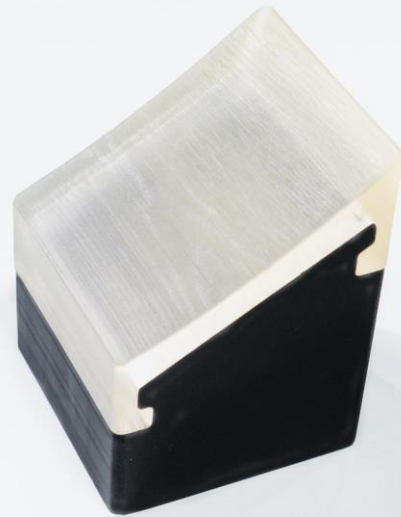


Optimized Soft Touch Tooling with 3D Printed Urethane Blocks

Advanced AM technologies provide exceptional part quality and surface finish



OVERVIEW

Urethane Blocks (often called as Red Blocks) are components used in automated assembly lines in automotive industry. These Urethane blocks have direct contact with the assembled product requiring a component with a 40-60 Shore A durometer that will avoid marking or scratching the final part during the manufacturing process.

By utilizing our [Ultracur3D® FL 300](#) with the Stratasys Origin® One printer, Valiant TMS discovered new ways to replace poured Urethane and apply 3D printing applications to processes that require soft touch tooling.

QUICK FACTS

Materials:

- Ultracur3D® FL 300

Technology:

- DLP

Partner:



VALIANT TMS

Valiant TMS is a global company with over 1,500 employees working at 20 facilities spread throughout 11 countries. They specialize in welding and joining, automated assembly and test, industrial parts washers, final assembly, and material handling systems.

They design, build and integrate intelligent automation solutions that leverage new technologies to create smart and sustainable factories for the world's leading companies.

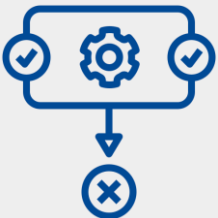
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Reduced production time from 4-6 weeks to 8 hours



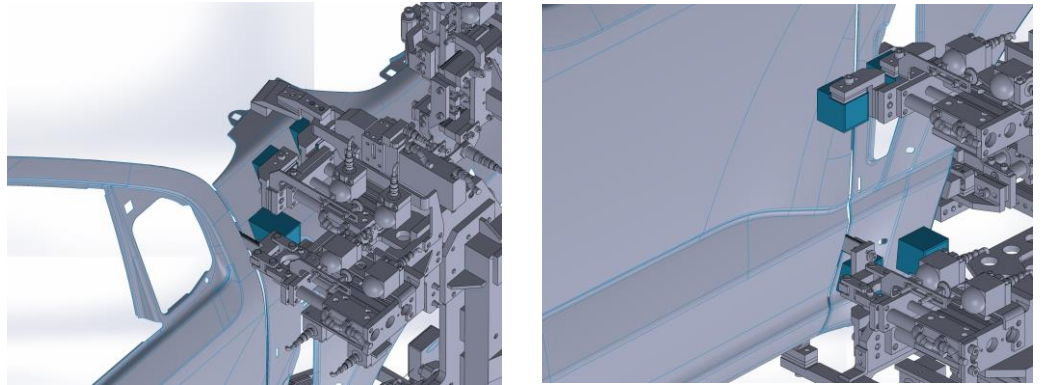
Lowered production costs by 200%



Eliminated the need of a mold in the process

Challenge: Utilize best-in-class material for the application along with top-tier technology to produce it

For this application of a Fender Install Tool, the Urethane Blocks are used as a pusher against the product in order to engage the product with the tool.



Traditionally the components are produced by pouring Urethane over a mold, typically made of aluminum or steel, followed by a deburring process. The Additive Manufacturing approach is different than traditional manufacturing since both components that form the Urethane Block are 3D printed using two different type of materials, one with a low durometer and one with high durometer. A Key Insert is added in the 3D printed base of the Urethane Block to allow the part to be attached in the final assembly.

Solution: 3D printed Urethane Blocks with improved quality and surface finish while both optimizing print time and reducing part cost

[Ultracur3D® FL 300](#) possesses a low viscosity and optimized parameters which ensure both fast printing and a short lead time meaning they both play a big role in the process of Valiant TMS. Using Additive Manufacturing, the print time is significantly lower than that of alternative manufacturing methods and resulted in lowering the cost by 200%.

Using BASF Ultracur3D® FL 300 material with Stratasys Origin® One printer to manufacture Urethane Blocks eliminates the need to create a mold for the pouring process. This innovative resin from Forward AM ensured that Valiant TMS also achieved exceptional quality results with a smooth surface finish on the final part. The accuracy of the part is within the requirements and in some cases secondary post-processing may be eliminated, resulting in a reduction of part production cost. Ultracur3D® FL 300 demonstrates that it can be considered as a beneficial and reliable replacement for this process along with other similar applications.

Learn more about Ultracur3D® FL 300: