eNEWS
Surface Treating Technology
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inside

Coextrusion and adhesion capabilities give Scapa North America an edge

Scapa North America's purchase of Great Lakes Technologies in Syracuse, New York is an impressive addition to their well established line of specialty pressure-sensitive adhesive films, tapes, and compounds.

According to Tom Bezigian, Business Development manager and founder of Great Lakes Technologies, the Syracuse operation is capable of producing a tremendously wide range of highly specialized coated papers, films, and non-woven products for the medical, imaging, printing, industrial, automotive, and packaging industries.

Specialized applications require specialized equipment. The company relies on key suppliers to engineer equipment specific to their unique requirements. "Our uniquely customized Black Clawson extrusion line features an Enercon Ozonator™ (ozone generator) and Universal-Roll surface treaters, as well as a liquid chemical priming system," says Bezigian.

Please see Scapa North America page 2

New atmospheric plasma system highlights surface treating exhibit

Booth 19175 will be the focus of much attention when Enercon debuts PlasmaTreat3™ at CMM in Chicago April 23-26 at McCormick Place.

The atmospheric plasma treater will be on display along with an Enercon Universal-Roll corona treater and blown film treater. In addition, the newly redesigned Compak™ 2000 power supply and a selection of electrode designs will be on-site for review.

If you can't make it to CMM, but would like more information on the latest in surface treatment technology contact us for an informational kit.

Call (262)-255-6070, fax us the back page of this newsletter (262) 255-7784 or e-mail us at enews@enerconind.com.

See page 3 for more details on PlasmaTreat 3™ the revolutionary atmospheric plasma treater.

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e *Application Story*

Scapa North America

continued from page one

These adhesion promoting systems allow us to produce virtually any combination of metallized, paper, film, and non-woven products from 0.5 mil to 10 mil thickness." The coextrusion ingredients come in the form of polyethylene, polypropylene, acid co-polymers, adhesive resins, acrylic, nylon, polyester, and polyurethane.

Bezigian believes that virtually no project is out of reach for the extrusion operation. "Our line features two extruders and an EDI feed block that enables us to produce one, two, or three layered products." The line's treatment and coextrusion capabilities make unique applications possible.

For example, Scapa North America produces a Teflon®-based product for use on automobile bumpers. Exacting tolerances are also within reach. "We've produced jobs to within a ± 1% caliper profile, compared to an industry average of ±10%. In this regard, we have no equal", says Bezigian.

Optically Pure Products

The extrusion line is housed in a "clean room" environment which utilizes HEPA-filtered air in a positively pressured room to create "hospital-quality" air. Two web cleaning units further ensure a clean end-product. "The clean-room environment allows us to produce optically pure products which is extremely important for not only medical projects, but also for specialized automotive and electronics applications, such as high-definition television projects," says Bezigian.

Some of the company's recent achievements include breathable products for the medical industry. In addition to multi-layer bandages, the company also produces disposable medical gowns that repel viruses and liquids that its cloth counterpart would absorb and transmit.

"I can honestly say, I can't think of a single reason not to do business with Enercon," -Tom Bezigian, Scapa Tapes

Ozone improves quality and output

Bezigian explains why the Ozonator™ plays a key role for Scapa, "The ozonator allows us to run certain extrudates at lower temperatures and at reduced air gaps. Product quality is improved in terms of bonding characteristics, heat sealabilty, color, and odor. It also allows us to do things that are otherwise impossible".

Enercon's Ozonator™ introduces ozone into the nip, enhancing extrudate bonding and increasing production output.

Lower extrudate temperatures also extend the life of the die. The payback on an ozonator is equally impressive. According to Bezigian the cost of the ozonator can be recouped after only a few weeks of operation.

Workhorse ceramic electrodes

According to Bezigian, Enercon's equipment has been "trouble-free and 100% reliable." He notes that the system is well engineered and the ceramic roll covering and "ceramic electrodes have proven to be very durable."

The first Enercon Universal corona treater promotes extrudate adhesion to the substrate. The second treater is located prior to the Black Clawson two-direction stationary knife winder and promotes adhesion for additional converting such as printing.

People make the difference

All this technology under one roof poises Scapa North America for excellent growth. But Bezigian is quick to point out that the people behind the technology are equally important. "Enercon treats us the way we treat our customers.

"Anytime I need anything from the Enercon team they're quick to respond. I've been in this industry for a long time and I can honestly say that I can't think of a single reason not to do business with Enercon."

e *Did you know?*

Ozone contributes to bottom line

In this issue's cover story Scapa Tapes credits its Enercon ozone generator with improving product quality and having a fast payback.

Adding ozone to your process allows for lower extrudate temperatures and the use of lower temperature resins (EVAs). Reduced air gaps also translate into greater productivity. Some companies have improved production speeds by as much as 50%.

Ozone can also enhance product value by improving bonding characteristics, heat sealabilty, color and odor.

Enercon's compact ozone generators are engineered to deliver safe and efficient ozone for a variety of converting applications.

Our reliable and efficient power supply technology guarantees low energy consumption. The system comes ready to receive your 4-20 mADC process signal for optimal control.

Start contributing to your bottom line by contacting us today.

Call **(262) 255-6070** for more information.

Atmospheric Plasma. What is it? and What's it good for?

Tom Gilbertson
VP Application Engineering

You may already know something about the benefits of plasma treatment; higher treatment (dyne) levels, extended life of treatment over time, reduced degradation of surface morphology and elimination of backside treatment.

Until recently, low-pressure plasma's use has been restricted to three-dimensional, laboratory and controlled environment applications. Enercon's introduction of PlasmaTreat3™ at CMM is significant.

PlasmaTreat3™ represents a new generation of surface treatment technology.

It allows plasmas to be sustained at atmospheric pressure in a way that permits the surface treatment of polymers and other substrates. It can be configured to work with a variety of feeding systems including continuous web.

So technically speaking how does plasma compare to corona?

Corona Treatment is an electrical process that uses ionized air to increase the surface tension of non-porous substrates. Normally corona treating systems operate at electrical voltage of 10 kV.

Like corona, plasma is the electrical ionization of a gas. The plasma (glow) discharge creates a smooth, undifferentiated cloud of ionized gas with no visible electrical filaments. Unlike corona, plasma is created at much lower voltage levels.

Substrate effects

Corona converts the substrate surface from a non-polar state to a polar state. Oxygen molecules from the corona discharge area are then free to bond to the ends of the molecules in the substrate being treated, resulting in an increase in surface tension.

The same description holds true for plasma with a few exceptions. The rate at which *electron* bombardment occurs is up to 100 times greater. This increased cross-linking activity forces a greater *ion* bombardment onto the substrate surface. This results is increased *etchings* on the substrate's surface, and stronger bonding attributes across the length of the web.

In addition to these surface reactions, plasma also facilitates the use of chemical gases which can produce controlled chemical reactions on the surface as well. Plasma technology also eliminates the possibility for backside treatment.

The high-speed photos below capture the optical differences between corona and plasma treatment. The corona image shows the expected "filaments", while the plasma treatment generates a smooth treat pattern.

Corona

Plasma

Benefits of plasma

There are three key benefits that converters can turn into competitive advantages by using plasma treatment..

1. Longer life treatments

Substrates that have been plasma treated hold their treatment levels far longer than corona treated surfaces. Longer treatment life will allow converters to take advantage of economies of scale during production, increase inventory life and provide enhanced manufacturing flexibility.

2. Higher treat levels allow for treatment of difficult to treat surfaces.

Plasma treatment is a viable alternative for a variety of substrates that corona treating is ineffective at treating. For example fluoropolymer-based materials, like Teflon®, do not respond to the corona process, but do respond to plasma treatment.

3. Treatment of thicker substrates

While substrate's that are thicker than .125" usually do not respond well to the corona process, they can be treated by PlasmaTreat3™. Films, foams, non-wovens as well as fibers, metals and powders are all candidates for plasma surface treatment.

You might be wondering about the "3" in PlasmaTreat3™. Enercon has engineered the treating station to operate in "3" surface treating modes, Plasma, Chemical Corona™ and Corona. This combination allows for maximum operational flexibility.

Stop by our CMM booth 19175 to see this system for yourself. In addition to Enercon's team of experts you'll also have an opportunity to talk to Dr. Wolfgang Decker, of Sigma Technologies, one of the industry's leaders in plasma surface activation.

Sincerely,

e Trade Shows

3 Special CMM Opportunities

Consult with a foremost expert on surface activation with plasma

Dr. Wolfgang Decker of Sigma Technologies will be available at Enercon's CMM booth (19175) on Monday April 23rd and Tuesday April 24th from 1:00-3:00 pm cst.

Write your name on Teflon®

You'll have the unique opportunity to write your name on Teflon® at the Enercon booth (19175). The Teflon® has been plasma treated by Enercon's new PlasmaTreat3™ system.

Schedule your visit to meet with Enercon's sales and support team

	Mon	Tue	Wed	Thur
D. Carew	pm	am	pm	all day
T. Cox			am	all day
H. Edmunds		pm		
T. Gilbertson	am	am	am	
W. Morgan	am	pm	pm	all day
J. Smallshaw		all day		

Senior Vice-President Dave Markgraf and Enercon UK Managing Director Richard Bull will also be available at CMM.

2001 Industry Events

Trade Shows

Fiepag/Converflex 2001
April 16-21, São Paulo, Brazil

CMM 2001
Booth #19175
April 23-26, Chicago, IL

INFO*Flex/FTA Forum
May 6-9, Nashville, TN

West Pack
Booth #2517
June 19-21 Anaheim, CA

Thai Pack Print
June 23-25, Thailand

China Plas
June 26-28, China

K Show
Oct 25-Nov 11 Dusseldorf, Germany

Seminars

PLC Flexible Packaging Troubleshooting
Short Course
Cambridge, MA April 3-6

CEMA Coating and Laminating Seminar
Chicago, IL April 22-23

8th European PLC Extrusion Coatings Conf.
Barcelona, Spain May 28-30

Polymers, Laminations & Coatings Conf.
San Diego, CA August 26-30

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