

The COMPOSITRA-9 — a sample-scale tailored fiber placement platform for composite R&D.

COMPOSITE TOW PLACEMENT · SAMPLE SCALE

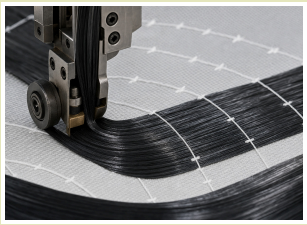
COMPOSITRA-9

Sample-scale tailored fiber placement — design and iterate before production.

A single-head platform configured for tow-placement R&D — develop and iterate fiber paths, evaluate tow size, and prove a preform geometry before scaling to production. Built for sampling and small-batch production of composite preforms, whether thermoset (epoxy-matrix infusion) or thermoplastic (meltable plastics built into the fibers).

WHY THIS MACHINE

It is a fast way to prototype and refine an idea and get it ready for production. Composite design groups can sketch a load path, stitch a preform, infuse it, test it, and revise — in a single afternoon. When the design is locked, the same DST file scales to the TOWFORGE-4 for four-up production.



Sample-scale tow placement

CAPABILITIES

- Tow sizes 1K through 52K — carbon, glass, basalt, natural fiber
- Natural-fiber composites — including hemp, flax, and wool
- Flat preforms that drape onto curved tooling — engineered fiber orientation
- Thermoset (epoxy-infused) or thermoplastic (meltable-fiber) preforms
- Hybrid layups: tow + couched wire + flat conductive thread
- Integrated laser cutter for net-shape preforms

IDEAL FOR

Composite R&D, aerospace structures groups, university composites programs, and motorsports innovation labs.

SPECIFICATIONS

Configuration	9 needles × 1 flat head + 1 taping (PD) head
Functions	Tow placement • Flat • Cording • Wire placement • Laser cutting
Embroidery area	650 × 1200 mm
Maximum speed	850 spm
Tow range	1K – 52K (carbon, glass, basalt, natural)
Control	12" colour touchscreen LCD
Power	Standard 120 V — quiet operation
Machine size	2,470 × 1,630 × 1,600 mm
Net weight	650 kg

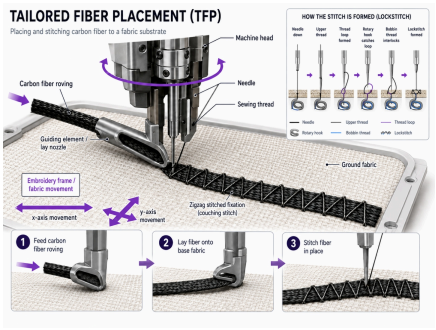
SAMPLING Bring your spec — we'll stitch a sample on this platform at our showroom.

PRICING Contact for current pricing and availability.

WHAT THE PLATFORM MAKES

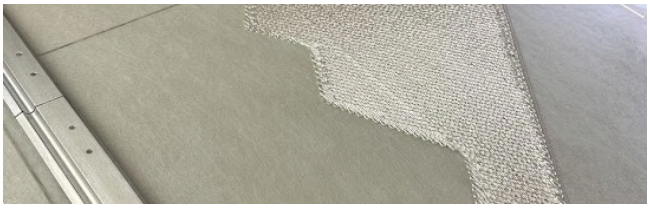
Sample-Scale Preforms, Materials Agnostic

Tailored fiber placement (TFP) lays continuous tow exactly along the load path and stitches it to a substrate — no cutting, no waste, and fibers aligned to principal stiffnesses. At sample scale, the COMPOSITRA-9 places carbon, glass, hemp, flax and wool natural fibers, and fine heating wire so you can prove a preform before committing to production tooling.



THE PROCESS · TAILORED FIBER PLACEMENT

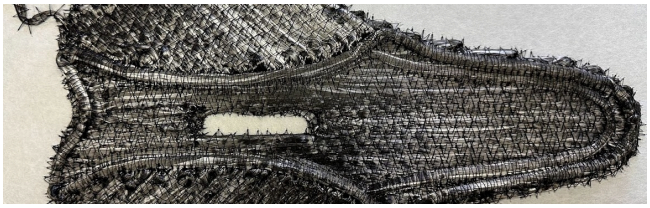
How TFP works A guiding nozzle lays continuous fiber roving onto a moving base fabric while a needle couches it down with a zigzag lockstitch. The embroidery frame moves in X and Y so the head follows any programmed curve — placing fiber only where the load demands it.



FIBERGLASS · EMBEDDED HEATING WIRE

Drone composite preform

A net-shape fiberglass drone preform with heating wire placed directly into the layup — fibers and circuit laid down together, ready to be molded into a single functional part.



CARBON · THERMOPLASTIC MATRIX

Thermoplastic carbon bike seat

A carbon-fiber bike seat built with meltable thermoplastic fibers worked into the layup. Heat consolidates the preform into a finished part — no separate resin infusion required.



NATURAL FIBER · THERMOSET READY

Natural-fiber bike seat

Bike-seat preforms placed in natural fiber, aligned to principal stiffnesses with no waste material. Infused with an epoxy matrix, each becomes a solid, sustainable finished part.



HEMP · FLAX · WOOL

Natural-fiber composites

Spiral and woven samples in hemp, flax and wool — proof the COMPOSITRA-9 is materials agnostic, placing sustainable natural fibers alongside carbon and glass.

From idea to production-ready preform. The COMPOSITRA-9 is built to prototype and refine a concept fast — iterate on fiber paths, hybrid layups and embedded heating wire at sample scale, then scale the proven program straight onto a production machine such as the TOWFORGE-4.

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