

# Solid Prototype

Connex 3D Printer Helps Build a Loyal Following for Multi-Material Models



## New service bureau takes Austin market by storm; Connex pays for itself in just eight months.

Solid Prototype is a 3D rapid prototyping company founded in 2011. The firm provides the latest in PolyJet rapid-3D printing technology for clients who need multi-material prototypes created quickly. It specializes in creating models that closely simulate clients' end products. The firm has already landed dozens of high-profile clients, including MIT, Zimmer, Takata and BAE Systems.

A former Navy special operations diver and film producer, Barton eventually returned to school for a degree in Mechanical Design, and worked as a designer and drafter at a major defense firm. While working there, he observed a market need for a new type of high-quality rapid prototyping service. "We outsourced rapid prototyping to local service bureaus," recalls Barton. "It took several days to get the models produced, and the quality was poor – even after post-production, the models did not closely resemble our end products. I thought there was significant room for improvement."

### Challenge:

*New service bureau wants to differentiate itself by producing highly accurate, multi-material models at same cost and in same timeframe as traditional single-material models.*

### Solutions:

*An Objet Connex 3D Printer*

### Results:

*Though the company's business plan predicted profitability within two years, Solid Prototype now anticipates turning a profit within eight months!*

“Barton teamed with a friend who agreed that a market need existed, and together they decided to explore starting their own rapid prototyping service bureau. The two researched rapid prototyping technologies, and discovered Objet. A rep with a local Objet distributor, EngATech, met Barton and his now partner at an Austin restaurant, and brought a box of parts that had been produced on Objet’s Connex printer. “We could not believe how realistic the parts looked,” recalls Barton. “In fact, one of the models was of a human jaw, produced for a medical supply firm, and it looked so real that when the EngATech rep took it out of the box, a woman at the next table actually screamed! We knew right then that we’d found something special.”

### **Connex 3D Printer: The World’s Only Multi-Material 3D Printing System**

Barton was particularly amazed by Objet’s ability to print parts in multiple materials. He and his partner went undercover and called more than a dozen service bureaus to ask if they could print in plastic and rubber at same time. “Everyone said no,” Barton recalls. “As a former service bureau customer, I knew that capability would be a huge selling point. We purchased the Connex printer and started Solid Prototype.”

Solid Prototype’s chief differentiator is its ability to produce rapid prototypes that are replicas of their clients’ end products. “Our models look, feel and work like real end products,” he explains. “Every business we talk to responds positively to that message. They all need good models to sell their ideas. We can produce them more quickly and for the same cost as the generic-looking white, brittle models they used to get from their old service bureaus.”

### **The four main factors supporting that differentiation are:**

1. Solid Prototype models can incorporate rubber and plastic together in a single part, with no glue.
2. The incredible accuracy and details of the models - as small as 16 microns.
3. The strength of materials.
4. The availability of materials, including rubber, plastic, & translucents.

One of Solid Prototype’s clients is an orthopedics company. As part of their manufacturing process, the company produces full printouts of human spines in order to test their devices. Utilizing Objet’s Connex printer, Solid Prototype was able to produce a human spine with hard plastic vertebrae and flexible see-through plastic disks that moved together as one unit. (pictured right) “They’d never seen anything like it,” says Barton. “And we did it for the same cost as their previous vendor.”

In another instance, Solid Prototype worked with an American tool manufacturer that was producing a new pair of pliers, and experimenting with material types for the handle. Solid Prototype was able to quickly print a single prototype that had two different materials for the handles so the client could see and feel which one was better. “There’s no substitute for holding something in your hand,” says Barton. “The client was thrilled with the model, which ultimately made their material selection much simpler.”

According to Barton, Solid Prototype clients love the time-savings and reduced development costs that multi-material 3D prototypes provide. “Clients need good working models that are accurate and well made. Our ability to turn around these complex prototypes in a day and at a cost that is comparable to traditional single-material prototypes has been the key to our success,” says Barton. ***“Clients want the prototype done right, they want it fast, and they want to minimize costs. Normally you only get two of these three requirements met. But with the Objet Connex printer, they don’t have to compromise – we are able to deliver on all three fronts.”***



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CEO

Solid Prototype's investment in the Objet Connex printer has clearly paid off. According to Barton, "Our business model was to be profitable within two years. Thanks to our Connex printer, we'll achieve profitability in eight months instead." Barton describes Objet's support as among the best he's seen. An Objet engineer came on site to set the machine up, and spent several days training the Solid Prototype team. There has been no need for on-site support since the initial setup.

"Our competitors' offices are filled with machines that no one wants to use anymore," says Barton. **"Our one machine can do everything all their machines can do, and more.** We're really excited about the future of Solid Prototype, and our partnership with Objet."

EngATech is the select distributor of Objet's 3D printing system in the five-state region consisting of Oklahoma, Arkansas, Texas, Louisiana and Mississippi.

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