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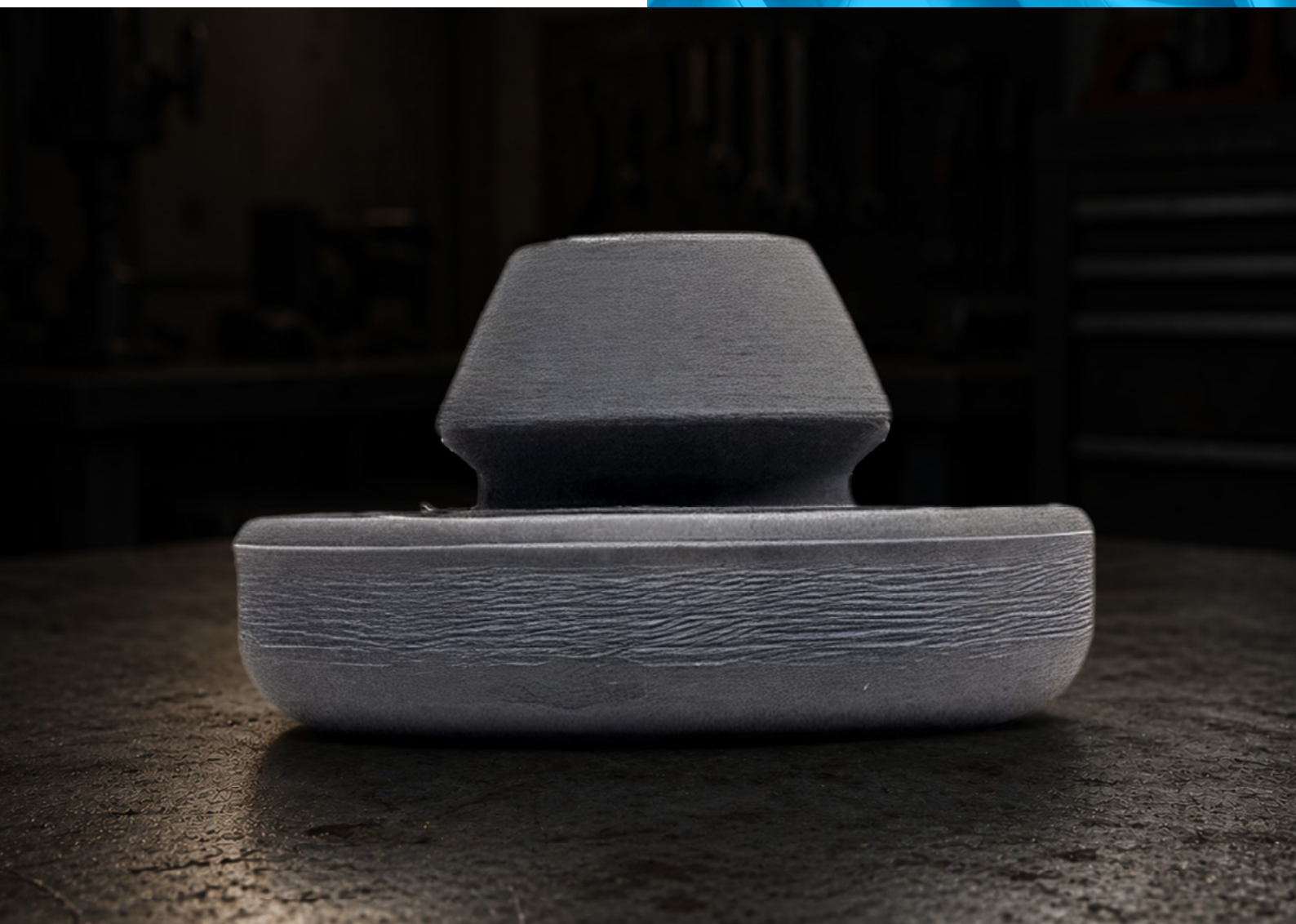
CASE STUDY
POLYJET

Advancing Prototyping and Product Validation With PolyJet™ Technology at Jones Plastic



Company Profile

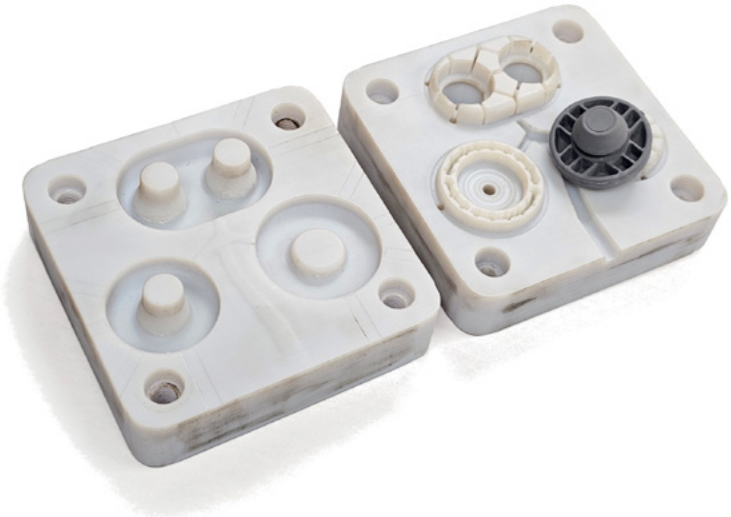
Jones Plastic and Engineering, headquartered in Louisville, Kentucky, is a leading custom injection molding company with six facilities across the United States and Mexico. Serving industries including automotive, appliances, energy storage, and power sports, the company provides end-to-end product development capabilities, from design and simulation to prototyping, molding, and assembly.

Challenge

For Jones Plastic, prototyping plays a critical role in helping customers move from early concepts to production-ready parts. Many of the company's customers need to validate designs before committing to expensive tooling, but traditional prototyping methods do not always provide the level of realism, detail, or performance needed to support confident decisions.

CAD renderings can show the intent of a design, but they may not fully communicate final product appearance, including color, texture, finish, or transparency. In other cases, customers need to understand whether a part can deliver the right functional performance, including flexibility or durability, before moving forward. Without a realistic physical prototype, design decisions can take longer, development costs can increase, and the risk of late-stage changes can grow.

Jones Plastic wanted to strengthen its in-house prototyping capabilities so customers could evaluate designs earlier, more clearly, and with greater confidence.



Solution

To close the gap between concept and production, Jones Plastic integrated Stratasys PolyJet™ technology into its in-house 3D prototyping lab, using the Stratasys J826™ printer to produce highly realistic, functional, full-color prototypes.

The company built a digital workflow that connects 3D CAD, KeyShot rendering, 3MF files, and PolyJet 3D printing. This enables Jones Plastic to translate digital designs into physical parts that more closely represent the intended final product. With PolyJet, the team can produce prototypes with full color, texture, transparency, and fine detail, as well as combine rigid and soft-touch materials in a single print.

The same workflow also supports more advanced prototyping needs. Jones Plastic uses Pantone color matching workflows with KeyShot and spectrophotometers, along with 3D scanning and reverse engineering for accurate reproduction. For functional prototyping, they use advanced materials like PolyJet ToughONE™.

Together, these capabilities allow Jones Plastic to use prototyping not as a standalone step, but as an integrated part of product validation.

Building Confidence Through Realistic Prototypes

One important use of PolyJet technology at Jones Plastic is creating realistic, show-ready parts that help customers better visualize their final products. This is especially valuable when a rendering alone is not enough to support a decision.

In one case, a customer needed to choose between multiple color options. Rather than relying only on renderings, Jones Plastic produced a physical prototype using Pantone 644C. The team also created a textured plaque using KeyShot and PolyJet technology, then fine-tuned color accuracy with a spectrophotometer.

The result was a successful color match that demonstrated the value of physical prototypes in the customer decision-making process. By giving the customer a tangible, color-accurate representation of the product, Jones Plastic enabled faster, more confident feedback.

Expanding From Visual Models to Functional Validation

Jones Plastic also uses PolyJet technology to support functional prototyping. While standard PolyJet materials such as Vero® and Digital ABS™ are valuable for many applications, some prototypes require additional durability and flexibility for testing. To address those needs, Jones Plastic adopted PolyJet ToughONE, a more flexible and impact-resistant material.

In a sporting goods application, a customer needed a functional prototype of a frame-based product. Initial prints using Vero and Digital ABS did not meet the performance requirements for the application. By using PolyJet ToughONE, Jones Plastic was able to produce the functional prototype in-house, then paint the final prototype to match the customer's specifications.

This allowed the company to eliminate the need for outsourced functional prototypes, reduce development time and cost, and support real-world testing earlier in the design cycle.

Impact

By integrating Stratasys PolyJet technology into its prototyping workflow, Jones Plastic has strengthened its ability to help customers validate products before moving into tooling and production.

The company can now produce both visual and functional prototypes in-house, improving customer communication and supporting faster design iterations. Full-color, multi-material, and texture-capable prototypes help customers better understand how final products will look and feel, while functional materials such as PolyJet ToughONE expand prototyping into performance validation.

For Jones Plastic, PolyJet has become a critical tool for delivering more precise, efficient, and customer-focused product development support. From color-accurate display models to functional prototypes, PolyJet helps bring products closer to production, faster.

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