



LARGE-SCALE STAMP FORMING

Large-Scale Stamp Forming of Continuous Fiber Reinforced Thermoplastics

With the growing demand for lightweight, high-rate, and high-performance structures, continuous fiber-reinforced thermoplastics (CFRTPs) have become an attractive material choice. While CFRTPs are used across various applications, manufacturing large-scale structures with these materials remains challenging. Re:Build Manufacturing's large-scale stamp-forming process bridges this gap, offering a scalable solution for high-performance composite production, including the ability to process advanced polymers PEEK and PEKK.

Our process involves heating a consolidated laminate in an IR oven, then rapidly transferring it into a hydraulic press equipped with a die/punch tool, typically match-metal but also adaptable for hybrid elastomeric/metallic tooling. The laminate is formed under high pressure, de-molded, and trimmed to its final geometry. This method enables the efficient production of large CFRTP components, making it a viable option for industries requiring high-performance composite structures at scale.

INDUSTRIES SERVED:

- Aerospace and Defense
- Cleantech
- Health
- Industrial Equipment
- Mobility





Characteristics

Our large-format stamp forming presses are engineered to handle demanding aerospace parts with precision and scale. Key characteristics include:

- Press platen sizes up to 5' x 9.5'
- Press tonnage up to 2,000 tons
- Formed part area greater than 36" x 48"
- Draw depth greater than 12"

Materials Supported

We process a wide range of high-performance thermoplastic composites, including PEI, PPS, LMPAEK, PEEK, and PEKK, reinforced with either glass or carbon fiber. These materials offer exceptional mechanical strength, thermal stability, and chemical resistance, making them ideal for demanding aerospace, defense, and highly specified industrial applications applications.

Advantages

Our stamp forming process delivers significant performance and production benefits, helping customers streamline manufacturing while maintaining high quality

- High-rate production (parts in minutes vs. hours)
- Good surface finish quality
- Consolidation of multiple smaller parts into a single large component, reducing the need for assembly

CERTIFICATIONS:

- AS9100
- ISO 9001
- ITAR Compliant
- NIST 800-171 Compliant

LOCATIONS:

- 📍 5850 E. 56th Avenue
Commerce City, CO 80022
- 📍 980 Jaycox Road
Avon, OH 44011

CONTACT US OR VISIT OUR WEBSITE:

info@rebuildmanufacturing.com

