

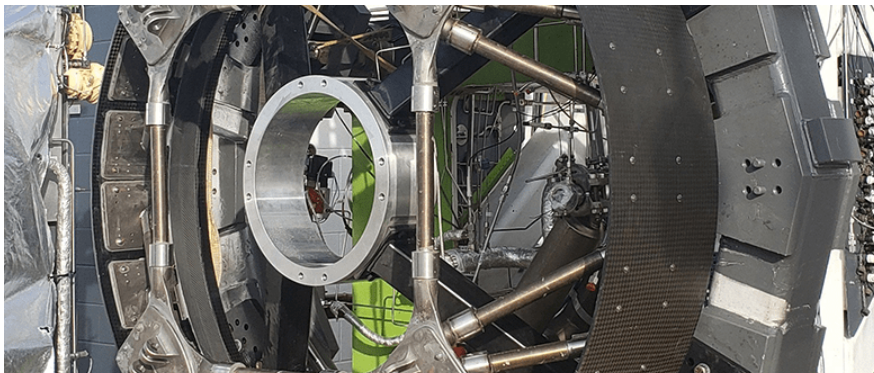
COMPOSITE BUILDERS

ADVANCED COMPOSITE TECHNOLOGIES

Composite Builders opened its doors in 2014. Sharing a passion for speed, **our diverse team has over nine decades of fabricating innovative composite structures.** We build to print, such as rocket and military components, energy turbine and blades, and US Paralympic equipment.

Using advanced materials and technologies, Composite Builders produces high-performance, innovative structures. These materials are preferred in the composite industry for their strength to weight ratio, lightweight, load tolerance, non-corrosive, and aesthetic appearance.

Our in-house manufacturing capabilities include: tool and mold fabrication with invar steel, carbon fiber, aluminum, fiberglass, and tool-board; automated fabric and core cutting; advance composite lamination processes; curing systems by compression molding, autoclave, vacuum bagging, and heated press; inhouse CMM precision measurements.



SERVICES AVAILABLE

- CNC tool and mold fabrication
- Automated fabric and core cutting
- Advance composite lamination systems
- Autoclave
- High temperature post cure
- Vacuum bag
- Heated press
- CMM precision measurements
- 50' x 20' x 10' NC oven

CUSTOMERS

- Firefly Aerospace
- Naval Information - Warfare Center
- Test Range Systems
- Calder Foundation
- USA Paralympics



MATERIAL & CURING

We use a range of advanced fibers and polymers: carbon fiber, fiber glass, Kevlar®, and ECOA. Our fabrics are reinforced with pre-impregnated resin, infused or self-applied wet resin matrix such as CMC, Cyanate Ester, thermosets, and thermoplastics.

Composite Builders curing processes leverage technologies to insure repeatability and data control: Our 10' x 12' and 5' x 12' Industrial autoclaves are pressure vessels used to cure advanced composite parts that require high pressures up to 100psi and temperatures up to 500°F. While in the curing process the autoclaves utilize an advanced control system to monitor, regulate and record the temperature, pressure, and vacuum of the parts.

The heated platen press is used for both; the production of lightweight composite, sandwich, and honeycomb core panels up to 48" x 96", and compression molded parts with/without a core. Compression is up to 120 tons, with up to 250°F heated platens. The LCD interface controls and records the pressing parameters for temperature, pressure, and cycle time.



COMPUTER NUMERICAL CONTROL (CNC) CAPABILITIES

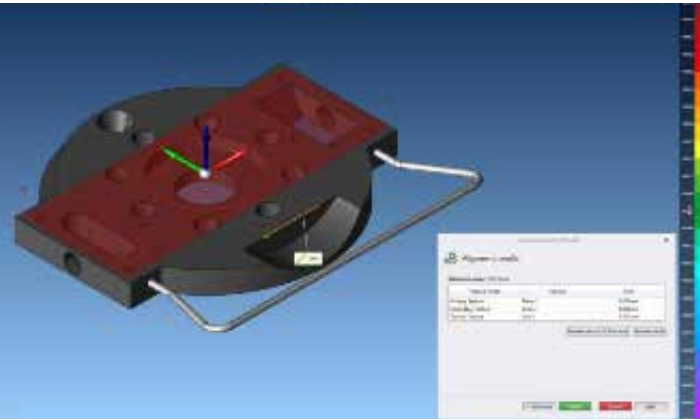
Our CNC capabilities and expertise allow us to build complex tools, molds and fixtures in-house, automate fabric cutting and finishing details on composite parts.

C.R. Onsrud Model F145G15W10 "5-Axis Pro Series" CNC Router 2008: This machine has Dual Support, Dual Drive, Moving Gantry, Fixed Table Design with standard 2,000" per minute machining speed, full 5 axis 3-D capability. Z clearance on this machine is 41-inches of Z, X envelope is 12' Y envelope is 10'.

Haas VF-3YT Axis CNC: This high performance 4-Axis vertical CNC machine provides high spindle speed and quick tool changes necessary for high-volume production and reduced cycle times. It travels on a 40" x 26" x 25" Axis (x/y/z).

Shop Bot PRSalpha 144-60: The ShopBot PRSalpha CNC Machine has a full-sized gantry tool delivering high performance, high efficiency production, as well as fast position and cutting. The large surface platform is 192" x 61" x 18" axis (x/y/z), with gantry-based CNC router. It reaches rapid transit speeds of 1800 inches per minute and cutting speeds of up to 720 inches per minute.

Gerber Z1 Cutter: The Gerber Z1 Cutter is an automated, computer-controlled, material cutting system. With our 72"(W) X 12'(L) conveyor table and Single Ply Fabric (SPF100) Feeder, and an infinite length of cutting surface. The Z1 Cutter cuts with accuracy and efficiency at a maximum rate of 45"/sec. This technology reduces lead time and material



CMM DIMENSIONAL INSPECTION

We use the Laser Quantum Max FaroArm to measure our complex parts, tools, and molds. It captures **real-time feedback with precise measurements**, creating a detailed calibration report for our clients.

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