



Custom Fixtures Fast

KRATZER OPTIMIZES IN-HOUSE FIXTURE PRODUCTION WITH ADDITIVE MANUFACTURING

“We traditionally produced our fixtures on our milling machines, which took up a lot of time and held up production throughput. Since the installation of our new Stratasys 3D printer, we can have the fixture ready the next day, which results in a 90% time savings.”

– Christian Maier, Kratzer GmbH & Co. KG

CASE STUDY



With the in-house Stratasys Fortus 450mc Production 3D Printer, Christian Maier and his team can now produce fixtures for their machines in hours instead of days.

Germany-based, Kratzer GmbH & Co.KG (Kratzer), a family-run business since 1962, works to make customers' complex needs a reality, rapidly sourcing precise parts across a wide range of industries. Kratzer specializes in the production of custom, highly complex turned, milled, honed and ground parts, from dental implants to automotive brake housings to aerospace parts. According to Christian Maier, fixture construction division manager and training supervisor, Kratzer is the go-to company for rapidly sourcing such precise parts.

Operating mostly with metal cutting machines, the company uses turning, milling, honing and grinding to manufacture customer parts. However, the production of the company's own fixtures has increasingly become an unwelcome and time-consuming bottleneck. Replacements take a long time to make, and customization is difficult for the complex variety of individual parts Kratzer produces daily.

“Our manager reviewed new technologies that would ensure we kept pace with change and serving our customers’ needs,” Maier said. “He quickly saw an advantage in additive manufacturing. Considering our requirements for larger build-tray size as well as high-quality, precise part production, we found the Stratasys Fortus 450mc™ an ideal fit for us.”

Quick Customization Means More Time Saved

The ability to 3D print highly complex, customized fixtures for laser devices and engraving machines has had a considerable positive impact on in-house production and timing.

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The efficiencies of additive manufacturing means Kratzer no longer has to create design drawings for fixtures, skipping several time-consuming production steps. Fixtures can now be printed in one operation, instead of producing multiple parts and then assembling them after milling.

Customizing fixtures for specific parts with the Fortus 450mc is especially important to the company’s business because of the increased flexibility.

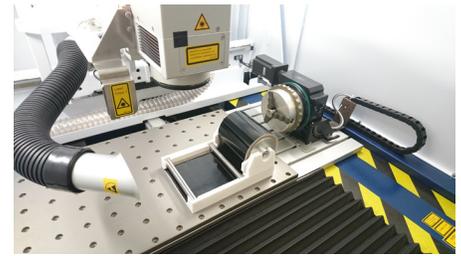
“Often our customers want a serial number, logo or writing on their parts, which is done by our laser engraving machines,” Maier said. “Before 3D printing, we had to put each part separately into the laser device, or manufacture custom fixtures to hold several parts. With additive manufacturing, we can create fixtures to laser 30 parts simultaneously, saving us an incredible amount of time and labor.”

Produce Fixtures in Hours Instead of Days

With the Fortus 450mc, Kratzer is able to produce durable fixtures with complex geometries without compromising quality. While printing most parts out of polycarbonate and ABS, ULTEM™ resin material has also proved to be invaluable for certain production requirements, particularly fixtures that must withstand extreme temperatures or resist chemical solutions.

“Making adaptations to parts is easy with additive manufacturing, and the material we use for our fixtures ensures they are fit for purpose,” Maier said. “We have traditionally manufactured fixtures, which over time naturally start to crack and break. Previously, we had to wait for the team to manufacture another fixture, which delayed the production process by several days. Now, we have the file, we can 3D print it in just a few hours. This dramatically enhances our production flow.”

In addition to making the production line workflow more efficient, additive manufacturing has elevated the level of in-house training. According to Maier, employees are much more excited and motivated about constructing and working with fixture designs. For Maier, personally, the Fortus 450mc has had an even more profound impact. “This technology has enabled a fundamental new way of additive thinking across the design process for fixtures,” Maier said.



Kratzer now 3D prints fixtures for their laser devices, allowing the company to engrave multiple parts simultaneously, resulting a 90% time savings compared to traditional manufacturing.

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