

Facilities List

Buildings

Production, engineering and business offices occupy an 85,000ft² building on 12 acres of land in Bennington, VT.

Training Center

Onsite training center to ensure business focused employee training.

Prepreg Storage

Large 20-ft x 30-ft walk-in, 0°F freezer for carbon fiber prepreg and perishable material storage.

Automated Prepreg Cutting

Eastman computer driven prepreg cutter uses data from CAD and/or digitized patterns and drawings for precision cutting and ply marking.

Layup/Clean Room

The environmentally-controlled layup room is maintained in clean room condition and is isolated from the main composite processing area of the plant.

Laser Projection System

Versatech laser projection system is utilized for precision control of ply location on tapered or contoured parts.

Autoclave Curing

Two autoclaves with state-of-the-art computer control over all process variables including heat up rate, dwell time, variable pressurization and controlled cooling.

- 8 ft. diameter by 35 ft. long
- 4 ft. diameter by 8 ft. long
- Operational limits, 450°F and 150 psi (typically 250°F and 350°F and 30 psi - 100 psi).

Resin Transfer Molding

Ciject 1 used for RTM-light process. Mixer head injects and mixes two part epoxy during RTM process. Can be used with vinyl ester & polyester resin systems.

Curing Ovens

Six (6) ovens internal dimensions of 3' x 3' x 4' (36 cubic') up to 11.5' x 8' x 5.3' (490 cubic').

- Maximum 600°F (typical range 150°F to 350°F)
- Program & vacuum capabilities
- Chart recorder capability

Press Molding

Electrically heated, 150 ton, twin opening, 24" x 24", 600°F.

CNC Machining Center

CNC Router: 5' x 10' x 48" five-axis machine with a twelve-position tool changer, capable of complex shape part machining and machining of master shapes for tooling.

CNC Router: 5' x 10' x 12" four-axis machine with twelve position tool holder, capable of high precision routing of complex geometry.

CNC Router: 5' x 10' x 18" three-axis machine with a twelve-position tool changer, capable of various machining tasks including 3D contouring.

CNC Router: 5' x 10' x 12" three-axis machine with a six-position tool changer, capable of various machining tasks including 3D contouring.

Vertical CNC Machining: Mazak 60" x 28" x 30" three-axis machine with a fully programmable fourth axis and 21 tool capacity.

Vertical CNC Machining: Mazak 42" x 20" x 26" three-axis machine with a fully programmable fourth axis and 25 tool capacity.

CNC Programming: SURF-CAM®, a high-end 3D CAD-CAM package, is used to generate tool path programs. This software package enables us to accept customer-generated CAD files and generate tool paths directly from model geometry. Delcam CNC programming software greatly improves our mold making and 5-axis programming capabilities.

Machine Shop

Two Bridgeport mills with Acurite III digital readout, a Trackmill machine, and a precision toolmaker's lathe.

Pattern Making

In-house facilities for pattern making and master-shape development are available.

Finishing

The finishing department uses pneumatic grinders, sanders and laminate trimming equipment. Dust-intensive operations are carried out in full-flow dust extraction booths. High-performance coatings are applied in a paint booth with both heating and air filtration capability. A 12' x 20' heated drying room is adjacent to the paint booth.

Core Shaping

A custom-made core profiling and shaping machine, along with pin routing equipment, is available for precise forming of structural cores. Sandwich cores can be CNC machined, profiled or pin routed to tolerances of ± 0.010 inch. Extensive experience with Rohacell® foam, Nomex®, honeycomb, and aluminum honeycomb and other core materials.

Quality Control

Coordinate Measuring Machine

A Brown & Sharpe XCEL® 9129 is housed in a temperature controlled environment to ensure accuracy. It has a measuring range of 35.4" in the X-axis, 47.2" in the Y-Axis, and 33.5" in the Z-Axis. In addition, it uses an SPC software package to collect, store and analyze data.

- X-Ray Inspection Equipment
- Ultrasonic Flaw Detection Equipment "A" Scan
- Ultrasonic Bondmaster
- United Tensile Testing Machine
- Portable CMM

Two Faro® Arm Coordinate Measuring Machines (one Gold and one Platinum) capable of measuring within an 8' diameter sphere to an accuracy of ±.001".

CAD Solid Modeling

Vermont Composites utilizes the CATIA® SolidWorks® and Unigraphics® solid modeling design software package in the design of components, assemblies and tooling. We can accept customer models in CATIA®, SolidWorks® Unigraphics®, Step, Parasolids, IGES, DXF, ProE and AutoCAD format. Finite Element Analysis can be performed using Abaqus® FEA software package.



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