

Medical Product OUTSOURCING

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Pushing the Envelope

Tubing providers respond to medical device OEMs' requests for smaller, thinner, uniquely shaped products.

Tim Sohn

Tubing providers increasingly are receiving requests for smaller, thinner and custom-shaped tubes from medical device OEMs, but industry executives claim the trend potentially could affect quality.

"As companies try to push the envelope, one of the keys is they try to make a part that has a very, very thin wall and try to get as much as they can down a tube, which starts to get to a point where you're risking some sort of failure. The challenge is to push back on a design that is so close to the edge of being too thick or too weak and saying, 'sorry, I'm not going to sign up with this,'" said Russ Small, vice president of sales and marketing at Needletch Products Inc., a contract manufacturer based in Attleboro, Mass. The firm specializes in needle point grinding, steel and plastic machining and fabrication, insert and injection molding, device assembly and sterile packaging.



Tubing industry experts said medical device manufacturers are asking contract manufacturers to find ways to cut costs, while being more creative. Photo courtesy of Vesta Inc.

At Somerset, N.J.-based Micro Medical Technologies, customers want pierced holes in tubes, as well as other unique shapes with non-regular contours. Companies also are considering switching to plastic tubing from metal tubing, though Carl Savage, Micro Medical's vice president of sales, believes metal will never be eliminated from medical devices.

Geary Havran, president of St. Petersburg, Fla.-based NDH Medical Inc., said an increasing number of medical device manufacturers are being asked to make high-quality smaller components. "I think quality is almost the ticket of admission," he said, adding, "I think there will continue to be a challenge of making products smaller both in their overall size as well as minimizing the amount of material used in tubing for medical devices."

Tubing Boom

The amount of outsourcing in the sector has held steady, said Bob Poirer, vice president of Manchester, N.H.-based Dunn Industries Inc., which provides extrusion services for the medical, telecommunications and aerospace industries.

Brad Hanson, medical marketing manager of Portage, Wis.-based Saint Gobain Performance Plastics Healthcare Business Unit, agreed, "In general, our medical business has not really been affected negatively. We are growing at above industry growth rates." Saint Gobain Performance Plastics offers its customers extrusion, molding and assembly services using a variety of materials, including extruded tubing, PVC materials, thermoplastic and polymers.

While NDH Medical has continued to grow in sales, despite a slight decrease in business relating to some elective surgeries being postponed by patients, Havran said the level of outsourcing at the custom extrusion contract manufacturer has remained strong. "We have seen a few segments in the medical market that are heavily influenced by elective procedures, and even in those segments it's taken a long time to see [an effect]," he said. "At a minimum, there seems to be no move away from outsourcing," Havran added.

Meanwhile, sales have risen significantly at Micro Medical Technologies, a provider of precision metal stamping, forming, machining, molding, sharpening, finishing and assembly services.

"Right now, we have seen the industry as a whole maintain itself pretty well. Our sales in the tubing area are up over 40 percent," Savage said. He attributed the increase to the quick turnaround the company provides customers, touting the firm's ability to complete projects in less than six weeks, compared to the 12 to 26 weeks cited by competitors. Additional reasons for the business boom include automation and its use in a variety of technologies, Savage added.

Fluortek, a precision plastic tubing contract manufacturer based in Easton, Pa., also is experiencing sales growth. "We continue to experience growth in our extended sales agreements as the OEMs try to reduce their supply chain costs. Inventory management, in the form of kanbans, stocking agreements and strategic supply agreements have become critical to some of our customers' planning efforts and profit," said Don Richardson, vice president of technology.

Sales are up at Precision Extrusion Inc. as well. The firm, based in Glens Falls, N.Y., manufactures custom small diameter plastic tubing extrusions. "We are running over 20 percent ahead of last year, mostly due to international sales," President Michael Badera said, adding that the company recently purchased more primary extrusion equipment and expanded its staff.

Facing "Material" Challenges

The tubing industry, however, is not without its challenges.

Poirer sees materials as a challenge. He said some materials that are being requested have never been extruded, so his firm works with customers to agree on parameters.

The cost of raw materials over the last few years has hampered tubing manufacturers, too, while energy prices have fluctuated.

At Vesta Inc., a provider of silicone and thermoplastic component manufacturing and support services, executives have experienced cost increases this year, but at a slower pace than in 2008. Higher prices for raw materials has made the company focus on increasing productivity and uncovering cost savings in order to maintain its margins and avoid having to pass on significant price increases to its customers negatively impacted the business because customers are not as tolerant of price increases as they have been in the past, said Apur Lathiya, vice president and general manager of the Placentia, Calif.-based firm's thermoplastics division.

Precision Extrusion recently experienced small price hikes. "So far, we have not seen the huge increases this year that we have in the past two. We have had a couple of increases, but not every other month, and not across the board. Right now, because the increases are small, we are being 'forced' to deal with them for existing orders and old customers. If they get high enough, then we can renegotiate. With new products and new customers, the increased price is automatically part of the price quotes," said Badera.

Materials prices have been relatively steady in the past year at Micro Medical, which uses mostly stainless steel for its products, said Savage.

Timing and Tolerance

Other demands being made of tubing providers are that of decreased lead times, faster turnaround times and tighter tolerances.

Quicker turnaround times is a strong trend this year and more important than ever, along with shorter lead times, according to Hanson.

Startup firms that are unsure of future venture capital funding cannot afford to cut corners, Needletech's Small said. Cutting corners and rushing to get a product to market does not make good business sense, he added.

OEMs are paying particular attention to cost now, and they also are requesting tighter tolerances, according to Savage. "We are seeing [customers] be much more cost conscious on pricing and tooling as well. They are trying to minimize costs to develop new programs. There's been a lot of pressure to reduce the timing of programs over the past year," he said, adding the company is getting requests for tighter tolerances, too.

Badera said it's important to keep the focus on what's new. "Just trying to keep up with customer requests to 'be the best' all the time. To do that, we need to stay on top of new equipment, new materials and anything else 'new' that can increase our quality while reducing cost," he said.

R&D Demand

NDH Medical is seeing more requests for the design and development phases of medical devices, according to Havran, and Fluortek has formed a group to address customers' needs. "We have



The cost of materials has fluctuated for tubing manufacturers over the last few years, but some companies are finding that costs are leveling off this year. Photo courtesy of Micro Medical Technologies.

Saint Gobain, our

way of growing is to expand into different materials and process technologies. That's been a big advantage for us globally," he said.

However, Poirer argued that the success of the one-stop shopping concept is dependent upon the size of the company. Havran claims OEMs do not currently favor the practice.

"People really search out pockets of expertise as opposed to strictly going down the path or just minimizing the number of vendors. For the past two or three years, there was a lot of talk about one-stop shopping," he said.

The Extrusion Evolution

Industry executives agree that the fundamentals of extrusion remain the same, despite changes to its processes and tooling.

"The ability to control the process to much tighter tolerances has been an issue that has continually been pushed," said Havran.

According to Lathiya, the extrusion process is mostly the same, but he noted that there have been advances in metrology equipment and controls that are available for new equipment.

Tubing's Future

Industry executives are in agreement that they see only growth for the future of tubing.

"We think there are still substantial drivers to growth. A lot of that is related to a healthcare market that's growing globally. I think there's still a fairly strong preference toward single-use devices because it eliminates the need for sterilization and cleaning at the customer's facility," said Havran.

Richardson has discovered that the tubing market is linked directly to the global medical

recently initiated a multi-disciplinary supply chain group tasked with getting more customers more products that they want, when they want them. The group will interact with all departments to add value internally and externally by identifying and implementing best practices across the board," said Richardson.

At Vesta, however, customers are taking longer to make R&D decisions. According to Lathiya, customers are becoming increasingly price-conscious, and, therefore, taking longer to place R&D orders. He also said customers are choosing to go with suppliers that offer multiple services, have a strong engineering group, as well as robust quality management systems.

Badera said Precision Extrusion is getting more requests for R&D and is looking for new ways to do "old things" to reduce costs—such as using different materials and manufacturing parts with tighter tolerances.

One-Stop Shopping

Hanson said companies like the one-stop shopping concept. "You will see that with



Industry experts have mixed views on one-stop shopping. Some are seeing an increase, while others say OEMs want contract manufacturers that have a specific expertise. Photo courtesy of Vesta Inc.

deviceindustry as a whole. He cited that the catheter portion of the market is expected to increase approximately 8 percent this year and he sees no reason why that would change, he said.

Hanson at Saint Gobain Performance Plastics sees minimally invasive surgery, endoscopy applications, emerging countries such as China and India, as well as an aging population in the United States, as reasons for future growth.

Precision Extrusion's Badera expects to see huge growth in Asia as well as in the United States. In Asia, the demand is growing as more medical services are being made available to the average person. "In the U.S. for all the reasons everyone talks about, the population is aging and more and more products are needed to do minimally invasive surgery. There are new therapies coming out all the time that involve tubing products," he said.

Overall, growth in the tubing market has remained steady. Some companies have experienced 20 percent to 40 percent sales increases, numbers that industry experts claim reflect the importance and influence of the global market on the tubing sector.

Fluortek is one such company that has recognized the importance of the global marketplace. "[It] presents both challenges and opportunities," said Richardson. "In the European Union and some countries neighboring the EU, the lower value of the dollar versus the euro has made Fluortek more competitive. This is great for our European trading partners and allows us to execute our international strategy with those who may have otherwise looked away from a U.S. supplier. On the other hand, logistics, terms and conditions and even communications can become a challenge for a small company dealing with customers in foreign countries and in time zones which barely overlap."

Small at Needletech Products is optimistic about the future of tubing. "I don't see any indications that tubing is going away," he said.

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