

CASE STUDY Window Company Converts to New Machinery and Increases Efficiencies

by Lee Marshall

When we examined how to improve our manufacturing operations at Jordan Windows, we found about what we expected: the need to boost productivity, cut costs and eliminate our most common delivery problems. What we didn't expect was to find the solution to all three issues in one piece of equipment.

As satisfied users of GED's Gen 1 Intercept® frame machine, we paid close attention to the claimed benefits of the new Intercept i-3 system. The system's increased throughput and higher profit per window sounded impressive, but we wanted to see what return we could expect in our own operation.

To prove the worth of converting to the Intercept® i-3, GED provided us with a return on investment (ROI) model to calculate how long an upgrade would take to pay for itself. Unlike other manufacturers who quote ROI figures without showing the math, GED handed over the formula and allowed us to

calculate the ROI using our own data and assumptions.

Eric Divelbiss, our chief financial officer, appreciated this opportunity to analyze ROI for himself instead of unsubstantiated figures quoted by the typical vendors.

"We didn't look at justifying the line with any 'soft' costs at all. The savings are all real and defined—no fluff," Divelbiss says.

The numbers convinced us to trade in our Gen 1 Intercept Spacer frame machine for GED's new Intercept i-3 system. The system's one-piece flow design and integrated i-3 technology deliver the improved automation and flexibility that we needed. The equipment speeds the velocity of production by feeding ten different-sized coils of spacer material instead of just one. Changeover from one spacer width to another takes just 30 seconds, rather than the 5 to 10 minutes required for other systems. The rest of the equipment in the IG production process also adjusts automati-

cally, further improving flexibility, efficiency and lean manufacturing.

A Smooth Conversion

We worked closely with the GED project management team to make the Intercept conversion as seamless as possible. This required both effective internal management and open communication with the GED team. We set up the new Intercept system while maintaining operations of the Gen 1 line. As a result, we were able to complete the conversion without missing a single customer order.

"We cut off the Gen 1 line on one day and made a complete production schedule of more than 1,800 IG [units?] the next day," says Steve Shehea, Jordan's IG operations manager.

In addition to setting up the new Intercept i-3 line, GED helped us evaluate our current plant floor and re-lay the entire IG department to run more efficiently. The new layout allows us to get the



Jordan Windows converted to GED's Intercept i-3 system and increased production through a smooth conversion process.

most out of the new i-3 investment and squeeze more productivity from our existing systems.

According to GED, they do this type of evaluation for every installation.

"A new piece of equipment is only part of the lean manufacturing equation," says Bill Weaver, GED's vice president of sales and service. "We take a holistic view of the process—from when the glass comes through the door to when it is delivered to the vinyl lines. We consider it our obligation to identify every possible way to decrease cost and increase the velocity of production."

Reaping the Benefits

We found the single biggest benefit of the new Intercept i-3 system to be the increase in flexibility. By better sequencing IG production to the needs of the vinyl department and end customer orders, the entire operation now runs more efficiently. Most importantly, the conversion to the i-3 system is hav-

ing a very visible and positive effect on our customer base.

Because of Intercept i-3's improved flexibility and sequencing, we have reduced the number of missed customer orders substantially. Customer backorders from missing remake units have been virtually eliminated and lost orders are a thing of the past. Overall, order completion percentages now are running in the high 90s consistently, versus numbers in the low 90s before the i-3 installation. The steady pace of the system—without interruptions or changeovers—also has led to increased unit quality and consistency.

Our customers aren't the only ones pleased with the improvements. Production workers are also enjoying Intercept i-3's impact on the process.

"We no longer have to hunt for IG units or have window lines missing the IG they need to keep running," says Shehea. "We have what we need, when and where we need it."

Before the changeover to Intercept i-3, we lost one to 1.5 hours per day of productivity from changeovers and interruptions. Because Intercept i-3 eliminates the need for manual intervention, we have gained back that lost productivity.

We used to get 1,500 units in eight hours. We are now able to produce up to 2,400 IG units in eight hours based on demand. This boost in production has come without added overtime or temporary workers, even during times of peak demand.

"This is direct, hard money to the bottom line," Divelbiss says. "It gave everything that GED says it would and everything we modeled in our ROI analysis. You don't see that every day."

The combination of new technology and expertise promises good returns now and well into the future. ■

Lee Marshall serves as president of Jordan Windows.