



3Di MANUFACTURING STEPS

3Di sail manufacturing is a series of highly controlled processes. Materials are processed using state of the art equipment and assembled into one-piece composite sails unlike any other sail product in the world.



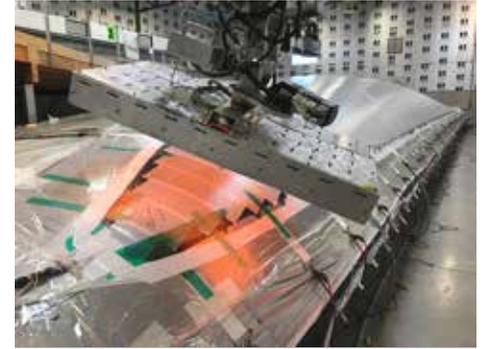
TURN FIBERS TO FILAMENT

The fibers used in 3Di sailmaking have different structural characteristics, and start as bundles of yarn we call "tows." The first step to building a 3Di sail is to separate these tows into custom spread filament. The tows are run over a series of rollers to impregnate the filaments in a resin bath to create the 3Di tape.



LAY 3Di TAPES

3Di tapes are loaded onto gantries. The gantry is then directed by a computer to follow the "structure" (tape layout) plan, as determined by the sail designer. For example, to create a "clew patch," the gantry would start from the clew and lay a tape up the leech; then it would return to the clew and lay another tape at a slightly different angle, and continue until it has created a complete section.



SET YOUR SHAPE

The uncured 3Di material is assembled onto the full-scale mold, pre-programmed to assume the sail's flying shape. Like building a carbon boat, heat and vacuum pressure are used to consolidate the filaments and adhesive. Each filament is encased in a sleeve of adhesive, ensuring both load-absorbing consistency and longevity. 3Di sails do not delaminate!



GIVE IT A REST

The laminate is allowed to cure for about five days before the sail is brought to the sail loft floor for final finishing.



FINISHING TOUCHES

Finishing on a 3Di sail is minimal. Batten pockets, reefs and patches are integral to the tape structure. All that is needed are edge tapes and corner strapping and hardware.



ENSURE CONSISTENCY

Every North sail is produced to North Sails Blue Book exclusive standards. North Sails' 159 sites depend on the Blue Book to build a consistently excellent product anywhere in the world. The Blue Book is our clients' guarantee of superior quality, durability and performance in every North sail.