely on Mike for his knowledge of coating technologies, and product consistency and performance. He has worked closely with customers to find the best solution for unique application and converting challenges. With his vast knowledge of substrates and adhesive chemistries, he is able to recommend compatible film and adhesive combinations for virtually any surface or material, from concrete to leather to fabrics. He does this by working side-by-side with customers, assessing the application

through consideration of all technical, industry and end-use requirements. Along with providing advice on noise and vibration damping solutions, Mike is also known as a resource for manufacturers and design engineers who want to use pressure-sensitive adhesives instead of such traditional fastening technologies as screws, nuts, bolts, rivets and welds.

In his new role, Mike will be a resource for converters, thermoformers and molders and help them design products – from automotive components to office equipment to microelectronic devices – with pressure-sensitive adhesives. He will also continue assisting converters, OEMs, thermoformers and molders who need high-performing, pressure-sensitive adhesives for applications that utilize low-surface energy plastics.



Ron Ducharme Promoted to Product Manager

Senior Technical Service Representative Ron Ducharme has been promoted to the position of Product Manager of the Product Identification Business Team, where he will continue to work closely with customers to help increase their business in the automotive, consumer electronics, outdoor power and heavy equipment, HVAC, and appliance markets. Ron is responsible for life cycle management of assigned product lines through strategic planning, industry involvement, and marketing. To assure we meet the needs of our customers, Ron will among other responsibilities, assure that the right products are in inventory, help match our product lines to actual market and application needs,

and serve as an information resource to customers on FLEXcon products.

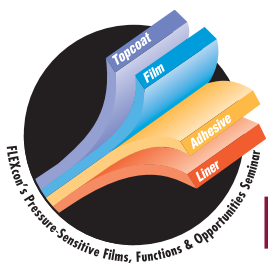
During his 28-year FLEXcon career, Ron has worked closely with customers in technical service, and has developed extensive technical expertise, beginning initially with our international customers and transitioning to supporting domestic customers' industrial and sheet form needs for pressure-sensitive materials. He most recently served as a technical expert for international prime label customers and was instrumental in helping develop solutions for their application challenges. Ron was also a key contributor to the smooth transition of new coating technologies in FLEXcon's Elkton, KY, facility.



Scot Smith Promoted to Technical Service Representative

Scot Smith has been promoted to the position of Technical Service Representative for the Performance Products Business Team. Scot joined FLEXcon in December 1989 and has more than 20 years experience working in manufacturing. He was a supervisor of our topcoating technology as well as a quality process specialist, where he provided technical support to quality and statistical process control technicians; and helped troubleshoot production and process issues. The

product knowledge and technical background Scot has garnered will serve him well in this new role. As a Technical Service Representative, Scot will focus on helping customers with the converting and application challenges. Scot will assist converters and their customers from the initial product design concept; to providing samples of various combinations of FLEXcon's polymeric materials; to giving advice on which custom product makes the most sense for the application; to coordinating trial orders to qualify products; to assisting with full scale up.



June 2010

Pressure-Sensitive Films, Functions & Opportunities Seminar

More than 40 attendees at FLEXcon's Pressure-Sensitive Films, Functions & Opportunities Seminar, held at FLEXcon's Spencer, MA, headquarters in June, got a first-hand look at a Jetrion® 4000 series narrow-web digital press. This up close and personal demonstration showed attendees how using the combination of FLEXcon films and Jetrion 4000 series presses could help them capitalize on new market demands for digital printing (see Cover Story, p.1).

Attendees also learned how various aspects of the pressure-sensitive film construction can impact performance and ultimately determine the success or failure of an application. Along with touring FLEXcon's labs and production facilities, attendees also had the opportunity to network, gain insights on market trends and application opportunities and learned how to optimally use existing equipment and personnel to grow their businesses with pressure-sensitive films and adhesives.



Some of the more than 40 attendees from FLEXcon's Pressure-Sensitive Films, Functions & Opportunities Seminar.

Film Review

New VBS Supreme Products from FLEXcon-Reflexite® Alliance

A new alliance between FLEXcon and Connecticut-based Reflexite is providing new pressure-sensitive, retroreflective solutions for rugged outdoor use on the sides and rear of trucks, trailers, school buses, farm equipment, fire/EMS vehicles and all types of mobile and industrial equipment.

These VBS Supreme products, which offer superior durability and high reflectivity, include Reflexite V82 and V90 Daybright®. V82 offers the highest level of reflectivity available (800 to 1,000 candle power) and has 10-year outdoor durability. The reflectivity of Reflexite V90 Daybright, a registered trademark of Reflexite, is 300 to 500 candle power and has 5-year outdoor durability. While Reflexite warrants the reflectivity of V82 and V90 Daybright for respective durations, printable versions of both films are warranted for three years. FLEXcon will be

carrying Reflexite's microprismatic films in multiple colors, and certain colors will be offered in both printable and non-printable versions. All will be offered with FLEXcon's V-344 adhesive and a 90 PFW Reflexite logoed release liner, as rolls or sheets.

For more information on the FLEXcon-Reflexite initiative, see "Alliance reflects well on FLEXcon and Reflexite," on page 4.



Supreme

DURAprro™ Film a Graphic Overlaminates Application Alternative

DURAprro™ OF 100 Clear V-22 42 White PP-8, another fluoropolymer film choice for graphic overlaminates applications. This VBS Supreme product offers excellent clarity, anti-graffiti and UV protection – a minimum of seven years. DURAprro™ OF 100 Clear offers excellent chemical resistance and protection from moisture, abrasion and dirt, and has a service temperature range of -40°F to 120°F.

DURAprro™ OF 100 Clear V-22 42 White PP-8 is a 1-mil, clear

overlaminating fluoropolymer film with a versatile, permanent clear acrylic adhesive, and backed with a 42-lb., one-sided polycoated white Kraft release liner. DURAprro™ OF 100 Clear V-22 42 White PP-8 is available in Quick-Ship for fast delivery.



Supreme

WALLdeco™ 6770 Textured Fabric for Indoor Wall Graphics

WALLdeco™ 6770 is a uniquely-textured polycoated white fabric film for removable indoor wall graphics that captures high-density color and a softer, more muted look than images printed on vinyl.

WALLdeco 6770, a VBS Better product, is a 6.0-mil lightweight, white fabric film with a high-performance removable adhesive that adheres well to smooth, painted, non-vinyl wall boards. This high-end, vinyl alternative is ideal for retail, tradeshow, P-O-P displays and placed-based advertising. WALLdeco 6770 is backed with a stay-flat release liner. It is also cross-technology printable via solvent and UV inkjet, UV and conventional offset, and UV and solvent screen.

"There has been a growing desire in the marketplace for removable,

self-adhesive, non-PVC, inkjet printable fabric for wall graphic products, and WALLdeco 6770 is the solution," says Jodi Sawyer, Product Manager for FLEXcon's Product Branding Business Team. "WALLdeco 6770's high-performance adhesive and FLEXcon's ability to provide the finished product in a variety of roll lengths and sheets sizes are key advantages."



Better

Interior, Two-Sided Window Advertising System

FLEXmark® 6180/FLEXmount® SELECT™ DF462211 is a two-part interior window advertising system that expands the use of a clear mounting adhesive, and increases FLEXcon's product offering for graphic mounting solutions. Additionally, FLEXmark 6180 is a non-PVC substrate and is printable via UV offset, UV screen and UV inkjet with no worry about ink not bonding due to low-surface energy or shelf life of unprimed polypropylene.

This new product provides "bullet-proof," consistent printing, and its blue polyester liner identifies which side is applied to the printed graphic. In addition, the combination of FLEXcon's acrylic adhesives and polyester release liners allow for the wet-installation method with no clouding of the adhesive, yielding optimal adhesive clarity.

The two-part window advertising system consists of:

- FLEXmark 6180 is a 9.0-mil white opaque polypropylene, primed on both sides, that offers excellent block-out characteristics. Printable on both sides via UV and conventional offset, UV screen and UV inkjet.
- FLEXmount SELECT DF462211 is a double-faced 1.0-mil clear

polyester with a permanent/removable adhesive system. The permanent adhesive is on the clear polyester release liner side to provide a smooth wet out of adhesive against the printed graphic. The removable/repositionable adhesive is on the blue polyester release liner side and is applied to the window. The printed FLEXmark 6180 is laminated to the permanent adhesive side of the double-faced clear polyester.

Both films are available in Quick-Ship for fast delivery. FLEXmark 6180 is available in 60-inch master log rolls in FLEXcon's Spencer, MA, and Nebraska facilities, while FLEXmount SELECT DF462211 is available in 60-inch master log rolls from Spencer.



Better

TechTips



Printing on Plastic: Synthetic Substrates and Offset Opportunities

By Dennis P. Brunnett
Technical Service Representative, Product Branding

Today's marketplace for offset printers may be challenging, but there are still many opportunities to secure a greater market share and to expand into new profit areas.

One of these areas is the field of plastics, self-adhesive films to be exact. Plastics enable printers to offer new products that are either unsuitable for or inferior in paper form. These products include outdoor signage and banners, tags, plastic business cards, point-of-purchase (POP) displays, labels, window displays as well as numerous types of packaging.

Printers who have traditionally used paper may feel some trepidation about working with new materials. Some printers have, for generations, focused only on paper and may be apprehensive as to how new substrates may behave while undergoing the printing process. Others believe that they would need to purchase new equipment and inks to successfully print on synthetic substrates.

Plastics offer many advantages over their paper counterparts, and offset printers can harness these materials to their advantage. Plastic substrates are generally more rugged than paper, and can be engineered to withstand a wide range of environmental conditions, including high moisture and excessive heat. Plastics are also significantly more durable, often resisting tearing and degradation far longer than their paper counterparts.

These advantages, along with an expanded range of printing options, can open up a range of new business opportunities for printers. Plastic substrates also offer phosphorescent and metalized options, allowing printers to create enhanced graphics that previously had been only in the realm of dreams. This also means that printers can charge a higher price for these products and services.

Despite popular belief, most synthetic substrates can be printed using traditional offset printing equipment with little or no modification. Some printers are surprised to learn that the equipment they have been using for years with paper can just as easily be used for film, but with spectacularly different results. Although printers will need to buy specific synthetic-friendly inks, such inks can usually be purchased through the same ink suppliers that the printer already uses. Just as suppliers have pre-tested many substrates for use on offset presses, so too have they pre-approved specific inks for use with those substrates. Again, this helps eliminate the costly research and development that may prompt some printers to hesitate.

Once the technical concerns have been addressed, printers may wonder how their press operators will handle the transition to self-adhesive films. Film and paper do behave differently on presses, and each substrate has its own unique challenges. Again, an established supplier with extensive technical experience can offer on-site instruction and tutorials to help press operators feel more comfortable using plastics. In addition, technical support is as close as a phone call away in many cases, with inside sales representatives available to work with printers and their operators as they begin using plastics.

Similarly, printers can turn to experienced suppliers in an effort to help convince their customers that film offers more opportunities than paper. Bringing the supplier into a joint-meeting between you and your client is a very effective way to develop confidence and comfort in a new approach. Just as suppliers can provide on-site instruction and support to press operators, so too can those



Pressure-sensitive films are a natural match for offset printers.

sales representatives lend their expertise and product knowledge to convincing customers of the benefits of using self-adhesive films.

Tips for Success

One of the main benefits to using film is that it opens up a world of choices for potential customers. Where paper is limited, film offers a wide array of options, and experienced suppliers can help guide printers through these choices.

For example, world-class suppliers offer both custom product solutions for individual customers as well as an inventoried product line that has been developed specifically for the offset printing market. Thus, offset printers can take advantage of inventoried products in a variety of formats, further reducing turnaround times and allowing printers to fully leverage film capabilities.

What You Need to Know About Inks

Some customers may have specific concerns, based on their unique circumstances. For example, some printers request recommendations for specific inks, particularly hard drying inks designed for plastics. Although the best technical resource when printing on plastic is an ink supplier, there are some things printers should know.

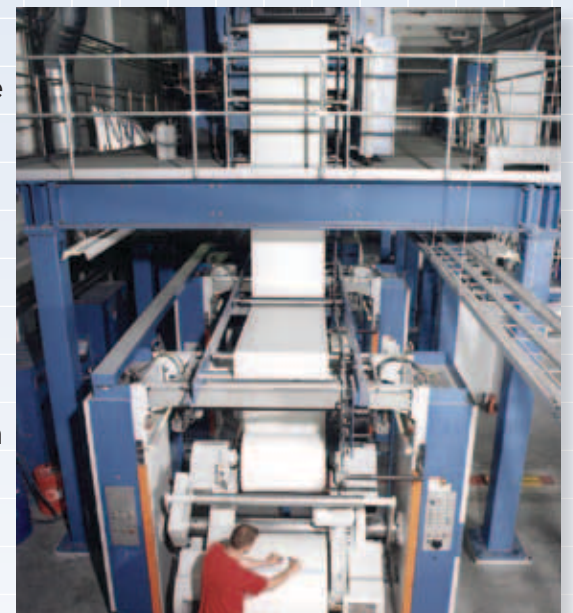
For example, the viscosity of the ink should be run lower on films than on paper. Printers should also use oxidizing inks designed for non-porous substrates because paper process inks can lead to drying issues when used on film. Suppliers often recommend that printers use the least amount of ink coverage possible, and remind printers that the drying time may need to be extended if the room's relative humidity is more than 80 percent. Printers may also consider using smaller amounts of a more concentrated drier if that drier does not influence the ink. In some cases, however, ink smudging can be caused by too much additive, so printers should use minimal amounts of driers and waxes, if possible.

Hard-dry inks are often specifically recommended for vinyls, polypropylene, polyethylene, acetate, PET, Tyvek®, and many other non-porous substrates based on their ability to quickly oxidize due to additional drying additives and waxes. The drying additives are designed for faster ink drying, while the wax gives better rub/scratch resistance, which is the main attribute desired when using hard-dry inks.

However, hard-dry inks do pose certain challenges. Therefore, there are a few things printers should watch for when using hard-dry inks. For example, because these inks are designed to dry fast, ambient air can cause the ink to dry in the ink well rather quickly. In addition, care should be taken during any post-printing processing. That's because hard-dry inks are not usually finishing-friendly when it comes to UV coating, foiling, laminating, or laser imaging. This is due to the fact that they are designed to have a hard, scuff-resistant finish. As a result, they do not handle finishing processes well.

Avoiding Issues with Ink

Excessive emulsified water in the ink cannot evaporate from the stack, which will not only slow down the dry time, but also inhibit the ink's ability to anchor to the film properly. That's why it is so critical to keep water levels as low as possible. Along those lines, fresh fountain solution is a



Most synthetic substrates can be printed using traditional offset printing equipment with little or no modification.



Printers looking to expand their market share can use film to achieve unique results.

(Continued on back page)

(TechTips, continued from page 7)

must. That fountain solution should not contain high amounts of glycerin or glycol. Printers can run small amounts of the solution to reduce the chance of ink emulsification. Printers should target a pH level of between 4.5 and 5.5, as lower pH (and a correspondingly higher acidic solution) will retard drying time. Speaking of the fountain solution, conductivity should be around 1,500. Printers can also work to minimize plate pressure settings to prevent water from being milled into the ink. Also, when printing with oxidizing inks, use only metal (aluminum) plates.

Printers should also lower water settings until an even scum line is achieved. This is important because water retards dry time. In addition, they may consider using alcohol instead of an alcohol substitute (note: regulations concerning the use of alcohol vary from state to state; printers should check the rules that govern their specific areas). In terms of specific inks, some suppliers have tested a wide array inks from industry leaders, and are willing to help arrange testing for additional inks, if necessary.

Preventing Adhesive Ooze

Some printers have also expressed concern over "ooze", a condition that may occur when excess pressure-sensitive adhesive (PSA) is squeezed out of the side of the sheets due to the heat and pressure of the presses.

Such ooze is obviously a concern when it comes to printing any material backed with a PSA. FLEXcon, however, has been careful to utilize adhesives that feature high shear. This makes the adhesive much less likely to ooze during the printing process. The coating thickness of the adhesive is also taken into account. The thicker the adhesive coating weight, the less important its shear value becomes, while oozing becomes more likely. FLEXcon ensures that all products, whether stock or custom, embraces the offset process and utilizes components that work with within the print technology's limitations and capabilities.

Printers, too, can make adjustments to their processes to help facilitate printing. When the substrate is on press, printers can lower the pressure slightly between the impression cylinders and the blanket cylinders to help prevent adhesive ooze. Excessive heat, usually more of an issue on a UV press, may cause an issue with film shrinkage, which in turn can expose some adhesive. Shrinkage problems, however, are usually limited to presses that run very hot.

Primers for Purchasing Power

FLEXcon can also find ways to make their purchasing power go even further. We provide printers with films with primers that are designed to be used with both conventional and UV inks. This reduces the need for additional inventory, freeing up valuable storage space and money for printers.

In addition, FLEXcon offers a wide range of widths for many products. This means that printers who have large format printing capacity can use products that offer them the option of printing across the full width of their equipment.

In-House Sheeting Steps

Although many major suppliers offer plastic substrates in sheet form, some printers have the ability to sheet paper products in house and wonder if they should do the same with pressure-sensitive film. Those seeking to do this must understand the specific



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challenges associated with pressure-sensitive film substrates.

First, sheeting PSA materials is very different from sheeting paper. Some equipment is not able to sheet PSA materials like they do on paper. Also, if you attempt to guillotine the material, there may be questions of oozing. However, this is part of the process when sheeting PSA materials, and experienced finishing personnel are quite used to it and know how to handle it. If, however, it is not handled properly, this ooze can end up in the printer's press.

Printers wonder how long they should acclimatize sheeted stock after receiving it. FLEXcon recommends that the stock sit for at least 24 hours in press-room conditions. It is also suggested that the stock be kept in its packaging until it is printed. The packaging maintains the processed RH (relative humidity) as close as possible without dramatic change. A rapid change in RH can lead to curled stock. This is true whether the RH increases or decreases; the main issue is how quickly the change occurs. Acclimation helps the packaged stock to slowly accept the RH change, along with temperature changes that may occur when moved from shipment or storage.

To reduce the likelihood of other problems, look at the material itself. Lifts should be small, approximately 50 to 100 sheets, or about 1.5 inches to 2.5 inches. This reduces the likelihood of set-off and re-wetting. Printers can also help avoid set-off by making sure that printed material is not stored at low temperatures. Another way to avoid set-off is to use a large micron spray powder. Printers should wind the material, if possible. They should also note the "white point"

difference between papers and plastics, and adjust accordingly.

Printers should also keep in mind that inks dry faster when the material is stored at a higher temperature. In fact, it can dry 25 percent faster for every 10 degrees F.

Primed for Success

Plastic substrates can certainly provide new revenue streams within your existing clients and help you with new client opportunities. Adding plastics to your product offering can even help printing companies reinvent themselves as a more complete print services provider.

You can increase your business by collaborating with FLEXcon, which will provide robust and comprehensive lines of off-the-shelf and custom products. Choosing FLEXcon as your supplier means you can take advantage of our technical know-how and product capabilities as well as our market knowledge of how and where to sell these new capabilities.

If you have questions or comments regarding printing on plastics, contact the Product Branding Business Team at (508) 885-8370.

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