



TMC ships approximately 100 packages a month. Its 70,000-square-foot plant is filled with state-of-the-art equipment, including: a CNC router, CNC panel saw, automated edgebanders and a point-to-point machining center.

*Photo by Jessica Sanchez*

## Millwork Company SERVES IT UP LEAN

A division of Source One Distribution, the newly formed The Millwork Co. is living up to its name as a top panel processing source for branded restaurant fixtures and components.

By Karen M. Koenig

**R**estaurant supplier Source One Distribution gives new meaning to the term "fast service." Less than a year after owner Scott O'Hara first conceived a plan to make Source One vertically integrated by bringing all wood component manufacturing in-house, the company: created a new division, The Millwork Co.; leased 70,000 square feet of manufacturing and office space in a nearby facility; purchased all new state-of-the-art machinery; hired and trained 36 employees, then implemented lean manufacturing

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TMC specializes in manufacturing fixture packages for large restaurant chains, including Quiznos. Each package includes: the wood components, hardware, glass (i.e., sneeze guards), metal parts, etc.

*Photo by Jessica Sanchez*

techniques throughout the plant; and still managed to ship 65 millwork packages in its first quarter of startup to restaurant chains across the nation.

Now in business for almost a full year, TMC has improved its productivity and increased the number of shipments significantly, to more than 100 restaurant packages a month. The company manufactures branded store fixture packages and millwork to well-known restaurant and retail chains, including Quiznos and Cinnabon.

TMC works directly with customers, as well as with Source One, for concept packages, explains Mark Bennett, TMC director of operations. "Currently, 95 percent of our packages are with Source One [which offers the Restaurant in a Truck and Store in a Truck trademarked concepts]," Bennett says. "Our plan is to reduce that to 70 percent of our business during the next year or so."

He adds that TMC also is focused on expanding its sales base through the development of its component business to other millwork companies, such as closet and specialty storage manufacturers. According to Bennett, the expansion of the component business will help offset any cyclical trends in the restaurant fixture industry. He stresses, however, that TMC does not sell its components directly to end users. "We're not in competition with other millwork companies. We're doing services for them," Bennett says.

## Optimizing Plant Operations

Service is the name of the game. TMC has the capabilities for machining straight and curved components, including panel sizing, routing, boring, edgebanding and assembly. In designing the optimal plant layout for its needs, the company worked with woodworking consultant Art Raymond.

"We designed [the plant] around having high volume and fast turnaround. It's really paid off," Bennett says. "We're focused on zero back orders — 100 percent on-time delivery."

The plant is laid out in a U-shaped flow, which includes two distinct machining lines feeding into a single assembly area. This layout has enabled the company to streamline its production process for lean manufacturing, eliminating non-value-added steps and labor. The New Mexico Manufacturing Extension Partnership also has been instrumental in assisting TMC with lean manufacturing training and value mapping, Bennett says.

## THE MILLWORK CO.

### Albuquerque, NM

A division of restaurant supplier Source One Distribution, The Millwork Co. designs and builds store fixture packages and millwork for well-known restaurant chains throughout North America. In business for less than a year, TMC averages 100 restaurant packages a month. In addition, TMC machines components for other millwork and storage manufacturers.

### Three Keys

1. TMC's implementation of lean manufacturing has helped the company to significantly increase its capacity while decreasing turnaround time. TMC has been working with the New Mexico Manufacturers Extended Partnership for value stream mapping and lean manufacturing training.
2. Production has been streamlined into two distinct machining lines for straight and contoured components. Both lines feed into the assembly area. Melamine panels are used extensively, although TMC also has the capability for high-pressure lamination.
3. TMC currently builds to forecast, although it is looking to move more toward just-in-time manufacturing to further reduce inventory.

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## Two Paths to Processing

Using Microvellum software, engineers design and download the CAD programs to the CNC machinery on the shop floor. According to Keith Mercer, TMC manufacturing analyst, the company is looking to implement an MRP system to better track work-in-progress, as well as finished goods.

Parts are machined in small batches and travel together down the line. In the first step of the process, straight parts are cut to size on a Mayer PS92 front-loading panel saw, available from Delmac Machinery Group. The saw is capable of cutting one to three panels at a time, with a maximum book height of 3.9 inches. It has a cutting length capacity of up to 18 feet.

After sizing, parts are placed on a roller conveyor system and brought to one of two DMG Busellato CNC straightline edgebanders, a Flexa 300 and a Flexa 200. TMC uses the Flexa 200 for applying  $\frac{3}{4}$ -inch material, while the Flexa 300 is used for applying wider material. Both machines feature: an end trim unit, a top and bottom bevel trimming unit, a corner rounding unit, and a top and bottom profile scraping unit and buffing station. The Flexa 300 also has a pre-milling unit and a top and bottom rough milling unit. The company uses primarily Doellken-Woodtape banding on its products. A Thomas conveyor is located on the shop floor to facilitate processing by a single operator.

After banding, straight-edge components are transferred to the Busellato Jet Concept point-to-point boring machine with an IMC pod-and-rail system and automatic, motorized positioning for drilling of vertical holes. Next, a DMG Omal HBD-1550 horizontal bore, glue and dowel machine inserts dowels on horizontal pieces.

"All our cabinets are put together using dowels," Bennett says. He adds



The first step in the processing line, panels for straight components are cut-to-size on the Mayer CNC front-loading panel saw.

that the company prefers dowel construction, making for a stronger case.

At the end of the "panel saw line" is a Castle TSM-21, used to make 6-degree pockets for case construction and drawer box assembly. The cases are then clamped into place in a JC Uhling HP4000.

Contoured parts follow a different path.

Parts designed for nested CNC routing or contouring go first to the Busellato Jet 400RT, which features a 5-foot by 12-foot table and is equipped with a 17-position tool changer. Elevated pods on the CNC router



After sizing, straight-edge components are sent to one of two Flexa single-sided edgebanders for application of Doellken-Woodtape edgebanding.

allow for profile and horizontal machining.

From there, pieces are transferred to three Fraval machines from DMG — a contour bander, trimmer and buffer unit — then on to assembly.

"We normally run 10 to 20 components on one job order, and anywhere from 10 to 40 job orders a day," Mercer says. "Our goal is to maintain 30 to 40 jobs [eight store package capacity] per day, so that the machines are running regularly."

"We have a lot of capacity," Bennett adds. "We're definitely in an expanding mode for business."

Although the majority of products are made from thermalfused melamine panels, the company also offers products made from high-pressure laminated panels, which are pressed in-house in an automated Black Bros. cold press. According to Bennett, TMC is the only company in the area that has this capability.

Another of the company's capabilities is producing custom prototypes. These projects are manufactured in a separate cell area located adjacent to the high production lines. Among the machines in use in this area are: a Jet stroke sander, a Delta Unisaw with a Biesemeyer unit, a Porter-Cable production cutter and an SCMI SI300N table saw.

At every phase of the operation, quality control checks are performed on a regular basis. Prior to crating and shipping, each order is laid out and photographed.

"We started this practice with the [Source One] distribution side of the company, and we continued it here. It's an added quality-control step," Mercer says. The scans are archived onto the company's server in case questions arise. TMC also conducts follow-up phone calls following receipt of the



On the contour line, a Gorbelt vacuum lifter brings panels to the Busellato Jet 400RT CNC router for nested-based and contour machining.

shipment to ensure customer satisfaction.

"We're currently building to forecast, with just a one- to seven-day turn-around for completed projects," says Bennett. The move toward just-in-time manufacturing will enable the company to reduce its inventory of melamine and raw composite panels, which is currently delivered once a week. The company purchases its TFM panels, particleboard and MDF from a variety of sources, including Roücke, Ranger and Roseburg.

Future plans for the company include increasing the use of veneers, which tend to be specified in airport projects. Concurrently, Mercer says, TMC plans to expand its wood finishing operations.

### Other Challenges and Concerns

Because of the prior lack of woodworking experience by the majority of employees, training was one of the biggest hurdles faced by the fledgling company. In addition to lean manufacturing training from MEP, Bennett says machinery manufacturer DMG was instrumental in helping to train employees on the various machines.

"Now, we're cross-trained throughout all areas of the company. We don't want to departmentalize the employees," Bennett says.

"It makes [it] interesting for the employees. They can be doing something different every day," Mercer adds.

While training is an ongoing issue, other top concerns for TMC include employee retention, maintaining control of material costs and level loading; in other words, "balancing the workload across the 12 months," Mercer says.

The company has been relying on word of mouth to obtain new jobs. "We also market through our equipment distributor relationships," Bennett says.

"[2006] has been a very exciting year," Bennett continues. He adds that he is looking forward to the challenges that await TMC in its first full year of business, in 2007. ☞