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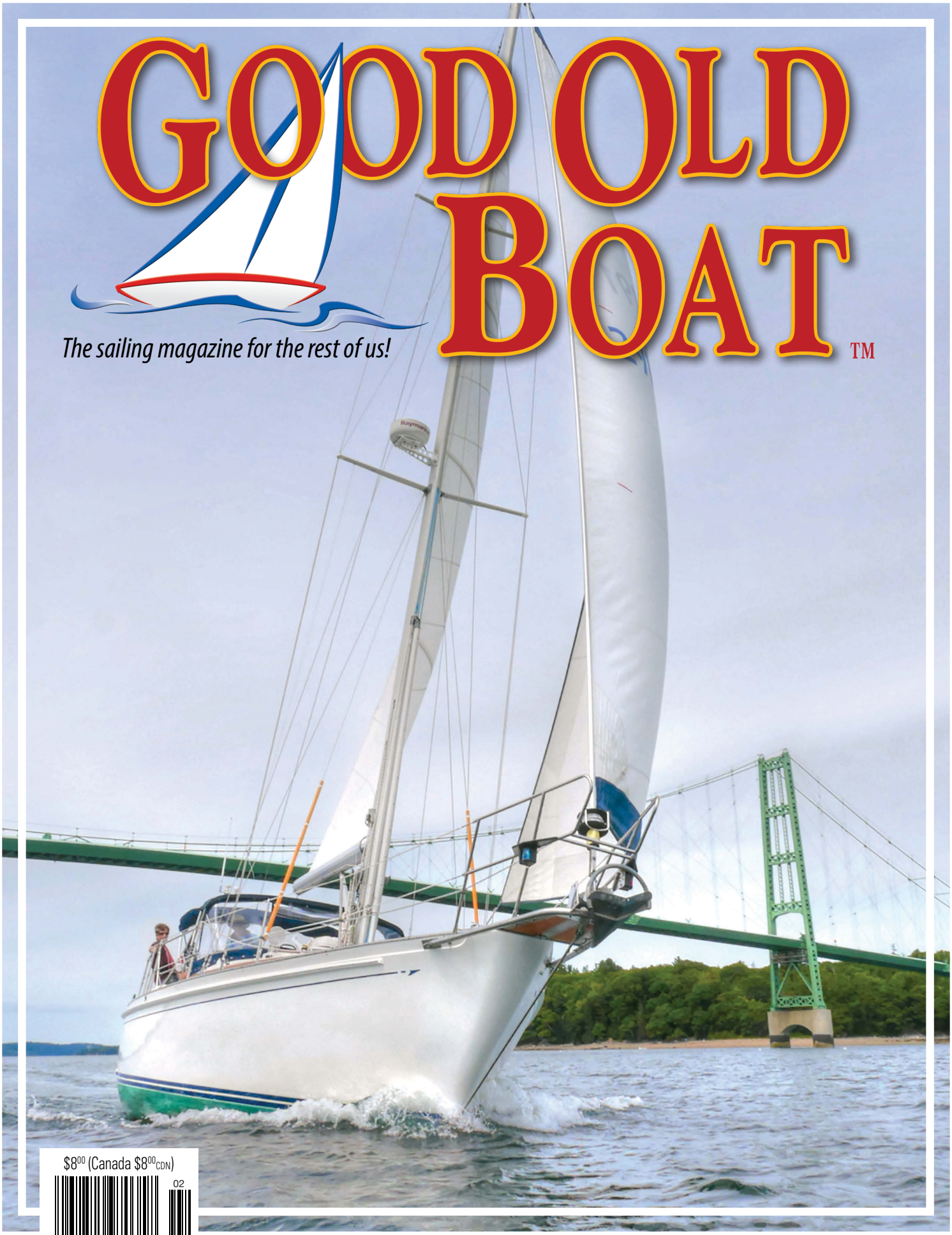
The sailing magazine for the rest of us!



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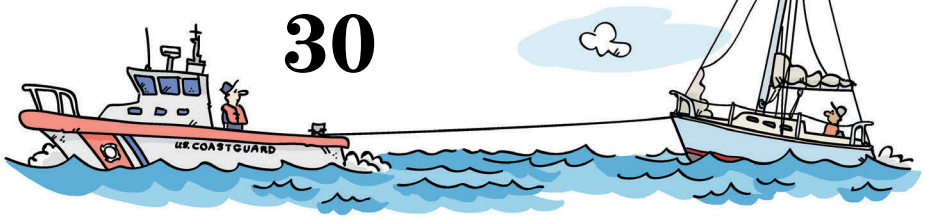
For the love of sailboats

On the cover . . .

Louis Benjamin Del Guercio, a film and TV director based in Los Angeles, took this photo of his parents, Carolyn and Gino Del Guercio, sailing *Andiamo*, their 1989 Brewer 44, on Eggemoggin reach in Penobscot Bay, Maine. The Deer Isle Bridge is in the background. (Louis used a Panasonic Lumix DMC-GH3.)

Speaking seriously



What's more

New and cool underfoot

BY TERRY KOTAS

Tired, sole-scorching teak decking gets the heave-ho

"You're delirious — come out of the sun right now!" my wife, Heidi, called to me from the shade of the cockpit. For the record, it was hot, about 90 degrees, but I think she was more concerned about the subject I was broaching. It wasn't the first time she had heard my mutterings concerning this particular cause. To her credit, she'd thus far managed to deflect any serious discussion of my obsession, but now the time seemed right — maybe I could wear down her resolve.

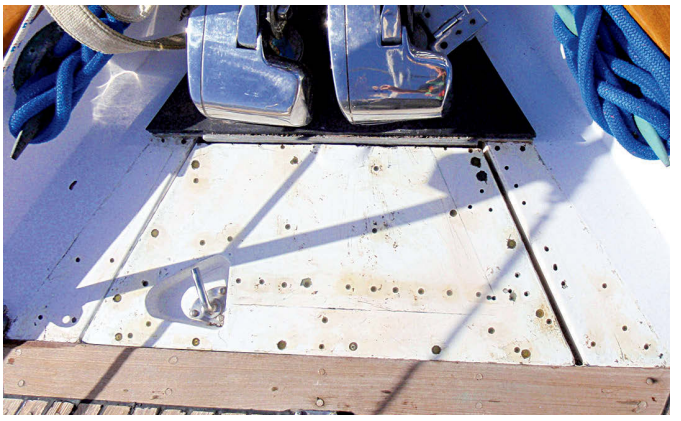
"Stripping the teak off of the deck really won't be that hard to do," I said casually. (I should point out that after owning *Cetus*, our Fantasia 35, for 20-some years, Heidi has seen more than her share of projects I had undertaken go from "not that hard" to turning me into a near lunatic when things went sideways.)

Cetus and crew had recently returned from the high humidity of the South Pacific to the relative dryness of Mexico's Sea of Cortez. Before long, the teak decks started to show signs of shrinking and cracking, and the caulking was pulling away from the individual planks. I was at a crossroads: do we continue to put the time into repairing the old teak decks or do we take them off entirely?

To repair the deck, I would need to recaulk all the seams. This would be the third time tackling this task in the time we'd owned *Cetus*. After the first time, I swore I'd never do it again. A couple of planks now needed to be replaced as well. But no matter the amount of time I spent repairing or recaulking, I feared *Cetus* would continue to have the small annoying leaks I was certain came from the teak deck.

On the other hand, over the same period of time I had replaced nearly all of the 1,200 screws that held the deck in place, and their bungs. Each time I'd replaced a screw, I'd done so with a longer screw, to get a better bite into the 1-inch plywood deck core, and injected epoxy into the screw hole. I was now worried that, if we did take off the teak, I might find bigger problems than I could deal with at anchor

Teak decks are handsome and have great non-skid properties, top left, but it was time on *Cetus* to remove the teak and paint the underlying fiberglass, top right.



The anchor locker hatch offered an opportunity to test the feasibility of removing the teak decking, above left. The fiberglass deck under the teak was sound enough to stand alone, above right. Terry's first step in the main project was to cut around the screws, below.

in the Sea of Cortez. The big unknown was whether the teak added structural integrity to the deck or whether it was just an overlay on an already sturdy deck. In other words, without the teak, would the deck be strong enough to resist oil-canning? And there was also the question of the integrity of the plywood core.

A test panel

While pondering the pros and cons of removing the teak, I realized I could experiment with a small section to see what I was up against. The anchor locker hatch seemed the perfect place to do that. Not only is it small, just 1 foot by 2, it is separate from the rest of the deck. If I found hidden surprises lurking below that teak, I could stop there and the rest of the deck would remain intact.

My plan was to carefully remove the screws and the teak planks. If it then looked like stripping the whole deck was doable at anchor, great. If, on the other hand, I did not get a good feeling about what was underneath the teak

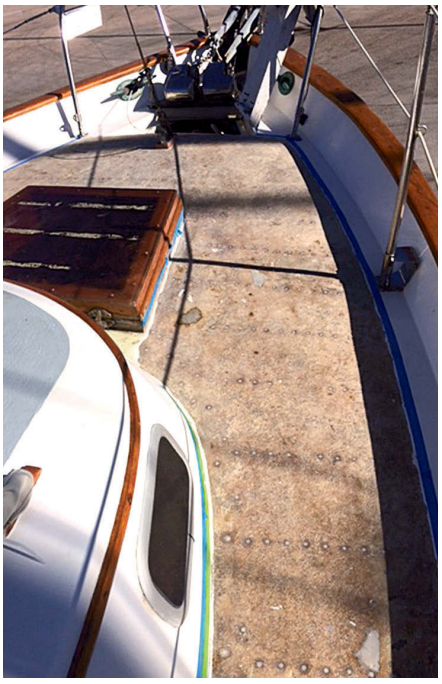
on this hatch, I would simply screw the teak back in place and put the whole project off until we were at a dock and had access to tools and materials we didn't have on the boat. At this point, I should note that I might have been a bit too optimistic making a decision on whether or not I could carry out this major project on the basis of my success or failure on such a small test section.

The small hatch cover that I experimented on had around 20 screws, none of which were the longer fasteners that made up the majority of screws securing the teak to the main deck. After I'd carefully removed the bungs and the short screws, I was able to pry the teak strips right up with the help of a large screwdriver. Underneath, I found a light coating of white bedding compound that came up easily with a putty knife. This was a far cry from the horror stories we'd heard of the thick black tar-like material used to bed teak decks on many other boats built in Taiwan.

My next step on the hatch was to drill out the screw holes, using a bit that was 1/16 inch larger in diameter than the screws I'd removed. I made sure not to drill deeper than the original depth.

I used a bevel drill bit to widen the tops of the holes for better epoxy adhesion, and blew out the dust and debris with compressed air from a can. After wiping down the top of the hatch with acetone, I injected thickened epoxy into the holes. Once the epoxy set, I sanded off the excess and removed the rest of the bedding material from the hatch

The farthest outboard teak planks were set in a white bedding compound and came up quite easily, at left. As Terry worked his way inboard, he found a tar-like compound that was much stickier, center. The teak from then on broke off in smaller pieces, at right.



A tedious part of the project was filling the old screw holes with epoxy, above. Heidi and Terry did this before power sanding the deck in preparation for the application of a layer of fiberglass cloth in epoxy resin, near right. After the epoxy had cured in the sun for a week, they sanded it fair, far right, before applying the non-skid finish.

surface with acetone in preparation for painting. Luckily, I then found a leftover can of white paint in the bilge.

Selling the project

After the paint on the hatch was dry, it was time for the dog and pony show that I hoped would get Heidi to buy into the bigger project — a project bound to make things on board a mess for the foreseeable future. As is normal for that time of year in the Sea of Cortez, the temperature was running in the mid-90s and we could not walk on the sun-baked deck without shoes. So when I called Heidi out for the big unveiling, I did so standing barefoot on the teak-less hatch. I instructed her to take off her shoes, step on the hot teak deck, and then join me on the hatch. The temperature difference between the teak deck and the white hatch cover was so dramatic, I think she was instantly sold.

"I just don't think it would be that hard to strip the deck at anchor," I said in a reassuring tone. It was everything I could do to contain my excitement at finally winning her over.

Upon receiving the go-ahead from my wife, I immediately faced my first dilemma.

The work begins

In an effort to prevent leaks into the cabin, when replacing those 1,200 deck screws I had injected epoxy into the holes before driving in the longer screws. That meant they would be very difficult to remove. I knew if I were to use a wrecking bar to lift the planks, I would probably tear up the underlying fiberglass and create more work for myself in the end.

My solution was to leave the screws — bungs and all — remove the teak decking, and then remove the fasteners once they were more accessible. To accomplish this, I fashioned a jig out of a piece of clear Plexiglas 3 inches wide by 6 inches long by ⅜ inch thick. Using a 1-inch hole saw, I drilled a hole through the Plexiglas in the center of the piece. That let me remove the pilot bit from the hole saw, position the hole of the jig over a deck screw, and use the hole saw to cut around the fastener.

I started with the outboard plank on one side of the boat, taking care not to drill into the underlying fiberglass deck. After cutting around all the screws securing that plank, I happily discovered that the bedding material on the outermost teak plank was the same consistency as in my test area. It was just a matter of prying up each piece with a large screwdriver. Unfortunately, as I began removing planks closer to the cabin trunk, the bedding compound changed to the dreaded tar-like material.

This goo was much stickier than the white stuff. When it came time to remove those planks, instead of popping them off nice and easy with a large screwdriver, I was forced to use a small prybar, breaking off 6- to 8-inch splinters of teak one at a time. This was, of course, much more time-consuming.

The other drawback of the newly discovered bedding compound was that, in the heat of the Mexican day, it softened and became very much like road tar. So we wouldn't track the stuff all through the boat, once I removed a piece of teak, Heidi cleaned most of the black menace off the exposed fiberglass right away.

With the Mexican summer in full swing, we were limited to working from roughly 6 to 10 a.m., at which time the heat would drive us below. Nonetheless, in about 10 working days, we managed to remove all the teak decking, remove all the screws we'd left in place, scrape up the bedding compound, and re-drill and fill the screw holes.

Resources

West System epoxy
www.westsystem.com

KiwiGrip
www.kiwigrip.com

Interlux Brightside
www.yachtpaint.com

A sound substrate

We were relieved to discover that the underlying fiberglass deck was in fairly good structural shape. I found two areas, each about 1-foot square, that showed signs of delamination.

After determining that the plywood core was sound, I drilled several holes through the fiberglass skin at the perimeter of an affected area as well as in the middle. I then injected West System epoxy into the holes, making sure the liquid traveled under the fiberglass and out of adjacent holes. When I was sure all of an area had resin in the void, I placed waxed paper over the 1-foot area and used bags filled with beach sand to hold the outer skin against the core until the epoxy cured.

I determined early on during the demolition phase that, to make the new deck truly watertight, the best course of action would be to cover the newly-exposed surface with a layer of resin and fiberglass cloth. And even though there didn't seem to be an oil-canning problem, I liked the idea of adding a little more stiffness to the deck. I borrowed a small generator and an orbital sander and went about preparing the surface for fiberglass, removing the last of the bedding material as well as roughing up the old surface to get the best adhesion possible. While I sanded with 60-grit pads, Heidi sucked up the dust and grit with our small shop vac.

After three days of power sanding, the deck was finally clean and prepped and it was time for the fiberglassing part of our show. This began with a drive to the U.S. to pick up the supplies we needed for the job, none of which we could find easily in this part of Mexico.

To minimize the number of seams I would need to grind down prior to the final non-skid application, we purchased woven 6-ounce cloth in 36-inch widths. The wider cloth is more expensive and would result in a bit more waste, but I hate grinding, so I didn't mind spending the extra money. For the resin, I again chose West System epoxy, figuring 4 gallons should be enough to complete the job. I used West System 209 hardener as it's a slow-set formula that provides longer working times — important in this desert climate as higher air temperatures accelerate the setting of epoxy.

Fiberglassing in stages

We carefully cut the cloth into sections that would cover as large an area as would be manageable in the heat of the morning. We would have only about a three-hour window each day to fiberglass. Our procedure was to clean with acetone the area on which we would be working, dispense the epoxy using the metering pumps, mix a batch, wet-out the deck, and lay down the cloth while using chip brushes to saturate it thoroughly with epoxy. We used a plastic squeegee to smooth the cloth and remove excess resin.

For three hours it was nonstop, barely-able-to-catch-our-breath action. We started with the narrow sidedecks to get a feel for what we might be up

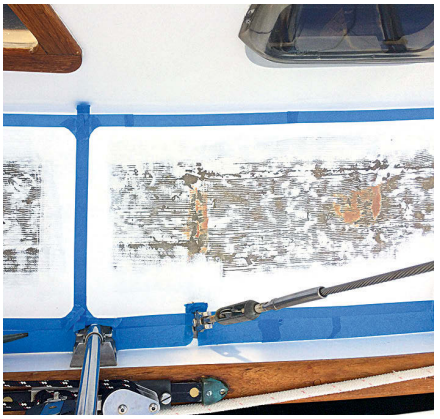
Materials, costs, and time

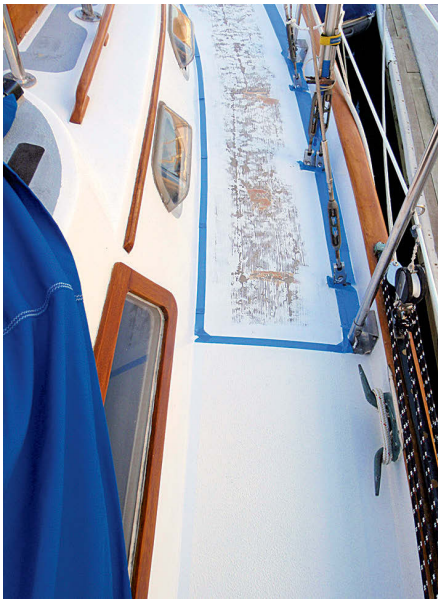
Materials

West System G/flex epoxy for filling screw holes	$35
West System 105 resin: 4.35 gallons	$360
West System 209 Extra Slow Hardener	$155
6-oz x 36-inch woven glass fabric: 11 yards	$177
KiwiGrip: 2 gallons	$250
60-grit pads (orbital): approx. 2 dozen	$36
120-grit pads (orbital): approx. 1 dozen	$20
Acetone: 2 gallons	$20
Miscellaneous tools: rollers, chip brushes, drill bits, Band-Aids	$50

Time for each task

Drill out deck screws with jig- and hole saw	9 hours
Remove teak planks	14 hours
Clean bedding compound	6 hours
Drill and fill holes	5 hours
Grind deck for fiberglassing	6 hours
Fiberglassing	10 hours
Grinding for non-skid	6 hours
Painting detail strips (2 coats)	6 hours
Laying down KiwiGrip	10 hours





Terry painted borders and detail strips with gloss enamel. Taped over for protection, far left, the borders defined areas that could be coated with non-skid in a reasonable time, at left and above.

against in terms of application time and the amount of epoxy we'd need to mix.

By the time we got to the somewhat expansive foredeck, we had more confidence in our ability to do larger areas. After three days of this, the cloth was successfully laminated to the deck. We let the Mexican sun bake the whole works for a week before I broke out the orbital sander and tackled the seams and edges of the newly applied surface. I knocked down the highest of the bumps with 60-grit sanding discs, then switched to 120-grit pads for the final sanding. We planned to apply non-skid, and the 120-grit gave the surface a tooth for it to adhere to.

No-nonsense non-skid

For several reasons, we decided on white KiwiGrip as the final coating for the deck. First, it would be easy to control the texture, and thereby the aggressiveness, of the finished coating to suit our needs. Also, a high-stipple coating of KiwiGrip would render the deck's slight imperfections less noticeable. We chose white because, as we'd learned from our test area, it reflects the sun, with the result that the deck surface would be cooler and, as a bonus, so would the cabin below. Another factor in our decision to go with KiwiGrip is that it's a water-based product that dries fast and is easy to clean up.

To make the finished deck look as pleasing to the eye as possible, we broke up the non-skid coating with bordering "detail strips." These would be painted surfaces, about an inch wide, along the inside of the deck next to the cabin, and a wider strip along the outboard edge of the deck, adjacent to the bulwarks. We also painted 1-inch detail strips across the sidedeck at three places on each side of the boat, from the cabin sides to the bulwarks.

As well as giving the job a more finished look, the detail strips divided the deck area into sections of a more manageable size for applying the KiwiGrip. We used Interlux Brightside Polyurethane one-part enamel on the areas that would not be getting the non-skid coating.

We took special care in prepping the smooth areas because the white gloss paint would reveal any imperfections. Once we'd sanded and filled and sanded again, we applied two coats of Brightside to an area an inch wider than the finished detail strip would be. We let this paint dry for a week before masking the newly-painted surface prior to applying the KiwiGrip.

As advertised, the KiwiGrip went on easily, dried within hours, cleaned up with water, and looks great. We chose an aggressive finish that would feel secure underfoot, even with the decks awash.

While the look is very different from teak, the result of Terry and Heidi's labors is a clean-looking, light-colored deck that reflects heat, is comfortable to walk on, and will be easy to maintain.

Satisfaction

Cetus has had her new deck for a year and I am happy to report that we came through the most recent wet (hurricane) season with no deck leaks. And as an added bonus, I'm still married. Next we'll put it to the real test and go offshore.

Terry Kotas and his wife, Heidi, have lived and traveled aboard sailboats for most of the past 30 years. They are currently enjoying Mexico's Sea of Cortez while planning and readying their Fantasia 35, Cetus, *for their next South Pacific adventure.*