



58th Advanced Manufacturing Forum

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Managing for Daily Improvement

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Pella is a producer of premium fenestration products including windows, patio doors, entry doors, skylights, vinyl and fiberglass windows and doors. Its twelfth plant just opened and will eventually employ 8,000+ in over 4 million square feet of manufacturing space. Pella sells its products through a privately-owned dealer network and a retail network that includes Lowe's, Menard's and Home Depot. In addition, there are a number of sales and service offices that sell products. Pella owns six of these and views them as valuable resources for connecting to the customer.

Ackerson discussed Pella's Total Competitive System, the philosophy that drives the company. This system is comprised of vision and mission statements, imperatives, enabling strategies, customer focused processes, "moments of truth", values, and leadership ideals – interrelated parts of the competitive whole. Teamwork, continuous improvement, and the encouragement of simplicity over bureaucracy were highlighted concepts.

To give the audience a picture of the changes that have occurred at Pella in the last few decades, Jeff presented the audience with a comparison between the Pella of the early 90's (when it was known as Rolscreen), and the Pella of today. In the early 90's, production was limited to wood windows and doors. Today the company produces a wide range of products and brands. Products produced by Rolscreen were expensive and primarily for the new construction market. Volume growth was stagnant. Pella is now known for providing a very price-competitive product to a diversified market. This transformation is linked to a significant reduction in lead time, and the empowerment of employees. Continuous improvement (Lean manufacturing) was introduced at Pella in January 1993. Part of Lean is that everything has a process, but also that processes should continue to be improved. The message to Pella employees: when in doubt, be bold! Employees are encouraged to always look to make positive changes. If unsuccessful, the old method can be put back in place until another idea is developed.

The first public Kaizen event - an investigation of an assembly line not meeting its potential - was attended by vice-presidents from finance, manufacturing and engineering. Dramatically, much of the automation in the line was removed. A huge capital investment was written off that simply did not make sense. Clearly, Lean was not going to be a 'flavor of the month' strategy – the company was making a commitment to Lean.

Ackerson shared Pella's continuous improvement organization chart and described how continuous improvement is ingrained in all areas of the organization and throughout all of its product lines. A key component of continuous improvement at Pella is 'managing for daily improvement' (MDI), a tool used to get operators involved in creating improvements to the system every day.

MDI is essentially abnormality improvement with its own set of tools (hour-by-hour charts, QCDS boards, countermeasure teams and more). Begun in December 1997 MDI was initially a fail-

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ure because the first team did not have the resources to be successful. The program was reintroduced in August 1999.

New members of the MDI program are given 3 ½ days of training that includes classroom instruction, floor exercises, videos and tours, and participation in small projects on the shop floor at a Beta site (with all of the resources needed to complete these projects). Production line employees not on the MDI teams are able to contribute through “known concerns” sheets and interaction on the floor. Ultimately, the MDI teams present to upper management.

MDI continues as an ongoing responsibility for these employees. The MDI cycle is defined by a discrete time period within which specific activities must occur and where criteria must be met. Originally a 20-day cycle it is now a 10-day cycle. Managers are required to block out one hour per day for MDI. This hour is sometimes found by examining a manager’s schedule and removing the non-value-added activities. During an MDI cycle, there must be one safety improvement and one quality improvement, with three operators involved. The choice of site for the improvements must also be justified. Employees are rewarded based on their successes in various areas of performance during a cycle.

The plan is to evolve MDI from a cyclical program to a continuous one. Managers and operators will continuously use Lean tools so that problems do not persist but instead are dealt with immediately. The ultimate goal will be to have abnormalities that are encountered only once.

Pella has seen dramatic improvements in short-term operating results: worker productivity is up 20-30% per year; inventory levels (WIPs) have been reduced by 50-70%; floor space needs have been reduced by 30-40%; and rejects have decreased by 50-70%. Ackerson attributed the success of the program to the people. “The tools are the easy part.”

Keys to Pella’s Success

- Continuous senior level involvement and support
- Aggressive goals
- Adding continuous improvement tools as needed
- Commitment to resources
- Training
- External Eyes (benchmarking)
- Metrics focused on results and the process
- Empowering the workforce
- Best practice competitions
- Leveraging improvements to drive and enable strategic growth programs
- Communication

Continuous improvement drives and enables strategic growth programs. The benefits for the business have been numerous: millions of dollars saved due to productivity gains; inventory turns quadrupled; a 60% reduction in lead times; sales dollars doubled per square foot of manufacturing space. The best benefit may be in the reaction of Pella employees. Pella has been one of *Fortune’s* 100 Best Places to Work for six consecutive years.