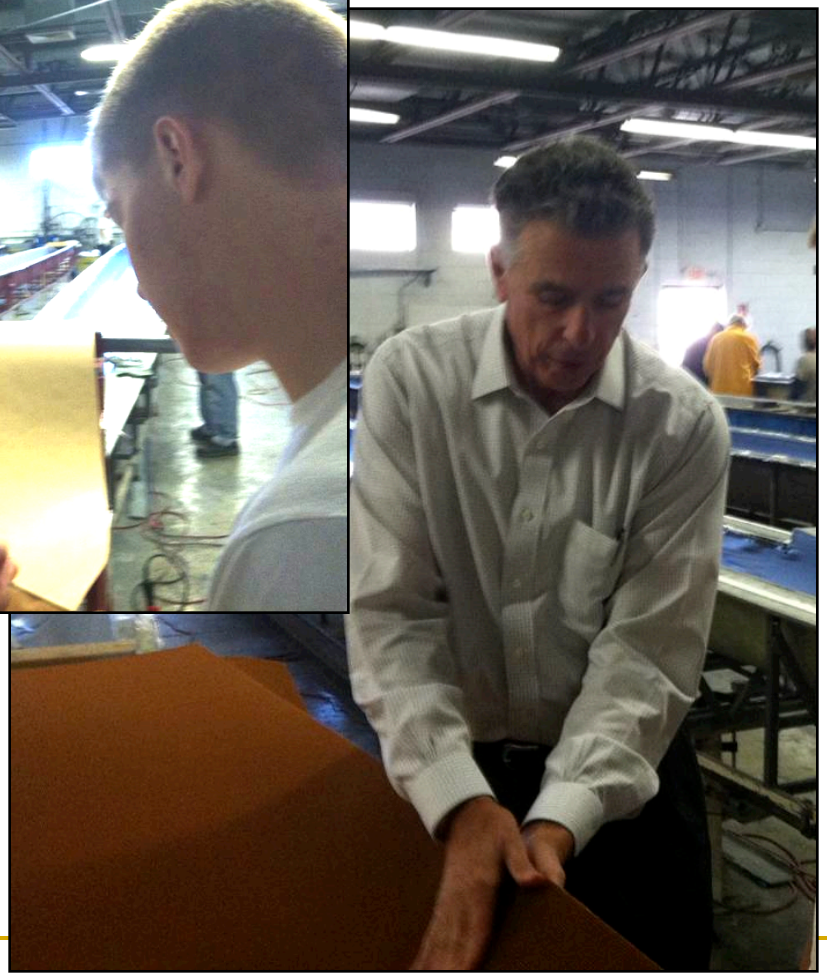
A Tour of the Vespoli Racing Shells Factory

Mike Vespoli is a former World Champion oarsman and has been building racing shells for over 30 years. Mike took time out of a busy day to give us a tour of the Vespoli factory in New Haven, Connecticut.

Materials



Vespoli produces hundreds of shells a year. They build 3 hull shapes in 4 models and in all Olympic classes.

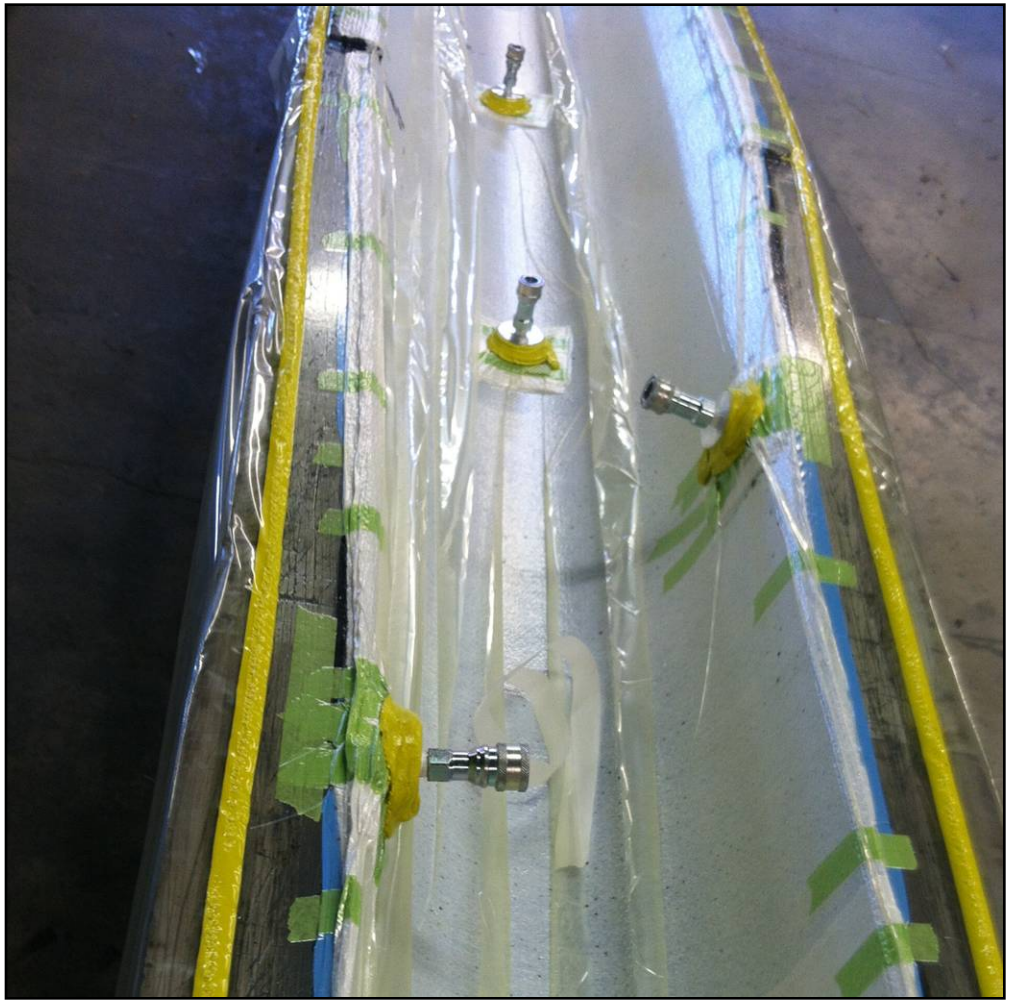
Here, Mike shows Bill the unidirectional carbon fiber and honeycomb used in all their shells.

Factory Floor

Each hull is laid up in the moulds you see here. Sheets of epoxy-enfused carbon fiber are laid in the mould with a layer of honeycomb between.

The carbon is kept refrigerated because it hardens under heat. It is vacuum bagged to conform to the shape of the mould.

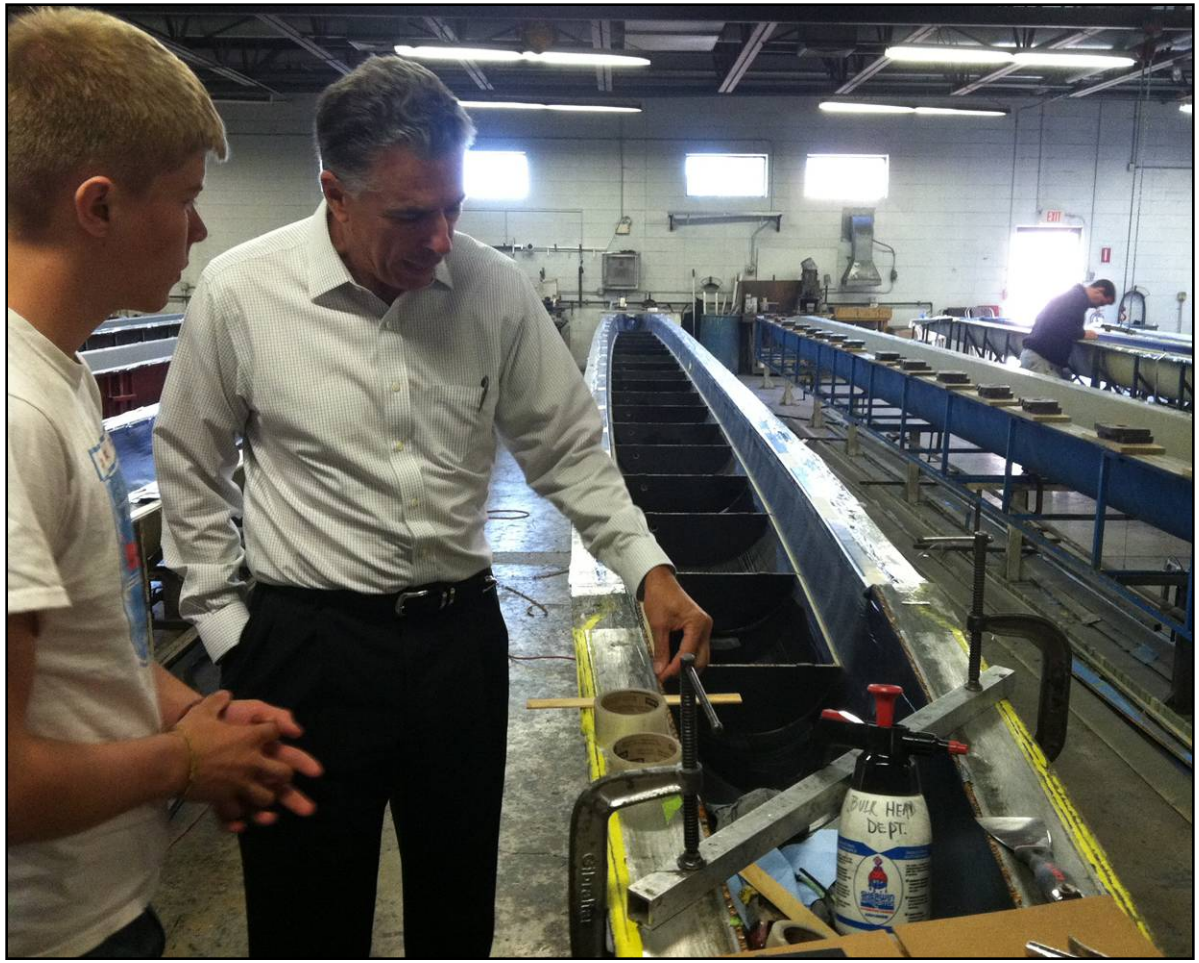
Vacuum Bagging



Here's a photo of a double that is vacuum bagged. The vacuum process causes the carbon fiber and honeycomb to bond and conform exactly to the shape of the mould, creating a very light and stiff structure.

From here, a crane lowers the oven over the mould and cooks the boat to 250 degrees to fully cure the epoxy.

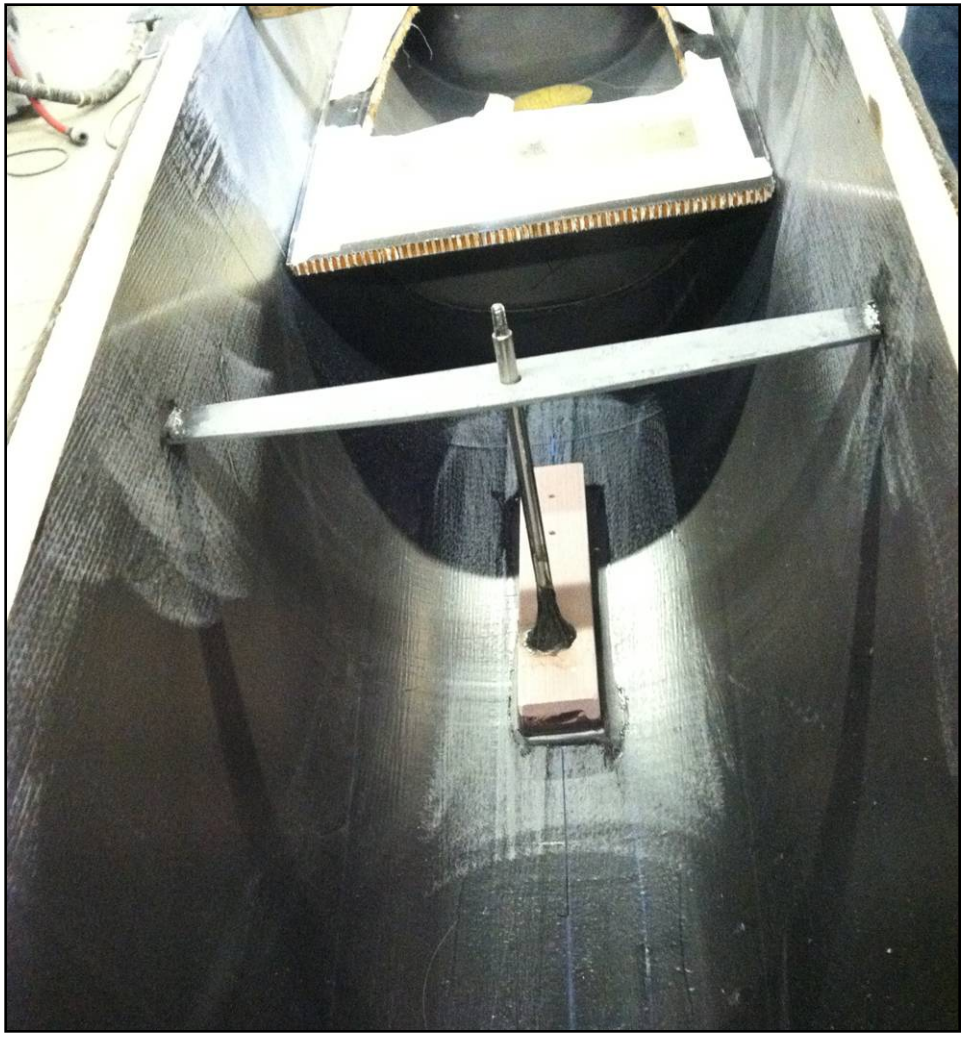
Honeycomb Sandwich



Once the boat has cooled and the oven removed, the bulkheads are bonded in and the boat has enough strength to be removed from the mould.

Mike is showing Bill the strong bond in the honeycomb/carbon sandwich.

Fin and Rugger Tube

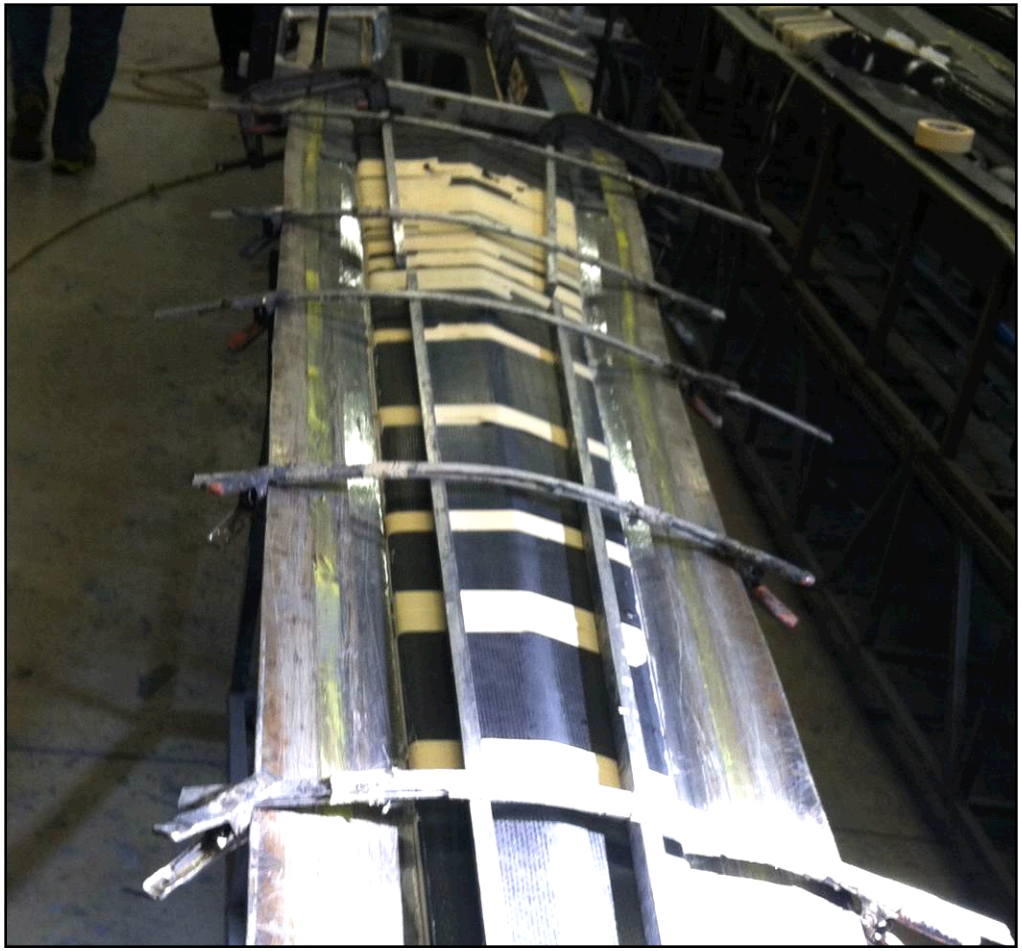


Here's a coxed four with the seat decks in and the rudder tube and fin support freshly bonded in place.

The bow and stern decks will go on next.

The bonds created by modern glues and resins are exceedingly strong. They give the boat a very long useful life.

Decks



The deck is made in its own mould and bonded onto the hull. Eights and fours have separate decks, but the doubles, pairs and singles have a one-piece deck and interior that is bonded to the length of the hull.

Here is a single with the deck held on with metal bars until the bonding is secure.

Rough Hull

The upper boat is fresh from the mould. One can see the weave of the carbon cloth used on the exterior.

The lower boat, a single, has been sanded. Next it will be painted with primer, resanded and then given its final coat of paint in the customer's choice of color. You can see the slot where the fin will be inserted.

Internal Parts

Long pieces of extruded aluminum come to the factory in bulk. Each shape is a Vespoli design.

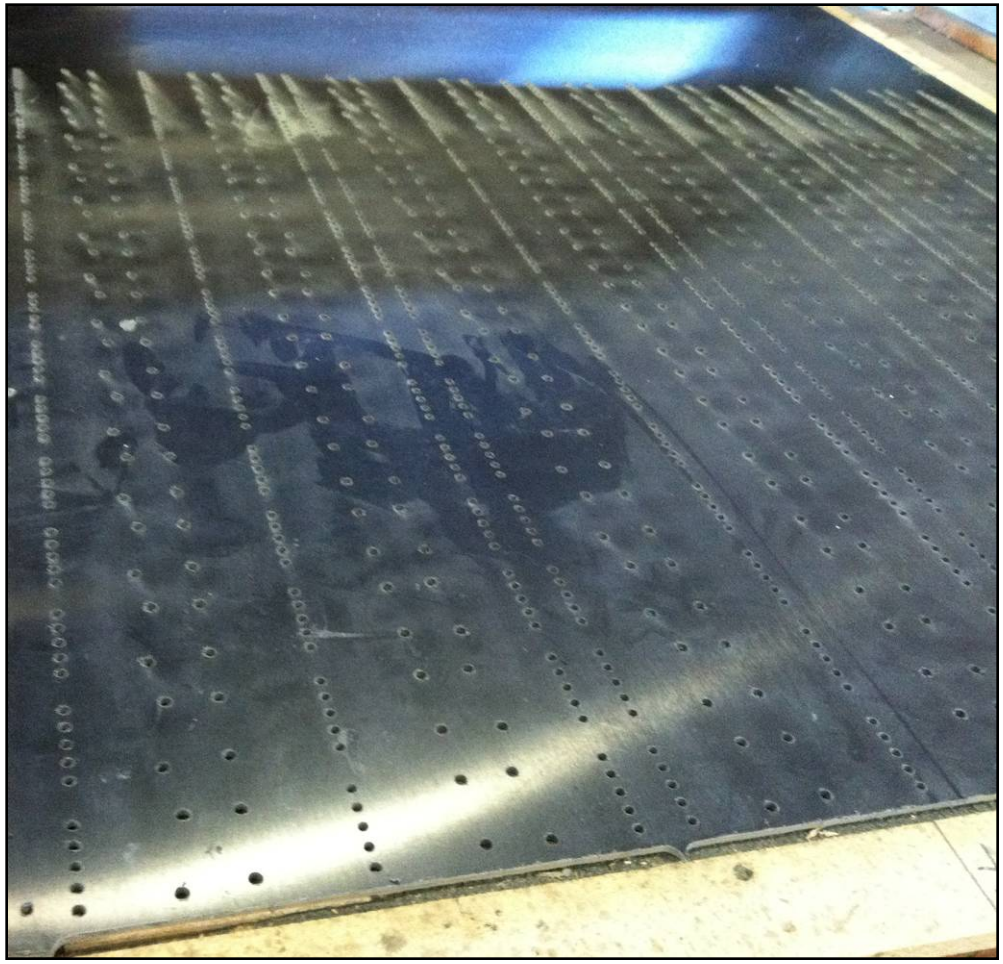
These pieces will be cut and welded together with other parts to create wing riggers.

Riggers

Riggers are manufactured in the welding shop. Here is a sculling wing rigger on the jig.

Some carbon parts are built on contract by small parts manufacturers. Vespoli designs and owns the moulds for those parts as well.

Machining



Workers using a CNC cutting machine create shoe plates for stretchers.

With their largest CNC machine, they are able to shape male plugs for new hull design moulds and make changes in other major parts, all in-house.

Final Paint Preparation

Boats which have been painted are being prepared.

The new red V1 eight has been wet sanded one last time and will be buffed to a high gloss.

The near eight has been refurbished. With modern materials and processes, boats are so rugged that they can repeatedly be returned to original condition at a fraction of the price of a new boat.

Refurbishing boats is becoming so popular that the company is expanding the factory to accommodate demand.

Final Assembly

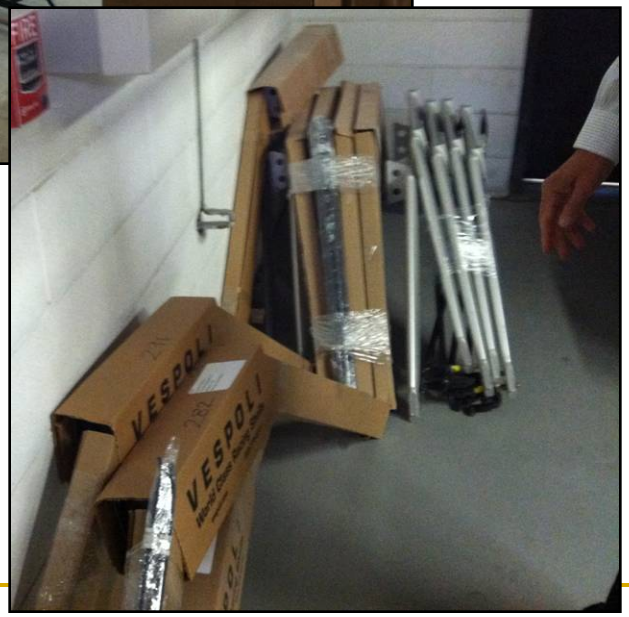
A rebuilt DM four with it's glossy paint is undergoing final assembly. Stretchers, tracks, seats and fin are being installed. All boats are rigged to be certain they meet factory tolerances.

On the rack are new and refurbished boats wrapped and ready for shipment.

Final Assembly

Here parts are being installed into the same four’ s refurbished hull.

Shipment



Each rigger is bolted to the shell to ensure a perfect fit and coded to its boat for shipment.

Riggers are boxed and labeled in preparation for delivery