

## Tampa Rubber & Gasket moves at Internet Speed, measuring manufacturing time in minutes, not weeks

Companies in the phosphate industry are among the many beneficiaries of Tampa Rubber & Gasket's use of waterjet cutting technology...



Tampa Rubber & Gasket has been a gasket fabricator and cutter since the company was established in 1968. But it wasn't until June of 2001 when it started operating at Internet Speed.

"Waterjet was Tampa Rubber & Gasket's first true step into 21st century fabricating," said Tony Marshall, Manager for Tampa Rubber & Gasket. "The speed, capabilities and flexibility of the waterjet solution really sold us on the concept," said Marshall. "The overall machine efficiencies helped to justify our purchase."

Die cutting using wood or steel ruled dies was the old method of stamping gaskets. But the company realized that this method was very expensive in many ways -- time, labor and capital. Tampa Rubber & Gasket saw waterjet technology as a way to save time and money, both in the long and short term.

"The economic benefits of using waterjet cutting are tremendous," said Marshall. "It became a very easy decision for us to make."

Once the decision was made to add waterjet to the manufacturing process, Tampa Rubber & Gasket looked to Concepts for Progress, an authorized KMT Waterjet OEM (original equipment manufacturer), for a turnkey waterjet solution.

The system Concepts for Progress installed is a model CF 2000 Waterjet Cutting Machine or Fixed-Arm Cantilver. It featured genuine KMT Waterjet ultra-high pressure components, including the Streamline™ SL-IV 50 horsepower intensifier, four normally open high-pressure valves, four cutting nozzles and two 3/8"-swivels.

Concepts for Progress delivered the waterjet system in June of 2001.

But Marshall knew that selecting the right hardware was only one part of the equation for success.

"Picking the right software package for us was key, because none of us were computer experts," noted Marshall.

Tampa Rubber & Gasket ultimately selected a powerful, yet user-friendly CAD/CAM program - PowerStation.

"The PowerStation program was easy to learn and very intuitive to use, even for first-timers like us," noted Marshall. "But that software needed to be integrated with

the products from Concepts for Progress and KMT Waterjet Waterjet. The training program created by Concepts for Progress to integrate the two systems was terrific. They were able to teach us not only the basics, but also how to tap the full potential of waterjet cutting in just one week. This allowed us to keep the shop operating, and made our investment in waterjet pay off immediately."

Tampa Rubber & Gasket uses a 10 computer Local Area Network (LAN), including a high-speed computer acting as a server for the PowerStation software. Drawings made with the PowerStation software are saved on the LAN. Using another computer on the LAN, the engineers in the shop open the PowerStation program, which contains a macro, or the specified tool path, that the waterjet will follow when cutting. From here, the macro is sent to the waterjet computer, also connected to the LAN, to complete the job.

"We feel extremely comfortable and confident using the waterjet cutting technology," said Marshall. "The fact that we are so confident using the waterjet in such a short period of time is a credit to my Tampa Rubber & Gasket colleagues, and to Concepts for Progress and KMT Waterjet Waterjet."

#### **"Key differentiator when going to market."**

One of the benefits of using waterjet is the ability to cut much larger gaskets. With the 6'x12' table and four cutting heads, Tampa Rubber & Gasket is able to cut gaskets up to 72-inches. Previously, these large gaskets were cut by hand, a very laborious project. Now, utilizing the waterjet cutting system, the same gasket can be completed within minutes - including the time to create the necessary CAD/CAM drawing.

"A project that used to require a seven to fourteen day turnaround - including creating a new wood die and cutting the gasket - now takes only hours to cut. Waterjet is very fast and very flexible," noted Marshall. "Everybody I deal with has benefited from our use of waterjet cutting technology. One particular job that used to take almost a week, now barely takes five hours. This helps clear the shop faster and allows me to bring in more orders to be cut."

One of the key challenges is making customers aware of what the waterjet technology is capable of accomplishing.

"Waterjet cutting is a win-win for us and our customers," said Marshall. "We believe in waterjet so much that we encourage customers to provide .dxf files of job specifications. These specs are quickly imported to the CAD/CAM program for processing, which increases our turnaround time. All of this makes for very happy customers."

"The end product is very good. But equally importantly, is that the yield is outstanding. We achieve nearly full-utilization of raw materials by cutting with the waterjet. We are able to plan and appropriately program the waterjet to optimize the material on the table, simply by nesting gaskets one inside the other. The waterjet allows us to cut more gaskets in the same amount of time with similar or better quality. It is a key differentiator when going to market."

#### **Waterjet in the Real World**

Tampa Rubber & Gasket services several large phosphate processing plants in

central Florida. The massive turnarounds in these plants require many gaskets of many sizes. This makes replacing gaskets a labor-intensive activity, as a significant amount of field data must be captured in order to build new ones.

A typical order usually consists of small quantities of several styles of gaskets - sometimes upwards of 100 gaskets for a single turnaround, in sizes up to 6-feet in diameter. In the past, since each gasket was hand-cut, manufacturing time could stretch into weeks. And because each gasket was so intricate and took so long to cut, Tampa Rubber & Gasket kept at least one extra of each gasket to use as a pattern for future jobs.

Using the waterjet cutting technology, building the gaskets is "incredibly easier," says Marshall. "We have the ability to reduce downtime during planned outages, and deliver gaskets immediately during an emergency shutdown when time is of the essence."

**Don't leave home without it**

Marshall believes waterjet technology gives Tampa Rubber & Gasket a significant competitive advantage. "Time is money, and we definitely save our customers time using waterjet. I don't like saying things like this, but I don't know how anyone could compete with our turnaround time that doesn't have a waterjet machine like ours."