

SANTELLI TEMPERED GLASS:

Totally Automated Production – Premium Software Control

Awarded entrepreneur with unique business concept – Monessen, a Pittsburgh suburb, 2005: After spending 15 years selling tempering equipment, Joseph Santelli quits his job, sells himself a Tamglass furnace and starts a tempering plant based on a unique software controlled automation concept. The new company, SANTELLI TEMPERED GLASS, Inc., manufactures soft-coated tempered glass for residential window and door producers. The local market is wide open for Joe Santelli's product because there are 50 window manufacturers within 150 miles of Pittsburgh.

In four years, the company has increased its sales by more than 800 percent, and opened two additional facilities in Ocala, Florida and Elkhart, Indiana, employing altogether more than 80 people. Despite the struggling construction market, the company has continuously expanded. Santelli's efforts to grow his company have not gone unnoticed. Already in 2009, the Pittsburgh Business Times had named his company number one in the manufacturing/transportation category on its Pittsburgh 100 list. And this year, the Small Business Association named Joe Santelli its *2011 Pennsylvania Small Business Person of the Year*.

What's the secret behind this tremendous success in the rough wind of the financial crisis? "[Our growth] has to do with being the low-cost provider of tempered glass, which is huge when times get tough," says Santelli. "Everyone is looking for great service, pricing and quality and my company can provide that because of our slim software controlled processes and high degree of automation." He explains that a crucial factor is the cost of labor. Santelli however brought a unique

production process, that had been developed by Lance Porter, a west coast fabricator, to his Pittsburgh operations. "They developed a system that totally automates the process ... his idea was to be able to deliver within 24 hours – without being labor intensive. I copied that workflow: People order glass at 3 p.m., and it will be in their factory at 9 a.m. the next day," Santelli says.

Controlled by Sophisticated Software

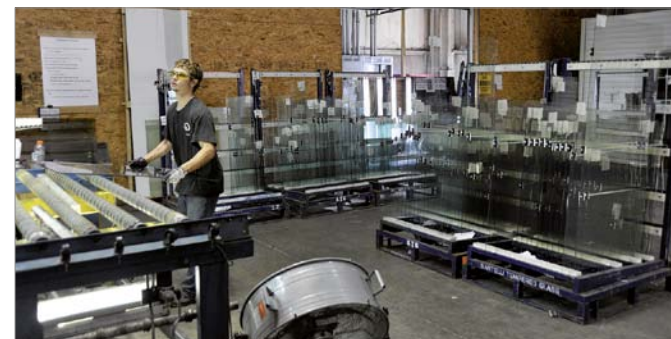
Challenging machinery does a great job, but the brains controlling the complicated processes behind that unique business concept are the ALBAT+WIRSAM ERP and production software on the high-speed servers connecting Monessen, Ocala, and Elkhart plant. "My focus", says Santelli, "has always been making sure that my processes are the most efficient and flexible in the industry. It was very clear from the beginning that this could be achieved only by using the most sophisticated integrated software system available for the flat glass branch."

The objective was defined by Joe's business concept: to capture orders, to cut, seam, tem-



The office team of SANTELLI TEMPERED GLASS – left to right: Debra Wise, Vice President Finance; Joseph Santelli, President; Tara Beckinger, Assistant Office Manager; Stacy Soderholm, Office Manager.

per and ship them all within 24 hours. The ALBAT+WIRSAM order entry solution allows SANTELLI TEMPERED GLASS to automatically import their customer's orders, enter orders manually for some customers and to have them automatically priced, batched into the A+W production control system, optimized for cutting and sequenced as per each customer's requirements. Stacy Soderholm, Office Manager with SANTELLI TEMPERED GLASS, surveys the process, enters the few manual orders and gets the labels printed that are applied to the final product. Once the glass is cut on the Bystronic CNC-table, it is placed on to the fully automatic Ashton seaming line, washed, and loaded into the Tamglass tempering furnace. All these processes go straight forward, without time and space consuming interim buffers. At the back end of the tempering line, the label is fixed to the glass which gives the instructions on to what harp rack and in what slot to put the lite in – float glass in one slot, low E the same size in the next. The final product on the rack going to the customer is in the exact sequence he needs to insulate the product and in the subsequent sequence he requires to glaze it. In effect, it takes out two handling steps just for the end customer. It also takes out all the additional handling, searching and sequencing internally because the



Left: It's all been sorted! At the back end of the furnace, every sheet gets racked in customer's production sequence. Right: Using A+W ERP and production software, Stacy surveys the automatic order entry, captures the manual orders, creates production batches and gets the labels printed.



The Backbone

"The A+W software is the key element that makes everything work ... it is the backbone, it is the basis of what makes SANTELLI TEMPERED GLASS operate", says Joseph Santelli. "If it was not for the A+W software, we would not be able to temper more than 2000 pieces of glass that come into each of our offices before noon today and deliver them, custom sizes, slotted as required, to our customers by 9 A.M. tomorrow morning at each location, to the right people with less than a quarter of 1 % reject rate."

system does it automatically in the proper sequence.

Three Plants – one Software System

The networked IT environment in all Santelli plants ensures quick, safe and uninterrupted business processes. The data traffic between the branches works as if the servers stood side by side in one hardware room. Products, suppliers, prices, conditions – through continuous online data replication via the A+W ERP system, all data in all branches are permanently synchronized. Even if

system disturbances should occur in one plant work can go on smoothly: "If we have an electrical storm and lose power at one location the others can go on line and do the systems work for the location that is without power. They all do the same work, but for different customers", says Joe Santelli. "And they make it intertwine. What I mean by this is if a person in Florida is going on vacation for a week, the ladies in my office are able to go online and do her work for that week – the networked A+W software allows us to do that."

Main Success Factor: The People

Perfect automation and software, great service, high quality at low-cost – all this is making Joe Santelli's business going so well, but, Joe says, "the main reason why I am so successful is people. It's our staff that makes SANTELLI TEMPERED GLASS successful, and we have really great people – they are what makes the company such a team oriented, such a fine place to work."

Committed to Growth

There will be no standstill at SANTELLI TEMPERED GLASS. Over the next years, Joe plans to expand the business by three or more locations, and his vision, says Joe, is "to continue to service residen-

tial window companies in a next day delivery to those new customers." We are convinced, Joseph Santelli and his great staff will realize that vision. □



Joe Santelli (right) and Andrew Narynski, ALBAT+WIRSAM Sales Manager. "A+W", says Joe, "has some of the best software engineers in the country. They have saved us on numerous occasions."

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Quality is paramount: Joe Santelli insists on thorough visual control of every piece of glass that leaves the furnace



Left: XTV at the breakout table. The visualization tool is part of the A+W production software and displays cutting pattern and required production sequence – valuable assistance for the employee who breaks the lites before they go to the seamer.

Right: Feeding the automatic seamer which is located close to the cutting and breaking area: Well organized straight forward production process, avoiding time- and space consuming interim buffers.



Automatically seamed and washed, a load of panes is fed to the Tamglass furnace



The label contains all information necessary to identify the tempered sheet and get it correctly slotted to the customer

