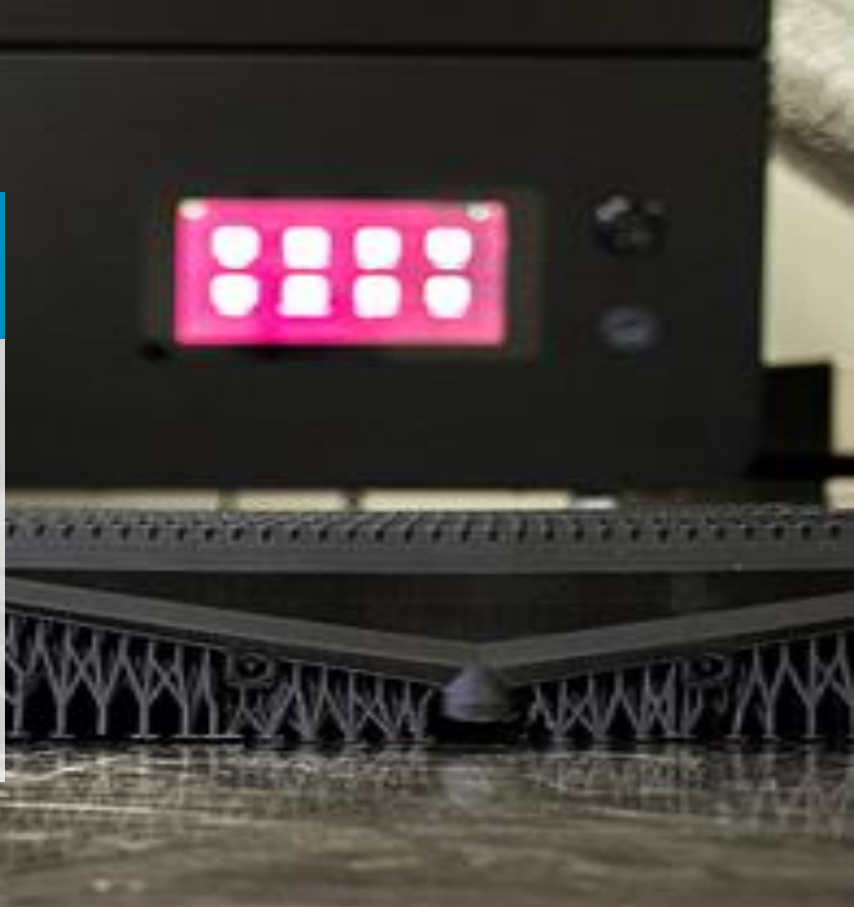




Optimized Tooling Reduces Costs and Saves Energy

Leveraging Design for Additive
Manufacturing to Maximize Efficiency



OVERVIEW

For more than 60 years, the Girbau Group has been committed to designing and delivering complete, sustainable and innovative textile processing solutions on a global scale. As a premier manufacturer of equipment for laundry services, Girbau sought to improve the efficiency of their folding machines to better serve their customers. Realizing that the air flow on this equipment was not optimized for the level of precision they needed, Girbau turned to Additive Manufacturing for its speed, efficiency, limitless design possibilities and cost-effectiveness. This collaboration created the single solution part they needed to optimize their folding machines.

QUICK FACTS

Material:

- Ultracur3D® EPD 1006

Technology:

- Liquid Crystal Display

Partner:



LAUNDRY BEYOND LAUNDRY

The Girbau Group manufactures equipment for a wide range of laundry services. It is headquartered in Vic (Barcelona-Spain) and has four production centers which specialize in the production of equipment for small and medium-sized laundromats. Girbau also provides equipment for the industrial sector, laundry service providers with higher production requirements as well as to distributors worldwide.

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Reduced air pressure from 5.5 to 4 bars for a more sustainable machine



Greater build volume of 510 x 280 x 350mm printed at 16mm per hour



Increased airflow efficiency

Challenge: Ensure durability under high pressure while maintaining accuracy

Ultracur3D® EPD 1006 was the perfect-fit material for the redesign of the folding machine component, providing both a competitive price point and the required strength and durability needed to create small cavities within the part to withstand high pressure and maintain precision. This high-performance resin is part of the Engineering Plastic Daylight (EPD) photopolymer product line, powered by [Photocentric](#) and specifically tailored to the requirements of the unique Photocentric LC Magna printer. Using the LCD technology allowed for high-accuracy printing capable of producing the tiny channels which direct airflow. This significantly reduced the noise impact compared to the original basic drilled tube since the airflow did not have a precise direction and the single tunnel echoed the sound of the air pressure.



Challenge: Fully optimize the component to reduce air consumption for greater efficiency

Girbau, in collaboration with the experts at Sculpteo, utilized the principles of Design for Additive Manufacturing to redesign the complex internal geometry of the component for optimized efficiency and accuracy. Through the implementation of precise integrated channels within the design, the quantity of pressured air required to fulfill its function was reduced from 5.5 bars to 4 bars which resulted in lower air consumption therefore creating a more sustainable machine. This improved and simplified design also allowed for easier installation as well as provided a more compact and lightweight component. Following Sculpteo's design guidelines about the specificities of this material, they designed the part so that the inner surfaces are free of any supports, ensuring the optimization of airflow. Sculpteo's design guidelines helped Girbau ensure that their design would have the highest quality print and functionality possible.

[Learn more about Ultracur3D® EPD 1006:](#)