

## Purging physically instead of chemically

Two custom molders who, like you are faced with the short-run, quick-change, JIT nature of doing business these days, have found that the positive action provided by physical purging agents (as an alternative to chemical ones) has been quite effective in reducing downtime.

One type is Pekutherm, self-adhering thermoplastic granulates that both molders say act like a "sponge." The compound expels unwanted material and then pushes and removes hardened plastic, additives, and even carbon flecks and gas residues. It softens somewhat when heated, but it doesn't melt. So I gently polishes screws and barrels while it pushes out those undesirables.

Indianapolis based injection molder says he's been using Pekutherm for at least five years now. "I've been in the business, my family's business, for 13 years. My father and I have tried everything. But I've never come across anything that does the job as well as this."

They mold engineering resins, including carbon-fiber filled materials, in several different colors. It specializes in serving the hospital furniture market. The owner says the company uses several different types of screws, and Pekutherm works well with them all.

Over the years, the owner says he has learned how to get more out of the physical purging compound by going a little bit beyond the supplier's recommendations. "In some cases, I've found it useful to run it at higher-than-recommended temperatures, especially with some of our tougher materials.

Also, I may add just a little bit of polypropylene or polystyrene to the Pekutherm. This helps it purge some of the higher temperature resins more effectively."

Yet even when running the purging agent by the numbers, The owner says it works well consistently. "When you're as busy

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as we are, it's hard to take out something that works, and try something new. That time can be better spent on more important things."

Meanwhile, a North Carolina based injection molder had been using Pekutherm for only a few weeks when IMM called. This molder runs E/E and C&BE parts in everything from PVC to PEI, often heavily filled, with constant material changes on its 30 machines (28 to 1750 tons). The maintenance manager, says a high-temperature grade was originally purchased for purging the Ultem, but that now it is used for every material that runs through the plant.

A big problem was the downtime involved in pulling screws: "I don't pull screws anymore," The manager says. "The only time I do is when I need to check a dimension on a screw, or if there's a screw-tip or check-ring wear problem." The manager tells us it was a field rep for a screw supplier that told

him about Pekutherm—he was told that a large resins producer uses it in molding machines at its own lab. He admits he was skeptical at first.

"We run a lot of clear jobs. Everything was a screw pull—we scheduled machines around screw pulls. On average, pulling and cleaning the screw took about five hours. And few things can run behind PVC to clean the barrel. You can try styrene—two days later you can smell the PVC. Yet with Pekutherm, I haven't found anything it won't work with."

The manager has even found that Pekutherm can be an effective molding machine diagnostic tool "Any place where the material hangs up, the purging compound will hang up too. One time I got white streaking

It's a diagnostic tool. Any place where the material hangs up, the purging compound will hang up too."

after purging a clear job. I found out that I had a bad heater band. It's also helped me identify worn check rings. I know the problem isn't with the purging agent."

He performed a trial with 11 machines in rotation: "I would have guaranteed that you would have had to pull screws on eight of those machines, but we didn't have to do any. That saved us over \$1,600 in labor costs, and 30 to 40 hours of machine downtime which is a cost savings of \$3,500 to \$5,000

- Carl Kirkland

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