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A Slit Decision

Midwest-based NonWoven Solutions meets strict production requirements with a new slitting system from Tidland.

By Nsenga Thompson, Associate Editor

While farming, automobile manufacturing, and long-standing baseball rivalries are undeniably Midwest staples, Illinois-based NonWoven Solutions (NWS) went against the grain when it jump-started a nonwovens production line in Ingleside, about 50 miles north of Chicago. According to NWS, converting nonwovens is a practice much more prevalent on the East Coast. But with years of nonwovens experience among them, investors Gerald Leineberg, Joe Leineberg, Tom Leineberg, Frank Porto, and Steve Brown were determined to expand the supply chain in a central location.

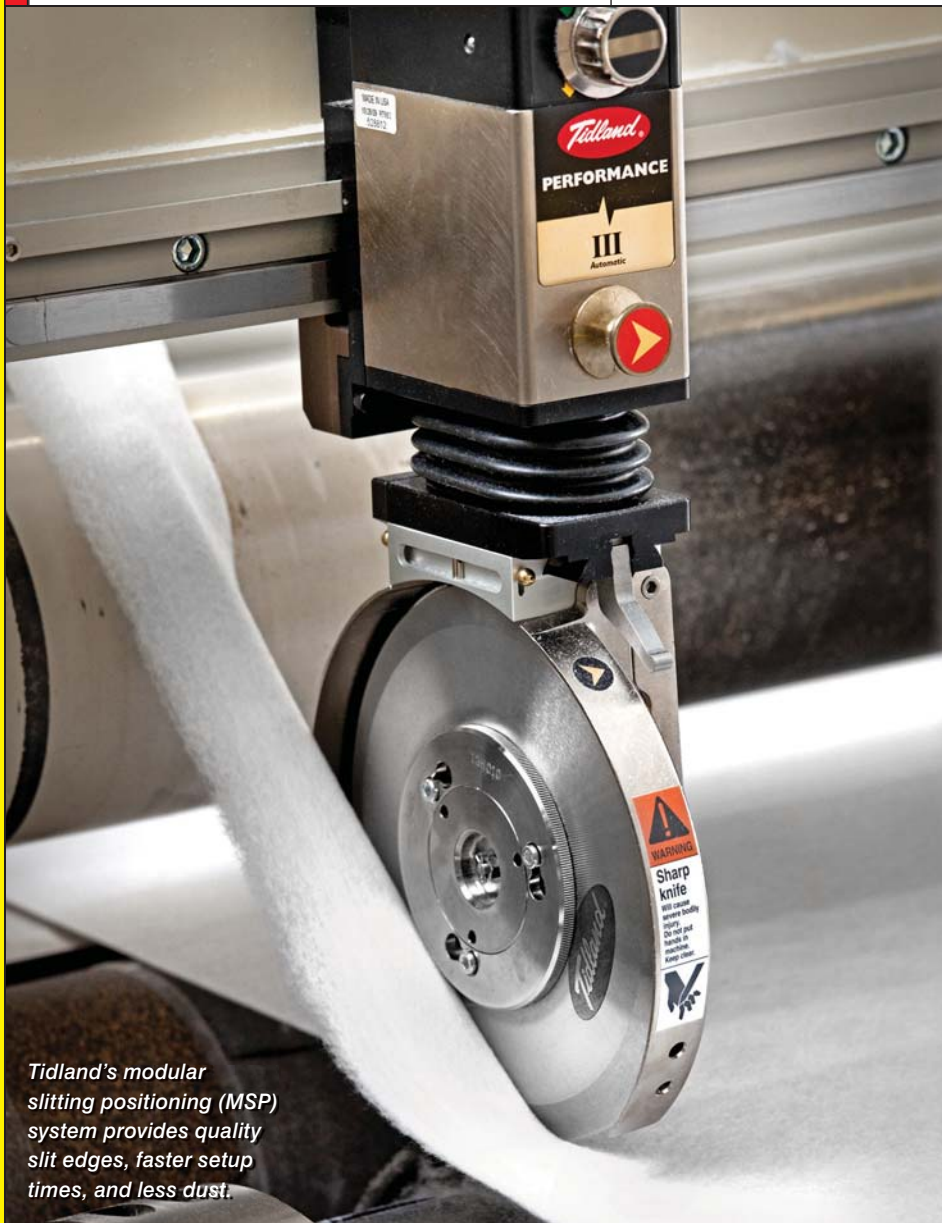
SLITTING NONWOVENS



Operator sets up a job on NWS's custom-designed production line, which runs white-only synthetic fibers in the 1–15 denier range. NWS operates the line according to Good Manufacturing Practices (or GMP) medical grade standards.

Photos: Steven Bloch

SLITTING NONWOVENS



Tidland's modular slitting positioning (MSP) system provides quality slit edges, faster setup times, and less dust.



Operators manually inspect and then prepare to remove slit rolls for shipping.

► Converter Info ◀

► **NonWoven Solutions** |
27981 W. Concrete Dr., Ingleside,
IL 60041 | 866-697-0277 |
www.nonwovensolutions.com

Launched in May 2007, NWS manufactures and supplies high quality nonwoven rollstock across the US for a variety of converting applications, including industrial and technical felt, medical and personal care wipes, and filtration products.

"There is very little nonwovens converting in the Midwest because of logistics," says Steve Brown, partner and general manager. "A lot of our customers are contract converters, and most of our competitors are way east.

"We saw a distinct void in the nonwovens supply chain that could only be filled with a new production line and thus a new company," he says of their decision to launch the startup. "The void was a strategically located manufacturer of very clean, very uniform, needle-punched nonwovens centrally located in the United States."

Getting in Motion

After setting up shop in a 50,000-sq-ft facility located next door to the already-established Superior Felt & Filtration (a full-service converting operation owned by brothers Gerald, Joe, and Tom Leineberg), NWS spent the remaining year custom building its extensive nonwoven production line. Brown says NWS is diligent in collaborating with its customers to develop a fabric based on price point or performance criterion.

To ensure the level of quality necessary to meet its customers' stringent needs, a critical feature of the production line is its needle punch component, designed specifically to handle the unique thicknesses and combined materials NWS produces.

To provide the most uniform and even fabrics across the full production width, NWS also has installed the latest technology in web forming, web delivery, and web and batt profiling. Webs are produced on Asselin-Thibreau's Excellence card system.

"We are able to exceed traditional industry standards of plus or minus ten percent on both web weight and web thickness," describes Brown. "In

addition, this uniformity further allows for exceptionally low deviation in the air permeability of CFM [cubic feet per minute per square meter] of webs used in such products as respirators and micron-rated felts.”

Slitting for Perfection

After a year of perfecting its customized production line, NWS began hiring full-time production employees, running two shifts daily, and quickly moved to three shifts by spring 2009. As its clientele grew, thanks to a relatively stable medical and personal care market, the needs of its customers became more specialized, and Brown soon realized the need for more precision slitting. “We needed more versatility. We had to upgrade the slitter,” he says. With a mission to find a system that could meet its rigorous production needs, Brown approached Maxcess Intl. during the CMM show in Rosemont last June. Soon after, he purchased the Tidland MSP (modular slitting positioning) system with Class III Performance Series Knifeholders.

In early November, NWS prepared for the installation. Brown describes, “A Tidland engineer came in to measure, drew it out for us, and then sent us the system. It was easy to install. We installed the system ourselves.”

Tidland’s MSP system is a custom-configured solution, using pre-engineered components, that’s a practical solution for converters of a variety of materials. The system is designed to provide quality slit edges, faster setup times, and less dust, resulting in better rolls and high productivity at a cost-efficient price—all critical features that Brown says NWS required for the operation’s only production line.

Each level builds upon the components of the previous version to provide additional benefits. The system can slit from 3–35 mpm.

“What impressed us was the engineering, the ease of use, and ease of setting,” says Brown. “The slitters were real easy to set, change, and adjust.”

Brown says the critical function of NWS’s process is its attention to quality. And when it comes to non-wovens production, differentiation is a not an option.

“It is important that all rollstock is high quality and uniform. By unifor-

mity, I am referring to our ability to maintain the target slit width and then hold the plus/minus targets,” he describes. “With less tension we find there is no distortion caused by stretch, since we cut the felt with virtually zero tension.”

The accumulation and winding equipment, supplied by Signal Machine Corp., which run before and after the new Tidland slitting system, also are instrumental in ensuring the precision and efficiency of the

slitting process. The winder is 6.5 ft from the point of slit, says Brown. “Since we use less tension, we have less neck-down of the fabric, all as a result of a very clean cut.”

In addition to product uniformity, another slitting challenge for the converter is handling lighter-weight materials. “Previously we had difficulty getting a clean cut with 70 grams per square meter material and had to add a supplemental divider after the score cutter roll to break the occasional few fi-

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SLITTING NONWOVENS

bers that were not cut cleanly,” says Brown. “Obviously now this is resolved. Tidland simply gives us better slitting.”

After two full years of production and now 26 employees strong, Brown says the company is looking ahead. Talk of a second line eventually could become a viable goal. For now, Brown is satisfied with the progress the Midwest nonwovens manufacturer has achieved. “It was a lot of work, but it has gone as planned.”

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►Supplier Info◀

►Tidland, a Maxcess Intl. co. |

www.maxcessintl.com

Circle 310 or visit www.freeproductinfo.net/pff

►Signal Machine Corp. |

www.signalmachine.com

Circle 311 or visit www.freeproductinfo.net/pff

►Asselin-Thibeau | www.nsc-nonwoven.com

Circle 312 or visit www.freeproductinfo.net/pff

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NWS produces rollstock that is high quality and uniform, with no distortion caused by stretch.

Engineered Fabric

NonWoven Solutions (NWS) produces basic needle-punch nonwovens, which are a specialized process of interlocking fibers in a nonwoven fabric by punching a barbed needle through layers of fiber, then withdrawing it to tangle the fibers. In addition, the production line is equipped to execute flame singeing, calendaring, and precision slitting in both roll-to-roll and single-knife styles. NWS also can produce off-line needling for multilayer composites and high-density felts from layers.

NWS converts “white fiber only” material and nonwoven blends available in various densities, thicknesses, and synthetic blends, such as polyester; polypropylene; polyamide nylon 6 and 6,6; acrylic; viscose; polyvinyl alcohol/polyvinyl acetate; modacrylic; and low melt. NWS can produce these materials at a maximum width of 172 in.

The company also maintains inventory of the most basic fiber styles and can produce custom orders and engineered fabrics on demand in very limited time. Products can be produced from weights as low as 2.1 oz/sq yd up to 45 oz/sq yd; thicknesses from 0.020–0.50 in.; and widths from 1–172 in.

NWS can produce precision blends of up to three components at rates to 2,500 lb/hr. Precision blends are maintained by NWS using two fine openers and a full-sized mixing bin system. This allows NWS to provide technical expertise and product development in support of basic fabric production.

FOCUS

SLIT/REWIND

Coming in August:
Materials Handling



Knifholder Is Tough

The Class III e-Knifholder is designed for reliable operation in harsh environments. Offers a dust-tight, water-resistant enclosure; easy setup and operation; and automatic calibration of side-force and overlap. Ensures reliable performance in demanding mill-duty operations. When ideal settings are configured, changeover can occur without operator intervention, and new operators can be fully trained in less than 90 sec, company says.

► **Tidland Corp.** |
800-426-1000 | www.tidland.com

Circle 400 or visit
www.freeproductinfo.net/pff



Slit with Speed

SLIT

The B87 HS slitter offers speeds to 2,000 fpm. Benefits include automatic positioning of cutting knives; smart shafts; servo-assisted unloading of finished rolls; self-centering shaftless unwinder; and computer with memorization of machine parameters.

► **Bielloni Converting** |
+39 0 39 2485 1 | www.bielloni.it

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Sheet Tyvek With No Static

SHEET

MSE sheeter converts rolls of Tyvek into precisely stacked piles. Dual-motor drive technology maintains sheet length accuracies of ± 0.015 in., and a slitter rig can produce custom sizes in multiple piles. Sheeter reportedly eliminates the need to guillotine oversized sheets to a finished dimension. Delivery system has static-eliminating equipment and an air delivery system that productively runs Tyvek at speeds to 300 fpm.

► **Maxson Automatic Machinery Co.** | 401-596-0162 |
www.maxsonautomatic.com

Circle 404 or visit www.freeproductinfo.net/pff

Detect Odors

The AromaTrax GCMS-Olfactometry System combines state-of-the-art technology with the human nose to identify specific chemical odorants down to parts per trillion or quadrillion. The system has the capability of separating each chemical compound and delivering it to an odor "sniff port." "Bookkeeping" software allows the analyst to log findings directly onto a computer screen.

► **Microanalytics, a Mocon co.** | 763-493-7231 |
www.offodor.com

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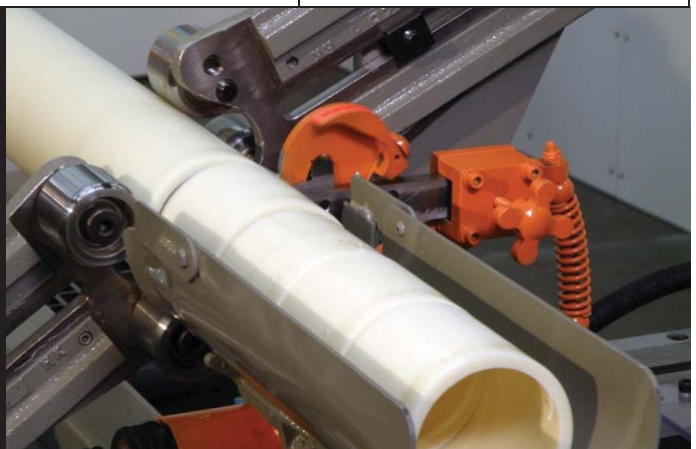


Process Plates for Letterpress, Gravure

The nyloprint Combi 96 x 120 ED system is for the main exposure, drying, and post-exposure of nyloprint printing plates. Compact design allows the processing of plate formats to 960 x 1,200 mm and is called suitable for most applications of letterpress and gravure printing forms.

► **Flint Group** | 800-795-2273 | www.flintgrp.com

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Cut Cores Efficiently

Automation upgrades provide efficient core cutting without the expense of replacing an existing cutter. Solutions include automatic core loading, core conveying, and core accumulation systems that allow users to control parent core handling, cut-to-length core cutting, and cut core handling activities with simple input on the control panel.

► **Appleton Mfg. Div.** | 800-531-2002 | www.appletonmfg.com

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