Additional packaging concepts 3D printed on the Stratasys 3D printer (European design register: EM004759181-0005).

Making Ideas Real

Quadpack Enhances Packaging Design and Production With Full-Color Multi-Material 3D Printing

Founded in 2003, Quadpack is a global manufacturer of packaging solutions to the beauty industry. One of Quadpack's long-term business goals is to increase innovation through enhanced research and development. Coupled with this is the goal to increase time to market for its clients. To achieve these goals, the company recently expanded its design team to create the Design and Advanced Technologies department.

> "Our Stratasys 3D printer is key to achieving faster time-to-market, making visualization of bespoke products easier."

Mr. Jeremy Garrard
Director of Design and Advanced Technologies, Quadpack Industries

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Case Study

Making Ideas Real

In a step aimed at increasing innovation, Quadpack purchased a Stratasys PolyJet 3D Printer - the world's only full color, multi-material 3D printer – from local Stratasys partner Tri Tech 3D. The 3D printer is now at the heart of the Design and Advanced Technologies department. Much of the work on the J Series involves testing new ideas using three types of models. First, Quadpack develops prototype models for new references in its Q-Line range of beauty packaging solutions. The company also develops samples for clients who need bespoke models. As the team gets closer to production, whether for custom projects or its own product range, it manufactures trial molds to test designs prior to full-scale production.

"Having been limited on color, materials and production time with our previous 3D printer, we bought the Stratasys PolyJet 3D printer because we needed greater speed and flexibility to produce the three types of models we use," explained Garrard. "Its unique full-color, multi-material capabilities give us the freedom we need to test new ideas with ease. The early stages of design and development are also vastly accelerated. Once a concept is ready to be developed into a product, it all moves at great speed – we create a 3D model, test it using a 3D printed trial mold and we're ready for full-scale production.

"The ability to address all these areas of design and production with one 3D printer makes for a much better return on investment. When it comes to 3D printing, as far as we're aware, no one in our industry has 3D printing capability as cutting-edge as ours," he added.

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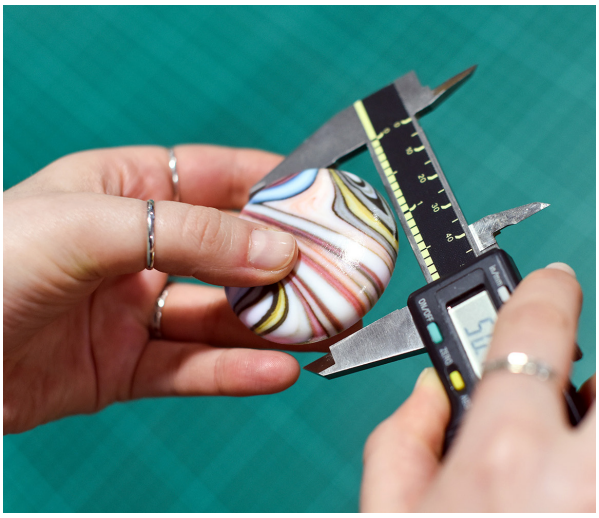
Advanced Ultra-Realistic Prototypes Aid Client Visualization

Offering greater design freedom when testing new ideas, the J Series has had a knock-on effect on the company's ability to create innovative new products for its Q-Line portfolio. The high-quality 3D models produced using the J Series are also helping clients' custom developments, offering improved visualization as part of Quadpack's design-to-delivery service for better early-stage development.

"The Stratasys 3D printer is key to achieving faster time-to-market, making visualization of bespoke products easier," explained Garrard. "For clients, a highly-detailed 3D printed model is a sure way to see what the finished product will look like. You can see it, feel it, touch it. It makes the idea real for our clients and accelerates the decision-making process.

"In terms of inspiration, it helps the industry access new ideas in a very real way. As an example, the first packaging ideas developed by our designers based on our trend investigations were 3D printed using the J Series and exhibited at the Cosmopack exhibition in Bologna. We used the machine to create around 300 prototypes for our Trend Wall and for our global sales teams to show to clients. We were blown away by how much interest we received by key prospects, including a leading trend house," he continued.



Making Ideas Real

Accelerating Production With 3D Printed Molds

Quadpack is also 3D printing injection molds on-demand, using them across its range of injection machines to run real-life production samples, with the output exactly the same as the finished product in terms of specifications and material types. This provides the company with greater efficiency, allowing it to carry out quality checks prior to cutting steel on the main production mold for the industrialization of the packaging. Steel trial molds are expensive and take around six weeks to produce, but Quadpack will now be able to make them in as little as 24 hours and at greatly reduced cost.

"The trial mold capability of the Stratasys 3D printer is exceptional and relevant to everything we do," said Garrard. "For example, if we develop an ampoule with a snap-off cap, we can try it with full end-product functionality. It is fantastic as it gives us greater efficiency and reduces risk. Everything happens earlier, faster and better, which is key to helping us achieve our overall goals of delivering innovation and improved time to market."

With the Design and Advanced Technologies department building a foundation for a future full-scale R&D center, there is no doubt the J Series will play a crucial role and help deliver faster innovation to market. Garrard explained, "We're extremely proud of our industry-leading prototyping and mold-making 3D printing capability. It gives us a real competitive edge and helps us foster creativity, boost innovation and accelerate the development process, which is good for us and even better for our clients."

Having a local, dedicated additive manufacturing support service is also essential to helping Quadpack achieve its goals. Garrad concluded, "Stratasys' partner, Tri Tech 3D, offers us expertise and continued high-level support. As we continue to push the boundaries of what's possible with 3D printing into other areas of our production processes, this local support is invaluable."

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