

Bluewater Pallet Is Dedicated to Design, Build Quality Pallets

Ontario Company Relies on Storti Flex 2600 Nailing Machine

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WATFORD, Ontario – Block pallets are garnering more attention these days. The National Wooden Pallet and Container Association established a study panel earlier this year to evaluate the feasibility of starting a block pallet pool program for the U.S. grocery industry.

The grocery industry relies on both the GMA pallet, which is a stringer design, and block pallets. If the association launches a block pallet pool for the grocery industry, it would be a significant change for many in the grocery supply chain and the pallet industry.

Bluewater Pallet Inc. has been able to switch easily between stringer and block pallets thanks to its Storti Flex 2600 nailing machine.

“We provide light and heavy industry with packaging materials — any configuration of wood packaging, any footprint,” said Al Eastman, general manager of Bluewater Pallet.

Bluewater Pallet has 17 employees. About 90-95% of the company’s business is new softwood and hardwood pallets; the remainder primarily is wood crates and boxes.

Bluewater’s mailing address is Watford although its facilities are actually located in Warwick, a town of about 300 people southwest of Toronto. The company serves customers within about a 175-mile radius, which encompasses southwestern Ontario and Michigan. Customers span many industries, including grocery, manufacturing, distribution and agriculture.

Like most equipment at Bluewater Pallet, the Storti Flex 2600 was included in the assets purchased from MacDermid Pallet, which sold out nearly five years ago after being in business about 35 years. Out of the sale rose Bluewater Pallet, which is owned by three partners: Jim Eastman, George Demers and Mike Demers. Jim, Al’s brother, takes an active role in the business.



Workers at Bluewater Pallet place pallet parts into Storti Flex 2600 nailing machine; the Flex 2600, which assembles stringer pallets with ‘beam’ nailing orientation, also can nail block pallets.



After one deck is nailed, the Storti Flex 2600 automatically advances the pallet and turns it over in preparation for the final components to be placed into position and nailing the second face.

Al previously worked for MacDermid; he was with the company for 35 years and had a role in the purchase of the Storti Flex 2600.

The Storti Flex 2600 is a tandem nailing machine, meaning it has two nailing stations. Components are fed into the machine for the first nailing station to

assemble the top deck, the pallet advances and is turned over automatically, components are then put into place for the bottom deck, and the second nailing station nails the bottom deck to complete the pallet. Storti also manufactures single nailing station machines.

The Storti Flex 2600 can nail both block and stringer pallets. That capability was important, said Al. “We have built a lot of block pallets in the past,” he explained, and he expects the company will be building them again if market conditions and demand change.

Al remarked on the differences between building block and stringer pallets. “Given the increased complexity of a block style pallet over a stringer design,” he noted, “they are more labor intensive to hand build. Depending on the type of block pallet, the worker may need to use as many as three different nail guns to apply different length fasteners and-or clinch nails.”

“On the Storti,” added Al, “each of three different fasteners are automatically fed and applied to the appropriate component intersect. We have found that side-point clinch nails work best in softwood stringer board components and a good quality ring shank nail for block pallets requiring hardwood stringer boards. With automated equipment and well designed jigging, very tight tolerances and consistent product uniformity can easily be achieved.”

When MacDermid decided to add a nailing machine, the company chose the Storti Flex 2600 for several reasons. MacDermid had automated nailing equipment since 1988. “We’ve had other machinery for automated nailing,” said Al. So when it came time to add a machine, the company’s management team had the benefit of that experience with automated nailing equipment.

The Storti has proven to be a very good choice, he indicated. “It’s a very well-built machine,” said Al. “It’s a very easily maintained machine and very dependable with little down time. It’s one of the best assembly machines we’ve had.”

The machine is engineered well for simplicity and minimal moving parts, noted Al. “It’s a real nuts and bolts machine, really operator friendly,” he said.

Not only that, the Storti Flex 2600 is fast. “This one, being a beam nailer with continuous component feed, is more efficient in its nailing cycle time,” said Al.



Outfeed of the Storti Flex 2600; Italy-based Storti is represented exclusively in North America by Pallet Machinery Group, formerly G. Wine Sales.

Nailing machines orient the pallet so the deck boards or stringers are parallel to the actual nailing station. Machines in which the deck boards are parallel to the nailing station perform what is known as ‘stitch’ nailing, driving nails in one deck board at a time, then advancing to the next board. Machines in which the stringers are parallel to the nailing station perform ‘beam’ nailing, driving all the nails into one stringer (and all the deck boards attached to it) simultaneously; they are generally acknowledged as faster and more efficient because, in a typical pallet with three stringers, after the first stringer is nailed, the machine only needs to advance the pallet two more times to finish nailing the other two stringers. By contrast, in ‘stitch’ nailing, the machine must individually nail seven deck boards on the top face of a GMA pallet, for example.

The Storti Flex 2600 machine also can drive three different nail sizes at one time. An automatic stringer feeder enables the machine to be operated by only two employees.

At Bluewater, the Storti Flex 2600 is along one side of a 200-foot-long building; the machine footprint is about half that length. CAT forklifts shuttle material from the cut-up lines to the Storti.

Bluewater operates a cut-up line to remanufacture hardwood cants into pallet parts. The company normally buys 4x6 cants from 7-17 feet. Incoming cants are sorted in the yard. “All incoming material has to be separated – green versus heat-treated,” said Al.

The cants are cut to length by a Brewer Inc.-Golden Eagle cut-off saw. A Brewer double-arbor, double-bay gang saw resaws the sized cant material into deck boards or stringers. A Hazelthorn double-head notching machine is used to notch stringers for four-way entry pallets.

For softwood pallets, the company buys 1x4, 2x4, 4x4 and 2x6 lumber. The material is put through a Nelson-Atkinson five-head multi-trim saw to be cut to the appropriate lengths. They can be routed to a stacker or directly to a West Plains 400 band resaw. Finished boards exit onto a sorting table to be sorted, pulled and stacked.

Most hardwood cants come from Ontario. The company buys softwood lumber mainly from mills in Ontario, Quebec and the Maritimes, although it also buys some Southern Yellow Pine lumber from U.S. mills in Alabama, Georgia and Mississippi.

Over time, the type of wood requested by customers has changed, noted Al. “It’s gradually evolved more to softwood pallets and wood packaging,” he said, because of weight restrictions and costs for material, energy and transportation.

Some customers may be moving to a pallet that conforms more readily to European Union regulations for wood packaging, and Bluewater is exploring with them the feasibility of transitioning to block pallets. With its Storti Flex 2600, Bluewater is ready.

“We utilize the Pallet Design System (PDS) developed by Virginia Tech,” said Al, referring to the software program

available from the National Wooden Pallet and Container Association to design pallets. “We can analyze a customer’s needs, then with the PDS we design and build a pallet for the customer that fits their application precisely.”

Wood containers as well as some custom pallets are assembled by hand with pneumatic nailing tools. The company has supplied pallets as small as 24x24 and as large as 7 feet by 14 feet.

The Storti Flex 2600 runs 10 hours each day, four days a week, sometimes more. Wood processing and pallet assembly usually operate a four-day week although some office and maintenance personnel work five days per week.

Bluewater participates in the quality standards of the International Standards Organization. “We’re ISO certified,” said Al, and inspectors visit regularly to ensure the company is in compliance with the organization’s requirements.

Bluewater can supply softwood and hardwood heat-treated pallets for export. It is equipped with a Converta Kiln PS-600 automated pallet sterilizer, which is used primarily to heat-treat pallets but also is used to heat-treat some wood packaging components.

Bluewater is a member of the Canadian Wood Pallets and Container Association (CWPCA), which partners with the Canadian Food Inspection Agency to audit heat-treating processes. The company also is a member of the National Wooden Pallet and Container Association.

Al began his career in the pallet industry as a laborer, moved to wood processing operations and machine operator positions. He has done virtually all pallet manufacturing jobs and eventually became plant operations manager.

His brother, Jim, went into the residential construction business for 25 years. He also contracted to MacDermid, cutting softwood lumber into specialty crating components for the company, a relationship that lasted 12 years.

In his free time, Al enjoys spending time with his family, reading, and bicycling. For Jim, it’s family, canoeing and a variety of things, including a mission trip to Zambia in recent years.

Bluewater uses scrap wood to fuel a boiler that heats the 20,500-square-foot main plant and also provides auxiliary heat for the pallet heat-treater. Sawdust and shavings are accumulated in a storage bin and sold for animal bedding.

“We don’t actually own our trucks,” said Al. But by arrangement, the company that contract hauls for Bluewater Pallet keeps its vehicles at the ready on Bluewater’s six acre site.

Bluewater does not repair pallets, but it provides a service to remove surplus or scrap pallets. “When delivering new pallets, we take away their refuse,” said Al. The scrap pallets would be supplied to another business that either reclaims the lumber or grinds the wood fiber for mulch. The solution eliminates disposal costs for customers and saves landfill space, according to Al.

Most maintenance is handled by the Bluewater staff, including sharpening carbide circular saw blades. HS Saw Services in Kitchener maintains the company’s bandsaw blades.

Jigs for assembling custom pallets or crates as well as the Storti jiggling are built at Bluewater. “We design and build all of our own jiggling on site,” said Al.

The company’s operations are well organized and planned ahead as much as possible. “If possible, we organize our scheduling two weeks ahead to minimize changeovers,” said Jim. The work schedules include nailing machine and assembly schedules, cutting schedules and work orders. Monthly team meetings en-



Infeed of West Plains 400 series band resaw, which is set up to split 2x4 material.

courage exchange of ideas and suggestions for improvement.

Storti is based in Italy and has extensive experience manufacturing machinery and equipment for the European pallet industry. The company is represented in North America by Pallet Machinery Group (formerly G. Wine Sales) in King George, Va. Parts and service are provided by Industrial Equipment Support Services (Lawrence Zavitz).

Storti manufactures several models of nailing machines as well as scragg mills, chipper-canter lines, gang saws, package saws, trim saws, edgers and slab recovery systems. Storti nailing machines are available as tandem or single nailing stations with a wide range of optional features and equipment for highly automated operations.

“I see one of the strengths (of the Storti) is that we can build high volume, top quality pallets,” said Jim. “With a large contract we may build three to four loads at a time.”

The Storti Flex 2600 is very safe and easy to operate, added Al. “It’s operator friendly,” he said. “When you go from a wide pallet to a narrow pallet, workers don’t have to lean in any further to place components,” he said, because the sides of the machine move in to accommodate the smaller pallet footprint.

The Storti’s bulk nail feeding system is efficient, too, he noted. “They’ve also got platforms for nails,” said Al. “The forklift operator can place a skid of nails so that the machine operator has ease of access when loading the bins. There’s no unnecessary handling involved.”

Before making the decision to buy the Storti, Al visited Williamsburg Millwork in Bowling Green, Va. to see its Storti nailing machine in operation.

Bluewater has a monthly safety awareness program that usually includes a presentation, discussion and quiz about various safety procedures and equipment. “We’re a very safety conscious company,” said Al. The company also provides training for certification in forklift operation, emergency first aid and CPR.

“As far as we’re concerned here, there’s always room for improvement,” said Al. “We really value our staff here at Bluewater. Every member of our team plays an important role in helping to accomplish our goals and meet our projections. Everybody’s voice needs to be heard. You listen to them, and they’ll listen to you.”

That kind of two-way communication and unified commitment enables the company to perform in a way that provides high quality products and service to customers. 