

- OPTIONS**
- Automatic splicer
 - Automatic miss add/miss cut
 - Ultrasonic cutting system
 - Wireless pendant
 - Automatic polyethylene disposal

TORRESFIBERLAYUP

**Automatic
Fiber Placement
Machine**

The TORRESFIBERLAYUP is a machine designed to provide the highest productivity when it comes to fabricate high contour carbon fiber aircraft components, although a 2D for high speed flat lamination, providing huge scrap material savings is also available.

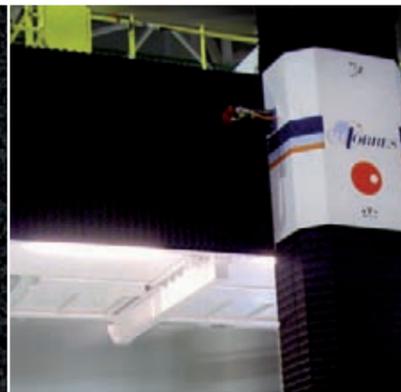
Its unique tow cutting and adding system at full speed design concept allows the machine to cut, add and lay down consistently and accurately at 60 mpm (2,500 IPM), ensuring the highest productivity fiber placement solution available in the market.

It is a modular concept system that allows the design and delivery of virtually any configuration of machine in terms of Machine Architecture (Column, Gantry, Cantilever type), with or without different loads Head Stock/Tail Stock, number of tows, as well as the tow width (1/8", 1/4", or 1/2") and machine size.

A highly advanced and sophisticated programming/simulation software package, TORFIBER, allows the programmer to generate, simulate and analyse the part program, within a CATIA environment, before the MTORRES provided postprocessor generates the CNC program.

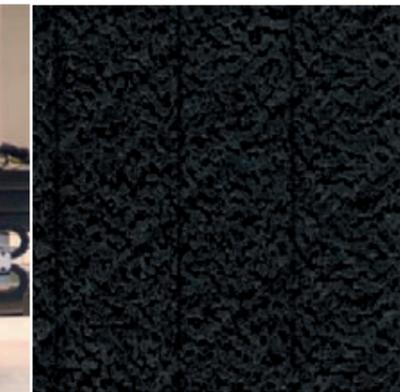
Applications include manufacturing of flat, mild curvature as well as high contour carbon fiber components.

The TORRESFIBERLAYUP has been specially designed for extremely high speed and high productivity fully automatic process to fabricate high contour carbon fiber parts.



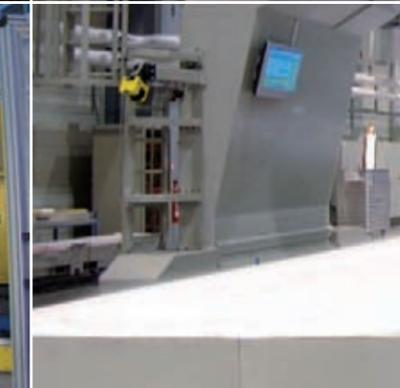
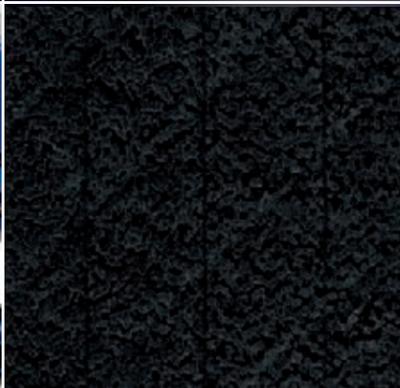
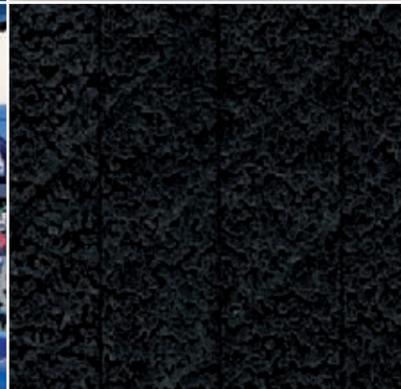
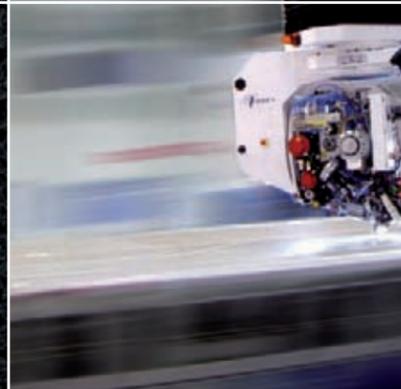
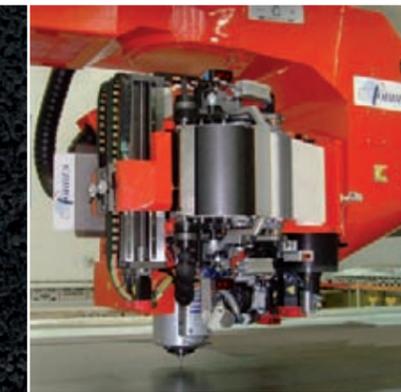
OPTIONS

- Scrap saving software (Multitape option only)
- Mould scanning system
- Laser contour marking



OPTIONS

- Ultrasonic cutting system
- Multitape
- Automatic defect detection system
- Mould deviation compensation system
- Automatic knife calibration
- Automatic knife cleaning



TORRESLAYUP

Automatic Tape Layer Machine

The TORRESLAYUP is the leading Tape Layer reference in the Industry in both 2D and 3D working modes.

Different machine architectures are available, Gantry, Column, Cantilever, robot, etc. working over a vacuum table, lay up tool or rotary mandrel.

The particular tape laying head design provides the best compacting results in the market, avoiding any debulking operation while fabricating a part.

The TORRESLAYUP standard head runs with 300 and 150 mm (12" and, 6") wide tape being optional 75 mm (3") tape.

A Multitape option, unique in the market, offers a head capable of running different reels of tapes at the same time. The same head can handle different Multitape configurations, 1x150 mm, 1x300 mm, 4x75 mm or 2x150 mm (1x6", 1x12", 4x3" or 2x6") to provide the capability to lay down several tapes simultaneously.

In this way, by running for instance 2x150 mm (2x6") tapes, the machine has a total band width of 300 mm and therefore its productivity while at the same time, it can handle curved surfaces with steering requirements that only 150 mm (6") wide tape can handle, all that keeping the scrap volume associated to the 150 mm (6") wide tape.

The TORRESLAYUP is an 11 axes Gantry CNC tape layer machine specially designed for high speed tape laying of compound contoured aircraft structural components.

Furthermore, there is one unique and remarkable option for flat components only, which lays down simultaneously 4x150 mm (4x6") tapes, providing the productivity of a 600 mm (24") wide band keeping the scrap within the 150 mmm (6") wide tape levels.

Additionally, the TORRESLAYUP is the only available tape layer in the market that has proven to lay down successfully the Cooper Mesh as well as Glass Fiber material.

Optionally, an Ultrasonic Cutting system built in the head, may cut the solid laminate after laying to formats avoiding the need of a dedicated machine for this purposes.

A highly sophisticated simulation software package, TORLAY, allows the programmer to simulate and analyse and modify every tape, ply, layer and part associated parameter properly, before a MTORRES supplied postprocessor generates the CNC program. In addition, a Part History software package is provided, to keep control of production relevant events.

TORRESLAYUP can be built in various sizes to meet customer requirements.