

PolyJet Blow Molds Speed New Product Introduction and Preserve an Important Customer Relationship

"PolyJet blow molds were ideal for producing the prototypes our customer urgently needed to get their new product to market."

— Nir Hadar, research and development manager, Plasel

SITUATION

Plasel Precision Plastics, based in the Galilee region of Israel, develops and manufactures plastic packaging for customers in numerous industries, the majority of which are produced via blow molding — a process which creates hollow parts and containers by inflating hot thermoplastic material inside a metal mold until it is forced to assume the given shape. Most often the molds used in this process are made from machined metal or aluminum which are expensive and take weeks to produce.

However, during the development of a new package design, Plasel's engineers discovered that the fastening features on the side wall could cause the packages to fall out of alignment when traveling down the customer's automated conveying system to the shipping dock. Engineers immediately modified the closures but needed to ensure the design would work flawlessly before entering full scale production.

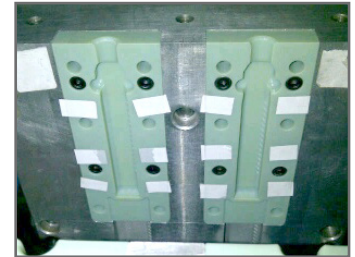
"We needed to quickly and inexpensively produce 100 packages so we could test their ability to work on the customer's automated conveying system," said Nir Hadar, research and development manager for Plasel.

The company considered several options for making these prototypes including CNC machining each package individually and blow molding the packages using an aluminum mold. These options were quickly ruled out though because of time and cost; each option would have taken several weeks to complete and cost approximately \$5,000.

That is when another solution presented itself.

SOLUTION

Plasel decided to use a 3D printed PolyJet mold to produce blow molded prototypes. After making a few minor design changes to accommodate the differences between PolyJet materials and aluminum, the new mold was ready to use a day later. The next day, Plasel was able to blow mold the 100 prototypes and send to their customer for testing. Upon receipt, the customer validated the fit, function and appearance of the prototypes as well as their compatibility with the conveyor system; they all worked perfectly.



PolyJet printed molds mounted on Plasel's blow molding machinery.



A PolyJet mold was used to produce 100 blow molded package prototypes.

How does PolyJet compare to traditional methods for Plasel?

Method	Production Time	Cost
CNC Machining*	Up to 20 days	\$5,000
Aluminum Mold	Up to 20 days	\$5,000
PolyJet Mold	2 days	\$280
SAVINGS	18 days (90%)	\$4,720 (94%)

* 100 finished parts

RESULTS

By using the PolyJet 3D printed molds, Plasel was able to secure the customer's approval of the new packages faster than if the prototypes had been produced by conventional means. In turn, the faster turnaround allowed the customer to introduce its new product to market weeks sooner than in the past. What's more, the PolyJet molds cost Plasel only \$280, much less than either of the alternative methods considered.

"Our customer was very appreciative of our ability to quickly produce the prototypes they needed to prove the new package design," concluded Nir Hadar, research and development manager for Plasel. "This project helped strengthen a very important relationship for us."

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