



Case Study

Albensi Laboratories | 3Dent™, Perfactory® 4 DDP

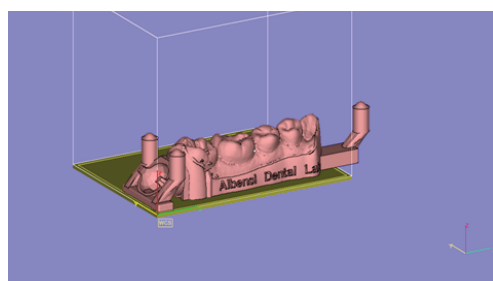
"We've been happy with the EnvisionTEC [printer] since the day we brought it in."

--Don Albensi, CDT, owner/CEO of Albensi Laboratories



Albensi Laboratories is certified, full-service dental laboratory in Pennsylvania where owner Don Albensi opened the business in 1979. Since the late eighties there have been some changes in dental technology, and Albensi has been intent on keeping on the forefront of the latest computer-aided manufacturing techniques.

Albensi Labs started 3D printing in 2003 with a 3D Systems machine and an Objet. Originally the lab used rapid prototyping for modeling restorations. Eventually, the lab began full contouring in silicate material. As demand increased, the lab decided to invest in a different machine.



EnvisionTEC versus the Competition

"We needed another printer."

Though they already had a 3D Systems machine, Albensi Labs decided not to purchase another of the company's 3D printers for several reasons.

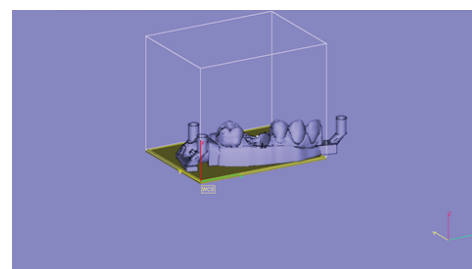
Albensi stated that the workability of the models off the Objet is lesser than those printed with the 3Dent™:

"The 3Dent™ models have a nice opaque orange shade that the

technicians working on the models find a little more conducive to working on than the clear bone material from Objet."

CAD/CAM technician Chris Bolam agreed that working with the 3Dent™ models is a "very easy articulation process." The Objet, in comparison, was "a little difficult to articulate with the way that the material moved," while the way that the material comes out of the 3Dent™ is "sturdier."

Bolam works with the lab's 3D printers, and has operated all the machines the company has owned. "With both the 3Dent™ and the DDP4, we can probably run two trays of models and get them both cleaned in the time it takes for the 3D Systems [printer] to run," he testified. The build envelope sizes and general workhorse production of EnvisionTEC better matches the lab's production needs. "If we were to run the 3D Systems printer twice a day, or the Objet printer," he mused, "We'd probably have three hours more in labor per day just in de-supporting the material."



Indeed, each model printed on the lab's Objet printer takes one minute to clean each side, one minute to spray off, placed in a strong lye soap solution for twenty minutes, and sprayed a second

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"Thanks for all your help and producing a great product. I cannot adequately express how happy the quality of output and reliability makes me." -- Christopher Halke, CAD/CAM Technical Supervisor

time afterward. Albensi Labs loses capital strictly in cleaning these models. "With the 3Dent™ we can clean off an entire build platform in twenty minutes," Bolam said.

EnvisionTEC also saves the lab time and money during the print prepping process. He and the other technicians design the models to require less finishing, and this as well as prepping for print is minimized with EnvisionTEC's systems. The lab designs the models with thinner walls to use less material and speed up print time. When printing with EnvisionTEC, the team nests their jobs without having to add or subtract sprues, or any other objects. With the help of EnvisionTEC support staff, the lab was able to set their software in order to minimize the need for such alterations.

"Very few errors and very easy to use."

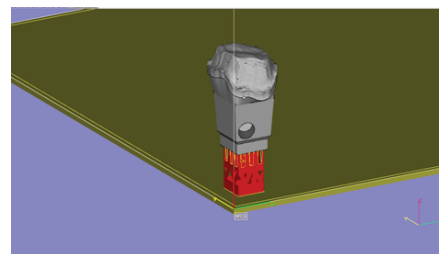
What are the most valued aspects of EnvisionTEC 3D printers for Don Albensi? "Quality of the print, the accuracy of the material and the ease of use," he said. Once a week Bolam says the lab completes a full run-down of their machines, maintenance which includes cleaning the air filters. "As long as you keep [the

machines] clean they function the way they're supposed to," he said. "It's easy to diagnose if we were to ever get a [bad] build come through," Bolam continued. "There was a piece of material that cured on the bottom of the build platform, or something like that."

The DDP4 does not include the auto-calibration feature of the 3Dent™, but three minutes is a small price to pay for Don Albensi. "Three minutes," he said, "You know, I really don't mind that."

Albensi Labs uses intraoral scanner data for much of its modeling and their printers work at high capacity. The printer for wax-ups can fit around seventy units per job -- in a typical eight-hour workday, Bolam says the lab can fit in three jobs.

Due to the decrease in the use of materials, the overall cost of materials has decreased, while actual labor has also gone down. "That was surprising to us," said Albensi.



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About Albensi Laboratories

Albensi Laboratories is a certified dental lab founded in 1979 located near Pittsburgh, Pennsylvania and operated by Don Albensi, CDT.



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