

# Big News in a Small Package

## Multifilm Packaging's Quarterly Newsletter

### 2nd W&H Press Installed and Running at Multifilm

By Chris Rogers

In 2008, Multifilm invested in a new 8-color Windmoeller & Hoelscher (W&H) Primaflex flexo press. This press was up and running early 2009 and provided Multifilm with the tools needed to double our sales in just 3 years.

"Without a doubt, the investment in the W&H press was the most important decision our team made, and we couldn't be happier with the results," states David Rohrschneider, Vice President of Operations, and part of the ownership team.

Due to rapid growth, and the fact that Multifilm's second press at the time was a 6-color Kidder built in the early 1980's, ownership was faced with a decision—replace the Kidder with a second new flexo machine or add a third shift on the Kidder. "While we were not at capacity in the press

department with the equipment we had, we felt it was important to have a second press capable of duplicating the quality and output of the Primaflex," states Rohrschneider. "We also did not want to back ourselves into a corner with the Kidder—when the time would come to replace the machine, we would not have had enough capacity on the W&H to service our customers as we did not have space for another press without removing the Kidder."

In September of 2010, the decision was made to replace the Kidder with an 8-color Miraflex from W&H. "We were amazed with the



Dismantling the old Kidder Press.

improvements and upgrades that W&H had built into the Miraflex over the Primaflex," states Jim Hansen, Production Manager at Multifilm. "While we are extremely pleased with the performance of the Primaflex, the Miraflex takes it to an entirely new level. Faster speeds, shorter make ready time, and less set up scrap are the key improvements."



The new 8-color Miraflex from Windmoeller & Hoelscher.

Multifilm now has complete interchangeability between the Primaflex and the Miraflex, along with more than doubling the previous printing capacity. With over \$9MM dollars in capital investments in 3 years, Multifilm is poised for continued, rapid growth. "Our customers are our life blood," states Olle Mannerorp, President and part of the ownership team. "We will continue to innovate and invest in order to provide unique, value-added packaging solutions to our customers, to fuel both our prosperity and theirs."

## Green Team Scores Green Points

By Ida Mannertorp

Attention to the environment has been challenging but rewarding for Multifilm Packaging. After a management buyout in 2008, one of the first projects management focused on was the installation of a geothermal system to replace the outdated chiller. The new geothermal system helped reduce overall energy consumption by 31%, favorable numbers for both the business and the environment. The success of the geo installation helped fuel the fire for other environmental projects.

In May of this year a team from Multifilm visited the Subaru of Indiana Automotive plant for a very special event. “We were inspired by what we saw at the SIA’s *Zero-Waste to Landfill* conference. It really changed our perspective—if such a large automobile manufacturer could achieve this, so could we,” said Olle Mannertorp, CEO.

Immediately, Ida Mannertorp, Sustainability Coordinator at Multifilm, assembled a team with representatives from each department, aptly named the “Green Team,” to help with this task. Ms. Mannertorp and her team decided to tackle one waste

stream at a time. Their first target was Multifilm’s plastic scrap. “A significant amount of our plant’s waste is plastic scrap. We have been sending half of that to Plano Molding Co. since February 2009 to be recycled into tackle boxes. We just needed to find a home for the rest of that material,” states Ms. Mannertorp, and it didn’t take long until that home was found.



Located two hours northwest of Green Bay, Wisconsin, the Channeled Resources Group specializes in developing cost-effective and environmentally responsible outlets for bi-products of the specialty paper and film industries. For Multifilm, this meant waste-to-energy. Starting this month, Channeled Resources will be taking Multifilm’s printed laminate,

metallized, and PET films (among other various plastic wastes, such as shrink-wrap) to be converted into incineration pellets, which will then be sent to municipal incineration plants to produce electricity and heat.

“Once we estimated the cost reduction of 75% in comparison to sending the materials to landfill, we knew this choice was the obvious and responsible one to make,” says Patty Acevedo, Quality Control and member of the Green Team. “Of course source reduction is a priority for us, but in the meantime it is good to know that we are doing our part to preserve the planet.”

With this victory under its belt the Green Team will move forward to the other parts of the waste stream. “By finding a favorable solution to our plastic scrap, about 85% of our waste stream has been eliminated. We still have a while before we can proudly claim zero-waste [to landfill],” contemplates Peggy Carney, Green Team member and Purchasing Manager, “but the finish line is in sight and we can’t wait to be there!”

## Multifilm Buys New RTO

By Olle Mannertorp

For over 30 years the EPA has developed rules that require capture and control of air pollutants such as volatile organic compounds (VOC’s) generated by the printing industry. The first generation of pollution control equipment was a catalytic oxidizer, very similar to those found in cars.

These oxidizers use platinum as a catalyst and when heated up to 650° F (343° C) or more the catalyst destroys the VOC’s, making the exhausts free from any hazardous components. These oxidizers typically destroy more than 98% of the exhausted solvents from a printing press, but they use large quantities of natural gas in order to reach proper destruction temperatures. Regenerative thermal oxidizers (RTO’s) are designed to do the same thing, but in an entirely different way.

An RTO works with significantly higher temperatures—about 1650° F (900° C). At this heat the VOC’s break down in the same way as they do in a catalytic converter. Interestingly, there is no additional energy needed. Once the reactor is heated up, the solvents in the exhausts become the fuel needed to keep the process going.

The new RTO at Multifilm has reduced our natural gas consumption by more than 90%. This allows for a significant reduction in our carbon footprint as well as a nice cost reduction for our company.



## Market Update

By Olle Mannertorp

Finally! We got a break. Oil came down from \$114pb all the way down to \$90 together with a strengthened dollar before the Euro headed north again, causing the dollar to drop and oil thereby to regain some strength, ending the quarter at around \$95.

Meanwhile, the plastic resin prices rallied and peaked in May. June brought a much-needed relief on polypropylene, down 15c/lb after having gained 37c/lb through the first 5 months of the year. In fact, PP prices reached an all time high in May resulting in significant demand destruction where many processors that had the option to switch to other resins did so. As a result, the market went from being tight to being over-supplied in just one month. Most involved feel PP prices will see further corrections down over the next month or so.

Many producers of plastic containers switched from PP to HDPE to avoid paying over-inflated PP prices. This resulted in a shortage of HDPE during April and May but again, the market is now well supplied. Also, PE prices in general saw some significant price increases during the first half of this year, but nowhere near what we saw with PP. A 5c/lb price increase has been on the table for PE for two months and has been pushed out to July, but most feel July will settle unchanged. If so, this would be three months with no price increases, a phenomenal record!

Perhaps the most interesting fact about resin pricing is that feed-stocks (ethylene and propylene) are settled

by the producers on a monthly basis. This decides the price changes of resin and the settlement is often reached in the third or sometimes fourth week of the month. Therefore, resin buyers such as Multifilm have no clue what the cost will be of the resin brought in during the first three weeks of any given month. In fact, we receive the resin, extrude film, process the film and sell it without knowing what the cost of the resin actually was. This is gambling at a dangerously high level that has reduced the margin for many film producers to become razor thin as film prices have by far not kept up with the increases of the various resins used in our industry. This, in turn, has resulted in further consolidations in the packaging film industry.

Commodities have a tendency to even out as long as our governments do not try to regulate them. Another fact is that many new plastics (and some regular plastics too) can and will be made from renewable sources such as sugar, corn and even food waste. Although we are at the beginning of this development, oil as a feedstock will thereby become diluted by these new capacities. A third fact, not known by most, is that PE in the US is produced mainly from natural gas. The fact that natural gas is a very cheap feed stock compared to oil that is used in Europe and the Middle East has not resulted in favorable pricing in the US, a confirmation of the theory that pricing of commodities eventually becomes global, in this case driven by a very healthy and profitable export of PE resin.



To make a long story not much longer; resin prices are high and so are most commodities, all driven by oil prices; the traditional plastics (polyethylene and polypropylene) offer by far the best bang for the buck when it comes to protecting the food, thereby reducing food waste; good packaging costs less than it saves and this is what drives the packaging industry. Choosing environmentally sound materials and processing these in an energy efficient and responsible way are core values at Multifilm.

What will the future bring? Predicting is difficult; especially the future and we all know that, as Yogi Berra tells it, "The future ain't what it used to be." However, there are a few undisputable facts that we know. First and foremost, this is a global market and eventually, prices for various com-

Olle Mannertorp,  
CEO, Partner

## Your Questions Answered: Extrusion

By Olle Mannertorp

# Q&A

with Olle Mannertorp

*Get answers to your technical questions about packaging and machinery.*

In every issue, Olle Mannertorp, our CEO and resident film and machinery guru with over four decades' worth of experience on two continents, will answer your technical questions related to flexible packaging materials and machinery. Submit your question to [AskOlle@multifilm.com](mailto:AskOlle@multifilm.com). Extrusion is the topic.

**Q: Dear Olle,**

**At Multifilm you talk about cast film, copolymer, coextrusion and blown film. Excuse a layman, but all I want is a film that can run fast on my flow wrappers and give me tight seals. Please clarify this jungle for me.**

**Confused!**

A: OOPS! I did not know that we were this confusing. Of course for us at Multifilm, there is no confusion as we use all these expressions on a daily basis. It is easy to forget that this is our world, not yours. I am sure we would be as confused listening to expressions used at your plant.

Let me start with extrusion. Our extrusion process is very similar to what many food processors work with—a rotating screw in a heated barrel. In our case we melt plastic pellets (called resin) in these extruders and

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*As a rule of thumb, whatever can be blown can also be cast, but the opposite is not true.*

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push the molten plastics through a die. Blown or cast films in that respect are the same. A blown film die is a circular, narrow opening in the die where the plastic exits. This forms a molten plastic ring. By shaping this soft plastic like a cone, you can fill it with air and get a bubble. You take this bubble and pull it several feet up in the air, say 20 to 50 feet, adding more plastic and at the top of the machine you have two driven rollers squeezed together. Once your bubble reaches this point and you have enough air in the bubble you actually have a blown film. The collapsed tube is brought down to the floor and you split the tube or bubble and wind up the film on two shafts. That is blown film.

Cast film consists of a flat die and the molten plastic falls down like a waterfall onto a very large chill roller. In this case you quench the plastics with the help of a cold surface. In comparison, blown film is quenched by the ambient air temperature, hence the need for a high tower. The more plastic you extrude per hour, the higher this tower needs to be. On a cast film line you simply need more cold-water flowing through the chill roll to quench the plastics.

Why are there these two methods? The answer is simple. Polyethylene does not crystallize during quenching so a slow air-cooling is acceptable. Polypropylene, on the other hand, has to be quenched very quickly or else it crystallizes and turns hazy, stiff and very brittle within about 1/10th of a second. In other words, regular blown film lines cannot process polypropylene whereas cast lines can process both PE and PP.  
(continued on Page 5)



Molten plastic hits the chill roll on a cast extruder, dropping 445°F within 1/10th of a second.

## Ask Olle (cont.)

The advantage of a cast line is the very high output of film—the drawback is that it takes a long time to change widths. On a blown film line you simply change the amount of air in the bubble and the width of the final film changes. As a rule of thumb, whatever can be blown can also be cast, but the opposite is not true.

Moving on, copolymer and coextrusion are two different subjects all together. Copolymers are typically propylene monomers blended with a second monomer, normally an ethylene or butadiene monomer, which create

a polypropylene resin that is suitable for heat-sealing during the polymerization phase. There are several groups of such copolymers and we use a fair bit of high-end seal resins. The only drawback is that these resins are very expensive. To keep cost down, we coextrude the heat seal copolymer with a lower cost resin.

Coextrusion is simply a way to make a film with two or more layers. For that you need two or more extruders feeding one die. At Multifilm we run three extruders into one die, and we make up to five layers with these three extruders. It sounds easy, but I

can assure you it is not. The layer distribution across the web must be perfect so you get the same properties in the film from one side to the other. You need to be able to see all layers—we use a microscope hooked up to a computer screen to do so. By combining the properties from different resins you can build materials with various characteristics, anything from dead fold to barrier and heat seal properties, and do so at a reasonable cost.

I hope the above has shed some light on the secrets of the wonderful world of plastics!

## Supplier's Corner

Like most businesses, Multifilm depends on good, profitable, reliable and knowledgeable suppliers. We take great pride in presenting, as our first contributor, GEI Graphics, our supplier of printing plates and sleeves.

### High Definition Flexo Plates – A new horizon for flexo printing

By Rich Burgess, GEI Graphics

GEI Graphics invested in HD flexo plate production over a year ago, and Multifilm was our first client to start utilizing this new technology. There are numerous advantages that HD plates have over non-HD plates.

For instance, HD plates have the full tonal range of offset and gravure—0-100% vignette. This now makes it possible to produce a smooth vignette in flexo for the first time ever. The imaging yields a very stable dot structure on the plate. HD plates also extend the gray scale and eliminate uncontrolled dot bridging. Finally, HD plates increase the press uptime due to the cleaner and rounder dot definition. This leads to less cleaning inter-

vals and less dot breakouts.

After initial testing it was determined that Multifilm would be able to safely increase the line screen to 175 LPI, well above the standard gravure printing. The results are nothing short of extraordinary print reproductions.

Multifilm now utilizes HD plates on all process print jobs and their custom-

ers now benefit from the fact that their packaging rivals offset as well as gravure printing. We at GEI Graphics want to thank Multifilm for the opportunity to present our HD capabilities directly to Multifilm's customers as we feel we can continue to bring value not only to the Multifilm team, but also thereby indirectly to their customers.

