

# case study

## Pella: Building on a Decade of Lean

By William Schwartz, Vice President Marketing

# Pella



**I**magine this company as a fine old farmhouse filled with solid beams and beautiful trim, but in disrepair and close to becoming obsolete. It takes a certain eye and a commitment to hard work to undertake the type of renovation to make such a structure modern, useful and beautiful again.

For Pella Corporation, which was on the verge of being sidelined in its industry a decade ago, it would take the shared vision of three men and the trust of an entire workforce to remake the 65-year-old company into a lean pioneer. Mel Haught, Herb Lienenbrugger and Gene De Boef didn't know this when they put on jeans and flannel shirts and went to the shop floor to conduct their first kaizen 10 years ago, shortly after returning from a TBM workshop. But that first kaizen marked a week that would permanently change this venerable maker of high-quality windows.

Now, Pella has attained what few other companies have even attempted: 10 years of experience with a lean manufacturing and business system; a decade's worth of continuous improvement and kaizen events. Pella's journey has been unique. It is also a template for what can happen to a business that embraces continuous improvement over time, allowing change to build upon change until transformation becomes, itself, a habit.

As Pella insiders can attest, opening to change did not come easily at first.

As the vice presidents of manufacturing, finance and engineering, respectively, Haught, Lienenbrugger and De Boef had the muscle to

bring in fresh ideas and make the kind of immediate changes that Pella needed to spur growth. But moving around machines, people and job descriptions while the plant was running was not the kind of thing Pella typically did. Up until that January in 1993, the company underwent big changes just twice a year, during plant-wide shutdowns over the weeks of Christmas and Independence Day.

In fact, Pella had experimented with a lean transformation once before. In 1992, six highly paid consultants from a national firm moved in for nine months, studying the company and preparing for a lean conversion. With virtually no input from operators or supervisors, the changes were implemented over Christmas break. When employees returned, they were handed a single-spaced typed sheet of paper explaining their new jobs. "It was a bust," recalled Denny Van Zanten, now the vice president of manufacturing.

What Haught, Lienenbrugger and De Boef saw in the lean principles as practiced by TBM was a chance to leverage their hardworking, committed employees; to include everyone in the journey. They just had to get everyone on board.

"After the first events, I was exhausted. I would come home at 11 p.m. and stay awake all night, wondering how the new process would work and how would these people feel who were being moved out," said Van Zanten. "People thought we were creating chaos. And we were."

On one early event, a team working on a sash line found that their next-generation, highly

automated, six-month-old production line was too unreliable for a lean plant. Designed to make 600 units a shift, the line never produced more than 300. It took a lot of courage – and a commitment to lean from the accounting office – to “go out and shoot it,” recalled Mel Haught, “because we had a big investment there.

But it was the right thing to do.”

It wasn't always easy to see, but Pella was creating the capacity for growth. With each kaizen, inventory, time and people were taken out of the process and redeployed to new areas. Inventory became cash to fund new products. Time was pushed downstream to the customer, in shorter lead times, and people were put to work on building new products, fortifying the new in-house machine-build department, or accelerating the continuous improvement effort.

After grounding itself in serious shop-floor improvements, Pella built on its foundation in the 1990s by moving lean into the business processes, product launch, distribution and the supply chain. During 1995, Pella inaugurated its BPI (Business Process Improvement) office and began running kaizen events in order entry, customer service, engineering and materials. The group conducted numerous events at Pella sales offices and in the field. Finally, in 2001, Pella began a concentrated LeanSigma® program to attack quality issues with Six Sigma tools, within a lean framework. Along the way, teams created Total Productive Maintenance (TPM) programs, and found new ways to use the tools of Managing for

Daily Improvement (see sidebar) and value stream mapping. Each step cleared the way for new opportunities, creating internal capabilities that allowed the organization to open the next window.

Throughout the 1990s, Pella executives like Mel Haught and CEO Gary Christensen (who retired in 2002), were also pushing the company into new markets with new products. After 65 years of defining itself as a high-end wood window company marketed under a single brand, Pella introduced in quick succession the Architect Series®, Designer Series® and ProLine® window lines. Each differentiated sub-brand offered specific features for targeted market segments. Pella also bought storm door and entry door companies, a vinyl window and door manufacturing firm, and opened new plants, inside and outside Iowa.

For instance, Pella's newest facility recently opened in a former Mattel plant in Murray, Kentucky, where the company expects to hire 500 people – in an area sorely in need of jobs – to produce a revolutionary new product. Pella® Impervia™ is not wood. Instead, it is made from Pella's exclusive Duracast™ material, which has allowed the company to produce a durable, attractive window that has a slimmer profile – all the rage in the rapidly expanding south and west.

Through the years, each move has been part of Pella's growth strategy, transforming the privately-held firm into a total fenestration company – providing Pella-branded solutions for every opening in a house or building – and leaving behind its niche-player status. *(continued on page 4)*



# case study

Pella: Building on a Decade of Lean (continued from page 3)



Over the course of 10 years, 4,580 teams at Pella have tackled trouble spots in kaizen events ranging from a full five days to two. Today, Pella employs about 6,900 people. Since 1993, 4,840 different people have participated on teams, which have included 1,285 outsiders. In the meantime, Pella has appeared on *Fortune* magazine's list of "100 Best Companies to Work For" the past four consecutive years, and has steadily moved up the list, earning the #12 spot in 2003.

Coincidence? Pella doesn't think so.

"We did a cultural survey in 2002 that showed a 13.5 percent higher rating of job satisfaction by employees if they've been on a kaizen team in the past 12 months," said George Santiago, the current corporate Continuous Improvement manager. "And you know what's funny? We, in this office, we're not C.I. anymore. Out there in the company, they are all C.I. and we're just the facilitators."

Earl Ratcliff, a former operator and early adopter of lean who has been described as a Pella C.I. role model, has been a part of the C.I. office since nearly the beginning. Once, he was a lone believer, arguing with operators, clerks, managers and executives about lean principles and how quickly changes could be made. Now, C.I. has become an establishment.

"We don't have to debate the principles of lean anymore, and let me tell you, that's pretty nice," Ratcliff said. "People are generally happier, too. Our people want to know that their opinions matter;

they want to act, not just stand in front of a machine all day.

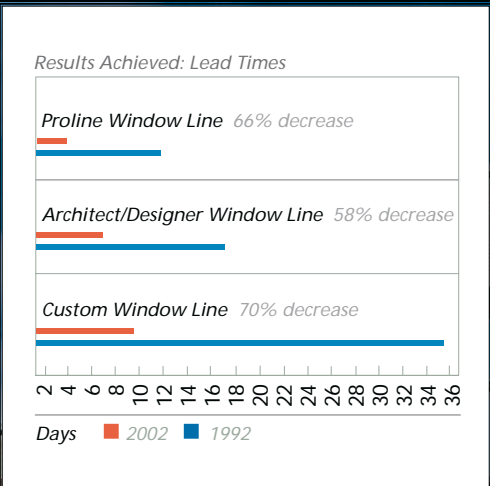
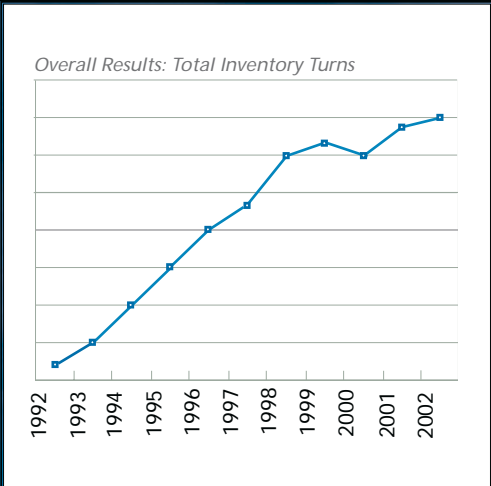
"It didn't used to enter your mind that you could change things, or even make suggestions. It's a lot more fun to work in this environment because anyone can be creative. We can make anything we can dream up. Here, there is a culture of 'yes'."

Ask anyone at Pella what has made the C.I. initiative so successful over a decade, while worthy C.I. efforts at other companies have failed, and the answers may sound different at first.

Brian Giddings, the first corporate continuous improvement manager, credits his former boss, Van Zanten, with quantifying and reporting the financial results of the kaizen work in the critical first years, keeping lean improvements on everyone's radar. Van Zanten cites Giddings' high energy and commitment. CEO Mel Haught says the company's transformation would have been infinitely more difficult without the initial high-level enthusiastic involvement of finance, engineering and manufacturing. Others cite the teamwork and training inherent in a kaizen event.

Really, they are all talking about the same thing. At Pella, they are saying, everyone came along on the same ride. Continuous improvement and kaizen knitted together people, processes and business functions, across the natural divides of a company. Working together, they are open to the future and focused on satisfying their customers better than the competition, thanks to a dedication to continuous improvement. ■





## Rethinking MDI

Innovation at Pella is not limited to its own products. The continuous improvement and executive teams have also been innovators in lean throughout their 10-year journey. Pella's early use of a Kaizen Promotion Office to drive improvement became a model for later TBM clients. Now, we see a whole new application of Managing for Daily Improvement (MDI) at Pella.

After training managers in MDI at the TBM Institute, Pella created a formal MDI program, wherein each manager devotes between one and three hours per day to MDI activities, concentrated in one particular area. For instance, a manager might focus on abnormality management with an operator for 20 days. At the end of the cycle, the manager reports out and moves on to standard work or visual management or 5S in another area.

"That's an hour or two or three that our competitors aren't spending. It's like we're stealing time," said Mike Lind, director of operations in the Pella Division.

MDI efforts are not just academic, of course. Each department manager owes the company 2,000 hours in savings every year from his or her MDI efforts.

In the double-hung window plant, Plant Manger Ted Shulz just used MDI to refocus efforts on 5S. Using a shorter project cycle – just five days instead of 20 – his department managers and operators spent at least an hour a day cleaning, sorting and organizing areas. Recently, he used MDI to redesign four framing cells and improved productivity by 25 percent. That means four operators per shift were freed from the line and moved to other efforts.

"Every two weeks, we have a C.I. team in my area," Shulz said. "But that only effects 5 percent of my plant. MDI is the way we keep everyone involved in improvement all the time."

