

SUCCESS STORY



Systemic Continuous Improvement—a Next Generation Manufacturing Success Strategy

Dalco Metals Gets Leaner with 5S



Sustaining the Lean journey produces strong results

Since 1973, family owned Dalco Metals of Walworth has been a premier supplier of flat-rolled steel-processing services to manufacturers throughout the Midwest. John Ring, executive vice president of Dalco, credits this long-term success to the company's focus on the customer's needs, close relationships with suppliers, and constant attention to quality in every manufacturing and business process.

"About eight years ago, it seemed that everything pointed toward adopting lean manufacturing methods: a customer recommended we look into lean manufacturing, a classmate in my MBA program recommended 5S (a lean method), and I attended the Manufacturing. Matters! conference and participated in a Lean workshop presented by WMEP."



Russell Cords, Slitter Operator, prepares a coil for processing.

Dalco Results:

Dalco's lean journey began with Value Stream Mapping, through lean office, and the improvements are maintained through the 5S process, resulting in:

- Lean office changes cut the paperwork processing time from 4 days to 2.
- Dalco has acted on 225 improvements on the shop floor in the past year.
- The 5S process produced a visible level of quality and order that has helped the company gain new business and position itself for growth after the recession.

Soon after, Dalco Metals embarked on their Lean journey, with the help of WMEP manufacturing specialist Jerry Thiltgen. The first step in a lean journey is an evaluation of where the organization stands right now by using the Administrative Value Stream Mapping (VSM) process. The VSM looks at the flow of information from the time a process is triggered until the total task is completed. When a process needs 30



5S Improves Efficiency

minutes of work but takes a week to get through the system, that process is flagged for review. The keys to successful Lean Office implementation include the involvement of all front office employees in shaping the changes and strong leadership that clearly defines the new direction. The Value Stream Map at Dalco was a revelation: it took longer to process the paperwork for an order than it took to manufacture the order itself.

"We inherited the system that was used in the office, then added a few steps of our own," said Ring, "that's why the process took so long." Dalco Metals took action: the new office space addition was completely re-designed to group staff around the flow of the work, rather than in departments. This change, along with other streamlining measures, "we cut the processing time from four days to two," said Ring.

Satisfied with the results of the Lean Office project, Dalco Metals began applying Lean processes to the manufacturing floor. "I thought our shop was

well-organized and clean," said Ring. "When Jerry Thiltgen suggested using the 5S process to clean and organize our facility, I wasn't convinced that it would make a big difference." Thiltgen said, "5S is far more than just straightening up and cleaning. It involves reviewing and re-thinking each employee's activity, and making sure their work area supports their work." The 5S system is a Lean process that is organized around the following ideas: Sorting, Setting in Order, Shining, Standardizing and Sustain. The goal is to create specific places for paperwork, tools and equipment so that they can be located within 30 seconds.

The 5S process relies on employees taking control of their work areas and suggesting and implementing improvements. "The results of this process were amazing," said Ring. "especially considering that the primary language of many of our employees is Spanish." Luis Lopez, a consultant working with WMEP, assisted in the facilitation of the 5S process



One of the many improvements of the 5S process involve equipment maintenance. Here, a jib crane lift cup shows signs of damage and is flagged for replacement.



One of the many equipment maintenance initiatives included a new jib crane lift cup.

Dalco Metals, Inc.

and his assistance greatly improved communication and empowered our employees to share their ideas. “Now employees know their voices are being heard” said Ring. “We’ve made changes to facilitate better communication, including signage in two languages, publishing the employee newsletter in English and Spanish, and providing additional training in two languages.”

“Because of 5S, the plant is clean, open and well-ordered. Everything is labeled, and now if anything is amiss, it can be spotted immediately,” said Ring. “5S has meant a night and day difference in our plant – including great improvements in productivity, quality and safety.”



Charles Ferguson updates the 5S bulletin board

In the past year, Dalco Metals acted on 225 improvements just on the shop floor, and the quality system has moved to a go/no-go system where employees decide whether to move the product forward in the process at each step along the way. “We are marrying 5S with our ISO system,” said Ring. “Improvements are documented, approved

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Chief Financial Officer, Dalco Metals, Inc.

and established as part of the formal manufacturing process.”

5S is not a static tool – Dalco Metals continually works at sustaining the changes they’ve made and to continually find new ways to make the process better, cleaner, faster and less expensive. “Dalco Metals is a great example of what it takes to generate the benefits of Lean manufacturing over the long-term,” said Thiltgen. “Many companies start lean programs, but lack the stamina and commitment it takes to fully realize the benefits gained when Lean is a way of life. Dalco Metals has tremendous executive support of Lean – it’s a part of everyone’s job.”

Chuck Ferguson, inside sales and applications manager, agrees. “The ‘sustain’ part of the program is the toughest part. We are trying to ingrain the 5S mentality in everyone’s minds here at Dalco and I think it is working. As long as we have the support of the management, Dalco will continue to operate at peak efficiency.”

Success



The 5S process requires labeling on machinery and equipment so that everything is in its place near where it is used.

Ferguson implemented the following steps to ensure that the company remains focused on 5S:

- Three monthly 5S committee meetings made up of three employees from each shift. Committee members bring fresh perspective by conducting audits of work spaces in other areas of the company. These audits are reviewed at each meeting and metrics are evaluated. (Audit forms are provided in English and Spanish).
- A continuous improvement file for major issues is maintained for the executive review.
- Immediate action is taken on issues whenever possible to prevent complacency and relaxed standards.

Dalco Metals continues to benefit from the quality, efficiency and cost savings resulting from the 5S process. In addition, there are unforeseen benefits, said Ring. "In the past, we had to shut down early to clean and prepare for a customer tour. Now, our facility is a great selling point for us. Customers can see that we have a well-organized, quality-focused, clean, and efficient operation. Now, we're ready for the increase in orders that has already begun after the recession."

About WMEP

WMEP is a private, nonprofit consulting organization committed to the growth and success of Wisconsin manufacturers. WMEP is a leader in bringing Next Generation Manufacturing best practices to Wisconsin firms to help them achieve world-class performance through innovation and transformation.

For more information, visit www.wmep.org or call 1-877-856-8588.

