

An “Xten-sive” look at life as an American molder, Chapter 4: A year of slashing waste

By Clare Goldsberry

Running an injection molding business during an economic downturn has challenges, and while 2010 saw some resurgence, the efforts that Xten Industries put into reducing, reusing, recycling and sustainability paid off in many ways.

If one thing is evident, it's the commitment of the management team at Xten Industries, a custom injection molder and contract manufacturer in Kenosha, WI, to sustainability in many different areas of the company. From the president, Matthew Davidson, to the managers to Xten's team members, everyone at Xten has taken up the challenge to make Xten a sustainable company.

The term “sustainable” can be interpreted in several ways, and all companies need to be sustainable in terms of business development and profitability. Xten's efforts over the past two years—and especially in 2010, in which MPW tracked these efforts—have resulted in a better company. While not everything gave the company what it initially expected in some areas, the experiments were lessons in what works and what doesn't. That's valuable to any business.

“From the 35,000-ft vantage point,” says Davidson, “the biggest impact on our business is that a culture of sustainability has taken hold at Xten. All of the various things that we did from doing more with less, trying to save energy and materials, to working more efficiently has benefited us beyond any one specific thing we've accomplished over the past year.”

Still, when pressed to name one thing the management team felt had the biggest impact on the bottom line, it was an unexpected answer: heater bands. “We did six or eight machines first—the biggest energy consumers—and we've seen real benefits from it,” says Rob Korpela, Xten's manufacturing manager. “Even when we're running at the same rate as



The Xten management team is committed to making a positive impact. Left to right are William Renick, VP of operations; Matthew Davidson, president; Rob Korpela, manufacturing manager; and Mark Dirr, director of engineering.

we did before we put the heater bands on, we see that our electric bills dropped.”

Mark Dirr, Xten's director of engineering, adds that the equipment supplier, ServTek, Milacron's aftermarket business unit, now has heater bands for smaller machines, whereas it hadn't designed them for small machines previously. “[ServTek] changed the design from eight sections of the clam shell design for one machine to two longer pairs for the small machines,” he says. “It made the production floor much cooler this summer.” However, the group jokingly noted that they might need more gas-fired heat this winter, given there will be less heat emitted from the presses. Like many things, there's a trade-off.

Korpela says Xten has seen benefits from the heater bands in processing as well. “The presses hold a more constant

temperature—we found it holds within 2 deg F,” he says. “So on the processing side, it's really helped. The new units have also decreased the amount of maintenance we do.” On an older-style heater band, all of the electrical posts stand proud, making it easy for the band to short out if not protected. The new style has all of the electrical buried within the band itself, and not exposed above the surface. Also, a band can be replaced in sections, or the bad section can be jumped out until a new one can be installed.

Another investment Xten made in its efforts to reduce energy consumption has been mostly positive: installing variable-frequency-drive (VFD) motors from CCS Technology (England) on the larger presses. VFDs ramp the motors up and down depending on the need for power. Xten installed these systems on

eight machines, the smallest 500 tons and the largest 880 tons. After getting mixed results, Davidson says, they collected data and had CCS return to the facility for final installation.

“They are all up and running right now,” says Dirr. “The only negative we see is that when we start a press and the oil has to be warmed up, we have to manually set the motor to run at 100% and then set the motor back to automatic when we run production.”

Getting customer buy-in

Saving materials was a big effort that began in 2009 and continued with greater effort in 2010. In Part 2 of this series (June 2010 MPW), Xten told how the focus was on scrap and regrind, a big part of any molder’s operations. The goal of Xten was to reduce the amount of regrind. Regrinding scrap on the production floor created unnecessary contamination, dust, and noise, Korpela noted then. And the company was selling most of it.

To enable press-side regrinding whereby much of it is fed back into the hopper during processing, Xten created a separate grinding area for some of the materials, and educated its customers about increasing the use of regrind in their products. “In that area, it would be hard to do better than we’ve done,” states Korpela.

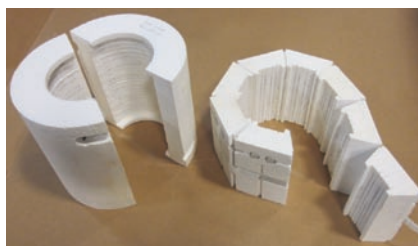
“We currently have a customer that is interested in using more and more recycled material for their products,” adds Dirr. “It’s good to have a partner in that way to help us push our use of recycled materials further.”

Davidson adds that the company hasn’t sold any resin to an outside broker in almost two years. “The effort toward more recycled content is partly driven by cost, but it’s also driven by new materials,” he says. “As we look at different and new materials, we also look at using regrind more cost effectively. We’ve been analyzing some new, reformulated plastics with environmentally friendly fillers, such as reclaimed wood and paper. In both cases, the paper and wood fibers are kept out of the waste stream and used to add strength or stiffness in customer applications.”

Dirr explains that Xten is encouraging customers to try some of the more sustainable-rated plastics that have the required strength and durability. “We’re working with additives, and have found a couple of really good, new [ones] out there now.”

Getting customers on board with these efforts continues to have its challenges, however. Dirr says that one of Xten’s biggest hurdles is getting “more customers actively involved in working with us—partnering with us—to take the materials to the next step. The energy savings we had to do for ourselves to reduce our overhead, but the biggest opportunity is in the materials.”

That will be one of the company’s goals for 2011. “We would like to edu-



Heater bands for Xten’s larger presses were the segmented style (right), with eight individually replaceable segments per barrel section. For the smaller machines, ServTek changed the design to a clamshell style—only two segments per barrel section.

cate our customers more with respect to using recycled materials or fillers with sustainable sources,” Dirr says. “We’re currently doing a demonstration with one customer. If we can get three or four big customers on board with this sustainable and recycled material, that would be a big thing for us.”

Davidson reluctantly admits that Xten’s broad customer base hasn’t really embraced all of its efforts yet. “They’ve read the articles in the magazine and tell us they think it’s nice what we’re doing,” says Davidson. “But we’re really trying harder to get them to join in with us.”

Finding the savings

Another goal for 2011 is cutting down on Xten’s water usage. “One thing we started doing is trying out a different sys-

tem that blows back the water to the tower system, rather than down the drain,” says Korpela. “We do eight to 10 changeovers a day, which means a lot of water down the drain. We’ve tried a couple of systems and haven’t had good success yet, but we’re continuing to look at them.”

Other waste-reducing activities include monitoring any air leaks and plugging them right away. Another new project in 2010 was recycling used oil. “That was a trial this year, and it’s worked well, given us good success,” says Korpela. “Not only are we saving on oil disposal fees, but the cleaned, reused oil is about half the cost of virgin oil.”

Yet another new effort involves using dry ice, rather than solvents, to clean the molds after a run. “I’ve read about the system for years,” says Dirr, “and we decided to take a look at this. It’s been around for a while and now we feel it has potential benefits for us.”

Short of using dry ice, Korpela adds that they’re working with a company that does solvent washing, and recycling their solvents with that supplier. Additionally, Xten is working with the company to help them dispose of other things correctly. “They walk through the plant, tell you what your highest waste stream is, separate out your waste—such as paper, fluorescent light bulbs, etc.—and recycle it,” explains Korpela.

“Internally, we took a look at all the various aspects of our business that are being viewed as sustainable and created something like a Wal-Mart report card,” concludes Davidson. “We’ve looked at all the possible things we could do to make the company more sustainable. We put a list together and now we’re figuring out how to address those issues in 2011 and years to come. Air, water, raw materials—anything we’re throwing out the door or bringing in the door, we’re going to figure out how to make a positive impact in each of those areas. We haven’t defined everything yet, but going forward we will continue to look for new ideas. We’ve always found ways to save money when we’ve started looking. That’s the whole concept of conservation: saving money and the environment, while building a sustainable business.”