

## IMPROVING THE EFFICIENCY OF STRIP-PLANKED CONSTRUCTION

NEW "SPEED STRIP" SYSTEM CUTS TIME AND LABOR—BY A LOT

BY PAUL LAZARUS, EDITOR

Because my own boat is strip-planked (it's a baby lobster-boat, locally built in the early '60s), and because this particular planking method is indigenous to the area where I live (it originated in the 19th century in the Casco Bay region of the Maine coast), I've taken a special interest in strip-planking.

Long considered low-tech by practitioners of the comparatively complex carvel and lapstrake construction techniques, strip-planking actually made a more successful transition into modern professional boatbuilding than did the other two traditional planking methods. Today, three standard applications of strip-planking are seen in composite construction: as a plug for tooling the mold of a highly shaped FRP hull or superstructure; as underlayment for a cold-molded hull; or as the structural core of a sandwich with inner and outer skins of fiber reinforcement set in epoxy.

Although strip-planking has been around for more than a century, it has undergone very little technical evolution—until, that is, the introduction of a system recently developed in England and trademarked "Speed Strip," which I'll describe in a moment. But first, to better appreciate the planking improvements brought about by Speed Strip, let's briefly review the few previous iterations of strip-planking technology.

The simplest and oldest version calls for strips having a nearly square cross-section, edge-fastened along their length at closely spaced intervals. Strips of this sort—which were often laid up dry, with no caulking or adhesive—must be individually beveled to minimize the gaps that form when planking-up areas of the hull with pronounced curvature.

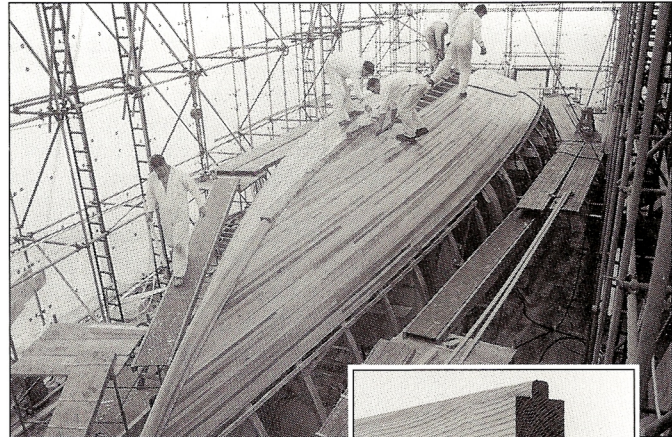
The advent of waterproof glues led to a bead-and-cove system machined into the lengthwise edge of each strip. This cross-section effectively eliminates the beveling process, and enhances the glueability of the strips. (The coved edge, positioned up during construction, serves as a glue trough for the beaded edge of the succeeding strip.)

Speed Strip represents a significant step beyond the bead-and-cove planking concept. Each strip is now tongue-and-groove in cross-section. The advantages offered by this system include: a "snap-fit," which reduces the number of fastenings; a reduced number of mold stations and frames; reduced glue squeeze-out; and improved overall fairness, both inside and out. The net result, claimed by the manufacturer, is a time savings in fairing and cleanup of up to 70% over earlier methods.

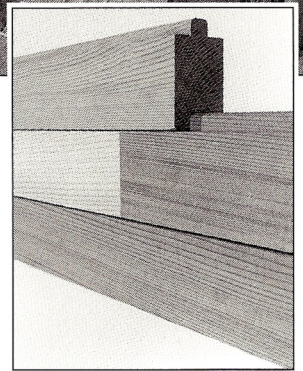
Unlike the numerous possible edge profiles of bead-and-cove planking—some of which may be shop-made by the builder—the milling of a Speed Strip plank is precise. And strictly licensed. The only source in the United States permitted to provide Speed Strip is Maritime Wood Products Corp. As the name suggests, the Stuart, Florida, operation supplies a variety of wood products to the marine trades; these are mentioned at the end of the article.

### Controlling the Technology

Speed Strip was developed over a 10-year period by Joseph Thompson & Co., Ltd., a Sunderland-based sawmill and timber importer founded in 1845. In addition to a full range of



*A crew at Southampton (England) Yacht Services applies Speed Strips to a sailboat hull prior to cold-molding. The system of specially milled tongue-and-groove strip planks for wood-epoxy construction was developed in the U.K. during the past decade and is now available on this side of the Atlantic.*



wood products for the marine industry, the Thompson company offered bead-and-cove planking prior to introducing the Speed Strip.

David Kayll, one of Thompson's directors who guided its development of Speed Strip, worked closely with yacht builders Tony Farrow and John Chambers; their Humberside shop served as the informal R&D facility for Speed Strip. Farrow and Chambers report a 25% reduction in planking time, thanks to the new system. The strips, they say, snap together nicely without a tendency to override each other when twisted. The two partners also report less undulation in curved areas between frames or mold stations that are spaced far apart, and very little opening between planks on the outer face of the curve. Indeed, Farrow and Chambers believe the efficiencies of the Speed Strip system hold promise as a material for production boatbuilding, rather than just one-off projects.

I had the opportunity to study firsthand a small, Speed Strip-built boat on display at METS (Marine Equipment Trade Show) in Amsterdam in the autumn of 1995, along with samples of sections cut from larger hulls. The results were impressive: tight, inside joints, and, as claimed, minimal gaps on the outside curve. The secret of this fine fit is in the precision machining (to a tolerance of .015 mm) of the tongue and groove, which Thompson's Kayll had arrived at through much trial and error—and considerable expense. One edge profile is a round joint with two square shoulders, exactly centered in the strip, enabling the strip to rotate as required while remaining interlocked with adjacent planks.

At the time of METS '95, Kayll was leery about exporting the Speed Strip system to the United States. He was concerned that someone in the States might try to "knock off" the technology, even though, as Kayll well knew, the machining cannot be readily or cheaply duplicated.

Fortunately for builders on this side of the pond, Kayll has since arranged with Maritime Wood Products—a sort of domestic counterpart to the Joseph Thompson firm—to provide Speed Strip planking throughout North America. Maritime can manufacture planking from any boatbuilding wood, though most Speed Strip construction to date has relied on Western red cedar and Spanish cedar. Standard strip sizes range from 6 x 19 mm up to 44 x 70 mm. (For those interested in making the metric conversions, 1" = 25.4 mm; 1 mm = 0.03937".)

Meanwhile, Speed Strip has been embraced by a number of yacht designers and builders in the U.K. and Europe, where the system has been successfully employed to build monohulls and multihulls up to 120' in length. As of this writing, a 200-footer is under construction. According to Kayll, with

Speed Strip, two experienced workers can plank up a 40' hull in just four days.

The system lends itself not only to tooling and one-offs, but also to prototyping—that is, building a "running plug" with which to confirm predicted performance and conduct sea trials, and which itself can be sold as a completed boat after molds have been made for FRP production. (A strip-planked hull shell, by the way, is remarkably stiff, with or without FRP skins. It needs only a minimum of interior structural support.)

In addition to Speed Strip, Maritime's products and services include lightweight veneered composite panels, teak decking materials, blond teak, marine plywoods, cabin sole flooring, moldings, doors and joinery components, specialty compounds and chemicals, and custom fabrication of cabin and deck furniture. For more information, contact Maritime Wood Products Corp., 3361 S.E. Slater St., Stuart, FL 34997, tel. 800-274-8325 or 772-287-0463, fax 772-287-5031.