

Vaupell

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Eric Wagner, Manager, Design Department

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Industry Molded products and assemblies for medical, defense, aerospace, electronics and transportation industries

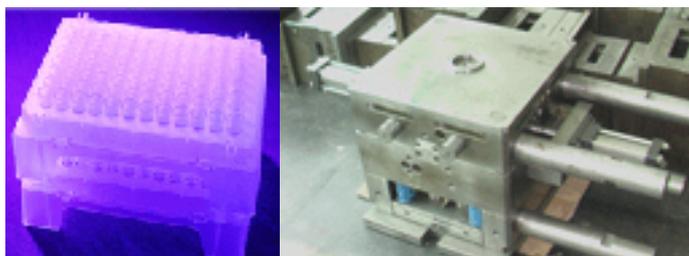
Location Constantine, Michigan

Website www.vaupell.com



Founded in 1947, Vaupell is a full-service contract manufacturer with six operating facilities in the US and China. According to Plastics News, Vaupell ranks in the top 100 US molders; the company is the third largest molder of high heat-advanced polymers, used for critical medical and aerospace applications.

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The Challenges

- Unique demands of medical molding - extremely small parts, exotic materials, and specific processing requirements
- Facilitating customers' demands to see 3D models
- Managing the high frequency of engineering changes

The Solutions

CimatronE's MoldDesign

The Results

By delivering products faster and providing 3D models of their molds, Vaupell has improved productivity and elevated customer satisfaction.

For more information, please visit our web site at: www.CimatronE.com



Vaupell

Vaupell designs, builds and utilizes molds ranging from prototype and market-entry molds to multi-cavity production tools. Recognizing that quality tooling and rapid delivery are keys to its leadership position, Vaupell has invested in a state-of-the-art tooling design and manufacturing facility in Constantine, Michigan. Close to 90% of the molds manufactured in the facility are for medical parts, including implantable devices made of specialty materials such as PEKK and PEEK and resorbable implants made of polylactic acid.

The tooling facility gets involved in the project from the early stages of interaction with the customer. "They'll send us a part model and usually some form of specs on how they want it done. We take the model, help put together the quote for it, and then design and build the tooling for it," says Eric Wagner, head of the design department at the facility.

Challenges

Working with resorbable materials creates a unique challenge for Vaupell's designers because it is highly sensitive to variations in temperature and process.

In addition, many of the medical parts are extremely small in dimensions and require exceptionally tight tolerance. Special attention must be given to the runner and gauge sizes to work accurately with the mold. Wagner notes, "We have done a part where we're dealing with a plus or minus of about one thousandth on a part that is about 3/8 cm in diameter."

Another challenge that Vaupell needed to address was the demand for 3D models and faster delivery times. After years of working in 2D using AutoCAD, it was essentially customer demand and increasing delivery requirements that motivated Vaupell to make the move to 3D.

Says Wagner: "A major reason we moved to 3D was customer push. They wanted to see things in 3D. In addition, delivery dates were getting so tight that we couldn't keep up and we had to get new machinery and software to accommodate these demands."

Solution

After evaluating multiple solutions, Vaupell's Midwest tooling shop chose CimatronE's MoldDesign application to improve productivity, enhance the mold making processes, and support the transition to 3D.

The rich set of dedicated applicative tools in CimatronE's MoldDesign is helping Vaupell more effectively meet the unique needs of medical molding. Part data is imported flawlessly, correcting for gaps and geometry issues. There are dedicated tools for effective handling of sub-systems,

including mold-base manipulation, ejection, cooling, and runner design. The ability to edit, reuse and catalog tools for streamlined mold creation saves time and helps maintain accuracy.

"We have been very happy with the accuracy of CimatronE," says Wagner. "We have done a couple of designs that are fully ISO 13485 compliant (medical device quality management requirements for regulatory purposes) and it has been very easy to get the tolerances right."

Transitioning to the new paradigm of 3D could be a challenge, but "The ability to work in both 2D and 3D has allowed us to make the transition to CimatronE much easier for all involved," says Wagner. "We needed to adjust to a new thought-process, but the software itself wasn't hard."

"Cimatron was very helpful in the process," adds Wagner. "All of our designers went through training, which was excellent. The support we got was great. Anytime we needed help, we would just call."

Results

"We've been more than thrilled," says Wagner. "Before, we would design everything in 2D and then follow with the actual model. Now we program or design with CimatronE and the models are already done and we can immediately start programming against it. That has taken two to three days of modeling out of the equation."

Vaupell has gained additional time savings handling Engineering Change Orders (ECO). "We are just building our history in CimatronE, but we've done a few engineering change orders in CimatronE and the results are amazing. You bring the new part in, you change it. What used to take us day, might only take us half a day to do now. Automatically updating ECO's is huge for us because as a captive shop, we have a lot of engineering changes," explains Wagner.

Most importantly, adds Wagner, "Customers have been very pleased. They are able to see a solid model of the mold. They can open the model and see everything and exactly how we're doing it."

"We fought going to 3D; we didn't want to go through the change, didn't see a need for it," admits Wagner. "Now we sit down and try to figure out why we didn't..."

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