

## Newnan Aluminum Extruder Implements Lean, Increases Productivity

As process optimization manager for the [William L. Bonnell Co.](#), a full-service aluminum extruder and a division of Tredegar Industries, Rick Miller saw first-hand the effects the recent slump in home building has had on the Newnan, Ga. plant that makes products as varied as hurricane shutters, tub and shower fixtures, louvers and vents.

“Bonnell serves a lot of customers in the commercial and residential building and construction markets. The Newnan plant is particularly tied to residential building so when the housing market slows down, it slows down Newnan’s business,” he said. “Last year we were in a bit of a crisis mode, and started looking for outside assistance.”

That assistance came from David Apple, northwest Georgia region manager for Georgia Tech’s [Enterprise Innovation Institute](#). According to Miller, Apple was a real cheerleader for lean manufacturing principles, a process management philosophy derived mostly from the Toyota Production System and known for reducing wasted time and effort to improve overall customer value.

“Historically when we’ve had high volume, we could usually make decent money, but the real problem was the cost creep of utilities, labor rates, benefits and other costs,” Miller recalled. “In a year where we had all the volume we wanted, we still didn’t make much money. That’s what showed us we needed to do something.”

In February 2006, Georgia Tech lean specialists Jennifer Trapp-



Rick Miller, process optimization manager at Bonnell, discusses impacts of the lean implementation with Georgia Tech’s Jennifer Trapp-Lingenfelter and Derek Woodham. Photo by Nancy Fullbright

Lingenfelter, Derek Woodham and Tom Sammon conducted an assessment at Bonnell, and led initial training for management. Miller said that it was important to have external people be a part of the project since they can bring a different perspective and challenge the status quo.

According to Miller, the A1 packaging area was the most complex and offered the most opportunity for improvement. The team developed a value stream map and standardized the layout of equipment to improve the process flow – not only of product but of people as well.

“We’re always focused on machine utilization and automation, but Derek, Tom and Jennifer didn’t even look at machine pace or speed while

they were in here – they were looking for waste,” Miller said. “I used to think the best we could do was incremental improvement, but there’s a lot of opportunity out there.”

Some of the waste observed in the A1 packaging area included an imbalance in production between extrusion, anodizing and packaging; multiple schedules; scrap and quality issues; and disorganization of work in progress.

“There was no flow through the packaging line, and that was a problem in terms of ergonomics and safety. There was excessive walking, excessive material handling and underutilized space,” remembered Trapp-Lingenfelter. “It was our goal

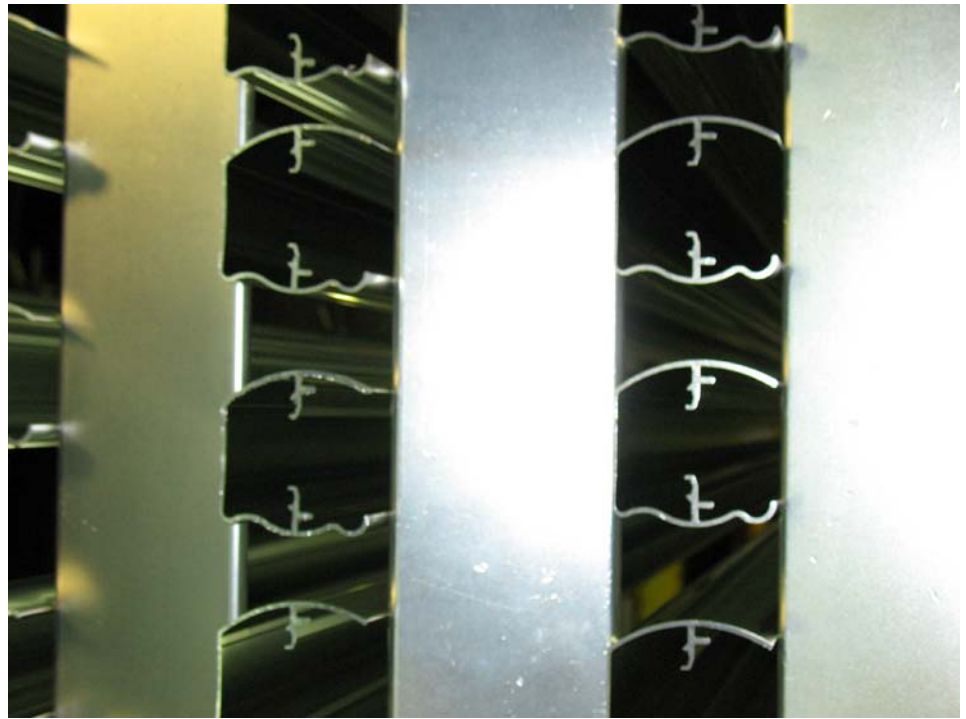
with this project to educate all levels of the organization about lean tools, develop a culture of continuous improvement and assist in achieving a cost reduction plan.”

In addition to the introductory training on lean principles, other projects included multiple kaizen projects to improve product flow, reduce work in process, develop standard work, and incorporate 5S (sort, straighten, shine, systemize and sustain), point of use storage and visual controls.

As a result of the lean implementation, Bonnell has achieved outstanding results. The A1 packaging line has experienced an 18 percent increase in productivity since early 2006, and this steady increase in productivity has spanned high- and low-volume business cycles and different staffing levels. Those productivity improvements have reduced the annual operating costs by \$330,000. Work in process levels have been slashed by 200,000 pounds on the floor, resulting in a \$350,000 reduction in working capital.

“The first hurdle was like being underwater and being unable to breathe. But once we get some oxygen, we’re going to figure out how to grow this business. If we’re not growing and increasing shareholder value, what are we doing?” asked Miller. “If we can demonstrate that we’re really good at what we’re doing, it may open us up to new opportunities such as minor fabrication that our customers would like for us to do.”

Bonnell is not merely interested in its bottom line, however. In an effort to make the Newnan plant the preferred place to work in the region, the company conducted a survey to reduce turnover and absenteeism among employees. The seven aspiration statements that resulted from the inquiry included: facility upgrade/facelift, effective shift schedule, leadership training, staffing to full-time process, team member development, family atmosphere



Bonnell Aluminum manufactures extrusions like these for the construction industry. Photo by Nancy Fullbright

and better pay through incentive recognition.

“This is the sign we’re always looking for. If we’ve got people thinking on their own, that’s when the company is starting to become a lean organization,” explained Woodham. “We’ve got to get more converts out there and you get converts by doing projects.”

One such convert was Louis Bell, anodizing manager for the Newnan plant. He said the biggest overall improvement has been being able to keep material flowing through the department without stopping. He also noted that the decreased congestion has also decreased the injuries recorded: last year there were 12 injuries whereas the year before had 24.

“It’s been a learning experience for everybody. It’s sometimes hard to see that it’s actually going to work until you try it,” said Bell, who is described as a “poster child for lean” by Woodham and Trapp-Lingenfelter. “Knowing that it’s my idea, I have to make it work.”

#### **About Enterprise Innovation Institute:**

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