The Perfect Material

By ALEX MONSON. As friend, admirer, and pinch-hit varnisher of Thomas Wylie Design Group, I witnessed the new fascinating evolution of an unusual boat-building company. The group has worked together formally for only two years, but has already managed to create winning racing sailboats. Wylie boats have twice won the North American half-ton championship and shown well in the 1975 and 1976 World half-ton championship. They originated a class racing group in the San Francisco Bay area which rapidly grows in numbers. I mention this not to extoll accomplishments, but to emphasize that people whose primary interest is building fast, durable, racing sailboats now consider wood to be a perfect material.

One generally assumes wood to be inconsistent with modern, light displacement racing design. Indeed, the traditional wood planking method, to be strong enough for ocean racing, would be far too heavy to compete. But the cold-molded method of construction blends the traditional, beautiful wood with the newer criteria. In June, Wylie Design Group completed construction of a pair of match racers. Their dream, the establishment of a new Gemini class, in wood.

As race boats, the Gemini twins express perfectly the attitudes of the sailors who use them and the craftsmen who build them.

The common concern of ocean racers is the amount of capital required to keep one's boat contemporary. I constantly hear criticism of the International Ocean Racing Rule for its continual readjustments. But in all fairness, any committee trying to handicap so many new and different yachts, has no choice.

Left: Don Russell fitting the deck beams. Below: For a limited production of cold-molded boats, the price is comparable or less than the price of fiberglass hulls. In the job the stations are of plywood, and the stringers are 3/4" square spruce. Right: After the hull is faired, Mark Levin applies the filled epoxy resin. (photos by Michael Monahan)
but to periodically adjust the rule as best it can. Unfortunately then, to remain current, the competitive yachtman must in turn adjust his boat for 'this' season’s ruling. And the boats too often become economic competitors. The concept of match-racers built outside any particular handicap rules allows for simple, clean, fast boats gauging the caliber of the sailor rather than the number of gadgets the boat may have. The Gemini yachts simplify and equalize high-performance racing boats. The group wanted responsive, fast boats at a low cost. For this reason the racing sails are limited to jib, mainsail, and spinnaker, thus reducing the cost of sail inventory. But this in no way a dull sailplan. These 31' boats carry 50' masts and 497 sq. ft. of sail area. As related to typical I.O.R. oriented design, they are narrow and stiff. So much so, that in the heavier air of summer on San Francisco Bay, the boats are best sailed with two people on trapezes! Imagine the trapeze ride from the Golden Gate to Berkeley on a large, fast racer!

Wylie Design has a three-fold interest in the boats. The aesthetic appeal of working with wood as opposed to fiberglass must be obvious to all but the most ardent plastics devotee. In terms of health, the material is much safer than fiberglass. And surprisingly enough to some, the expense of building a limited production cold-molded hull is equal to, if not less than fiberglass construction. While the labor is slightly higher, the inflation of petroleum products in the last few years makes the cost of materials surprisingly comparable.

Probably the most significant reason the group is so interested in these boats has been the challenge to craftsmanship. As anyone who has tried may testify, building boats requires creative and energetic abilities, patience and the ability to work with others cooperatively in finishing a large project. So, many talents are needed in various stages of boatbuilding. Although the group had previously worked with fiberglass hulls and parts quite well, the two 31 footers proposed a different and exciting task. For some of the people, this was the first time they had worked with custom, let alone wooden boat construction. For thought, and perfectionism easily overcame any lack of experience in the medium. The challenge to craftsmanship involved everyone in a most satisfying way — including the participating owners.

The hulls of the boats consist of five layers of one-eighth inch western red cedar laminated with Gougeon Brothers’ W.E.S.T. System epoxy. The frames are laminated cedar. The keel is mahogany. The beams and stringers of the boat are Alaskan spruce laminated to varying widths. The decking is western cedar and Gaboon plywood. The chain plates, engine box and other small knees are Bruynzeel Utilie plywood. Why these particular woods? According to all of the (rather opinionated) wood workers at Wylie Design, they are the highest grade available for their particular task. The Bruynzeel Utilie and Gaboon plywood are undoubtedly the highest quality marine plywood available. Utilie plywood is both stiff and strong for its weight, and both woods have beautiful coloring and grain patterns. The western red cedar used in the hull is exceedingly stiff for its weight, and is advantageous for laminating hulls in that it accepts glue well, facilitating the laminations involved in the beams and stringers.

Wylie Design, unlike some of the other cold-molded builders in the country, has sheathed the hulls with one layer of four ounce glass cloth. Within the circles of cold-molding there is varied opinion concerning whether or not it is necessary to protect the wood of a cold-molded vessel. Certainly, the glue permeates the wood to such a degree that the hull itself is more than strong enough. However, the group feels the glass cloth, when applied with epoxy, then finished with clear polyurethane protects the finish which strengthens the hull "one-more-time," and guarantees that the boats will have no rot problem. Who knows if this is actually necessary? Yet, safeguards cannot hurt when they do not even remotely diminish the beauty of the wooden finish. And at this point, the added weight of cloth and resin is a negligible factor.

The Twins are currently cruising, racing, and even fishing for tuna. Unlike the typical racing boats designed to the Rules, they display a beauty and grace under sail. Moreover, there is much to learn in the handling of these new and different craft.

No wonder then, that those who brought the dream into being can be found in joyful reverie as they foot majestically across the Bay together.
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