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– Annette Lund / Vice President, Diversified Plastics, Inc.



Image: Diversified Plastics

PolyJet injection mold with prototype part created by Diversified Plastics for customer, Coloplast.

CASE STUDY

Medical Prototyping

CUSTOM INJECTION MOLDER EMBRACES 3D PRINTING

A NEW WAY TO DO BUSINESS

With the addition of an Objet260™ Connex 3D Printer from Stratasys®, Minneapolis-based Diversified Plastics has taken its rapid prototyping capabilities to a new level.

Founded in 1977, the employee-owned company specializes in custom injection molding for customers in the medical, filtration, aerospace, aviation and defense markets.

Diversified Plastics is technology-driven, priding itself on meeting its customers' constantly changing needs with continuously updated, state-of-the-art mold making and production equipment. Last year's acquisition of the Objet260 Connex 3D Printer from Stratasys is major part of that effort.

Getting to Market Faster

According to Annette Lund, vice president, the company has many customers interested in building prototype tooling using aluminum and P20 steel, both of which are commonly used to make injection molds. However, working with these materials is expensive and time consuming – it can take weeks to create a prototype using a metal mold. In order to help their customers get to market faster, Diversified Plastics decided to invest in 3D printing technology from Stratasys.

“By being able to print the mold components, we can supply our customers with prototypes in a matter of days rather than weeks – and it’s actually less expensive,” Lund says. “They are able to use these parts to test out their design concept early in the product development process and determine if the design is going to work.”

Serving the Medical Industry

The medical industry is one of the mainstays of Diversified Plastics’ customer base. Recently the company has been working with a long-time customer, Coloplast, a medical OEM that makes products for the urology market.

Joni Davis, sales engineer for Diversified Plastics recalls, “Coloplast came to us with a situation where their marketing department wanted to launch a new product, but needed to test out the design before it actually went into a production tool build.”

Davis says that speed to market was very important to Coloplast. Prior to installing the Objet260 Connex, the process to make a mold from aluminum or soft steel would have taken about 5 weeks. But by using 3D printing, the prototype mold took only five days.

Diversified Plastics then injection molded prototypes for testing that were made from the same material planned for use in the finished products. This allowed Coloplast’s R&D and marketing personnel to quickly evaluate shape, texture, look and feel of a finished part before a production mold was made.

Finally, Davis noted the substantial difference in cost between creating an injection mold with P20 tool steel and 3D printing one. She estimates that the metal mold cost the company around \$13,000, whereas the equivalent 3D printed mold was created for about \$1,500 – a cost savings of 88% and time savings of 80%.

“By making the Objet260 Connex part of our equipment lineup, we now have the ability to help our customers bring products to market very quickly and cost effectively,” concludes Lund.



Annette Lund, Vice President at Diversified Plastics



Joni Davis, Sales Engineer at Diversified Plastics

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