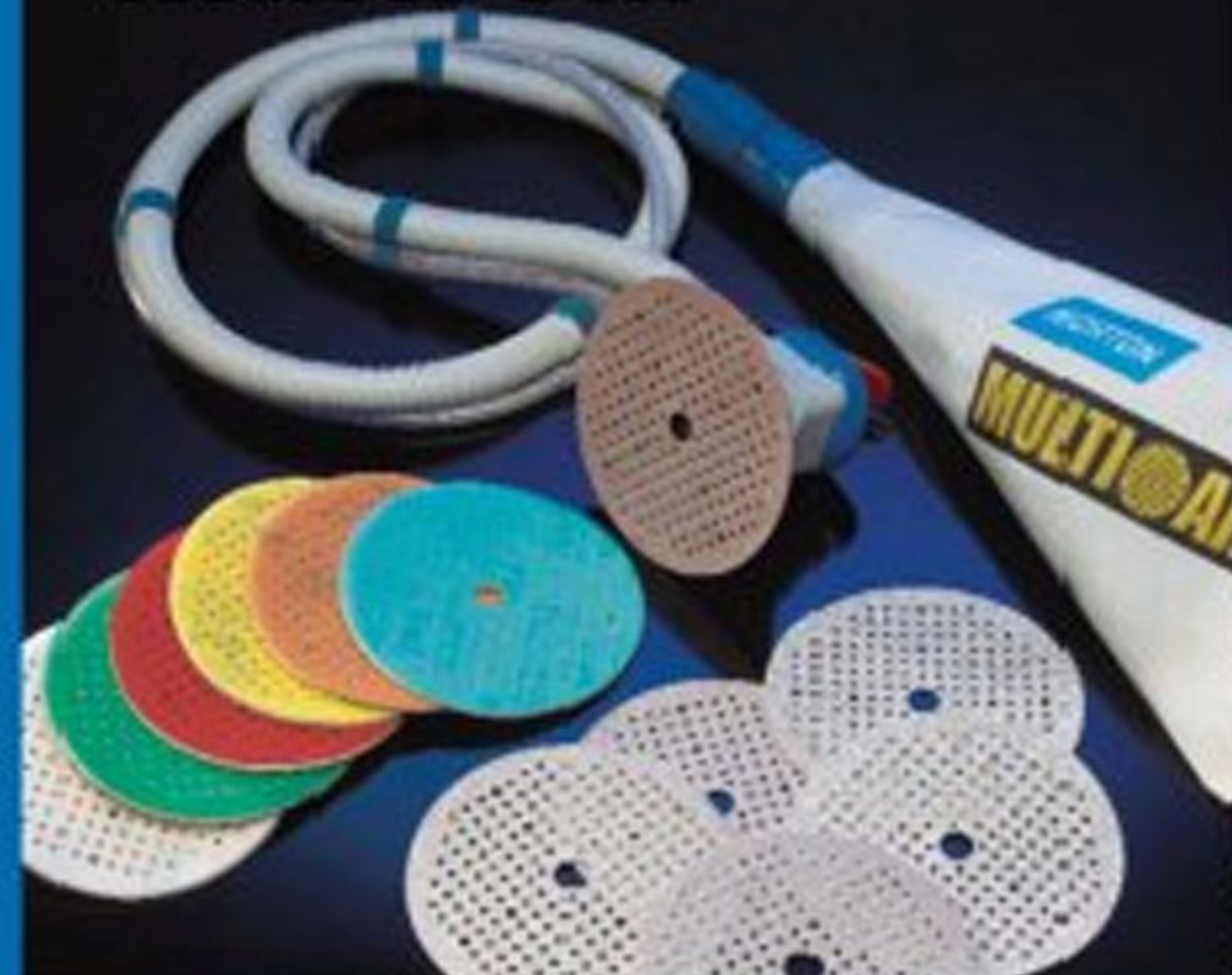


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SAINT-GOBAIN  
ABRASIVES

from hypothermia, not drowning. Eliasson described the design and construction requirements, and how these were met with composite sandwich construction, which he detailed for the audience.

Gordon Lacy, with a master's degree in applied science, helped found the Vacuum Infusion Group, and in his current position with the National Research Council of Canada he consults on projects around the world. Lacy says that when builders move from infusing simple flat panels to complex shapes, the potential for mistakes becomes great and expensive. His suggested solution is computer flow modeling. By way of example, Lacy showed photos of a 21' (6.5m) tall, 6,450-sq-ft (600m<sup>2</sup>) part that was infused in New Zealand. His conclusion: "...either buy a copy of a good flow modeler—and spend the time to learn the program; or hire one of the capable people out there today to do the modeling for you."

Giuseppe Coccia, PhD, manager of the composites department at Fiat Mare (Baia Napoli, Italy), a builder of sport boats from 17' to 50' (5.2m to 15.2m), told how his company made the switch from hand layup to infusion. The technical team in charge addressed such matters as: gelcoats and print-through; the type of medium to best transfer resin through the laminate; and pre-cut foam-core kits. After infusing 15 units of the Fiat 38, labor costs were reduced by 35%, and production labor per unit went from 158 hours to 100 hours.

Lastly, Jorge Nasseh—whose many degrees include a master's in ocean engineering and a PhD in civil engineering, plus marketing administration studies at Harvard Business School—created a clever cartoon to illustrate how enlightened staff might argue to overcome management's misgivings about cored construction. To support those members of any company who have seen the way, Nasseh showed numerous tables highlighting the superior mechanical properties of sandwich construction over single skin.

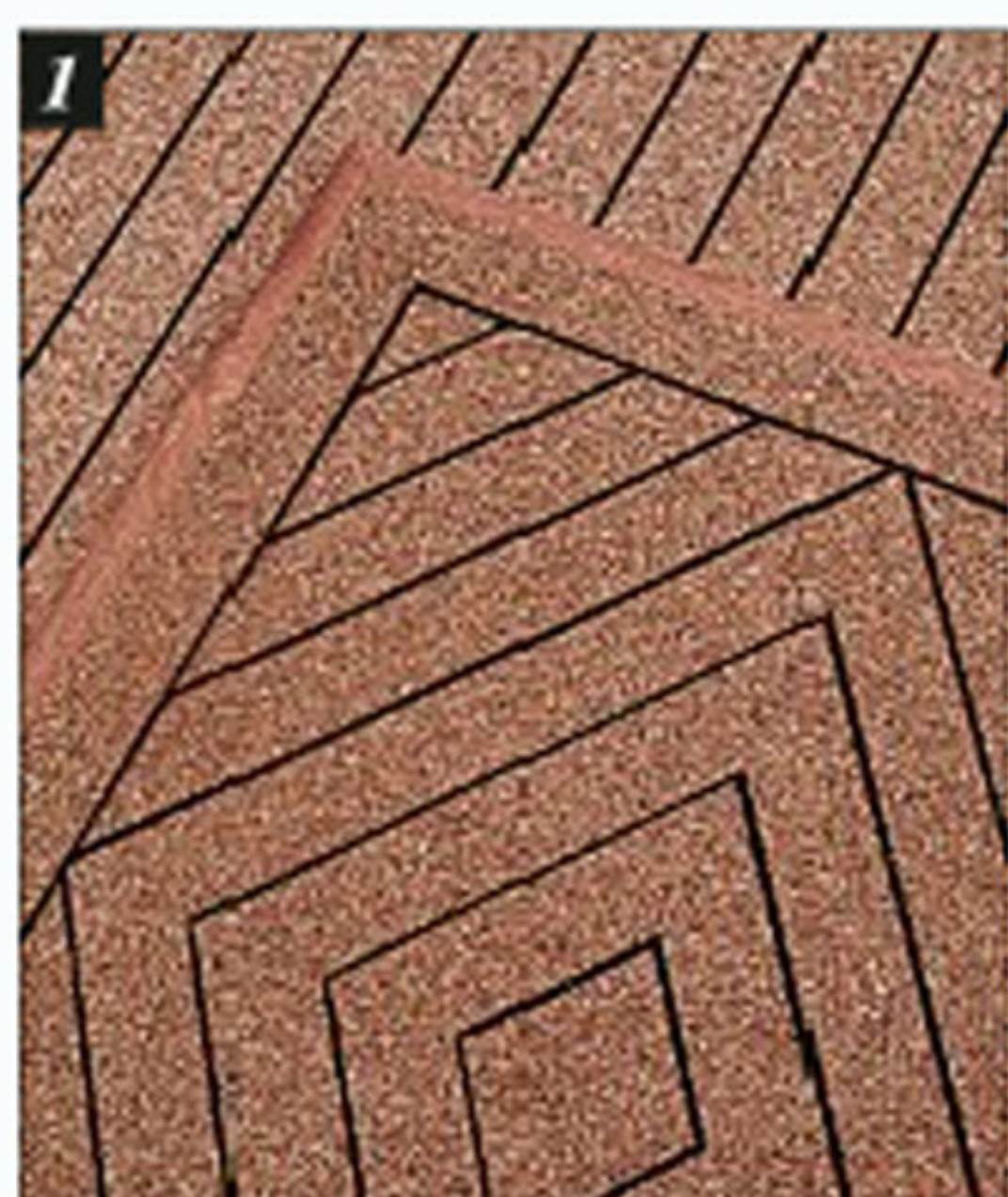
We'll publish articles based on several of these papers in future issues of *Professional BoatBuilder*.

## A Teak-Decking Alternative

Boat owners' love of teak details in general and decks in particular has contributed to the wholesale plundering of many tropical forests. Several alternatives are now available, including simulated teak planking (plastic), and a product called Seacork, made from real cork, which is a renewable, natural material known for millennia for its lightness, flexibility, and durability.

*Quercus suber*, or cork oak, appeared more than 60 million years ago along western Mediterranean coasts (Portugal today is the main cork-producing country). For thousands of years, humans have been harvesting the bark of this very long-lived tree. Cork bark is made up of tiny polyhedral microcells; the intercellular spaces are full of air. This natural foam structure gives the material desirable qualities for the marine environment, namely: light weight, resistance to wear and heat, insulation, water resistance, and elasticity. Every nine years in the life of a single tree, between July and September, boards of bark





**1**—The product known as Seacork, made from naturally occurring material, is easy to work; fancy, decorative patterns can be done in a snap. **2**—Seacork is available as plain or grooved panels, or in separate strips. **3**—A miter saw ensures precise angled cuts. **4**—Bedding adhesive is dyed to match the color of natural cork. **5**—An air-powered caulking gun prevents hand injuries caused by the continuous use of a mechanical gun. **6**—Strips and panels 8mm thick ( $\frac{5}{16}$ " ) are readily cut with basic hand tools: a knife and straightedge.



JEAN-YVES POIRIER (ALL)

are carefully collected from oak trunks that are more than 25 years old.

Seacork is manufactured in the south of France, from very tiny cork chips that are first heated and then high-pressure treated with a special binding agent to improve wear and weathering resistance. The product is sold in two forms: grooved or plain panels 1m or 2m long and 0.5m wide (3.3' or 6.6' x 1.6'); and separate strips 2m long, 47mm (1.8") wide. Material thickness is the same in all cases—8mm ( $\frac{5}{16}$ " ). Should you require strips but have

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- **Awlbrite Quik-Fil Clear** - A fast drying wood sealer used to prime wood and fill the grain, must be over-coated with an Awlbrite or Awlspar product.
- **Awlbrite Amber Sealer** - A tinted product applied direct to bare wood to obtain a rich, uniform color before application of Awlbrite Clear or Awlbrite Semi-Gloss.

### Select a finish from the following:

- **Awlspar Classic Spar Varnish** - A phenolic tung oil based product with state of the art UV inhibitors and absorbers, allows multiple coats per day.
- **Awlspar HS Marine Varnish** - A high solids phenolic tung oil based product with high film build characteristics including technologically advanced UV inhibitors and absorbers, flexibility of either brush or spray application.
- **Awlbrite Clear Gloss** - An acrylic urethane finish that provides a high gloss, long lasting finish.
- **Awlbrite Semi-Gloss** - An acrylic urethane finish that provides a low sheen, long lasting finish.



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panels only, a strip can be readily cut from the latter with a knife. The choice between strips and panels is mainly a matter of the aesthetics of the deck layout. Since trapezoidal or triangular shapes will generate some material losses (generally 10%-20%), take those into account before ordering. Additional strips will be necessary to finish edges of the framework; also, allow extra length for miter cuts. As a rule, 11 separate strips, or two grooved panels, will cover roughly 1m<sup>2</sup> (1.76 sq ft).

Working with cork is easy, requiring only a knife and measuring tape. If you plan to fit a kingplank or install a fancy layout, then a miter saw—manual or electrical—is a plus. Seacork is a glued product; that means surface preparation is important to get reliable results. If working on a wooden subdeck, you must strip varnish or paint. Bare wood must be sanded and cleaned, with irregularities carefully filled and faired. Epoxy coatings are useful here. Aluminum and steel decks are prepared in like manner. As for FRP, a polyester gelcoat may need grinding to provide a mechanical connection with the glue. Remove dust and grease smudges thoroughly with a vacuum cleaner and solvents. Laying out a cork deck is no different from laying out a conventional teak deck, except that Seacork strips are extremely light and easily bent by hand, which makes a huge difference in time and fitting.

Trace, cut, and number parts beforehand, then glue them one after another. Spread polyurethane adhesive with a toothed trowel or putty knife (don't forget gloves; it is sticky stuff). Seacork's adhesive is a light brown color, dyed to almost exactly match the natural color of cork. Covering capacity is around 700 ml per m<sup>2</sup> (2.1 oz/sq ft). Applying hand pressure is usually sufficient, but weights or adhesive tape help keep parts in place. Cure time depends on temperature and moisture conditions, but it is usually too short to fit more than a few strips at once.

Clean excess adhesive as necessary, and wait 12 to 24 hours for a complete cure before caulking. Strips come with a rabbet machined along one edge (panels have a simple groove) that can be filled with a caulking compound such as Sikaflex-290. As usual, good preparation is a must. In order to make final cleaning easier, mask thoroughly and vacuum-clean all seams. Given typical seam lengths, an air-powered caulking gun is preferred over mechanical systems that can be painful to operate for long periods—besides leaving an irregular bead due to air-bubble entrapment.

Caulking compound consumption is around 600 to 900 ml per m<sup>2</sup> (1.9 to 2.8 oz/sq ft). Once finished, wait 24 to 36 hours before masking-tape removal. Though not difficult, final sanding is a little tricky because of the low density and softness of Seacork. With an orbital sander and 80- to 120-grit paper, move over the surface in a continuous and regular motion. Never stay in the same place, or hollows and bumps will quickly form.

Left as is, Seacork will fade to a silvery gray appearance, close to that of natural teak. This fading has no effect on product life span or water resistance. For a permanent, rich color, you can spread a colorless or oak-tinted oil, renewing it with a brush or roller every one or two years. Periodic seawater cleaning and light brushing are sufficient



maintenance. After a few seasons, a light sanding with a fine-grit paper (180–220) will bring back Seacork to like-new condition.

Price is from 101 to 143 euros per m<sup>2</sup> (exclusive of glue and caulking compound).

Distributed by RD Projects, 7 Place Jules Lisnard, 06220 Vallauris, France, tel. + 33 6 14 40 78 41, on the Web at [www.seacork.com](http://www.seacork.com).

—Jean-Yves Poirier

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Internet-based businesses are rapidly changing the way we work, live, and play. Take this magazine's own distance-learning training program (called "ProBoat E-Training") as an example: no longer do you have to commute to a college campus and sit in a classroom to acquire new skills. Same for job openings (see [www.proboat.com](http://www.proboat.com)). Used boats are sold nationwide and worldwide on any number of Web sites ([www.yachtworld.com](http://www.yachtworld.com), [www.boattraderonline.com](http://www.boattraderonline.com), [www.usedboats.com](http://www.usedboats.com), etc.). So it was just a matter of time before someone would figure out a way to make money selling salvaged boats, especially in light of the increase in shoreside damage from hurricanes along the Gulf and East Coasts.

Salvage Direct was founded by Bob Joyce in the late 1990s. After pilot testing and start-up funding, he brought in Al Tate as vice-president of sales and customer development, in 2000. That's when the business really got rolling. Here's how it works.

First, of course, you need wrecked boats. No problem. Last year alone, named hurricanes Katrina and Wilma provided hundreds. Then the insurance companies came in, and, with the aid of intrepid surveyors, declared many of the claims to be total losses. The boats are lying there in heaps. Someone has to remove them, either to a landfill or to a new owner. Enter Salvage Direct, which leases or has arrangements with nearly a hundred yards around the country to store not only damaged boats, but also automobiles, RVs, ATVs, and even raw materials such as steel. Hurricanes aren't selective in what they touch. During the 2004–2005 hurricane season, Salvage Direct managed the recovery and sale or disposal of 3,400 boats.

Sales are handled via online auctions, not unlike eBay. You can see it all at [www.salvagedirect.com](http://www.salvagedirect.com). For most of the 57 boats listed as of this writing, there are extensive photos, descriptions of the damage, notes on the title status and availability of insurance and surveyor reports, and additional information on what repairwork, if any, has been performed. Changing engine fluids is common. Some boats have minor damage. Some have enough to make you cry.

There's usually a short period of free storage, like 10 days, after which you pay a modest fee, say \$25 a day, until you have the boat removed. Other services are available. Salvage Direct's Gulfport, Mississippi, yard has a crane for loading boats onto trailers: \$200 per hour, one-hour minimum.

Naturally, there is a fee. Tate: "Salvage Direct charges a commission to the buyer on top of the high bid; and a service/management fee to the insurer for logistics, marketing, and transaction/data warehousing. Although the auction site is open to the public for viewing, you must have a dealer license to actually bid and purchase from Salvage Direct."

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