

# ThermoFab Improves Workflow and Dramatically Cuts Lead-Times



LILLY SOFTWARE ASSOCIATES, INC.

## **Introduction**

ThermoFab specializes in the thermoforming of high-quality plastic enclosures for a wide range of medical, industrial, and computer products. Located in Shirley, Massachusetts, the company believes in achieving perfection and strives to be a leader in the thermoforming industry through its use of innovative and award-winning design and manufacturing techniques. Concerned over increasing competition from Chinese manufacturers and the shrinking available market, ThermoFab realized it needed to make dramatic changes to solidify its leadership.

## **Challenge**

ThermoFab president, Tom King, researched various business strategies and became interested in the Theory of Constraints (TOC), a management strategy developed by Dr. Eliyahu Goldratt. King realized that TOC was a solution that could help differentiate the company and began implementing the strategy. The changes he saw were significant. "By incorporating TOC, we were able to perform some fast turn-around times," explains King. "We started receiving our raw materials once a month and ordering materials more efficiently. We also made ourselves a complete thermoforming solution for our customers by creating an in-house painting facility and employing cell manufacturing techniques." Even with these improvements, ThermoFab was well below the 100% on-time delivery rate that it hoped to achieve. It was also still expediting more than it wanted. With a company culture based on continuous improvement, ThermoFab sought ways to improve its efficiency.

## **Solution**

ThermoFab had been a VISUAL Enterprise™ customer since 1998 when it purchased the software solution to help streamline operations. In May 2003, King decided to attend a seminar where Eli Goldratt and Lilly Software CEO Richard Lilly discussed the Theory of Constraints and talked about how Lilly's DBR software could help make a dramatic difference in plant throughput. King recognized that TOC and the corresponding production scheduling techniques known as Drum- Buffer-Rope (DBR) worked successfully in a job shop environment. He had already seen great results on his own and wanted professional assistance to receive higher returns. King brought the message back to his staff in June and signed on for a 'Fast Track' implementation

with Lilly Software early in August. ThermoFab went 'live' with the software on September 16th, only 39 days after it signed the contract with Lilly Software.

## **Results**

ThermoFab has seen significant benefits from applying TOC and implementing VISUAL DBR®. In an effort to adapt to the new principles, ThermoFab changed the way it assigns and controls work in the plant. With these changes, the average lead-times for the high-quality pressure-formed plastic enclosures that the company makes have decreased 50%. With one particularly difficult part, ThermoFab reduced the manufacturing time from 45 to 5 days. "We quote 6 to 8 weeks delivery and, up until now, we've had a very difficult time making good on those promises," says King. "All of a sudden, with DBR, we're shipping everything on time—even the 'rush' orders." In the first month of TOC consulting and through re-evaluating its business using throughput measurements, ThermoFab was able to recognize hidden profit and take on new business. With old cost accounting methods, ThermoFab had been turning away orders that appeared to offer low margins. With more accurate business metrics and improved delivery, the company realized these jobs could be profitable and added 10% additional revenue within 3 months of using DBR. Now that the software is in place to support the new DBR way of managing production, King looks forward to even better results. "It's never good enough," he says. "We can always improve more. After operating one way for 25 years and then using DBR for only 3-4 months, we find it hard to believe the dramatic improvements we've seen in such a short period of time. I recommend TOC for everyone but my competitors!"



An Operating Room Cart produced by ThermoFab

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