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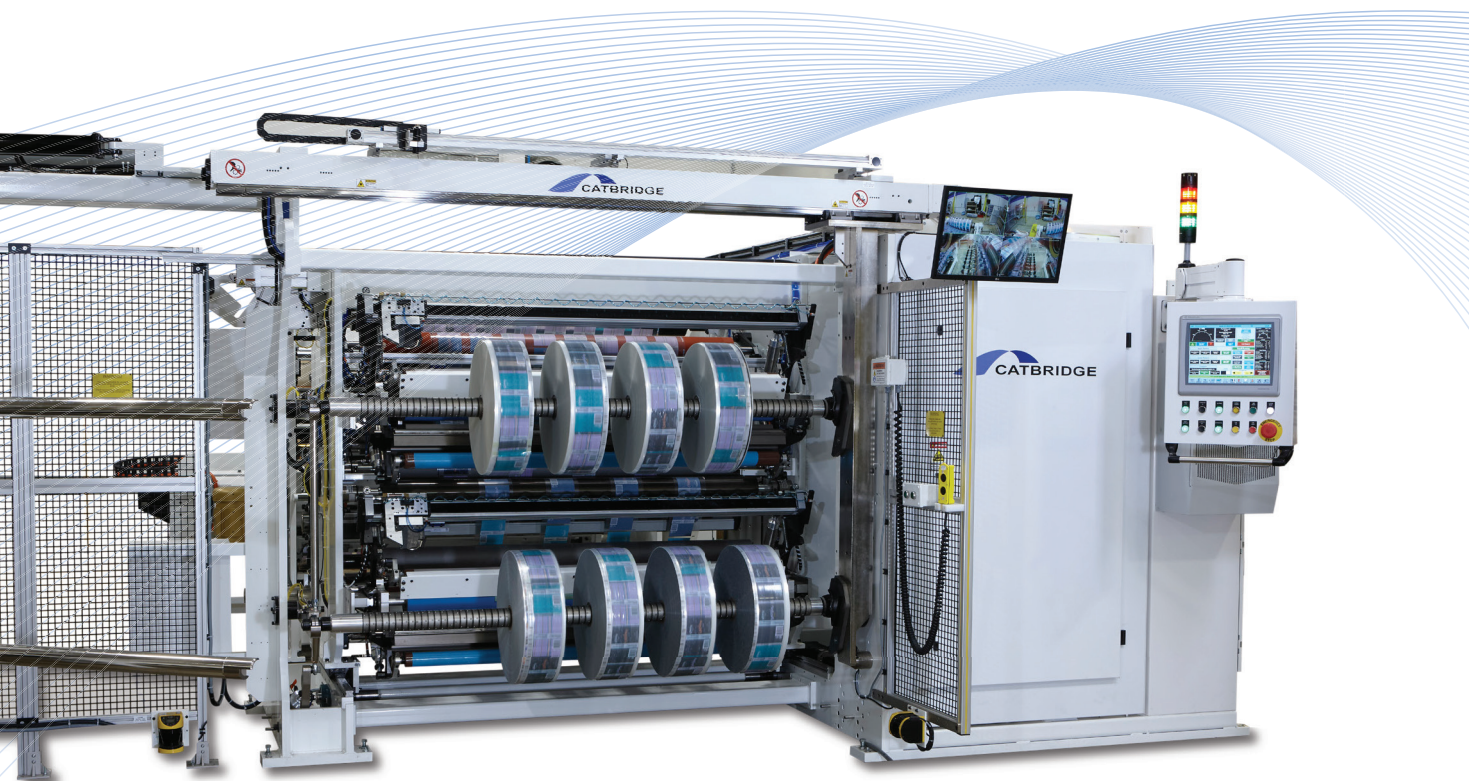
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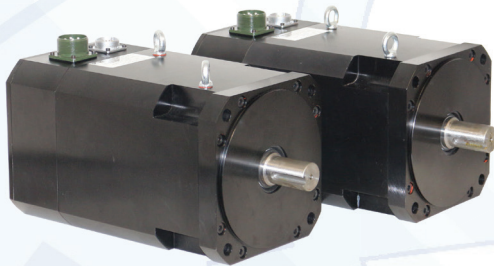
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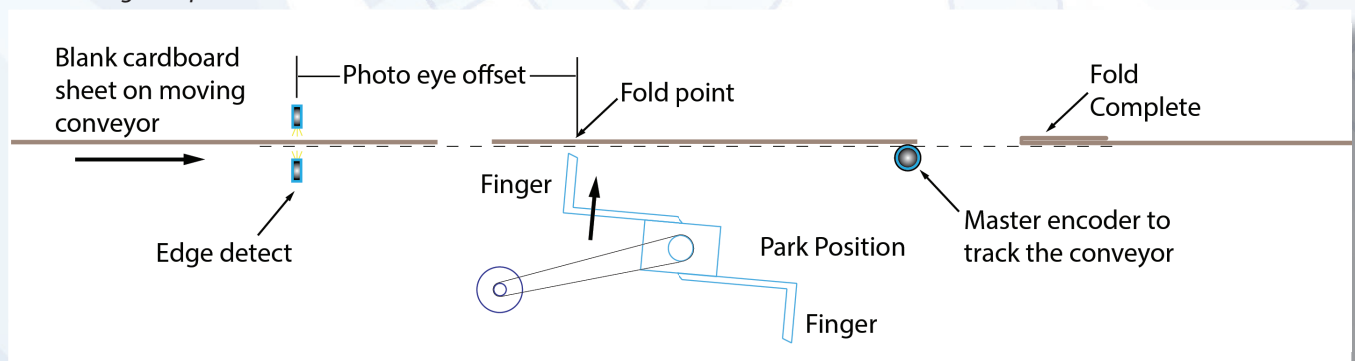


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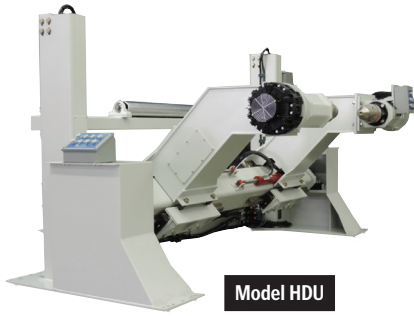
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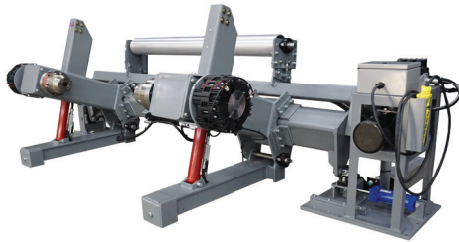
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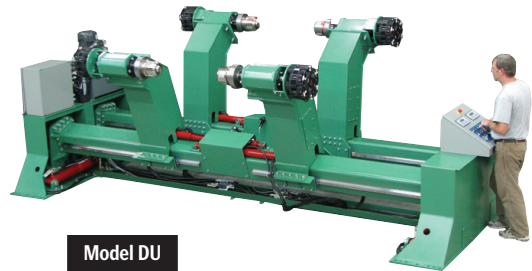
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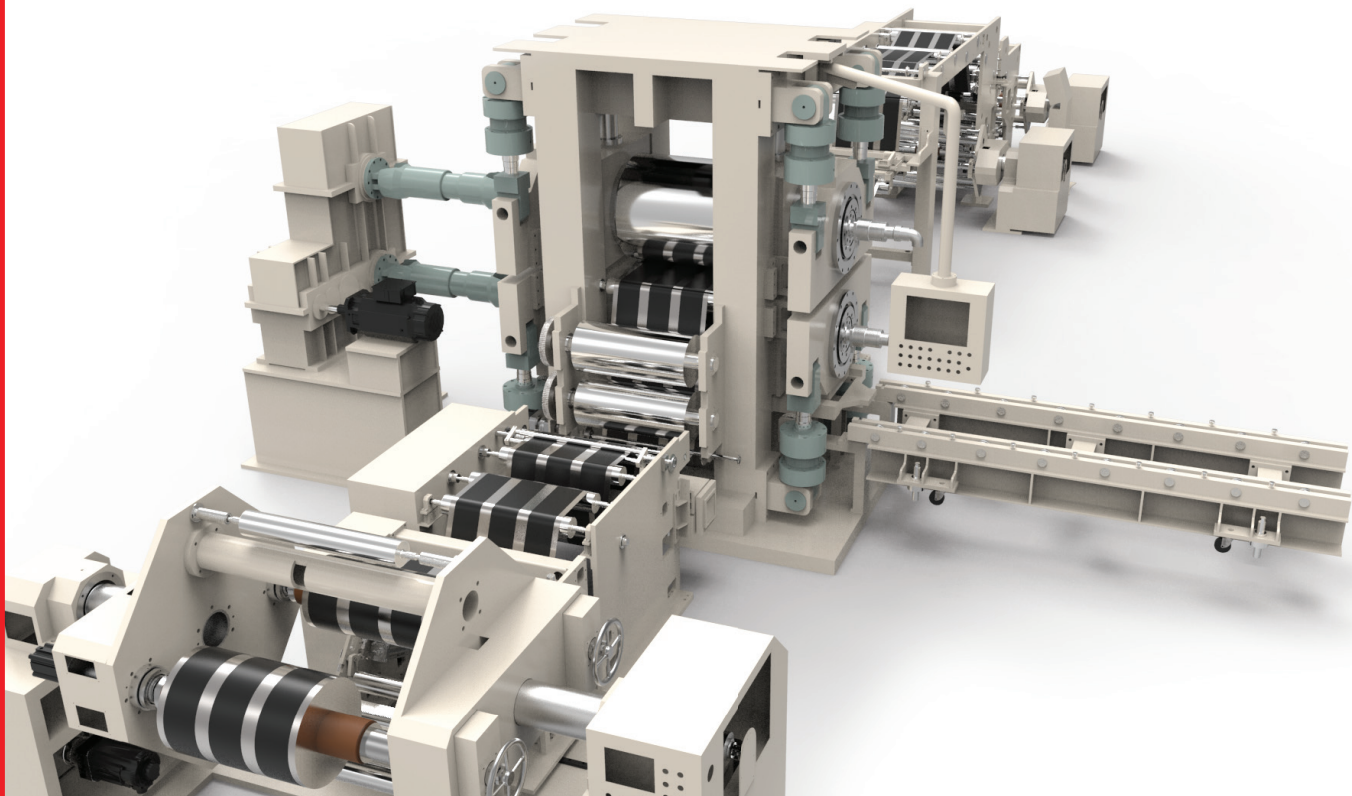
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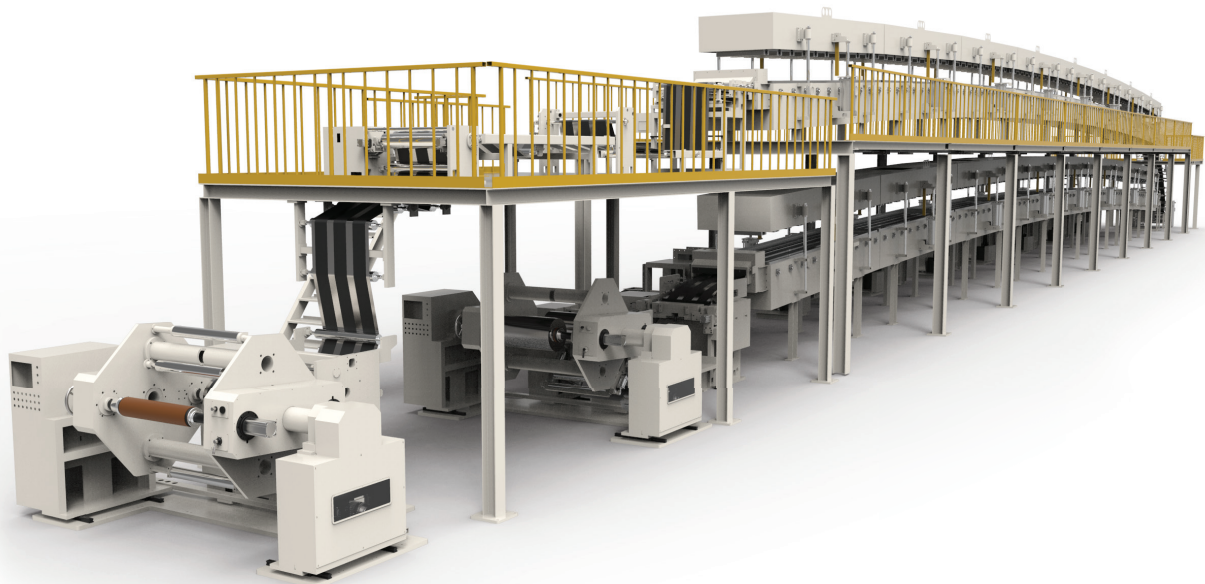


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Five Reasons Why Automation Is Essential to Print Production Workflow

By **Christina Lee**, Contributing Writer

Nowadays, you often hear about automation. No longer something out of a science fiction movie, automation promises to make jobs and tasks easier to do by streamlining operations, freeing up workers to do other things. This allows for:

- More productivity
- Less errors
- Less likelihood of taking on less-desirable tasks
- Allowing staff to work on more important tasks, AND
- Faster output

All these benefits are especially essential to print businesses. Believe it or not, print businesses are responsible for many tasks

that take time, energy and money. With print jobs high in demand, there has to be a way to easily streamline tasks.

So, if you're a print business looking for easier production workflows, then look to automation. Here are five reasons why you and your company should consider using automation today:

1. Automation Spots and Prevents Bottlenecks

"Print businesses cannot afford to have bottlenecks in their production workflow," said Emma Wand, a business writer at OX Essays and Do My Assignment. "First, a bottleneck refers to anything

that might interfere with production. Typically, when a bottleneck occurs, production is either halted or terminated."

Examples of bottlenecks include:

- Not enough worker input
- Power outages
- Equipment breakdowns
- Inconsistent routines
- Lack of a budget

Fortunately, automation can help print businesses both spot and prevent bottlenecks in production. By pinpointing what's lacking or lagging, automation can replace what doesn't work with what does work by taking over.

"Suppose you lack a team

of workers for a specific stage in print production,” added Wand. “Automation can fill in the gap by taking on the responsibilities that might’ve otherwise needed manpower, and money to hire said manpower.”

2. Automation Boosts Productivity and Profitability

Automation can also ensure that print production is smoother and faster. Even implementing a small amount of automation is more than enough to improve production speed and productivity.

In hindsight, automation improves the following when boosting productivity:

- Competitive agility
- Customer service, AND
- Profitability

3. Automation Is Relevant Technology

Nowadays, technology is evolving, including automation. As automation continues to leave its mark in the tech world, it’s already making its way into many businesses and organizations. Thus, automation is considered relevant in businesses such as print production.

Because automation is relevant now more than ever, the following trends have resulted in print production because of this phenomenon:

- Investments in automation software
- Improved shipping and handling
- Improved billing
- Better scheduling of jobs
- Better support management
- Quick and effective job submissions in online portal

- Higher-quality print work

4. Automation Promotes Shorter Run Work

“Small jobs can be tedious in print production,” said Julian Newling, a technical writer at Paper Fellows and State of Writing. “When being compared to bigger jobs which require more time and energy, small jobs only need less attention and less resources. That’s where automation can come in. When you allow automation to tackle smaller jobs in print production, then you and your team can work on larger and more important jobs. This tactic eliminates the possibility of delays and bottlenecks.”

5. Automation Lets You Scale and Optimize Your Business

Finally, if you’re looking to scale and optimize your print business, then automation can make it happen. How? By tapping into your workflows. Whether you use automation for multiple workflows, or simply one workflow, it can help improve your company in the following ways:

- Speed up print processes
- Route jobs to an available machine
- Route jobs to the most efficient machine
- Optimize how you use printing equipment to prevent turnaround times, AND
- Help your business get more work done without having you invest in additional machines or staff members

Now, Is Automation Really Necessary?

The short answer? YES!

As shown by the reasons above, automation can do wonders for your printing business. Since printing is in high demand these days, there’s no reason why automation shouldn’t be used for print production.

As you can see, there is so much opportunity to be had with automation, when it comes to print production. As a recap, automation helps print companies do the following seamlessly:

- Prevent unnecessary bottlenecks
- Boost productivity and profitability
- Give your company a sense of relevancy
- Promote shorter run work, AND
- Allow for company scaling and optimization

Ultimately, automation can do wonders for your workflows in the printing industry. In fact, you can add automation in just about any part of the printing process. By allowing automation to take over some or all of your workflows, you’ll soon see great results in print production. ■

ABOUT THE AUTHOR

Christina Lee is a writer and editor at Assignment service and Do my homework. She is also a contributing writer for Boom Essays. As a project manager, she oversees many projects in various companies in her hometown of Hoboken, New Jersey. As a content writer, she writes articles about marketing trends and coding.



The Relationship of Surface Characteristics and Successful Corona Treatment

By Alyxandria Klein, Contributing Writer

The way a material responds to treatment is directly related to the material's molecular structure. Every material's structure is different and should be treated so when deciding on a watt density level (power level and exposure time to corona discharge).

The crystallinity of polymers effects the rate that their surface energies increase. As the crystallinity of the polymer increases (from lower to higher, PE, PEP, PP), longer exposure time is needed to increase the surface energy.

Corona Treatment Definition

Corona treatment is a scientifically proven surface modification process that has been practiced in various forms for over 70 years.

The object of surface treatment as a corona process is to render a typical plastic film or surface receptive to inks, glues and coatings. The process is most widely known for its ability to improve the surface bonding characteristics of various materials.

Understanding Surface Energy

Corona treatment introduces polar functional groups such as hydroxyl, carbonyl and carboxylic groups onto the film surfaces. The presence of these functional groups on the film surface raises the film surface-free energy. Understanding a material's surface energy is vital to a successful process, especially when coating, laminating or printing. The surface energy (or surface

tension) of a liquid is the amount of excess energy at the surface of the liquid. Surface tension exists because molecules in the bulk liquid are in a lower energy state at the surface. When a liquid droplet is placed on a solid surface, what happens depends on the relative surface energy of the liquid compared to the surface energy of the solid. If the liquid has a higher surface energy than the attractive forces between the liquid and the solid surface, the liquid droplet will prefer to maintain its spherical form. This type of droplet is called a hydrophobe. On the other hand, when the surface energy of the liquid is lower than the surface of the solid, the liquid will wet out on the solid surface. This phenomenon is referred to as a hydrophile. See Figure 1. For an adhesive to wet a

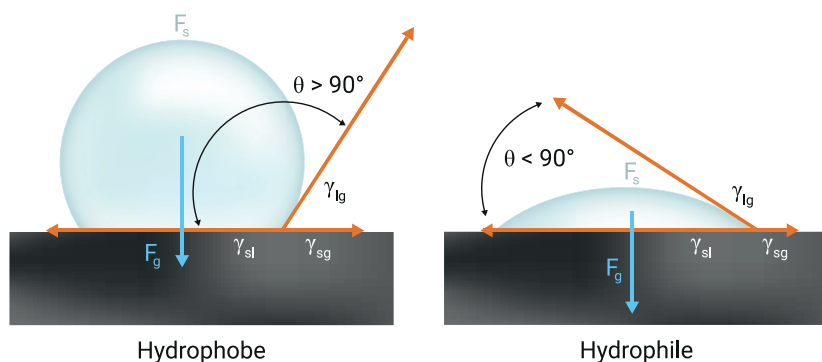


Figure 1: Hydrophobe vs. Hydrophile

solid surface, the adhesive should have a lower surface tension than the critical surface tension of the solid. This is the reason for surface treatment of plastics, which increases their surface energy and polarity.

Determining Target Surface Energies

The target surface energy of a material depends on the process and coating. Printing processes will require different surface en-

ergies than laminating or coating processes. The type of printing process (Flexo and Gravure, Litho, Offset/Letterpress, Screen and Pad) should be considered, as well as coating type (water, solvent or UV). Waterborne adhesives universally require higher surface energy levels than solvent-based systems. Table 1 provides some recommended values based on process and coating type used.

Means of Measurement Dyne Testing

Dyne testing is common for estimating the treatment level of plastic surfaces in production environments. It involves using solutions made from a mixture of two chemicals that produce liquids

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Substrate	Coat- ing Type	PROCESS			PRINTING PROCESSES									OTHER PROCESSES					
		Flexo and Gravure			Litho			Offset, Letterpress			Screen and Pad			Laminating			Coating		
		Water	Sol- vent	UV	Water	Sol- vent	UV	Water	Sol- vent	UV	Water	Sol- vent	UV	Water	Sol- vent	UV	Water	Sol- vent	UV
SPE		38	36	38	40	37	40	40	37	42	42	38	44	42	38	42	42	38	44
		44	40	50	46	42	50	46	42	54	48	44	60	50	44	54	48	45	54
	PP	38	36	40	40	38	40	40	37	40	42	38	44	42	38	42	42	38	44
		44	40	50	46	42	50	46	42	54	48	44	60	50	44	54	48	45	54
	PVC	38	36	36	40	37	36	40	38	40	42	38	42	42	38	42	40	38	42
		44	40	50	45	42	52	45	42	52	48	44	60	50	44	54	48	45	54
	PET	44	40	42	46	42	44	46	42	46	48	42	44	46	42	44	42	42	46
		52	46	54	56	46	56	56	46	60	60	48	62	60	48	62	52	48	60
	PS	38	35	42	40	37	42	40	38	42	42	38	42	42	37	42	42	38	44
		44	40	48	45	42	50	46	44	58	48	44	56	52	44	54	50	46	54
	PU	40	38	38	40	38	38	40	38	42	42	38	42	42	38	42	42	38	44
		46	42	50	46	42	52	45	44	56	50	44	58	50	44	56	48	46	54

Table 1: Target Surface Energy

Opening Features
Straw Holes
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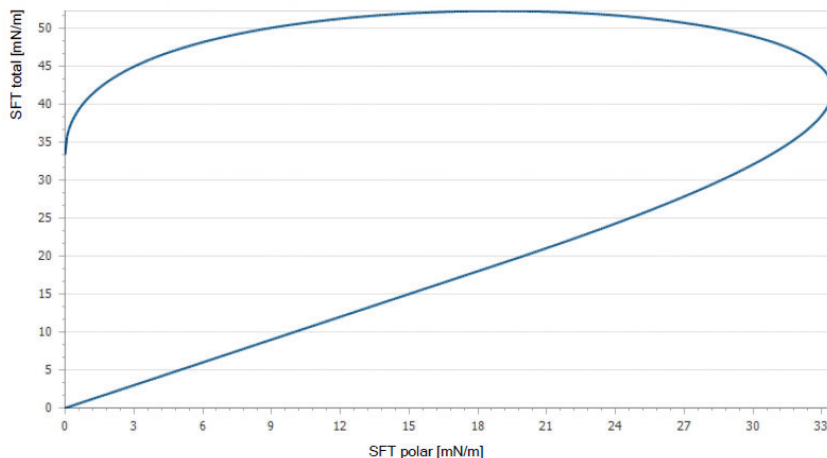


Figure 2: Wetting Envelope

(dyne) with surface tensions in the typical range of 30-70 dynes/cm. The test consists of applying various dyne liquids to the treated surface and observing the spread-

ing of the drops over two seconds. This method allows for quick and easy estimates of treatment levels, which makes it useful and popular in production environments. A

more quantitative approach is the measurement of contact angle, which decreases with an increase in treatment level. A perfect wetting liquid forms a contact angle of zero on the solid surface.

Contact Angle Measurement

Wettability may also be determined by measuring the contact angle between the surface and the drop of a liquid such as distilled water. A small contact angle indicates that the liquid is wetting the polymer effectively, while large contact angles show that the wetting is poor (see Figure 2). This company utilizes a surface analyzer to measure surfaces and collect data on all samples. The surface

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CORONA TREATMENT

analyzer places a droplet of water onto the surface along with a droplet of diiodomethane (polar element required to calculate precise surface free energy). The analyzer measures and records the contact angle of the droplets using a microscope and calculates the surface free energy. A wettability report is then generated including a wetting envelope (see Figure 2).

Maintaining Material Integrity

Corona treatment is not a mechanical bonding process. A corona treater should be designed to allow the least physical roughening to the material as possible. A simple way to tell if the corona treater has maintained integrity in an R&D setting is to run your hand along the treated area of the film. If you can physically feel the film is rougher in the area that was corona treated, this is a sign of unnecessary roughening. The corona treater changes the molecular properties to increase surface energy to a compatible level of the application. When performed correctly the process does not alter the physical appearance or texture.

Corona treatment is a great process for improving the bonding characteristics of materials when the science and physics of corona treatment are followed correctly. This process allows companies to expand their horizons and offer a more profitable, high-quality product. There are many variables that go into deciding a target treatment level (surface energy), and all should be considered to get the most out of corona treatment and its surface modification capabilities. ■

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ABOUT THE AUTHOR

Alyxandria Klein is the Marketing and Sales Director, QC Electronics, Inc. To assist in her role, Klein utilizes sophisticated surface analyzation equipment to study the molecular structure of materials pre and post corona treatment. She can be reached at sales@qcelectronics.com.



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Thermal Transfer Core Design and Performance in Today's Markets

By **William R. Bradley Jr.**, Vice President, Business Development, American Roller Company

Since the 1950s, converters within multiple markets have relied on Thermal Transfer Roller performance to enhance products, add critical properties and increase speed and efficiency in their process. Over the years, the designs have evolved to meet the demand of increased production and expand end user/consumer options. The functionality is rather simple; the surface of the production roller either produces a heated or cooled surface for web to accomplish embossing, lamination or extrude plastics. As simple as this sounds, the path to achieving optimal performance can be complex.

When cooling the roller surface, heat is pulled out of the substrate, creating a change in properties. It can cure the web into a solid state, or prepare it for the next treatment, including lamination or coating. When heating the roller surface, this creates a condition for the web substrate to accept chemistry, change physical elasticity or prepare for multi-layer formulation. In some unique applications, the thermal transfer roll surface is still heated, however it is "cooling" the web substrate (at a much higher temperature). This is commonly known as controlled cooling, and usually occurs with

the web substrate transporting over multiple Thermal Transfer Rollers at various angles, to achieve optimal curing condition.

Design Options

Today's converter has different "internal designs" to consider. Figure 1 represent a traditional, commonly used, "Gap Spiral" design. The channels are often custom engineered to maximize flow rate and performance. Benefits include lower cost, and for less critical applications has an acceptable level of reliability and performance. Limitations include thermal transfer predictability and non-sealed channels allowing fluid bypass. It is also noted, this design is limited to lower loading applications, where the outer shell is unsupported by the inner assembly.

For advanced applications, especially requiring high load performance, a "Shrink Fit Spiral" design should be considered (Figure 2). Benefits include a positive seal between the inner assembly and outer shell controlling fluid flow, extremely predictable and uniform surface temperatures, and full load distribution across the face of the core.

There are advanced steps in the manufacturing process to construct a shrink fit internal design vs gap spiral. First the outside channels (OD) of the inner assembly are precision ground to a specified diameter. Then the inside diameter (ID) of the outer shell is precision bored for an interference fit with the inner assembly (Figure 3).

A heat induction process allows the outer shell to expand temporarily, while the inner assembly is installed. Once cooled, this provides an extremely precise and stable interface (Figure 4). In final steps to complete fabrication, journals, roll diameter and any other critical areas are precision ground to tolerance (Figure 5).

In some advanced applications (sometimes seen in the flexographic packaging & printing market), Thermal Transfer Core performance is merged with air mandrel and sleeve technology. Air mandrel and sleeve systems were developed for manufacturing flexibility when converting multiple web substrates and widths. Along with quick change options when damage or wear occurs, it also allows the converter to stock an inventory of covered sleeves versus entire roll cores.

Gap Spiral Traditional

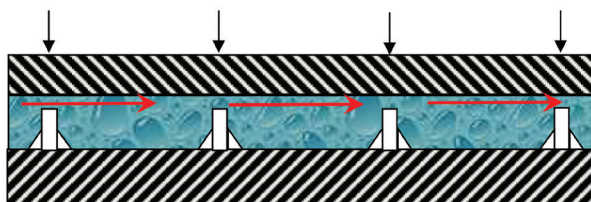


Figure 1



Shrink Fit Spiral

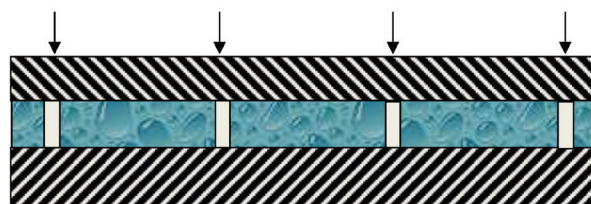


Figure 2

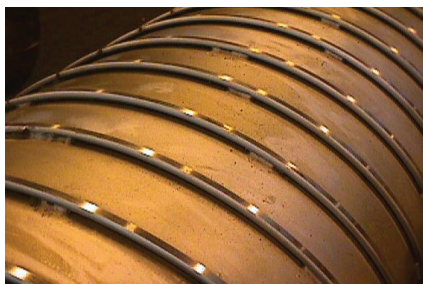


Figure 3

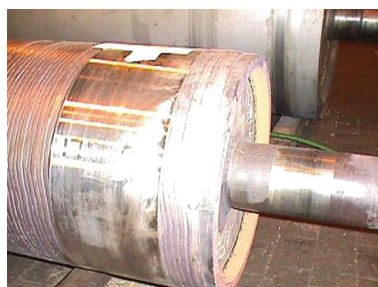


Figure 4

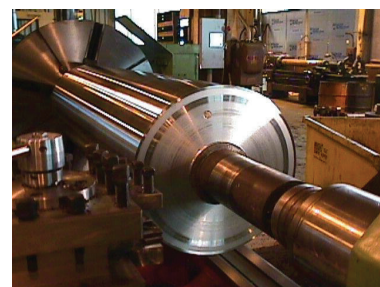


Figure 5

Engineered Surface Options for Today's Converter

Rubber / Elastomeric

Selecting the optimal Thermal Transfer Core design is the first step to a successful application, but often the outer covering or surface coating will determine the speed, efficiency and quality of the finished web substrate. Most applications nipping by nature require a hard face roller against a rubber or elastomeric covered

roller. This is common in embossing, laminating and coating of a substrate. With Figure 8, we see a Chilled Core design where the outer covering is rubber. The core can have maximum thermal transfer to the surface of the steel, but if the rubber covering is not thermally efficient, this can adversely affect the temperature transfer to the surface. There are specifically engineered elastomerics such as silicone deemed "thermally conductive" to improve this condition. Not only do

they have efficient thermal transfer but offer release properties in higher temperature environments.

Plating and Engineered Coatings

In other applications the thermal transfer roller can be bare (green), Chrome Plated, Ceramic hardfaced, or Plasma Coated. The desired surface finish can sometimes dictate the coating selection. Traditionally Chrome Plating has been used for decades as the "go to" surface treatment. It offers excel-



Figure 6 - Typical Sleeve System



Figure 7 - Thermal Transfer Air Mandrel

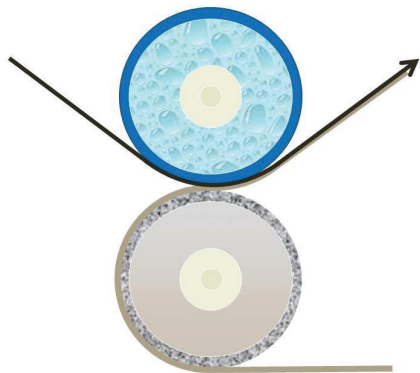
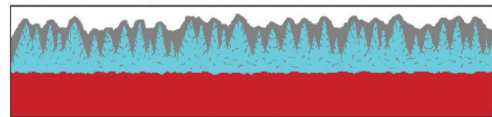


Figure 8

Dual Coating Diagram



Total Coating Thickness: ~0.004" - ~0.006"
 ■ Release Polymer Thickness: 20% - 40% of total coating thickness
 ■ Metal Matrix Thickness: 60% - 80% of total coating thickness
 ■ Base Material

Figure 10

lent temperature transfer, is harder than the base core, and is available in a variety of surface finishes (Figure 9). For an engraved surface roller, the plating process follows the engraved pattern, providing a protective outer layer without distorting the desired embossment. Challenges with Chrome Plating include corrosion resistance, especially in chemical or coating environments. Microscopically, Chrome Plating has micro-cracks,

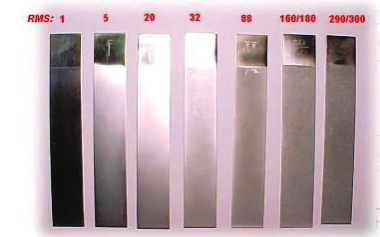


Figure 9



Figure 11

sometimes allowing penetration to the base core. Please consult with your roll professional if you feel this could be a concern.

Ceramics and Plasma Dual Layer Coatings continue to grow in popularity as engineered solutions for thermal transfer roll applications. Ceramics, often in the 63-65 Rockwell C hardness range offer excellent abrasion resistance. Ceramics are naturally porous, however new sealers are

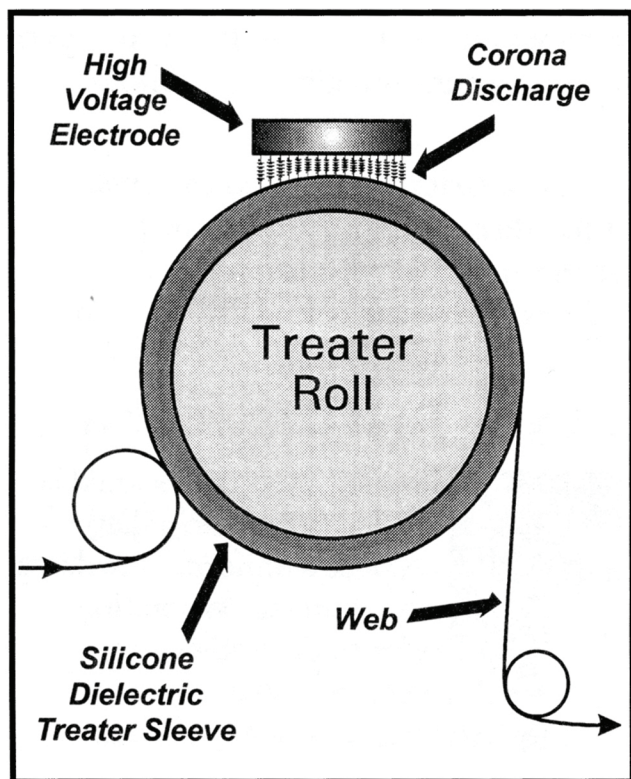
being applied to assist in reducing or eliminating corrosion-resistance risks. They can be precision ground to a wide range of surface finishes, 5RA-250+. Limitations include high impact applications with risk of damage on the roller surface in smaller concentrated areas. Slitting blades or knives of this type should never be used on ceramic surfaces.

Applications requiring ultra-hard, abrasive resistant surfaces have benefited with the use of thermal sprayed metal matrixes, otherwise known as Plasma Coatings. Base coatings can be offered up to 72 Rockwell C in hardness but can also offer excellent traction and release properties. This can be critical when wanting to achieve maximum speed in a heated or cooled application. Often there is affinity between the web substrate and the roll surface, where a dual layer coating can be a game changer. In the diagram below, we see the makeup of this dual layer system. Notice the release polymer penetrating not only the valleys of the profile, but also embedded in the porosity of the metal matrix. This increases strength and mechanical integrity, resulting in reliable performance for years.

Limitations within these systems include specific RA surface finishes lower than 50 RA. Also, the addition of polymer can affect thermal transfer rates. Please consult your roller professional before deciding on this type of surface.

For today's converter, there is a wide selection of thermal transfer design and surface treatments to consider. Both go hand in hand when trying to maximize your application. There are many details to consider, but with the right formula, speeds can increase, waste can be reduced, and defects can be kept to a minimum. ■

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96152	1.5"	38 mm	35 mm	Orange	.080" (2.0 mm)	\$1.15
96202	2.0"	51 mm	46 mm	Orange	.080" (2.0 mm)	\$1.35
96252	2.5"	64 mm	59 mm	Orange	.118" (3.0 mm)	\$1.85
96302	3.0"	76 mm	70 mm	Orange	.080" (2.0 mm)	\$1.85
96402	4.0"	102 mm	95 mm	Orange	.080" (2.0 mm)	\$2.25
96602	6.0"	152 mm	141 mm	Orange	.095" (2.4 mm)	\$3.15
96802	8.0"	203 mm	190 mm	Orange	.102" (2.6 mm)	\$4.55

*These sleeves will fit any treater roll OD within +/- 0.125" (3 mm) of listed size.

Wall thickness variance: +/- .006"
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Dielectric Constant: 4-5
Dielectric Strength: 250 v/mil

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Acucote Introduces BioPreferred Product Line

As consumer brands are increasingly demanding sustainable labels on their packaged goods without added material costs, Acucote has introduced a line of 25 USDA Certified Biobased products. Materials include coated, uncoated, fluorescents, tag and digital print media.

BioPreferred® Certification is awarded by the U.S. Department of Agriculture (USDA). Through this program, the USDA validates the biobased content of products through third-party testing to the ASTM D6866 standard. This third-party testing determines if a commercial or industrial product is

composed of biological elements.

Each of the facestocks in this new portfolio are certified by the USDA BioPreferred program as being constructed with 87 percent biobased components when combined with our CP1 biodegradable adhesive and 40# liner. The minimum to earn BioPreferred designation is 25 percent.

CP1 adhesive also complies with 21CFR175.105, the Child Toy and Safety Act, CONEG, CPSIA, REACH and CA Prop 65. CP1 is acid, BPA and APEO free.

For more information, visit <https://www.acucote.com>.

AirFlex Portable Trim Waste & Dust Containment System Featured in Converters Expo South Booth #61

New AirFlex™ portable trim waste and dust control systems, which reduce trim waste, facilitate recycling, and capture dust, to optimize converting and print production rates, will be featured in Converters Expo South Booth #61.

A rugged 2 HP trim cutter coupled with a proven 5 HP material handling fan provides capacity for 4 trims up to 1-inch wide at line speeds to 1500 fpm. A rugged fabricated steel manual diverter easily handles paper, plastic, film, and foil trim waste, providing flexibility for future growth. Compact design requires minimal floor space, while 4-wheel cart provides maneuverability over the roughest floor surfaces, allowing AirFlex™ to be used wherever needed. Ideal for batch or continuous operation, and portable or stationary applications.

Purpose-designed dust capturing system keeps dust in bags, away from the finished product. Powder coated enclosure is tough enough for the plant floor and attractive and quiet enough for an office environment. Standard intake and discharge features can be easily modified to accommodate future



(unknown) production demands. Waste collection options include bags, carts, or Gaylords. Quiet running AirFlex™ portable trim waste and dust collection systems are ideal for printing and converting facilities of all sizes, volumes, and types.

Easy clean cannister dust filters, and flexible waste discharge options eliminate production delays due to trim waste removal, keeping plants running at full capacity. Since this self-contained system generates its own air flow, it eliminates the need for compressed air that older systems required, thus saving energy costs,

and allowing use anywhere on the plant floor.

With components proven in hundreds of facilities worldwide, the trim cutter reduces trim waste volume by up to 75 percent, saving landfill disposal costs and reducing the amount of removal trips. AirFlex™ easily separates materials at the source to facilitate recycling. Standard 71-gallon plastic bag for cut trim material, with an optional larger bag available.

AirFlex™ units ship with short lead-times, with affordable purchase prices and rental options.

For more information, visit <https://airtrim.com>.

Go Jumbo - Supply55 and NEPATA Release the New JC770 and JC1650 Jumbo Unwinders for the UA770 and UA1650 ADWS

Supply55, Inc. and NEPATA GmbH are pleased to announce release of the new NEPATA JC770 and JC1650 Jumbo Companion Unwinders for the UA770 Rewinder and UA1650 ADWS Converting Center.

Engineered and manufactured in Germany to the highest quality standards, the NEPATA JC770 and JC1650 yield precise, accurate rewinds across a wide range of flexible media, including self-adhesive films, sandblasting films, vehicle wrap films, magnetic films, flex films, flock films, window tint films, paint protection films, digital print media, heat transfer material (HTM), banner material, photo paper, papers, wall-paper, reflective films, mesh, dye sublimation transfer paper, and more.

Loading of jumbo rolls is simple and efficient. Simply slide the tension shaft through the core of the jumbo roll and position the shaft on the JC770 or JC1650 via a safety chuck and lock it in place. The JC770 and JC1650 supports 3-inch and 6-inch cores allowing the device to process a wide range of media.

Benefits of NEPATA JC770 and JC1650 Jumbo Unwinders include:

- Unwinding of jumbo rolls for converting with a diameter up to 40 inches and a weight up to 1,100 pounds;
- Web width up to 72 inches;
- Controlled and adjustable web tension;



- Web speeds of up to 5 feet per second;
- Compatible with the UA770, UA1650 Rewinders and UA1650 ADWS Converting Centers; and
- Quick return on investment through productivity gains, error, and waste reduction.

For more information, visit <https://supply55.com>.

CODAIRE-NP/SK Heavy Duty LCP Ink Jet Printer

Dalemark Industries, Inc., a leader in coding, product transport and labeling systems for industrial and consumer packaging, is pleased to introduce its new Heavy Duty CODAIRE®-NP/SK Programmable Large Character Ink Jet Printer designed specifically to work with solvent, oil, pigment, and water based inks in demanding applications including lumber, chemical, mining, tires, paper mills, masonry, and more.

Units are designed for their ruggedness and ability to print fixed and variable dot matrix alphanumeric copy from the top, sides or bottoms of moving products. These heavy-duty units are manufactured to meet Dalemark's highest quality standards.

Features include:

- Enclosed stainless steel print head(s);
- .25 – 5 gallon refillable ink supply system;
- Full alphanumeric print capability;
- Dust and water-resistant print head enclosure;
- Print speed up to 330 fpm with 98 message memory (at 45-character length);
- Top, bottom or side print capability on moving porous/non-porous substrates;
- Adjustable print heights from 7/16 inches up to 4 inches (dependent upon print head);
- Works with factory air or optional self-contained air pump; and
- Designed for 24/7 operation in harsh and demanding environments.

For more information, visit <https://dalemark.com>.

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GEW and Sarepco Partner for South Africa

As part of GEW's ongoing program to strengthen its international distribution network, the company has announced the appointment of Sarepco Pty Ltd. as its key distributor in South Africa. GEW's Nilpeter and ABG International business will continue to be managed by CSM Print Services, while all other business in the country will be handled by Sarepco. This becomes effective from January 1, 2022.

Sarepco operates from a head office and showroom facility in Midrand, Johannesburg. The company has built a solid reputation since it was founded by its three directors in 2001, and the 12-strong team there are renowned for their specialist expertise in label and narrow web printing. Representing several major global brands, including Mark Andy and Rotoflex, Sarepco is an established pillar of the web printing industry in South Africa.

"Although GEW and Sarepco have worked together in some capacity for over 20 years, the new arrangements will see us taking over exclusive responsibility for our areas of GEW's business in South Africa. Our salespeople and our service technicians are highly experienced in working with GEW

systems and so the next step will be a seamless progression," said Paul Bouwer, sales director, Sarepco.

Sarepco will hold stock of all key GEW spare parts and consumables locally in South Africa, to avoid any possible importation delays.

"LED adoption is growing steadily in South Africa and GEW are excited to work with Sarepco to transition this market. With energy costs rising and GEW's innovative and cost-effective new range of LED products bringing a step change in press productivity, we look forward to working with Sarepco in promoting and demonstrating the benefits of this now critical technology to our customers in South Africa," said Robert Rae, managing director of sales, GEW.

Sarepco will exhibit the latest GEW products at Propak/Printexpo Africa 2022 in Johannesburg, which runs from March 8-11. Propak/Printexpo is a key local exhibition for stakeholders in the food processing, packaging and labelling industries, providing a forum for trading, education, sourcing of products and advancements in technology.

For more information, visit <https://www.gewuv.com>.

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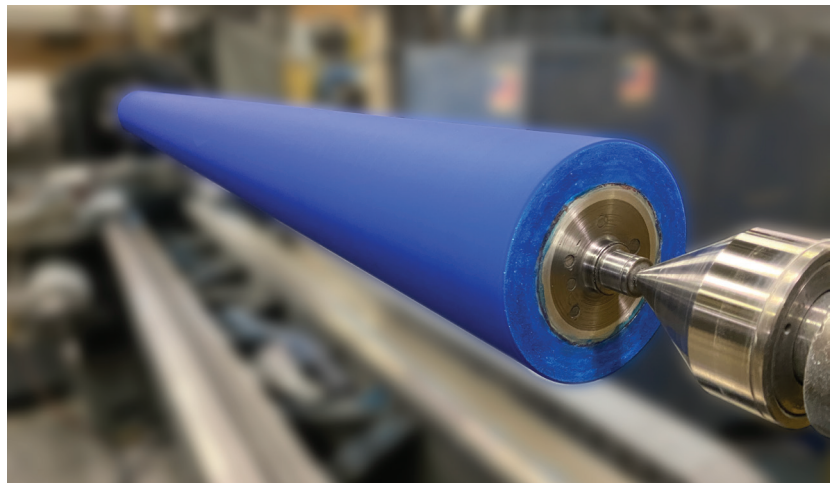
Founded in 1938 and based in Union Grove, WI, American Roller has multiple facilities spread throughout the United States, China, and several licensees located globally. This global network drives multiple levels of availability with local plants, integrated transportation, and a national sales and customer service team.

Globally Networked Resources

Our globally networked strategies drive multiple levels of availability with local plants, integrated transportation, and national sales and customer service professionals. Our staff is organized in teams dedicated to our customers to ensure your experience is seamless regardless of product or plant. With locations strategically placed throughout the U.S., a plant in China, and 8 globally located licensee locations, we've got you covered regardless of where you are located.

Roller Services

We differentiate ourselves by anticipating market needs and developing state-of-the-art engineered solutions that help our customers stay at the forefront of their industries. Our services are continuously expanding to provide a more comprehensive experience, personalized solutions, and superior services. While our services are always evolving, our "core" services include our on-site coatings, reverse engineering, various finishing options, and journal/shaft/core body repair.



Core Fabrication

Industrial cores and bases are manufactured in-house with the capability to apply all material types. Our experienced team of engineers is available for design and CAD Drawing assistance. Whether you need a new live/dead shaft, idler, bowed, heat transfer, and more, we can engineer a solution for your unique application. Thermalon, our patented electric heat transfer rolls are a cost-effective advantage over oil, water, or steam heat-generating systems found in many converting operations.

Roller Coatings

Plasma Coatings was developed as a unique dual-coating system that offers the wear and abuse resistance of thermal spray materials such as Tungsten Carbide with high release polymers like Teflon. Our expertise with polymer materials is gained from decades of providing the highest quality and most extensive selection of polymers. Our field engineers will evaluate your application to provide a solution and conduct lab testing with your product or with you to field test coatings to determine the perfect coating for your specific application.

Roller Coverings

All surface enhancement coverings are manufactured in-house giving users the best solution by balancing the engineering trade-offs of each covering type. Arcomax is the name brand for our all-encompassing polymer family of roller coverings. We provide standard compounds as well as blended and specialty formulated versions of standard polymer families. In addition to providing standard and customized compounds, American Roller also provides a variety of specialty covering options; Arcostretcher and Pegasus to name a few. The American Roller Arcostretcher is an all-purpose elastomeric grooved roller designed to remove wrinkles from paper, film, and foil without web distortion. And our Pegasus line of rollers provides a dual-layer compression roll with an abrasion-resistant outer cover for converting, corrugated, and printing industries.



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Globally Networked Resources

Our globally networked strategies drive multiple levels of availability with local plants, integrated transportation, and a national sales and customer service team.

Locations

11 locations and 8 globally located licensee locations with dedicated teams providing customers support regardless of their location.

Roller Services

Anticipating market needs and developing state-of-the-art engineered solutions that help our customers stay at the forefront of their industries.

Core Fabrication

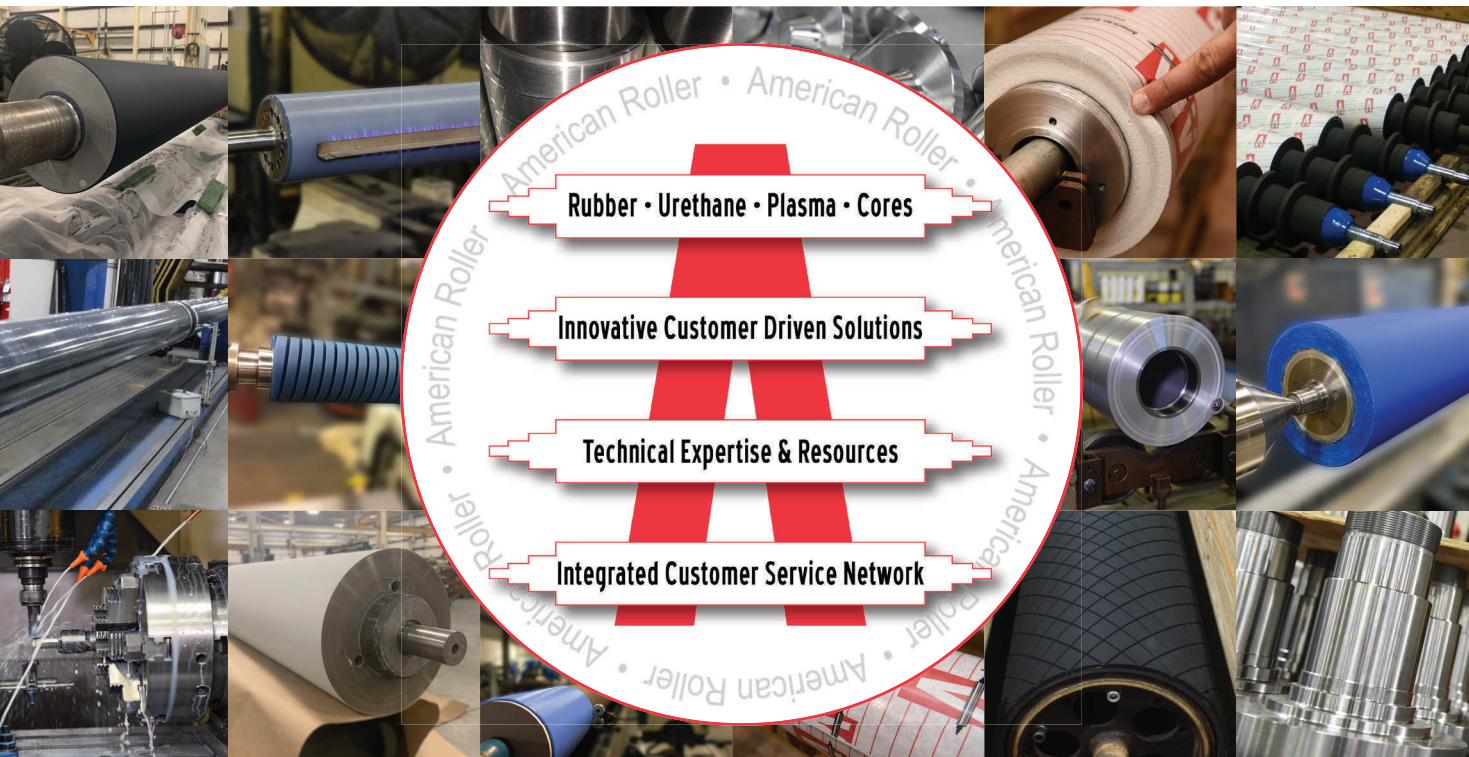
Our experienced team of engineers is available for design, engineering, and fabrication assistance.

Roller Coatings

Our dual layer coating system offers the wear and abuse resistance of thermal spray materials.

Roller Coverings

All surface enhancement coverings are manufactured in-house giving users the best solution by balancing the engineering trade-offs of each covering type.



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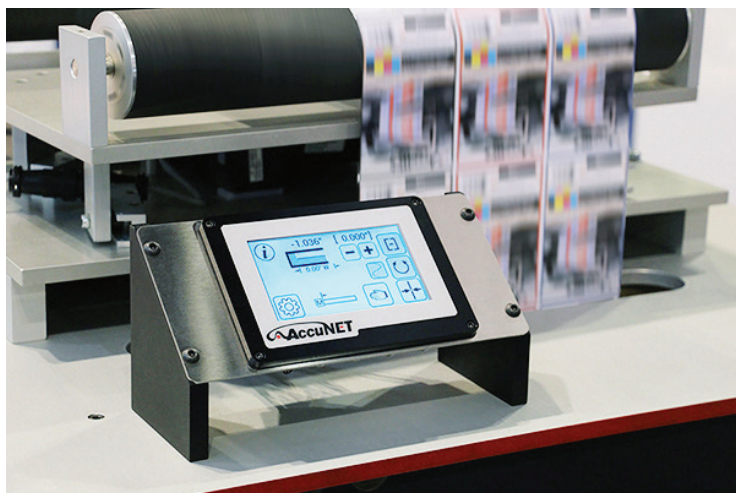
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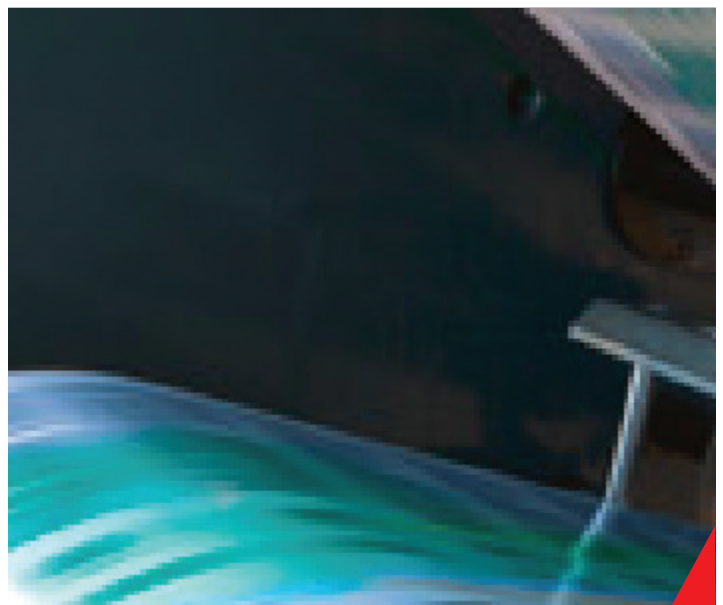
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Addressing profitability factors for converting customers is the focus of Davis-Standard's converting systems group. Consider Davis-Standard your one-stop-shop for the industry's largest portfolio of converting solutions for paper, film and foil products. From concept to finished rolls, our converting equipment strategy evolves around industry trends and your processing needs.

Providing you with automated features that enable better resource utilization and outputs, as well as options for environmentally conscious processing is a priority. We're addressing current trends with:

- Highly efficient equipment designs and smarter technology, including extruders with a more compact footprint and the use of the IIoT (Industrial Internet of Things) for improved performance analytics
- Promotion of best practices through informational seminars and webinars, delivered by in-house industry experts on a range of topics
- Ongoing customer R&D opportunities for new application development and validation at laboratories in Pawcatuck, Conn., and Fulton, N.Y.

A few recent additions to our converting machinery line-up include the DS Activ-Check™ and CHP extruder for extrusion coating applications. The DS Activ-Check™ exemplifies the value of digital transformation by using systems and strategies offered by the IIoT to simplify your converting process data. The configurable platform engine uses analytical tools based on long-term cloud data storage, process, and equipment technology algorithms to help your management and production teams identify quality and line efficiency factors for better processing. This includes improved operator effectiveness and safety, reduced downtime, and consistent product quality.



The sleek CHP extruder offers you a smaller footprint and lighter weight machine to accommodate an existing carriage or platform structure. You benefit from a space-saving retrofit or coextrusion addition in order to boost outputs and line speed. This includes efficient mixing capabilities for a low melt temperature and output rates up to 80 to 100 percent higher than current extruder options.

In addition to new innovation, you can expect a collaborative and worry-free approach to development, installation, and training from start to finish. This includes:

- A 24/7 service hotline
- Extensive spare parts inventory
- On-site technical services
- Equipment upgrades

There are several retrofits and control options to extend the life of your machinery investment with like-new system performance and options to accommodate your budget parameters. For example, you can add extrusion coating capabilities to an existing laminator to address new structures and applications while supporting operational efficiencies.

To support continued growth in markets such as food and protective packaging and agricultural films, we'll work with you to engineer the right solution for the application(s). This includes machinery that fulfills the most demanding flexible packaging, non-wovens, paper and board coating, liquid coating and laminating applications. You can take advantage of:

- Laboratory-sized systems for R&D all the way up to 6.2 meter-wide systems for industrial materials
- A proven range of extruders, feedscrews and control systems
- Automatic profile control (APC), air rings, deckle and die options, multi-coating solutions, web handling, winding and unwinding, liquid coaters and more

This is further augmented by Davis-Standard's large installed equipment base, global sales and service presence, and established network of trusted vendors to ensure quality control and timeliness of delivery to customers worldwide. For more information about Davis-Standard's converting capabilities, visit <https://davis-standard.com/market-solutions/>.

About Davis-Standard, LLC

Davis-Standard, LLC (www.davis-standard.com), headquartered in Pawcatuck, Conn., is a global leader in the design, development and distribution of extrusion and converting technology. Davis-Standard systems encompass over 11 product lines to support manufacturing applications and customers within every major industry. This includes the agriculture, automotive, construction, healthcare, energy, electronics, food and beverage packaging, and retail industries, among others. With more than 1,400 employees worldwide and a network of independent sales agents and suppliers in nearly every country, Davis-Standard is committed to engineering systems that are reliable, environmentally friendly, and offer a high return on investment. The company has manufacturing and technical facilities in the United States, Canada, China, Germany, Finland, Switzerland and the United Kingdom.



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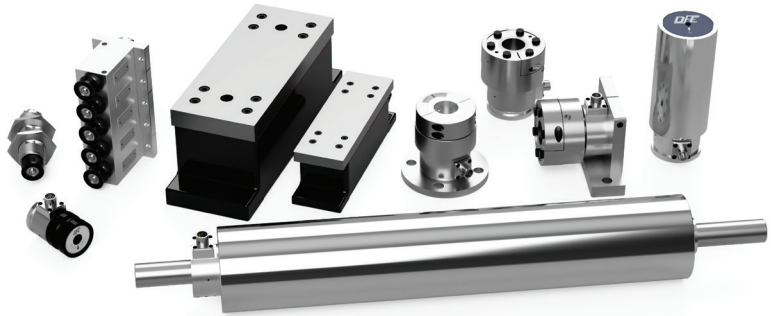


Dover Flexo Electronics – The Tension Control Specialists

Dover Flexo Electronics (DFE) is a recognized leader in tension control solutions, with 47 years experience designing and manufacturing load cells, amplifiers, display indicators, closed-loop controllers, pneumatic brakes and idler rolls. DFE tension systems deliver improvements in material processing productivity and reliability, helping to reduce waste and operating costs. Industries such as flexible packaging, paper, film, foil and converting are their specialty.

Investment in a new tension measurement system often begins with the installation of a *Tension Roll®* transducer or cantilevered *Narrow Web* transducer. The *Tension Roll®* and *Narrow Web* both combine a roll shell with dual tension sensors in a robust, shaft-centric design. The roller systems are ordered to spec and require no assembly — just bolt them onto the machine. *Tension Rolls®* are available in 2.25, 3, 4, 5 and 6 inch diameter, from 6 to 120 inches in length. *Narrow Web* transducers are available in 2.25, 3 and 3.5 inch diameter, from 6 to 20 inches in length. Load ratings from 12 to 400 lbs are available on both systems. Custom engineered roll diameters, lengths and coatings are available by request.

DFE also manufactures *Model C* cartridge-style tension transducers, considered to be the industry standard in high-sensitivity semiconductor strain-gage load cells. These workhorse tension sensors are available to support live-shaft and dead-shaft idler rolls with a wide variety of mounting styles and load ratings that range from 10 to 800 lbs.



The semiconductor strain-gage technology featured in all DFE load cells delivers up to 33x more signal performance than some foil gage alternatives. In combination with the refined digital signal processing techniques used in their amplifiers, indicators and controllers — DFE's tension systems are capable of delivering an incredibly wide range of sensing performance for a given load rating. This technology advantage provides added flexibility for customers who may need to repurpose their load cells for new applications or evolving job requirements.

DFE's newest *TrueView™* 1100 series touchscreen tension display indicator features an easy-to-use HMI menu and integral trend graph. Other features include a bright 500 nit, impact-resistant display and a compact, aluminum enclosure machined from solid 6061-T6 alloy for excellent durability and heat dissipation.

In 2021 DFE launched the TA500-EIP tension amplifier. This new flagship signal-conditioner features simultaneous EtherNet/IP™ and analog connections for compatibility with current and next-gen-

eration PLC systems. Other features include onboard diagnostics, web browser configurator, EDS file support and Quik-Cal™ push-button zero and calibration. The TA500 is CE-marked and ODVA conformant.

The turn-key, *SteadyWeb™* 6 digital tension controller delivers precise closed-loop performance with an incredible amount of flexibility and adjustment. *SteadyWeb™* 6 was designed with modularity in mind, providing torque control options for electric and pneumatic brakes, clutches and motor drive systems.

DFE's full line of pneumatic tension brakes are both simple to operate and reliable. The time-tested design features stress-relieved ductile iron discs, tool-less quick-change pads and limited-travel pistons. Patented *Silencer™* friction pads are extremely effective at eliminating brake squeal — providing environmental and safety benefits for operators who work in close proximity to braking systems.

All DFE manufactured products are made in the USA and backed by an industry-leading 5 year tension-free warranty.



Phone: (603)332-6150

Website: www.dfe.com



TENSION MEASUREMENT & CONTROL SYSTEMS

TA500 Tension Amplifier

A next-generation load cell interface has arrived. DFE's newest tension amplifier provides simultaneous Ethernet, 0-10 VDC and 4-20 mA connections for easy integration with current and legacy PLC systems.

The TA500 also features Quik-Cal™ digital calibration, built-in diagnostics, web browser configuration utility, security lock-out, PLC configuration file support, remote zero & calibration, integral DIN rail mounting and DFE's industry-leading 5 year warranty.



Compatible with all DFE Load Cells

Upgrading control systems for Industry 4.0 has never been easier. Whether you're building an advanced slitter-rewinder with a Segmented Tension Roll® or refitting Model C transducers on a 20 year old web press, the TA500 is designed to integrate quickly and seamlessly.

The TA500 is backward-compatible with all DFE tension transducers manufactured since 1974, including: Universal Transducer, Model C, Model F, Model LT, Model RFA, Model RS, Model THN, Model UPB, Model SUPB, Model VNW, Narrow Web, Tension Roll® and Segmented Tension Roll®.



MORE INFO





Faustel Leads the Converting Industry with Our Innovative Technology Center

For over 60 years, the Faustel team has been delivering innovative coating, laminating, and winding machinery world wide. At our headquarters in Germantown, Wisconsin, product and process engineers design, build, and prove custom converting equipment that continually advances and surpasses industry expectations.

What Does it Mean to Collaborate with the Global Leader in Custom Converting Technology?

The transition from prototyping to production can be difficult, and this is the challenge Faustel's engineers are uniquely equipped to solve. Inside the Technology Center, Faustel's experts work alongside the customer's product development team to innovate the converting processes used to make the latest hydrogel bandages, aircraft insulation, Li-ion batteries, and more. There's a reason that Faustel is trusted by major brands to develop the high-performance converting systems their success depends on.

Through effective collaboration with the customer's in-house team of product developers, Faustel's team is able to further streamline the R&D process and improve the quality of the final product. To facilitate continued development in these socially distanced times, Faustel has introduced Tech Connect, a unique program that provides customers an interactive online interface to allow remote lab trials, while also eliminating travel costs.



The Proof is in the ROI

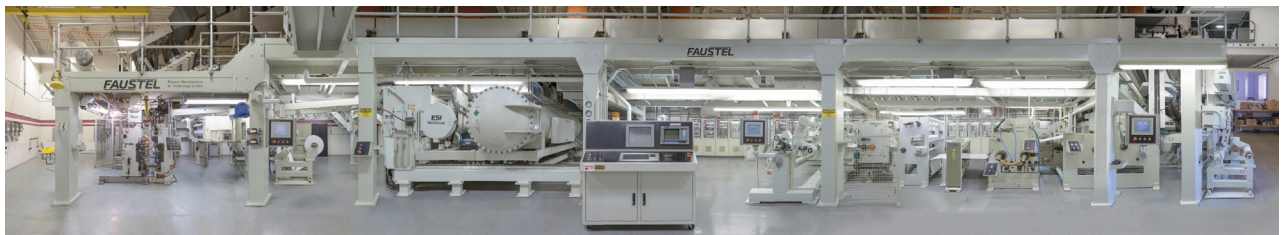
This synergistic collaboration results in higher quality equipment and converted products through an efficient process which maximizes resources. Faustel is recognized globally for our high tolerance, exceptionally reliable converting equipment, but our ability to support the R&D process is what truly excels beyond the competition.

Particularly when working with expensive substrates, such as foils and laminates, the continuing ROI of Faustel's equipment is remarkable. Additionally,

Faustel's custom engineered converting lines have long-term reliability, producing consistent and superior results throughout their decades-long lifetime. Ultimately, an investment with Faustel is so much more than a simple equipment purchase. It's an assurance of success for your unique process, from beginning to end. ■

FAUSTEL

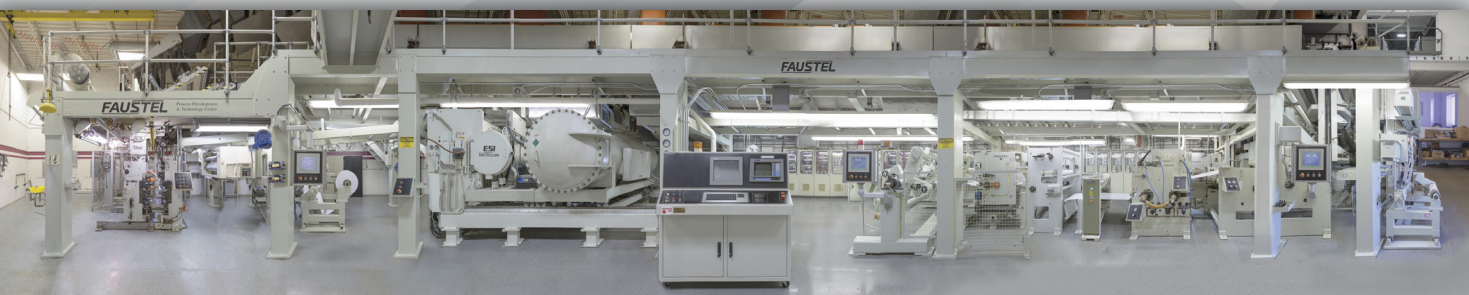
For more information on the Technology Center, contact a Faustel sales engineer at (262) 253-3333, or visit our website at www.faustel.com.



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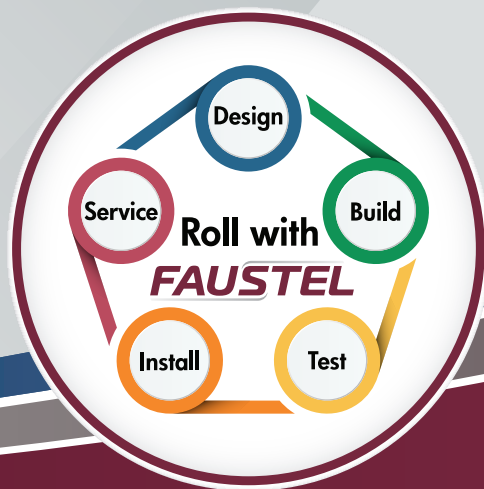
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Two Decades of Innovation

Jemmco is excited to be celebrating our 21st year in business and our 21st year as a leading supplier to the extrusion and web converting industries. Jemmco is backed by decades of experience and expertise in the industry, which has translated directly into innovation. Our team is passionate about identifying industry inefficiencies and developing products to overcome these issues and enhance and improve our customers' processes.

Roller Coverings that Save Time & Money

Jemmco offers a full line of roller coverings, from our JemmTron™ Corona Treater Roll Coverings and JemmTac™ Web Cleaning Roller Coverings to our JemmTrac™ Traction Roller Coverings, JemmStat™ Anti-Static Roller Coverings and JemmSil™ Release Roller Coverings. These unique, rubber sleeves have replaced traditional bonded coverings and have changed the roller covering environment over the past 20 years. Now, instead of having to incur astronomical two-way shipping costs and regrind expenses, customers simply install Jemmco's economical sleeves on-site and with little to no downtime!

Made-to-Order Dyne Test Products

Our line of Dyne Test Products contain the largest variety, including Accu-Flo™ Felt Tip Dyne Pens, Accu-Flo™ Jumbo Dyne Markers and EZ-Read Poly Test Dyne Pens, which enables us to meet the wide range of applications of our customers. Our pens and solutions are mixed to order and manually tested by our on-site experts to ensure our customers receive the most accurate and highest quality product with every order.

Reliable, Effective & Affordable Web Cleaning

Most recently, our JemmTac™ Component Style and System Style Web Cleaners



"Jemmco's Component Style Web Cleaner has been an incredibly reliable and extremely effective upgrade to our process. With its economical price, we're very excited to have just purchased our second system!"

— Rich Grecki, Willow Tex LLC
Jemmco, LLC Customer Since 2014

have been making waves. Featuring our JemmTac™ Web Cleaning Sleeve and Pre-Sheeted Adhesive Rolls, Jemmco's Web Cleaners offer a comprehensive and highly effective web cleaning solution – without changing your web path – at a fraction of the cost of traditional systems.

More to Come!

Jemmco prides itself on its ability to consistently deliver new and innovative products. We are gearing up for a new product launch that will expand our line of JemmSil High Release Sleeves. This new technology will be sure to make waves, so stay tuned!

When Quality, Affordability & Timeliness Matter...

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Jemmco offers the best treater roll coverings for every application!

JemmTron Corona Treater Silicone Sleeves

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- Offers better wear resistance than bonded silicone
- Most economically priced Corona Treater Roll Covering
- FDA Compliant
- Available in 1.5"-10" diameters, lengths up to 10 m

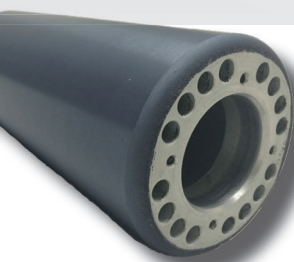
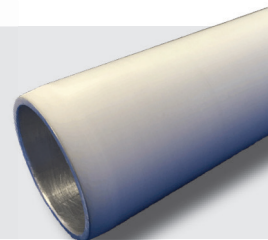


JemmTron CRS100 Conductive Corona Treater Silicone Sleeves

- Outperforms bare roll & ceramic
 - Soft rubber reduces back-side treat
 - Unique electrical properties redistribute power to reduce energy waste
 - Higher treat levels confirmed by independent OEM's study
- Up to 50% lower cost than traditional ceramic roller coverings
- Reduced overhead & downtime, as sleeves can be easily installed on-site

Epoxy Roll Coverings

- Hard, durable and long-lasting to withstand knife cuts & mechanical damage
- Capable of enduring the heat, ozone and UV typically generated



Ceramic Treater Roll Coverings

- Available in dielectric, semi-conductive or conductive formulations
- Extremely hard surface, impervious to knife cuts and most mechanical damage
- Outstanding resistance to heat and ozone
- New, long-lasting formula!

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Jemmco, LLC
Celebrating 20 years in 2010



Martin Automatic – essential efficiency for web fed applications

For more than five decades Martin Automatic has helped converters improve their productivity with high performance, state-of-the-art solutions. The scope of the company's technology has taken it into a variety of markets: almost any material that is produced in roll form has been processed by Martin equipment at some stage.

In label converting, Martin is well known for its range of narrow-web automatic butt splicers and transfer rewinders, but the company is equally respected and known for its global presence in other roll-fed industries. Whereas the label industry considers 670 mm web width and 200 mpm advanced, Martin supplies high-speed, low-tension roll automation to wide-web coating and laminating converters of tissue, nonwoven and film, where 900 mpm and 4.5 meter web widths are common.

Once these wide-web materials are converted into narrow rolls, other converters use Martin splicers to automate their manufacturing of disposable diapers, feminine care products, absorbent pads, sanitizing wipes, medical gowns and face masks. Filter media converters also enjoy the benefits of using similar equipment in the manufacturing of filters for home and automotive.

Other markets for Martin technology include roofing and building materials, medical packaging, tube laminate, folding cartons, beverage carriers, and disposable cups and plates.

Martin Automatic's reputation around the world is defined not only by the quality and clarity of its technology, but also its original patented designs, such as the inertia compensated dancer roller and the Airnertia™ idler roller, which offers high-frequency response to speed changes in processes running delicate webs. Martin customers benefit from the thought leadership and intentional simplicity behind Martin's design philosophy.

Integrating Martin automatic roll changers into production lines provides converters with significant cost savings – re-



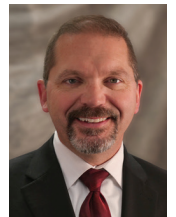
Martin Automatic unwind/splicing system for asphalt shingle converting.

duced waste and improved efficiency reflect directly on the bottom line. The speed and efficiency enabled by Martin non-stop winders and unwinders are valuable at all times. Over the past 2 years, one hears the word "essential" used, typically to describe a business enterprise. That word also describes Martin's automatic roll changing: essential to producing and delivering rolls and final products to market, whether those products are PPE-related, packaging for pharmaceuticals, labeling for food or other uses.

During the pandemic, for example, Martin equipment has helped companies increase their production of PPE and cleaning products. Some splicers, not designed specifically for PPE production, were quickly switched over to converting paper rolls for sanitizing wipes. In-house design, fabrication, controls and assembly capabilities enabled Martin to deliver highly-specialized splicing unwind equipment for N95 face mask components in just 3 months. And Martin's extensive service department supported the startups both remotely and in person.

"As an essential operation," says Gavin Rittmeyer, Vice President of Sales

and Marketing, "we've taken all reasonable steps to keep our doors open throughout the pandemic. At Martin, we really do consider our dedicated colleagues, both at the factory headquarters and around the world, to be family. We look after each other, and we have found creative ways to look after our customers, even during the most difficult stages and severe travel restrictions."



VP Gavin Rittmeyer has been with Martin Automatic for over 30 years



Martin Automatic

Profitable Sustainability

Stewardship for your bottom line and stewardship for the environment can work together. Adding non-stop unwinds and rewinds from Martin Automatic is good for your business and good for the environment too. Find your competitive edge, and improve your bottom line and environmental impact.

By adding Martins to two label presses we were able to reduce energy consumption on the presses by 23%.

Label printer in Europe

We have seen a 30% reduction in waste levels since adding the Martins.

Bag making company in USA



non-stop running non-stop running non-stop running
your press here



A cleaner, greener tomorrow through
conserving energy, waste, and downtime
with every splice.



Martin Automatic Inc

High Performance Splicing, Rewinding, and Tension Control Systems

OUR EXPERIENCE...YOUR ADVANTAGE

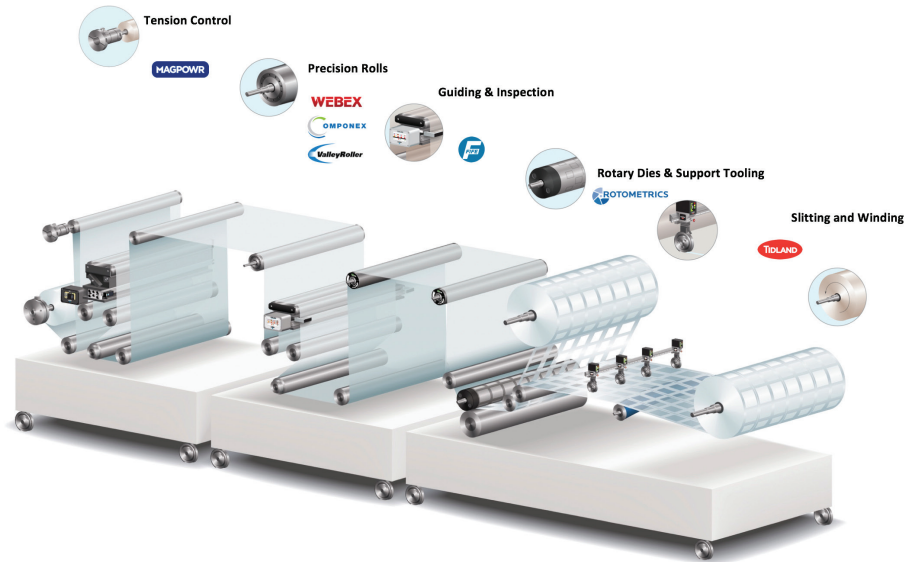


End-To-End Solutions From Maxcess Keep You Running Better, Faster, Smarter

Maxcess® saves you time and money by optimizing your peak output performance. We do this by leveraging the world's best web handling product brands of RotoMetrics, Fife, Tidland, MAGPOWR, Webex, Valley Roller and Componex, offering customized end-to-end web handling solutions that help you work better, faster and smarter.

We manufacture all of our components to meet the highest standard of precision, with the deep application knowledge behind how each component works better together, to solve challenges faster across your converting line. All to provide unmatched product integration and precise positioning from unwind to rewind.

We're Maxcess. Solutions that help you work better, faster and smarter.



We Help You Run Better

Better Quality End Products are Achieved Through Components Designed to Work Better Together

- It takes a Combination of proper Tension Control, Guiding, Precision Rolls, Slitting, Winding and Rotary Dies to achieve precise and perfect parts
- We Don't Point Fingers When Problems Occur. We Solve Problems Faster!
- Maxcess is the ONLY Company with End-to-End Knowledge

Better Product Quality Means Less Scrap, Less Waste and Less Downtime

We Help You Run Faster

Increase Your Throughput and Reduce Downtime

- Decades of Combined Knowledge to Increase Line Speed
- Combining our Rotary Dies, Precision Rolls, Shafts and Custom Performance Coatings Optimize Your Production Output While Keeping Downtime At A Minimum.

More Product Faster Means Greater Profits and More Opportunities

We Help You Run Smarter

Deep Global R&D Investments for Next-Generation Industry 4.0 Solutions

- Millions Invested Annually in Global R&D
- Industry 4.0 Smart Connected Devices
- Developing Inner-connected Data Analytics From The Entire Line, End-to-End, Allowing For:
 - Predictive Maintenance
 - Web Performance Monitoring
 - Wear Detection Inspection
 - Automated Manufacturing to Minimize Potential for Human Error

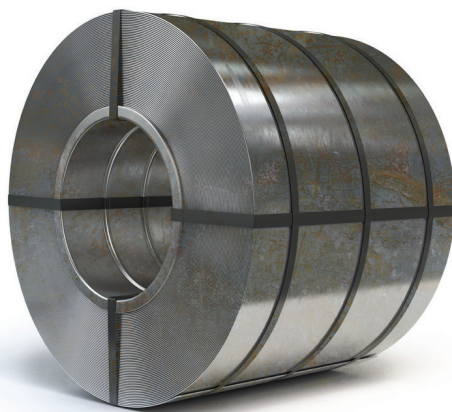
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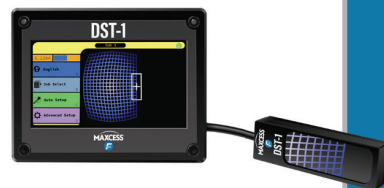


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This revolutionary breakthrough in sensor technology utilizes **object recognition** to guide materials and an **intuitive touchscreen** for easy setup and calibration. Changing materials has never been simpler.



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A MAXCESS BRAND



Leading the Industry for Converting Machinery Manufacturers

Leading the industry for a converting machinery manufacturers means being at the forefront of the two main categories: market share and innovation.

Can be defined as "leader" a Company that sells the higher market share confirming not only the quality of the product but as well the ability to provide customers always with the best value for money, the best service and an ethical approach to business.

Can be defined as "leader" a Company that sets the standards and brings to the industry the largest number of consistent innovations, technical and technological solutions to improve productivity, product quality, operators and consumers safety while taking care of the environmental impact.

Nordmeccanica is in-fact all of the above.

With a global 70% market share, that becomes over 90% in certain markets, Nordmeccanica confirms that quality pays. Over 300 units a year delivered: coaters, laminators and Vacuum Metallizers. Reaching such targets is possible when serving customers by providing good hardware but as well by delivering effective training, state of the art know-how and best in class after sales services.

Nordmeccanica was incorporated in 1978 and during this past 44 years has achieved the mentioned targets through a constant growth at a pace that allowed to improve services in parallel with the sales growth. The organization today counts on 5 locations to assist customers globally. The Long Island based Nordmeccanica NA is the Nordmeccanica Group member responsible for North America.

On the innovation side Nordmeccanica developed all concepts behind the modern coating and laminating technology. Just a short list.

- The invention of the modular machinery concept that allows for unparallel product quality and unsurpassed efficiency in handling even complex products.



- The interchangeable coating heads design: the Combi family of products.
- The most advanced drying technologies available that allows for state-of-the-art productivity, with the best in class energy saving and drying efficiency.
- The innovations behind the development of Solvent less lamination on the machine side. All that you see currently on the market was designed, developed and patented by Nordmeccanica in the early days of that technology, from the 5 roller system, to the web handling technology, to the mixing head design and more.
- The invention of the "compact" coater-laminators concept, a class of products invented here and perfected: the Simplex family. A product line that features the largest number of attempts of imitation.
- The all-motorized unwinds technology to perfect the web handling in demanding applications.

All of the milestones the industry is talking about:

- The horizontal modular drying oven.
- Triplex SL One Shot the only design that allows for reliable 3-ply lamination using exclusively solvent free adhesives.
- Duplex One-Shot the revolutionary technology for quick curing in solvent less lamination developed in cooperation with Dow.
- The integration of laser die-cutters in laminators for the conversion paper based packaging for the food industry.
- The barrier enhancing technologies developed in cooperation with Henkel

And many, many more.

It is a 44 years of continued efforts to provides customers with unparalleled solutions for reliability, technology, efficiency, safety, integration and connectivity.



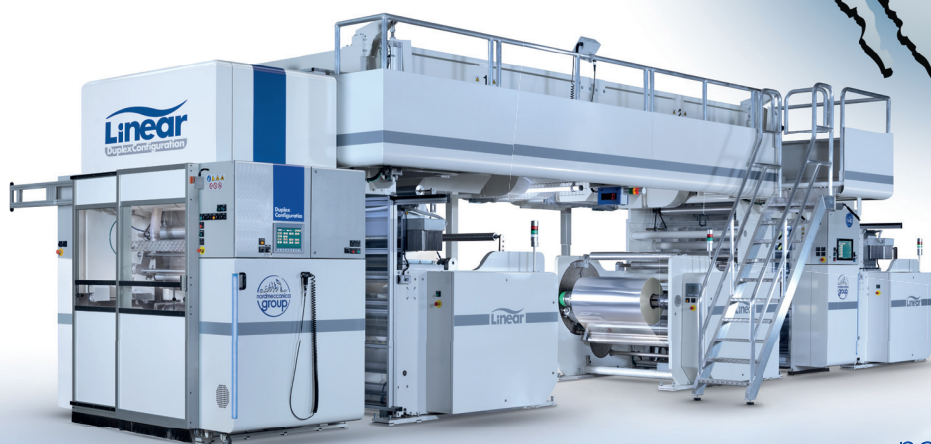
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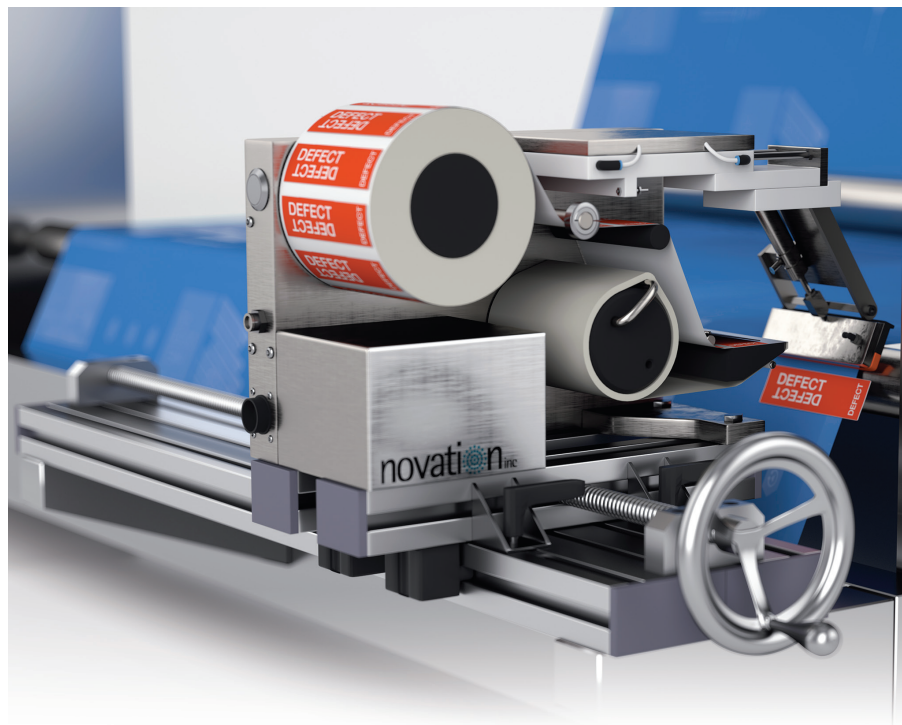
World Leader in Defect Marking

Throughout the 1980's and 1990's a number of companies marketed numerous styles of web flagging devices. They were met with varying degrees of success and much greater degrees of disappointment. Most were notorious for not performing as promised. They were simply variations of label applicators. None of the web flagging devices at that time were designed specifically to address the challenges that come with applying labels to moving webs—especially webs moving at high speeds. Some of these machines attempted to dispense a label off the liner directly onto the moving web. Some tried to accelerate the label to match the web speed before applying. And others used air jets to blow a flag onto the web.

As a result of these shoehorned applications, maintenance shop “bone-yards” started to fill up with web flagging machines sold, installed, and subsequently removed when they failed to perform reliably. Like the famous line from the movie “Anchorman” sixty percent of the time, they worked every time. And converters and printers one after another adopted the opinion that all WebFlaggers were doomed to fail.

This changed in 2002 when Alfonso Novelli founded Novation, Inc. It began with his efforts to find a reliable web-flagging device to pair with his ScrapTracker system. ScrapTracker was Novation's initial product. It was a roll mapping program which required a bar coded flag to be placed on webs moving at any process speed. The bar coded flag would have unique ID number which would then correlate to a location within a roll, and a data point in the roll map created. However, Novelli soon realized that there were no machines available that were specifically designed for his application—and certainly none reliable enough to pair with ScrapTracker.

Necessity being the mother of invention, Novelli put his 25 plus years of converting machinery design experience to



work to design his own machine. The result was the AF2 WebFlagger. The AF2 was designed for no other purpose than to apply pressure sensitive labels onto any type of web traveling at any process speed.

It accomplished this feat by first transferring the flag completely off of its carrier onto a vacuum applicator head. The applicator head then transferred the flag to the moving web by pressing the leading edge of the flag against the web where it is supported by a roller. “Nipping” an already dispensed label to a moving web in this fashion was a game changer. Novation's AF2 WebFlagger was marketed at that time as “The First WebFlagger that Actually Works.”

Novelli realized the AF2 could meet the need for a reliable web flagging machine in the converting and printing world, with or without the ScrapTracker system, and Novation began to market the AF2 as a stand-alone WebFlagger. As they say, the rest is history. Since 2002, Novation has sold over 1,500 WebFlaggers which have

marked over 50 million defects, etching their place in converting history as the market leader in web flagging.

In 2018 the battle-proven AF2 was retired and replaced by the much smaller and robust AF3 model which has options such as applying different color flags on demand, wireless remote control, and a slide base used to adjust the WebFlagger for web width changes.

Novation has built a reputation for excellent customer service, and thrives on problem-solving and innovating to improve safety and efficiency in the converting and printing industries.

novation

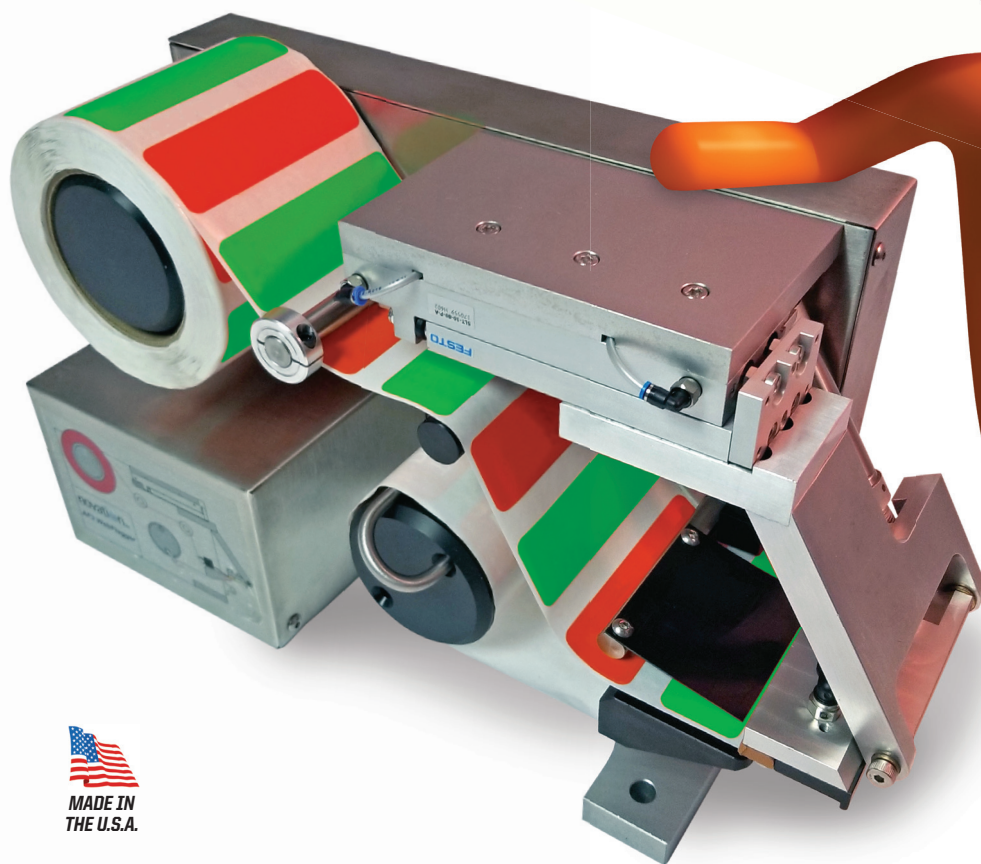
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FOR PETE'S SAKE, STOP HAND FLAGGING!

AND FIND DEFECTS DOWNSTREAM—FAST, EASY, AND HANDS-FREE

Finding and removing defects downstream is safe and easy with the Novation AF3 WebFlagger. With the push of a button, the AF3 accurately marks webs moving at speeds over 4,000 FPM. And our MultiColor option can flag the start and end of defects with different color flags—so now you can leave flaws on the floor, not out the door!



novation inc

The printing and converting industry standard in defect marking and tracking

NOVATION-INC.COM (610) 837-5026



QC Electronics, Inc. – Corona Treatment Specialists

What is corona treatment?

Corona treatment is a scientifically proven surface modification process that has been practiced in various forms for over 70 years. The object of surface treatment as a corona process is to render a typical plastic film or surface receptive to inks, glues, and coatings. The process is most widely known for its ability to improve the surface bonding characteristics of various materials.

Leaders In Reliability

QC Electronics, Inc. designs and manufactures a complete line of corona treatment equipment. We work closely with manufacturers including blown film, coaters, laminators, extruders, printers, and more to seamlessly integrate our systems with their production line. We also offer consulting and lab services through our in-house laboratory. QC is your **one-stop-shop for all corona treatment needs**.

The past few years, we have spent a lot of time rethinking and innovating our line of equipment. Our stations are now completely touch controlled and automated, allowing operators to finetune their corona treaters to deliver precise and even dyne levels consistently. A major new feature for 2022 is automatic air gap adjustment. This feature saves customers valuable time, increasing profitability.

As the only corona treatment equipment supplier that fabricates and manufactures a complete product line in-house, QC takes pride in offering customization and top-quality design at surprisingly reasonable prices. Compare the quality and workmanship of a QC Advantage Bare Roll Corona Treater against any other and you will understand why QC Electronics is known as the leader in reliability. QC



corona treaters are designed to be installed and forgotten about to allow you to focus on your core business and make profits.

Power Supplies

QC's power supply is unlike any other in the industry. Many companies seek out QC because we use SCR rather than IGBT technology. Last year, our NEXTGEN-i power supply went under a complete re-design. We developed the new design with a focus on new capabilities, longevity, and ease of operation in mind. The power supply is now controlled by an advanced operating platform using FPGA control. This allows the system to be more efficient and customer centric. The power supply is completely touch controlled; this allows you to access important operation information and run quick glance diagnostics.

Laboratory

All QC customers are granted access to QC's surface analyzation lab and personalized reports free of charge. QC's lab consists

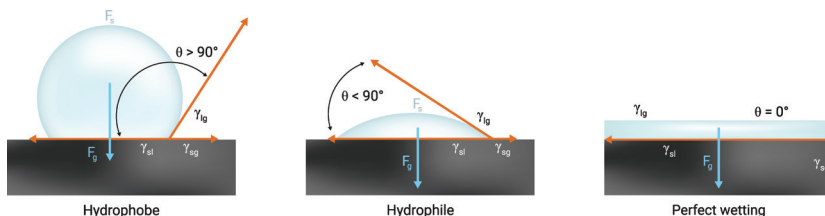
of a QC sheet corona treater, dyne testing utensils, and a state-of-the-art KRUSS surface analyzation device. The KRUSS surface analyzer provides extensive reports on the material's wettability and molecular structure pre and post treatment. The device uses a microscope to measure and document the reaction the material experiences with water and diiodomethane. This helps QC customers better understand their material(s) and provides them the tools the present the most profitable product.

Throughout our 34 years of business, QC has established a promising global presence. We work closely with scientists of the industry, continuously educating ourselves with the industry's innovations and discoveries with regards to the treatment of surfaces. QC is committed to studying the science behind surface adhesion and wettability to provide the highest quality, most efficient corona treaters available to the market.



QC Electronics, Inc.

www.qcelectronics.com
sales@qcelectronics.com
+1-608-742-1661





RELIABILITY

SIMPLICITY

INTELLIGENT

AUTOMATED

PATENTED



GLOBALLY TRUSTED

CORONA TREATERS

QC Electronics, Inc. designs and manufactures a complete line of corona treatment equipment. Corona treatment is a science-proven process used to increase the surface energy of materials thus increasing the material's adhesion capabilities.

Throughout 34 years of business, QC Electronics, Inc. has led the corona treatment industry through science and innovation. Our equipment's design is based off the study of the adhesion properties of various materials on a molecular level. To find out more about how corona treatment can benefit your process and why QC is the most profitable option, contact sales@qcelectronics.com.



SCAN ME

+1-608-742-1661





Leader in Anilox Roll and Sleeve Cleaning

Sonic Solutions has been a leader in the converting industry for nearly 23 years. They first started because a printer was having problems with their water based inks ruining their anilox rolls. Sonic Solutions provides ultrasonic cleaning systems for any sized anilox roll or sleeve. From 6 inches to over 10 feet. Today, thousands of printers throughout the world rely on Sonic Solutions anilox cleaning systems. The current family-owned business developed a wide range of cleaning systems for printers ranging from the narrowest of anilox rolls to the largest possible anilox sleeves.

Joe and Marie Walczak personally talk to printers every day and help them solve their printing problems. When a printer has problems matching or maintaining their densities it's usually caused by a dirty roll. So then the press needs to stop and no one wants that. A stopped press adds up to thousands of dollars of lost revenue. No one can afford this!

Coming to the rescue is Sonic Solutions. They can provide the best system for your needs. Sonic Solutions uses ultrasonics to gently and safely clean your anilox. It's really the perfect way to clean them. The tiniest of crevices of the ceramics are subject to the cleaning strength of ultrasonics. In their cleaning systems the ultrasonic power gently vacuums the anilox of any built up dirt and debris. Ultrasonics isn't a wash or a blasting system. It's better and safer. Ultrasonics is the same technology used to steril-

ize medical instruments in hospital operating rooms as well as components used in space by NASA. Shouldn't your anilox's be cleaned in the same safe and thorough manner?

Sonic Solutions has evolved their systems to be one of the safest in the industry using the most recent developments in the ultrasonic industry. While others still use lower frequencies, Sonic Solutions has standardized all of their equipment to utilize ultrasonics at 68 kHz. The smaller bubbles are able to go into the smallest of cells and clean the anilox safely and completely. No need to worry about the highest of line counts you have. The company has also made the equipment more durable, reliable and serviceable. The plug and play power generators can quickly be replaced with loaner generators to keep the systems and your cleaning operations up and running. No waiting for a month or more for replacement parts or repairs with some international companies.



Want to kick the tires a bit? Sonic Solutions has the ability to prove to you that the system will work with YOUR very own rolls and sleeves. You can send your rolls to the company and they will clean them for you and send them back. Or they can even offer a demo of the equipment directly at your plant. Keep the system for a week or so and see what kind of an impact it has on your business. Just to warn you though, once you have a demo in your plant you won't want to give it up. Customers usually buy the system because they are already saving money on using it.

Call or email Joe Walczak today to see how they can start making your company more money. He can be reached toll free at 877/654-7800 or emailed at Joe_Walczak@SonicSolutionsUSA.com.

He'll be happy to chat with you to learn more about your company and how Sonic Solutions can make a difference in your company's profits today.



Sonic Solutions

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www.SonicSolutionsUSA.com



BIG

System that can clean sleeves up to 70" long

or

SMALL....

System that cleans
narrow and medium
web rolls



...we can clean them all!

All our anilox roll and sleeve cleaning systems reflect:

- Preset functions that allow you to safely clean the highest line count anilox.
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- Stainless steel construction for longest durability
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- Fast friendly service that only a family run business can provide

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customer_service@sonicsolutionsusa.com

www.SonicSolutionsUSA.com



Graphics Experience Center

Alpharetta GA

Sonic Solutions has developed custom cleaning systems for the HP Indigo 20000, HP Indigo 30000 and Pagewidth T240 exclusively for HP and their customers.



World Leader in Pouch Making Machines

Leading company in manufacturing industry

For over half a century, Totani Corporation has manufactured pouch and bag making machinery. Since its incorporation in 1961, Totani machines are now located in over 57 countries all over the world and are highly regarded by well-established companies.

Totani Corporation continues to excel in leading the industry in pouch making machinery.

Totani's original idea, technology and development, power change the common sense of pouch making.

Our pouch and bag making machines use various film materials to make pouches with storage stability and heat resistance.

Totani machines make high-speed, high-quality pouches, in various shapes, which can be used in a wide range of fields.

Totani Recycle Ready/Quick Changeover Pouch Machine

- Totani's CT-Series are THE most popular machines in North America.
- CT-40, CT-60 and CT-80 can use Sustainable Films.
- Compact Pouch machines means less film waste and Quicker Change-Over.
- The most efficient pouch machines available.
- Totani America has the Best Technical Support.
- Totani is committed to the wise use of our natural resources.
- Recycle-Ready Films Can be produced at high speeds efficiently.

Totani innovations and enhancements have proven effective to improve efficiency in operation of recyclable stand-up pouches.

Dealing with web melt, print variation, shadow seals, and web instability were primary factors that went into Totani's most

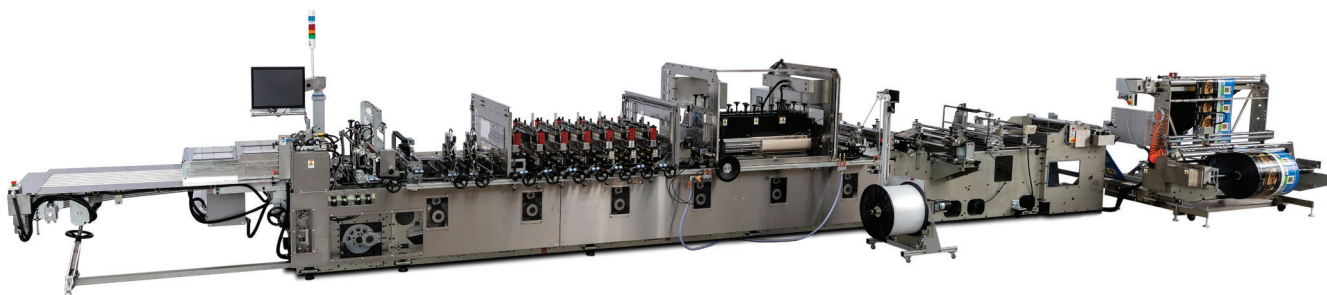
recent pouch machine that features a number of enhancements and new proprietary technology.

Ask Totani innovations and enhancements prove effective in set-up and change over times for stand-up pouches.

Ask us about Totani's most recent pouch machine that features a number of enhancements and new proprietary technology.



Contact Totani America Inc.
for more information.
sales@totaniamerica.com
920.632.7319



With the highest quality, longest running, and lowest maintenance, Totani's pouch making machines provide

Safety and Convenience

Quick Changeover Machines with Recycle Ready Materials



Totani is committed to the wise and efficient use of our natural resources

TOTANI

**The World Leader
in Pouch Making Machinery**

TOTANIAMERICA.COM

920-632-7319



Vetaphone – the first and best in surface treatment

Vetaphone has more knowledge and experience of surface treatment than any other manufacture in the industry. Since Verner Eisby invented Corona treatment in 1951, we have continued to develop technology that meets the requirements of a changing market. This passion for solving adhesion problems, part of the company's DNA, is vital if you are involved in printing, laminating, or lacquering, because Vetaphone can tailor-make a solution to meet your specific requirements.

Using cutting-edge technology in partnership with our customers, Vetaphone continues to pioneer surface treatment with its unique technical knowhow. We design and build systems that are innovative, highly functional, and ultra-reliable, because we know that no ancillary process can afford to be a weak link in the overall production chain. That's why many international OEMs name Vetaphone as their preferred supplier.

The key to our success is the willingness to share knowledge and expertise, and to expedite this we launched a new high-tech Test Lab at our HQ in Denmark in 2020 and followed up with the international opening of a new fully equipped showroom and demonstration facility in the summer of 2021.

Our unique Test Lab allows converters to trial their substrates prior to full commercial production, and is also available to manufacturers of substrates, inks, and lacquers. All have full access to cutting-edge Corona and Plasma surface treatment technology to test, monitor, and analyze performance under true simulated production conditions. Fine tuning in the Test Lab prevents costly errors later.

The showroom is our answer to the lack of international trade fairs during the



Covid pandemic. It houses a selection of corona treaters for wide and narrow web print applications as well as units specially designed for the laminating, converting, and extruding sectors. Unlike display equipment at a trade show, each unit is powered to enable us to carry out full customer demonstrations either online or in-person, wherever they are in the world.

Like all market leaders, we know the importance of service and support. Our global network of agents ensures users are never far from technical back-up and a comprehensive stock of parts. We also have a 24-hour online support team, while in key markets like the US, we have our own sales and support company to service our customers there.

Whether it's Corona treatment or the latest generation of Plasma technology for use with today's increasingly complex

substrates, Vetaphone has the answer. We aim to be your perfect business partner by providing a seamless operation from initial brief to installation and commissioning, and then to provide support for all the years that follow.

When it comes to surface treatment, Vetaphone is the first and only choice you will ever need to make.

VETAPHONE
Corona & Plasma

Vetaphone North America

155 North Wacker Drive, Suite 4250

Chicago, IL 60606

E-Mail: sales@vetaphone.com

Phone: (312) 803-3691

Web: www.vetaphone.com

THE IMPORTANCE OF CORRECT **SURFACE TREATMENT**

As the inventor of the
Corona technology...

..Vetaphone offers vast knowledge and experience with surface treatment and has an extensive portfolio of solutions for any type of application in the web processing industry.

Our expertise ensures the perfect surface adhesion – so you can deliver the perfect end result.



LOCAL SUPPORT



OPTIMAL ADHESION



LOW COST OF OWNERSHIP

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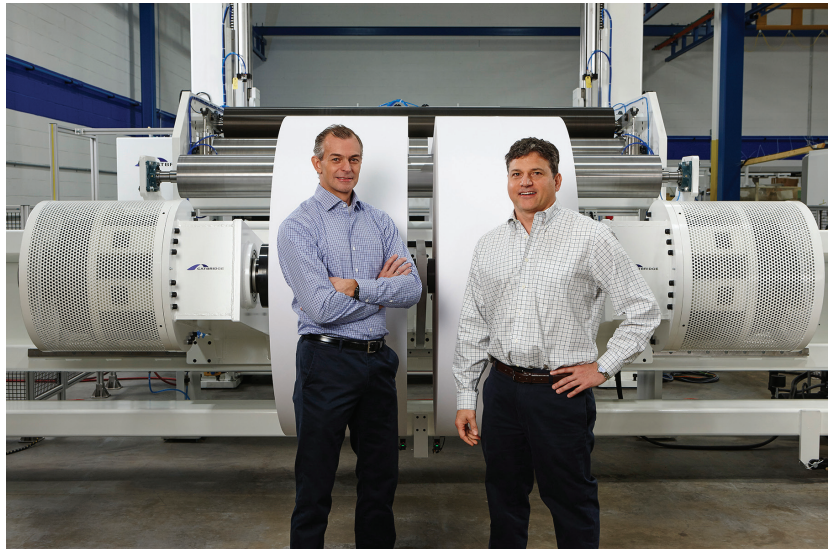
Leading Manufacturer of Converting Machinery

Catbridge Machinery designs and manufactures innovative, high-performance converting machinery for a wide range of industries including flexible packaging, film, paper, adhesives, nonwovens and building products. In addition to a complete line of slitter rewinders, Catbridge excels at integrating components to build state-of-the-art web converting systems and process lines for coating, laminating and other functions.

The Catbridge Difference

Using an innovative, customer-centric approach to design and engineering, Catbridge has emerged as the leader in state-of-the-art web converting solutions. What makes Catbridge different is their commitment to tailored solutions to meet the customer's needs. Unlike many of its competitors, Catbridge Machinery conceptualizes, engineers, builds, programs, calibrates and tunes every piece of equipment they sell, with customer input playing a role throughout.

Catbridge's highly qualified engineers combine decades of experience in the converting machine industry with the latest computer-assisted design and manufacturing technologies to create the best converting machine design solution for its customers. President,



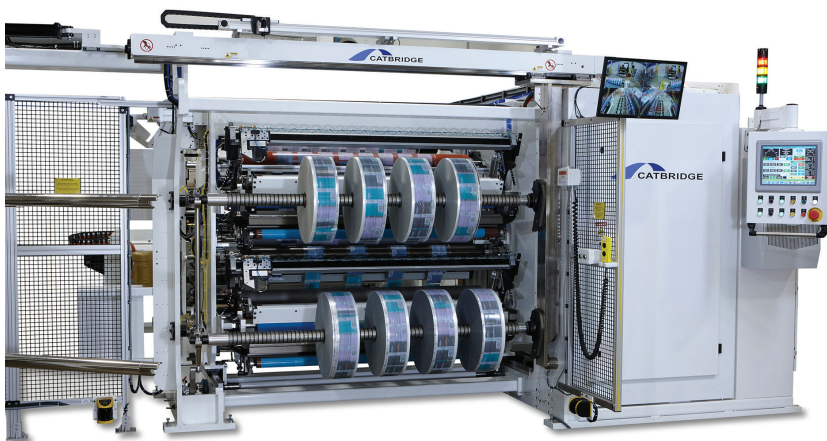
Michael Pappas and Vice President, William Christman, bring an unmatched passion and expertise to the web converting industry. Catbridge Machinery's greatest strength is the ability to provide solutions for a broad range of applications.

Innovative, Highly-Productive Slitter Rewinders

Catbridge has a complete line of high performance machinery designed to accommodate any level of converting. Catbridge duplex center winders, center

surface winders, surface winders and turrets all offer quality and performance that guarantee success. All Catbridge slitter rewinders safely and effectively increase throughput, improve finished roll quality and reduce waste. From unwind to rewind, all models integrate innovative technologies that deliver improved results.

Catbridge Machinery's design and manufacturing facility integrates engineering and construction seamlessly under one roof allowing for unmatched quality control. From start-ups and training to spare parts and remote servicing, Catbridge stays with you for the life of your machine.



Catbridge Machinery, LLC

sales@catbridge.com

www.catbridge.com

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Solutions for Guaranteed Adhesion



SOFTAL Corona & Plasma is a manufacturer of surface treatment systems for foil, film, web, paper, foam and more. More than 60 years of surface treatment experience has made SOFTAL a world leader and the benchmark in surface treatment technology.

SOFTAL produces a full range of powerful, dependable corona and plasma surface systems designed to raise the surface energy and adhesion properties of numerous substrates. Printing inks, lacquers and adhesives thoroughly wet out once treated with SOFTAL's technology.

The Benefits of SOFTAL's Corona Systems

- Corona stations - from 10 inches to 10 meters - with single or multiple electrode assemblies

- Robust, reliable design for maximum up-time and productivity
- Capable of meeting any line speed per your specification
- Individual corona generator power: up to 144 kW, twice as much as conventional generators on the market
- Modular generator technology overcomes the performance limitations of a single generator and keep systems running
- Stand-alone, high-performance ozone filter and destruction system
- Low energy requirements and operating costs
- Potential-free plasma stations for delicate films and printed electronics

Based in Hamburg, Germany, SOFTAL is represented in the USA, Canada and Mexico by 3DT LLC of Germantown,

Wisconsin; providing state-of-the-art German engineering with U.S. sales, service and support.

3DT LLC

Innovation in Corona & Plasma Surface Treatment Systems

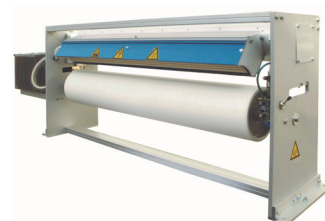
3DT is an industry leader in corona and plasma technology manufacturing a broad line of surface treatment systems, all customizable for unique applications. 3DT represents SOFTAL in North America. This strategic partnership provides solutions for numerous adhesion challenges in both the film and 3D industries. For more information contact sales@3DTLLC.com or visit our website at www.3DTLLC.com.



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- CUSTOMER-CENTERED DESIGN & ENGINEERING
- 60 YEARS OF EXPERIENCE IN SURFACE TREATMENT INNOVATION



Let's discuss your adhesion challenges!

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Solutions for Silicone Release Coaters

Applied Rigaku Technologies engineers, manufactures and distributes Rigaku energy dispersive X-ray fluorescence (EDXRF) products worldwide. We specialize in benchtop and process elemental analyzers that serve web applications with the ability to perform real-time or at-line silicone coat weight analysis.

For in-line process control, the NEX LS linear scanner offers cross and machine direction Si coat weight profiling of your process. NEX LS helps users make real-time decisions to achieve the control needed to solve the challenges in coating and converting processes.

The advanced **NEX LS** software is easy to use and helps provide continuous process control from the beginning to the end of the roll. The real-time cross and machine direction data help you make immediate quality control decisions and

address any questions or concerns related to the entire roll.

The intuitive user interface allows users to easily define recipes, including scan speeds and sub-second measurement settings, advanced roll reporting, and raw data logging for traceability and audits.

For at-line solutions, **NEX QC** Series benchtop EDXRF analyzers enable the measurement of very low silicone coating weights and metal catalysts in silicone coatings, all with one instrument. Challenging applications that were either marginal or not possible with earlier technologies are

now a reality. NEX QC Series spectrometers do not require helium or a special sample cup for Si determination. By simply placing a sample in the analysis chamber, NEX QC Series analyzers provide QC technicians with an ideal tool for quickly checking silicone coating thickness and composition.



Applied Rigaku Technologies, Inc.

(+1) 512-225-1796

info@RigakuEDXRF.com



Want more control over your Si coat weights?

Quality Control for Silicone Release Coaters by EDXRF Elemental Analysis

AT-LINE AND IN-LINE ELEMENTAL ANALYSIS FOR CONTINUOUS MONITORING AND CONTROL

- *Total solution for silicone release coaters*
- *Cross and machine direction silicone coat weight profiling*
- *Silicone analysis on paper, clay-coated paper, and thin film release liners*
- *Proprietary algorithms for silicone on clay-coated papers*
- *Converters – silicone on plastic or paper*



Rigaku

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Leading Manufacturer of Print Finishing Solutions

D&K Group is a leading manufacturer of print finishing solutions including laminating films and equipment. D&K Group products are made in the USA to high quality standards backed by over a forty-year history.

Some of D&K's finishing products include thermal, heat assist and pressure sensitive laminating films and adhesives. D&K manufactures these items in a wide variety of sizes including wide format rolls up to 61" wide. These films and adhesives are available for all types of laminating equipment including automated high-speed systems, wide format laminators, and even small school and office desktop systems.

D&K recently launched a new line of durable, waterproof thermal laminating films called Endura Overlams™. These polyester (PET) overlams are stronger than other thermal products on the market, making them ideal for demanding applications including

cards, menus, durable labels, etc.

Endura Overlams™ are water-resistant and are suitable for moist or wet environments where other thermal films fail. Compared to pressure sensitive lams, Endura products offer equivalent performance at about 1/3 less the price. Plus, the quality far exceeds that of low-grade, self wound pressure sensitive products.

Endura Overlams™ and other D&K

Group products including transfer adhesives and the revolutionary SuperStick® line of digital laminating films are available to D&K partners in master roll and slit roll formats. D&K Group also offers custom coating and toll coating services for industries of all types.

For more information on D&K products, visit www.dkgroup.com or call 800-632-2314.



ENDURA™ Overlams

Durable, Waterproof Thermal Overlams



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Enercon Custom Engineering & Support Ensure Surface Treating Uptime

Your uptime is our priority. As the global leader in surface treating, we know what it takes to ensure your operations' uptime.

It all starts with helping you define your application requirements and applying our insights from thousands & thousands of field applications. Our application experience is unmatched. It's why we offer the most complete collection of surface treatment technologies in the industry: high definition corona, atmospheric plasma, flame and ozone. And, we can customize these technologies for your application, operation & budget.

It's why we partner with OEMs to ensure our equipment mechanically and electrically integrates with theirs. We know this leads to easy start up & trouble-free operation.

It's why we've assembled the largest support team in the industry and have



invested in new methods to provide remote troubleshooting assistance. And, it's why we offer free training through a robust library of educational webinars.

It's also why we continue to innovate. Our new Compak™ Pro Power Supplies with artificial intelligence are Industry 4.0-ready & provide you with unprecedented operating control, detailed system data,

maintenance reminders and more.

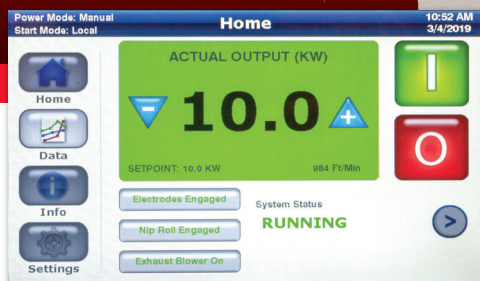
Contact Enercon to today for a custom surface treating solution for your operation.



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Corona Treater Innovation

**Artificial Intelligence
Advanced Communication
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**Innovative People.
Ensuring Your Treating Success.**

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Delivering Innovative Solutions to Converters and Packagers

Pearl's punches and attachments improve uptime and hole-cut quality for all your punching, perforating, and slitting needs. We are your one-stop shop for all things converting and packaging. We sell the equipment (units) and the tooling (wear parts) needed for your application. We can support you along the entire line. We are focused on bringing you top-of-the-line solutions to increase productivity, lower costs, and improve quality.

We supply the widest range of punches and blades in the world, even offering custom shapes and sizes! Our value products provide high-quality cuts and durability at an affordable price. Our performance products provide the best quality with outstanding durability and repeatability, all while minimizing line downtime.

We also engineer a variety of standard and custom high-speed intermittent



and continuous motion units that can be used in wicket, pouch, bag, or vent applications. Our units are built to last and withstand your manufacturing needs. Customizable solutions are available, when needed.

With our focus on delivering unique value to our customers, we have designed the Pearl Application Lab, which is used for pre-testing our punches on customer-sup-

plied materials or samples. Simply send us your film and we will trial our recommended units and punches on it. We share the results with you, and our engineering team will recommend which product(s) based on their research and observations will benefit you the most.

We're here to help you save both time and money! We are your trusted partner for innovative, safe, and cost-saving solutions.

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PEARL

Your trusted partner for punching & perforating plastic film!



Pearl Technologies is a leading supplier of converting products for the flexible packaging industry. We engineer standard and custom high-speed machine attachments for punching holes, perforating and slitting film, serving the wicket, pouch, bag and venting industries.

With a reputation for manufacturing the best punches and blades in the world, choose between coated or uncoated, various tooth profiles and cut technologies, and much more!

Stocking a variety of durable, high-quality punches and blades, below are just a few of our standard options. We also offer custom shapes and custom sizes. Call today for a quote.

PUNCHES		BLADES
Round	Wicket	Slitter
Handle	Tear Notch	Rotary Perf
2-Finger	U-Shape	Cut-Off Perf
Hanger	V-Shape	
Vent	Ball & Die	

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Leaders in Converting Solutions

PRO TAPES® LATEST INVESTMENT, OUR NEW G&A FA300 WIDE WEB SLITTER

Pro Tapes® latest investment is a fully automatic G&A FA300 wide web slitter with an integrated LS60 packaging line which rounds out our capabilities in our arsenal of state-of-the-art converting equipment. This new FA300 & LS60 provides Pro Tapes® the versatility and dexterity to convert and package the widest possible range of materials of any single machine available on the market today.

Here are some key features and benefits this new G&A slitter (our 6th!) brings to the table:

1. The ability to slit 12mm to 78.74" wide materials from single coated or double coated products with or without a liner fully automated.

2. Inline shrink wrapping and automated labeling system from single rolls to multi roll 2, 4 or 6 roll configurations.
3. Increased capacity = shorter lead times and better service levels for our customers.
4. Increased cycle times = best possible pricing for our customers.
5. Core ID options 1.5" ID & 3" ID.
6. Universal tooling group to produce high volume non-standard roll widths.
7. Inline fully automated double coated tabber for interlined products.
8. Advanced tension and torque controls combined with a programmable PC provide our operators with the tools needed to slit some of the toughest materials.

This FA300 wide web slitter Wider jumbo rolls, faster cycle times equal

increased output combined with packaging automation and a programmable PC to store recipes all allow us to service our customers at a very high level with the most competitive pricing possible. Please call to make an appointment and see firsthand why we are the talk of the industry. You will see our new machine as well as a complete plant tour with over 20 slitters in operation!



Pro Tapes & Specialties

Chris Hart

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In Fully Integrated Converting Solutions and Services

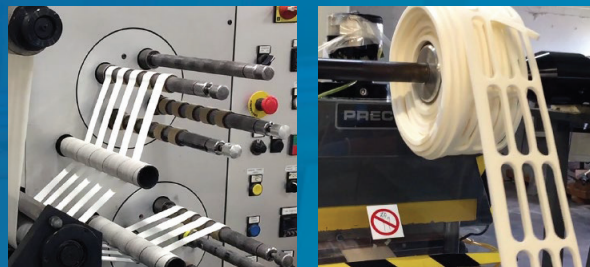
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- In-house Foam Skiving Capability
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NEW VIDEO TOUR





Simco-Ion Continues to Lead the Industry in Static Control for Converters

Simco-Ion's customers rely on today's newest technology that monitors and adjusts real-time ionization, record data, and alert to potential problems. Simco-Ion was the first to market with Common Industrial Protocol communication capabilities and continue to lead the industry in static control innovation. With the development of the IQ Power™ Static Neutralizing System, customers successfully incorporate Industry 4.0 technology with plant operation.

The IQ Power Control Station is the core of the IQ Power System. Full-color, high resolution touch screen is combined with a clear, user-friendly interface. The Control Station communicates with the entire IQ family making it easy to integrate and power multiple static control devices across production lines. This solution offers 24/7 control and comprehensive monitoring. Critical information includes device



name and status, ion current, and real-time web charge using the IQ Sensor Bar.

With the launch of the IQ Easy LP Static Neutralizing Bar, Simco-Ion has increased its product offering to the industry. This revolutionary bar is engineered to be the "one bar that does it all". This compact, low profile bar is not only balanced

and optimized for neutralizing on moving webs at close distances, but it also has pulse mode functionality for non-web distance neutralization. It is the one bar that can neutralize in any application.

Rounding out the technological advances of the IQ Power™ System is the IQ Power Wireless Link. Eliminate costly and time-consuming wiring. Simple device installation with IQ Power Wireless Link. Using Industrial Bluetooth, the IQ Power Wireless Link provides a straightforward and effective way to maintain constant contact without the inefficiency and expense of long cable runs. Upgrade your communication without having to upgrade your Control Station.

SIMCO ION™
An ITW Company

Kevin Coldren
Sales & Business Development Manager

SIMCO ION™
An ITW Company



WORLDWIDE LEADERS IN STATIC CONTROL

LEADING THE STATIC CONTROL INDUSTRY IN TECHNOLOGY & INNOVATION

IQ Power Control Station

- Real-time data with remote visibility
- User set maintenance & threshold alarms
- Multiple operating modes to optimize ion output

IQ Power Wireless Link

- Communication via Industrial Bluetooth
- Elimination of long cable runs

IQ Easy LP Bar

- Superior close-range ionization
- Built-in high voltage power supply
- Compact design at 3/4" height



call today for complete details

(800) 203-3419
customerservice@simco-ion.com



Leadership in Converting through Static Control Solutions

TAKK Industries is an early innovator in the static elimination field, originating best in class static control solutions since 1943. TAKK continues as a leading provider of static control expertise, with cutting edge static control and static generation technologies for the Converting, Printing, Packaging, Textiles and Allied Industries. Our technical team with decades of expertise delivers static control process evaluations and specification of our high performance, quality static elimination and generation technologies to fit the unique requirements of each company we work with. We pride ourselves on technology driven solutions, built to last and economically priced.

TAKK provides a comprehensive technology range:

Static Elimination Bars — precision engineered tools with the exact electronic power, ionization range and scope to solve



your specific static problem.

Static Elimination Blowers — combining powerful ionization with controlled air flow, an encompassing field, and extended range of ionization.

Electro-Static Generators and Generator Bars — a low cost, effective method of temporary adhesion and pinning through the bonding force of static electricity.

Passive Static Eliminators — led by our low cost, effective anti-static tinsel, and outstanding line of no power needed static neutralizers.

Measuring and Monitoring Devices

— static meters and bar testers for analysis.

We are in the solutions business. Providing economical solutions, through quality products and technical services. Solving the costly static problems frequently experienced by our customers in the fields of Converting, Packaging, Plastics, Printing, Painting, Electronic Assembly and Textiles. We serve end users of static elimination equipment and original equipment manufacturers, nationally and internationally.



TAKK Industries

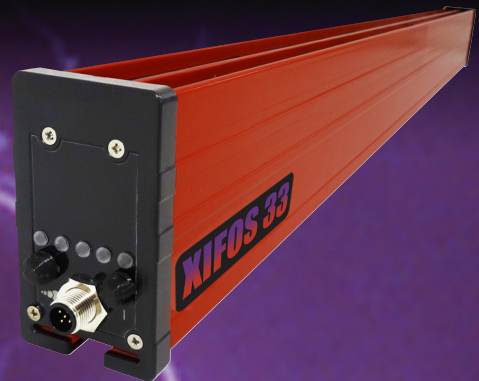
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Is static attracting contamination to your webs and products?

We Have The Solutions.

Introducing the XIFOS 33




















- New industry leading technology significantly increases neutralization power by optimizing output
- Up to 60" static elimination range
- Adaptive Intelligence uses software algorithms to control all of the operating parameters
- Duty cycle, frequency, HV level and polarity are all precisely and intelligently controlled
- 33kV pulsed DC technology with built-in field polarity sensing
- Simple tool-free, on-bar adjustment for process optimization
- Remote and local monitoring including "Clean Me" feature



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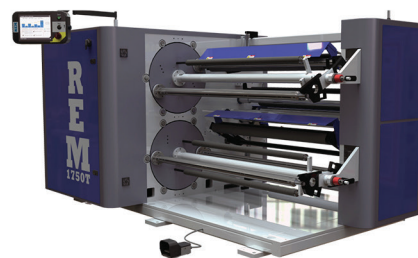


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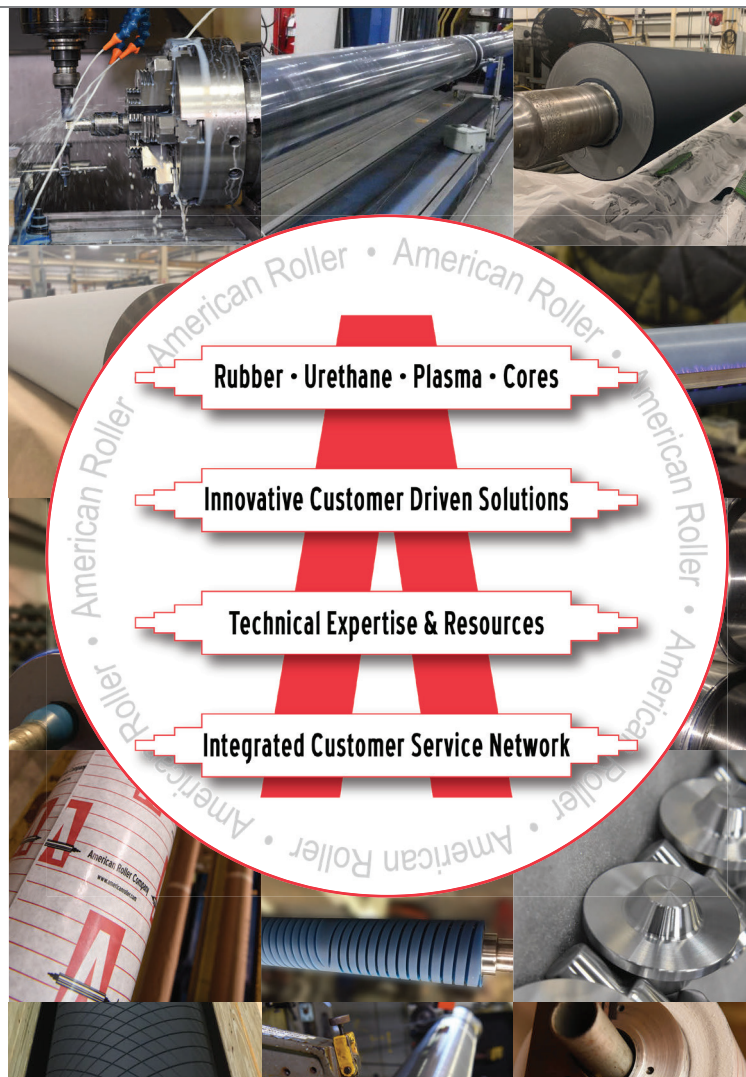
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