

STREAMLINE

Paratherm Application Series

How Urgent Plastics Services Lives Up to Its Name

APPLICATION SERIES

Company: **Urgent Plastics Services, Inc.**
Location: **Rochester Hills, Michigan**
Application: **Fast turn-around plastics prototypes**
Heat Transfer Fluid: **Paratherm HE™**

If you need prototype or short-run parts fast, Urgent Plastics can make the mold and the parts in as little as two to four weeks, instead of the 10- to 12-week average turn-around for other firms. Based in Rochester Hills, Mich., Urgent employs 65 people, generates \$12 to \$15 million in revenue and it makes about 1000 steel or aluminum prototype molds a year. For such a small company to be so productive, it has to concentrate on reducing bottlenecks in every phase of the process, says Dave Krajci, the plant manager. That means streamlining tool design, tool making, and molding.

Focus on debottlenecking

"We have a very organized production-line system, and we take a cell-manufacturing approach," says Krajci. Personnel are dedicated to areas like CAD, EDM, milling, finishing and assembly, molding, and quality control. Urgent streamlined its operations to the point that there are not a lot of questions to be asked when a new project comes in. "Everyone on staff is well acquainted with our capabilities, and set-ups for each job are nearly the same. This makes us more efficient," says Krajci.

"It starts with being able to quickly access the numerous CAD files that come in," Krajci notes. Those files are downloaded from the company's internet FTP (file transfer protocol) site. Urgent maintains more than 10 different CAD programs. That is many more than most other firms would use, owing to the cost and training requirements, but Urgent sees this as a key investment strategy. "We can translate any CAD file into STEP or IGES files that can be exported into our own CAD system for the actual mold-design work. We do not have to outsource the files for translation or repair, so we are not penalized by any time delays or errors," says Krajci.



To build a mold and produce prototypes in two to four weeks, Urgent Plastics has its disposal more than 10 CAD systems, 48 milling machines, and 13 injection presses.

Paratherm Application Series



The company has six full time mold designers. "Other shops may just have one or two designers, but we have an established department in which each person has high degree of technical knowledge and is able to bring new ideas into the process," Krajci adds.

Urgent gains another edge when it is time to fabricate the tool. Other moldmakers may have to put jobs into queues because they do not have enough milling machines. But Urgent has a significant investment in milling capacity for a firm its size. "We have five carbon EDMs, five wire EDMs, and 14 CNC mills, of which four are high-speed units that work 15 times faster than standard mills," says Krajci. There is no waiting to get a job started, and all of the tooling components can be cut simultaneously.

Urgent can also rely on additional fabricating capacity at its two sister companies, 3 Dimension Services in Rochester, Mich., and Urgent Design and Manufacturing in Lapeer, Mich., which have 24 NC mills between them.

To streamline communication of data between tool design and manufacturing, Urgent uses Delcam's PowerShape CAD for design and PowerMill CAM software for machining. After milling, the steel or aluminum tools are finished by a dedicated finishing staff and the tool is put on one of 13 injection presses ranging from 30 to 1500 tons. Each press is running only about 10% of the time, but they are maintained and ready to go, so there is no waiting. The company typically runs six presses in a day and up to three jobs on each machine. The presses are fitted with Master Unit Die mold frames that allow quick interchange of cores and cavities. Urgent can change a mold in 45 to 90 min.

Short runs, too

Urgent makes primarily aluminum molds and stocks about four months' worth (350,000 lb) of material. However, more than half of Urgent's revenue comes from steel tools that it builds for military applications that use engineering resins like polycarbonate, polyetherimide (GE's Ultem), or PEEK. For the military, Urgent often molds not just prototypes but the full production run. "We can make from 15 to 20,000 parts," says Krajci.

Urgent says precise temperature control during molding helps improve the accuracy and performance of the tool. For military and other jobs with high-temperature resins, Urgent use hot-oil mold-temperature controllers and Paratherm HE heat-transfer fluid from Paratherm Corp., Conshohocken, Pa. Urgent has used Paratherm HE for five years without ever changing the fluid, and has experienced no problems with fluid breakdown or sludging.

Contact Information:

Dave Krajci

Plant Manager

Urgent Plastics Services

2777 Product Drive, Rochester Hills, Michigan 48309

Phone: 248-852-8999

Website: 3dimensional.com