

Special Lay Machines

Pair-Head Machine Example



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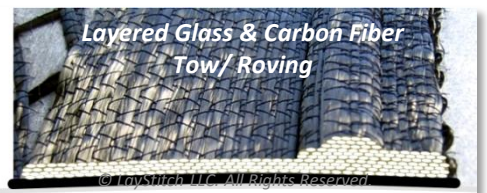
Special Lay Machines for Production and R&D

Custom Lay Machines to **StitchAttach™ Fiber Tow/Roving, Wires or Tubes** onto a wide range of different base materials. **From R&D lab machine to High Volume Production** -- there are many alternative machine sizes and features available to tailor machines for specific products and various customer needs. Manually operated machines can be used for moderate volume production, for R&D lab purposes, to make prototypes to develop and fine-tune new innovative designs. An **Automatic Frame Changer & Roll to Roll Attachment** allow automatic production of a pre-programmed number of parts without any manual operations between produced parts.

Cutting Edge Product Examples

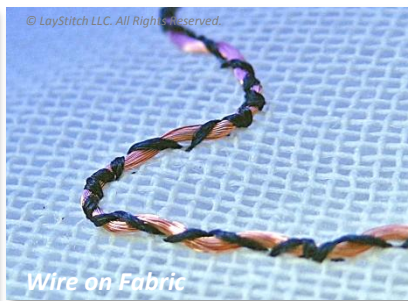
Innovative and environmental friendly solutions are made possible when materials can be laid out precisely for optimum functionality.

- **Fiber Reinforced Composites:** made **Stronger; Stiffer; Lighter; to a Lower Cost; with a minimum of waste** by using a selective and precise fiber placement.
- **Wires** can be laid out and **Stitch-Attached** for various **heating** purposes or for to **interconnect between gadgets in Smart Apparel**. Many possible applications.



Special Stitch-Code Software

Our Special Stitch Design Software makes it a breeze to define and optimize the lay pattern and all stitch parameters throughout the design, and then to convert them to machine code. Import your designs from your cad system via DXF, DWG etc. file format.



Machine Specifications Example

Machine Type:	<i>Advanced Laying Machine for Fibers; Wires; Tubes etc.</i>
Lay Head configurations:	<i>Many configurations possible. From 1 to more than 20 heads per machine.</i>
Head to Head Distance:	<i>Customer specific. (Min. 195 mm)</i>
Needles:	<i>One per lay-head</i>
Lay Material Cutter:	<i>Pneumatic cutter for the laid out material</i>
Frame Alternatives:	<i>(Holding the base material during stitching)</i>
	Standard Frame: <i>Manual changing of the base material between parts</i>
	Lay Field Area: <i>Customer specific. Up to 2.0 m X 1.75 m per lay head</i>
	Automatic Frame Changer System (AFC): <i>Automated production of pre defined no. of parts.</i>
	Lay Field Area: <i>Customer specific</i>
	<i>Roll to Roll attachments to be used in the front and rear of the machine</i>
Electric Power:	<i>200/220/380/415 Volt, 3-Phase, 50/60 Hz</i>
	Power Consumption: <i>Typ. 2 to 4 KW (depend on machine size and features)</i>
Dust Protection:	<i>Standard or extra dust protection of electronics and mechanisms</i>
Hook:	<i>Jumbo</i>
Machine Operating Environment:	<i>Climate Controlled (60-85°F, 35-75% Relative Humidity)</i>
Machine Dimensions:	<i>Depending on lay area size and number of heads. (Max size = 12m X 4.2m)</i>
Special Design Software:	<i>Software package to Adobe Illustrator (Adobe Illustrator not included)</i>
	Design Import: <i>Import from cad software in DXF, DWG etc. file formats</i>
	Software Features: <i>Easy definition and optimization of all lay and stitch parameters of design</i>
	Machine Data Transfer: <i>Over Serial Communication Interface; via USB port device etc.</i>