



# NEWS

1st Quarter 2002

## Surface Treating Technology

Visit eNEWS on the web for the latest developments in surface treating technology: [www.enerconind.com/enews](http://www.enerconind.com/enews)

### Plasma3™ offers ground floor opportunities for innovative converters

The smooth glow of plasma generated by Enercon's Plasma3™ is indicative of the even treatment capabilities of this truly unique system

Are you interested in new opportunities for your business? Then you'll want to know about the latest developments concerning Enercon's Plasma3™.

Last year Plasma3™ was introduced as the first commercial atmospheric plasma system. It successfully broke new ground in the surface treatment of difficult-to-treat polymers, foils, wovens, nonwovens, metals, fibers and powders.

Recent tests conducted by Enercon, in association with some of the industry's most innovative companies, have yielded impressive results. As a result new applications for this breakthrough technology are rapidly developing.

#### Resistance to moisture-induced delamination

Many converters are seeking to improve the performance of their laminates in wet or high humidity environments. Initial tests have shown evidence that Plasma3™ surface treatment is effective at improving surface resistance to moisture-induced delamination. This advancement could also be applied as a surface treatment that could result in the possible substitution of certain specially-coated release liners.

#### Improved barrier properties to reduce migration

The second Plasma3™ application involves surface treatment that will create barrier properties. Initial tests have shown an effective reduction of the migration of water vapor and gases through materials commonly processed in the packaging, converting and electronics industries.

#### Increased effectiveness of filters

The third focus of development is a Plasma3™ surface treatment which will increase the effectiveness of filters in attracting contaminants. It also promises to improve the receptivity of fibers to dyes and additives.

The companies that are actively conducting trials with us are among the best in their respective industries. They are helping Enercon drive this new technology to meaningful applications that will improve their business and give them a competitive edge.

If you would like to take part in a trial that could open new doors to your business contact us at (262) 255-6070. We can discuss your specific application and set up a Plasma3™ trial for you.

### Enercon opens major operating center in Europe

Enercon has selected Zurich, Switzerland as its home base of operations for its new European operating center. The new operation has been opened to raise the level of support for Enercon's European customers.

In related news, Enercon Europe has appointed ConVerTrade GmbH to represent Enercon Europe. ConVerTrade will also operate out of Zurich.

ConVerTrade is led by Peter Meierhofer who has over 30 years of converting industry experience.

He has held industry posts as an engineer, sales manager and purchasing manager. Enercon President Greg Schuelke says, "Peter's truly unique blend of experience will make him a valuable asset to Enercon's European customers."



ConVerTrade's Peter Meierhofer

Peter Meierhofer and ConVerTrade GmbH may be reached by using one of the following: Telephone: 41 01 8181038, Fax: 41 01 8181039 and e-mail: [europe@enerconind.com](mailto:europe@enerconind.com)

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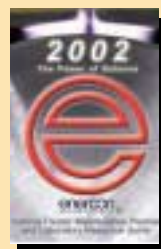
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Free 2002 Maintenance Planner

**Enercon Industries Corp.**

P.O. Box 773

Menomonee Falls, WI 53052

Phone: 262/255-6070

Fax: 262/255-7784

Email: [enews@enerconind.com](mailto:enews@enerconind.com)

On the web:

[www.enerconind.com/enews](http://www.enerconind.com/enews)

**Specify Enercon. From the ordinary to the extraordinary.**

# Put your rubber mallet and 2x4 away if your serious about high performance covered roll systems



**Tom Gilbertson**  
VP Application  
Engineering

*This edition of Technically Speaking deals with covered-roll systems for blown and cast film surface treating. My observations are made based on my visits to dozens of plants in the past year. I've worked with some of the best in the field and I've found a common denominator that they all share. They not only understand their equipment they also understand their processes.*

Believe it or not I've been in plants where a rubber mallet and a 2x4 are required tools for adjusting the segments on a corona treater. If you don't understand why this isn't a good idea, call me (262-255-6070) and I'd be happy to discuss the importance of a consistent air gap.

To be fair, it's really not the fault of the poor guy who has to make the adjustment. When an aluminum electrode is used to generate corona the inevitable chemical result is aluminum-oxide. Aluminum-oxide is a nasty compound which makes electrode segments stick. Most high performance lines rely on the more stable stainless steel electrodes.

## Don't be fooled by aluminium coatings

Some operations, who have worn their mallet out, finally break down and purchase a new treater. Some try their luck with an aluminum electrode that has been coated. To their credit many treater manufacturers have tried to develop coatings to avoid corrosion. Anodized aluminum, teflon coatings and hard coatings work great. Great for about six months that is. After these coatings break down, and they will, it's back to the tool crib for a new mallet.

Another problem with aluminum electrodes is that they are less conductive to heat than stainless steel electrodes. This makes it virtually impossible to maintain a consistent air gap. Inconsistent air gaps produce inconsistent treatment and translate into scrap material.

There's a place and a budget for surface treaters with aluminum electrodes. But stainless steel electrodes offer superior performance, durability and lower cost over the life of the treater.



**Stainless steel segmented electrodes will outlast their cheaper counterparts.**

It's important that you evaluate your budget, short/long term needs, and the importance of reliability and consistent performance. In many cases it's the old "You can pay me now or pay me later" syndrome.

## Hot tip- Two Power Supplies are better than one

Most blown or cast film treating systems are designed with two electrode stations regulated by a single power supply. Some forward thinking converters have realized that using individual power supplies for each station provides more process control.

By nature, or science if you will, electricity follows the path of least resistance. And while your corona treater leaves Enercon with precision air gap alignment, over time the air gaps will ultimately vary (especially if you hit the segments with a mallet and 2x4).

In the days of low frequency power supplies, air gap wasn't as critical. The advantages of today's high frequency power supplies are many, but their performance related to air gap is more sensitive than their predecessors. As an example; if you have a 5 kW power supply, the station with the smaller air gap will deliver more corona than the other station. For some applications this creates no real difference, but for others it could mean the difference between scrap and saleable material.

If blocking is a problem, two power supplies can be used to creatively reduce or eliminate the problem. If you set one power supply at a slightly lower, but acceptable power level, the two sides will have slightly different dyne levels. Blocking is a less likely occurrence with differential treatment.

## Be honest and provide meaningful operating data

I've found many companies request a surface treater that can run at 400 fpm. After visiting their facility I often find that the company never runs at 400 fpm, and their most typical runs are much slower. In fact some operations regularly run at speeds less than 100 fpm with a system designed for 400 fpm.

From sports cars to high-speed boats, and yes corona treaters, all high performance equipment have ideal operating ranges. A treater optimized for 400 fpm will not perform as well at 25 fpm. If you really need a treater that can efficiently handle a wide operating range let us know up front. We've developed some special configurations that are geared towards operating over wide ranges (mallet not included).

As always, if you have any questions, please call me at 262-255-6070 or e-mail me at [enews@enerconind.com](mailto:enews@enerconind.com). I'd love to talk with you.

Sincerely,

## e Custom Configurations

# Enercon's portable corona treaters offer flexibility to match the application

In some rare instances we've had customers who require a portable corona treater for use on multiple lines. Most of the time this is a short term investment to get an operation through a unique production schedule.

### Not for all applications

Typically the customer will install tracks on the floor that the corona treater's casters will roll onto. The casters are then locked down into position. All the same standard features and options as are available with a standard unit. Various electrode/roll combinations, multiple side treating, watt density control and remote control are all available.



Enercon first began offering portable treaters like this one in the 1980's.



A portable corona treater can be moved between two or more lines for optimal flexibility.

When properly set-up most operations won't notice a difference in the performance of a standard treater or one mounted on casters. But high speed and high performance lines may not have the same results.

For high performance applications great care is taken when setting up a corona treater to ensure that the treater is precisely positioned for optimum web alignment. Improper alignment can result in web wrinkling and production nightmares. In some cases high-tech lasers are utilized to match exacting tolerances.

Ultimately the customer needs to make the decision if a portable treater is best for their operation. Budget and production forecasts play a major role in this evaluation as well as the specific treating application. For more information contact us at (262) 255-6070 or e-mail us at [e-news@enerconind.com](mailto:e-news@enerconind.com)

## e New Services

# Did you hear about our new...?

If you're not receiving Enercon's Digital Update E-mail you may not be keeping up to date on the latest news that can affect your operation.

Enercon's Digital Update is a concise, easy to read e-mail sent out to converters several times each year. It includes information on new products, new services, and troubleshooting advice and tips.

Don't miss the next informative issue. Sign up today by sending us an e-mail at [enews@enerconind.com](mailto:enews@enerconind.com)



## e Did you know?

# Evolving power supplies are small and powerful

What do books and power supplies have in common? You can't judge either by their covers.

Take a quick look at the power supplies on your surface treaters from the 1980's and compare them to your more recent installations. For power



A 1989 7 kW power supply measured 48" x 42" x 12"

supplies, bigger certainly isn't necessarily better. But the real advantages of today's power supplies are the performance and efficiencies that these diminutive marvels dish out.

Today's power supplies are smaller, quieter, more efficient, easier to troubleshoot and generate more power per square foot than their behemoth-like predecessors. They have improved operator interfaces and more precise controls.

Another benefit of modern power supplies is the elimination of the previously required transformer. All these improvements have been economically developed. The price of a new power supply is less than what you paid for your decade old power supply.



Trade-up offers A 2002 7 kW flip-top power supply measures 18" x 28" x 9"

If you're interested in replacing one of your older power supplies for a new, sleeker and robust model contact us about our special trade-in program. Our engineering team will configure a power supply to match your requirements and have it installed in the field according to your schedule.

Call (262) 255-6070 or e-mail us at [enews@enerconind.com](mailto:enews@enerconind.com).

### Enercon's Major Power Supply Milestones

- |      |                                     |
|------|-------------------------------------|
| 1980 | 1st load matching power supply      |
| 1985 | 1st CADI system                     |
| 1990 | 1st IGBT power supply               |
| 1999 | 1st Flip-top power supply           |
| 2000 | 1st Atmospheric Plasma power supply |

**e New Publication**

## Free 2002 Maintenance Planner



The 2002 edition is full of useful information to keep your surface treater operating at peak performance.

Maintenance schedules, parts lists and drawings, operation and troubleshooting tips, information on free lab testing and key contact information are all included.

Supplies are limited so please contact us today for your free copy. Call your local Enercon representative or Ted Cox at (262) 255-6070. Or you can fax us the back page of the newsletter with your request (262) 255-7784, or e-mail us at [enews@enerconind.com](mailto:enews@enerconind.com).

### 2002 Upcoming Events

**TAPPI Midyear Meeting & Paper Summit**  
March 4-6 - Atlanta, GA

**Flex-Pak Americas 2002**  
March 12-13 - Chicago, IL  
Enercon to present paper

**AIMCAL Annual Meeting**  
March 20-24 - Palm Beach Gardens, FL

**IPEX/Converflex**  
April 16-18 - Birmingham, UK

**Comexi/Kidder Open House**  
April 16-18 - Agawam, MA

**CEMA Slitting/Rewinding Seminar**  
April 18-19 - Appleton, WI

**Interpak**  
April 24-30 - Dusseldorf, Germany

**CMM Asia**  
April 24-26 - Singapore

**INDA Annual Meeting**  
April 25-27 - Orlando, FL

**TAPPI Film Extrusion and Coextrusion Short Course**-May 20-22 New Orleans, LA

**TAPPI Troubleshooting Short Course for Extrusion Coating & Flexible Packaging Converters** -June 3-6 Green Bay, WI

### TO CONTACT US:

**Enercon Industries Corporation**  
Phone: 262/255-6070  
Fax: 262/255-7784  
Email: [enews@enerconind.com](mailto:enews@enerconind.com)

Website:

[www.enerconind.com/enews](http://www.enerconind.com/enews)

**e Industry Events**

## TAPPI short courses on tap in May/June

**TAPPI Film Extrusion and Coextrusion Short Course** in New Orleans, Louisiana, May 20-22.

This introductory level course will help participants improve and refresh their ability to diagnose film extrusion problems and recommend solutions. Learn how film fabrication variables affect film properties and understand how blown and cast extrusion dies work. During this course, participants will have the opportunity to hear about the latest developments in film extrusion equipment, resins, and processing. For more information on these courses contact us at [enews@enerconind.com](mailto:enews@enerconind.com).

**Troubleshooting Short Course for Extrusion Coating and Flexible Packaging Converters** in Green Bay, Wisconsin, June 3-6.

Industry experts will show how to identify and solve common converting problems. In-depth review of the technical aspects of converting, such as raw materials, equipment, the process, and end use requirements are covered. The basics of polymer science, resin selection, equipment evaluation, printing, coating, laminating and troubleshooting procedures are also covered.

The course features several small group learning experiences and panel discussions.

**Need more information? Fax us this page!**

**262-255-7784**

**Write down the type of information you want in the space below and fax us this page. You can also use this page to update your mailing information.**

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**Surface Treating Technology**

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**Enercon Industries Corporation**  
W140 N9572 Fountain Boulevard  
P.O. Box 773  
Menomonee Falls, WI 53052-0773

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