

MAHLO CASE STUDY:

Winds of Change Push Spinnaker Out Front

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94-Year-Old Firm Adapts to Market Conditions with Advanced On-line Measurement Technology

Visitors to Troy, Ohio, readily recognize how its citizens take pride in their city's history and industry. From the preservation of the 214-year-old beech log Overfield Tavern—now a cherished museum—to the charming downtown city square, it's clear that the people here care about character, tradition, and integrity.

As well, the folks who created, nurtured, and now sustain the success of Spinnaker, a Mactac Company, are equally attentive to the quality of the products they craft. Founded in 1928 by two



Settler-built Benjamin Overfield Tavern circa 1808

local businessmen, the company applied a water sensitive adhesive to paper and cloth. The resulting material could then be printed and used for packaging labels. A key ingredient in sustaining this endeavor was to keep the ever-changing

needs and challenging applications of their customers at the forefront of product development.

Staying a leader means staying alert

Eventually pressure sensitive labels became more popular. Spinnaker was an early adopter of this technology and so became an industry leader, developing a wide range of adhesives applied to paper, foil, and film substrates. Their next industry pivot was to recognize and fulfill the desires of converters who needed smaller volumes. Combining this with



excellence in service and a very broad selection of trimless products, the firm amplified their appeal to a significant share of the market.

Spinnaker realized early on that consistency is key to satisfying discriminating customers. Label profiles vary almost as widely as the products on which they are applied. How well labels perform is hugely dependent upon the adhesive's thickness and chemistry. Using radioactive beta gauges, Spinnaker had been calculating the adhesive's thickness by measuring the product's total thickness both before and after coating.

In 2019 Spinnaker needed to replace the two beta gauges on line #18. "The cost of repairs and maintenance was getting steep," said Spinnaker Engineering Director, Ken Kaup. "We wanted to replace them with a



Spinnaker Line #18

more advanced solution and eliminate the added cost and regulations surrounding the use of radioactive materials.”



Mahlo Scanner on #18 with IMF-15 Infrared Sensor

Probing for Non-Nuclear Sensors

Spinnaker asked their legacy supplier and other prominent players in gauging to propose a non-nuclear solution. “It was Mahlo who responded most quickly and thoroughly,” Kaup noted. “They seemed confident that they could address our needs. I knew Mahlo had a reputation for building rugged, reliable gauging and control systems. We asked other Mahlo users about their experience with the brand. They all had high praise for

the company, products, and people.”

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“What impressed me about Mahlo was their focus on developing and implementing new sensor technologies that offered improved performance

and value for our application,” said Sam Salchak, Process Engineer at Spinnaker. “It is obvious that they are committed to the on-going research, engineering, and development of gauging solutions.”

Mahlo proposed a system that employs their IMF-15 solid-state infrared sensor. It measures thickness more accurately using just one gauge—and it’s non-nuclear. “Our products include a dozen or so adhesives on several substrates,” Kaup noted. “Before we committed,

Mahlo let us test our products on their pilot facility in South Carolina. They then created calibration curves for their gauge and control system that we could preload for each product we run.”

“The gauge measures our adhesive right out of the oven, so we were concerned that the high operating temperature might impact the measurement,” Salchak remarked. “Because the new IMF-15 infrared sensor uses PIN photodiode detectors it’s not impacted at all by temperatures up to 140 degrees F or substantial temperature changes during production. This has helped to ensure accurate and reliable measurement and control of the coating.”

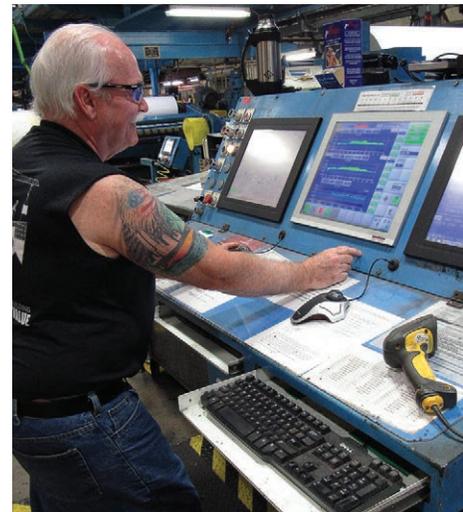
IMF-15 sensors can improve measurement sensitivity up to 100 fold. They also have no rotating filter wheel so light modulation is eliminated, gaining greater measurement stability.

Tailored Training Simplifies Startup

Spinnaker ordered the Mahlo scanner and a few months later their in-house maintenance crew installed it over one weekend. By Monday afternoon the #18 line was—and since has been—producing premium product. “Prior to installation our operators became familiar with the new software interface locally by using Mahlo’s Team Viewer system. Mahlo also sent a training team on site,” Salchak said.

Jack Baumann, operator on #18, has served the company for 45 years.

“I can’t say enough good things about this system,” Baumann said. “The CD profile resolution is so much sharper than other systems we’ve had. Their auto-control responds fast to sensor input making adhesive thickness more consistent.” In fact, coating variation has been reduced by over 50% which has made a significant contribution to



Jack Baumann monitors coating line #18.



Mahlo custom engineered the scanner mount, adapting to available space on line #19.

Spinnaker’s overall quality initiatives. “If any issues arise, we can count on Mahlo’s 24/7 phone and internet support,” Baumann added.

“That support comes as part of the system for the life of the machine, too,” Kaup interjected. “No service contract is needed!”

Don’t Mess with Success

Before long, coating line #19 was ripe for scanner replacement as well. The prevailing sentiment among operators was, **“We’re getting another Mahlo, right?”** When pressed as to why they again committed to Mahlo, Kaup responded, “We’d have to see something *really* impressive to make us change our gauging supplier. Even better, if we ever need repair parts, they keep deep inventory in the US and will ship parts overnight if we need. That can be crucial.”

Spinnaker did order another Mahlo scanner. They were planning to install it in September, 2021, but when the German-built machine arrived in Columbus, damage to the shipping crate was discovered. “Mahlo sent a team right away to inspect the damage. They immediately

“If I’m on my feet it’s usually because something needs fixing. The Mahlo system makes my life a lot easier!”

ordered new components to replace any that were possibly affected by the damage. Forget finger pointing or fault finding,” said Kaup. “Of course it pushed back the installation date, but during that time the Mahlo team was great about keeping us

closely updated on progress and delivery date.” Once the machine arrived, Spinnaker was again able to install it over a weekend.

Quality goods were rolling off #19 within a day. “All Mahlo scanner frames and interface programs are pretty much the same,” said Jeff Kolling, a 35-year employee and scanner operator at Spinnaker, “so no matter what new machine is installed, the learning curve is easy.” Later, Kolling confessed, “If I’m on my feet it’s usually because something needs fixing. The Mahlo system makes my life a lot easier!”

Mactac and Spinnaker anticipate continued growth led by the kind of quality enhancements they



Spinnaker Coater Operators Jeff Kolling and Jack Baumann; Lead Maintenance Technician, Peno Hebb; Ken Kaup, Engineering Director, and Sam Salchak, Process Engineer.

can achieve by improving systems such as gauging. “We have Mahlo scanners in our facility in Spartanburg, South Carolina,” said Brittney Eppley, Corporate Marketing Communications Manager for Mactac. “When we were

in the process of vetting the Spinnaker acquisition, it was great to see that they partnered with Mahlo as well. We have been very pleased with the technology, expertise, and customer support that Mahlo delivers.”



Spinnaker coating line #19

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