

Foul-free Bottoms

Blue Water antifoulants dominate after 6 months.



Testers recently pulled the four sets of bottom paint test panels in Connecticut and Florida for inspection. Two sets (one in each locale) had been in the drink for six months, while the others had seen 18 months of sea time.

Over the years—through panel tests and field trials on our own boats—we’ve witnessed an evolution in marine antifoulants. Shaped by government regulations, environmental concerns, and industry innovations, this shift started with tin-based bottom paints in the 1980s. Once hailed as the most effective marine antifoulant, tin-based biocides came under fire for the harm they caused to marine life, and they eventually gave way to copper-based paints, which at the time of their development were touted as the environmentally friendly antifoulant.

Now, we are seeing a sort of *eco-déjà vu*, and concerns are being raised about the environmental impact of copper, especially in high-traffic, low-flow areas (like San Diego Bay; see page 38) where metals accumulating in the waters have raised copper counts to dangerous levels.

At the same time, newer and less harmful zinc-biocide and water-based antifouling continue to hit

the market. However, in our tests, most copper-alternative paints have not matched the protection level and duration of copper paints.

According to one industry representative, Blue Water’s Don Schnurr, the latest wave of biocides are organic and rapidly break down into other compounds without posing the accumulation problems of heavy metals.

As we watch these market shifts—from tin-based to copper and zinc paints to who knows what—*Practical Sailor* continues to try to sort the best from the rest through our static paint panel tests, our field reports, and our semi-annual bottom paint review.

In this report, you will find the first results from our most recently painted group of panels (sunk in summer 2008). Related stories cover the 18-month update on our other panels (pages 36-37) and a number of head-to-head boat test results (page 39). Bear in mind that these tests are subject to uncontrolled variables and that location and other factors

can affect antifouling performance. We encourage readers to supplement this data with information from local boatyards or other boatowners in your area.

DECIPHERING THE DATA

Our six-month test paints—which total 72—represent a good cross-section of what’s being used in boatyards and sold in stores. The Value Guides on the following pages are divided by paint type: hard paints and copolymer/ablatives. The choice between a hard or ablative paint has less to do with effectiveness than with how the boat is used and maintained.

As the “hard paint” name implies, these tend to have a moderately smooth, hard finish that provides for reduced water drag and can stand up to hand scrubbing.

After several years of repainting with a hard coating, expect a cake-layer build-up on your hull. This eventually will have to be stripped off, and the coating started anew.

PS VALUE GUIDE HARD PAINTS at 6 MONTHS

NAME	MAKER	SPECIALTY PAINT	COST PER GALLON	PRICE SOURCE	6-MONTH RATINGS		COPPER CONTENT	ANTI-SLIME AGENT	SEASON RATING
					FL	CT			
Copper Pro SCX 67 Hard	Blue Water		\$185	ipaint.us	Good	Good	67%	Irgarol	Single
Copper Shield 45 Hard	Blue Water		\$90	ipaint.us	Excellent	Good	45%		Single
MarPro Superkote Gold	Blue Water		\$185	Donovan Marine's independent retailers	Excellent	Good	67%	Irgarol	Single
MarPro SuperKote	Blue Water		\$90		Excellent	Excellent	45%		Single
EP 2000	Epaint	Water-based, race paint, aluminum safe	\$249	epaint.com	Fair	Fair	None	Zinc Pyrithione	Single
Sunwave Photo Active Release	Epaint		\$125	epaint.com	Fair	Fair	None		Single
ZO-HP	Epaint		Race, aluminum safe	\$249	epaint.com	Fair	Fair	None	Zinc Pyrithione
California Bottomkote	Interlux		\$170*	California boatyards	Fair	Fair	35%		Single
Epoxycop	Interlux		\$97	shipstore.com	Good	Fair	41%		Single
Fiberglass Bottomkote	Interlux		\$124	jamestowndistributors.com	Good	Fair	43%	Irgarol	Multi
Fiberglass Bottomkote Aqua	Interlux	Water-based	\$151	jamestowndistributors.com	Good	Fair	47%		Multi
Regatta Baltoplate Racing	Interlux	Race paint	\$235	defender.com	Good	Fair	45%		Multi
Ultra	Interlux		\$220	defender.com	Good	Fair	67%	Irgarol	Multi
Ultra-Kote	Interlux		\$172	jamestowndistributors.com	Good	Fair	67%		Single
VC 17m	Interlux	Fresh water, race	\$48/qt.	ca.binnacle.com	Poor	Fair	20%		Single
VC 17m Extra	Interlux	Fresh water, race	\$51/qt.	jamestowndistributors.com	Poor	Fair	20%	Irgarol	Single
VC Offshore	Interlux	Race paint	\$71/qt	jamestowndistributors.com	Good	Fair	41%		Single
Copper-Guard	Pettit		\$85	jamestowndistributors.com	Good	Good	46%		Single
Super Premium	Pettit		\$187	jamestowndistributors.com	Fair	Fair	66%		Multi
Trinidad	Pettit		\$200	shipstore.com	Good	Fair	76%		Multi
Trinidad 75	Pettit		\$204	jamestowndistributors.com	Fair	Fair	76%		Single
Trinidad Pro	Pettit		\$274	jamestowndistributors.com	Good	Fair	70%	Irgarol	Multi
Trinidad SR	Pettit		\$225	defender.com	Good	Fair	70%	Irgarol	Multi
Unepoxy	Pettit		\$75	defender.com	Poor	Poor	41%		Single
Unepoxy LD (WM Bottomshield*)	Pettit		\$100	westmarine.com	Good	Fair	29%		Single
Unepoxy Plus	Pettit		\$125	defender.com	Good	Fair	56%		Multi
Vivid	Pettit		\$173	defender.com	Good	Fair	25%	Zinc Omadine	Multi
Vivid Caribe	Pettit		\$180	Caribbean retailers	Good	Fair	22%	Zinc Omadine	Multi
Sharkskin	Sea Hawk		\$108	Sea Hawk	Good	Good	45%		Single
Tropikote	Sea Hawk		\$175	Sea Hawk	Good	Fair	76%		Single
Tropikote Biocide Plus	Sea Hawk		\$190	Sea Hawk	Fair	Fair	74%	Irgarol	Multi

Recommended Best Choice Budget Buy 18-month Finalist

* Pettit paints rebranded for West Marine.

This extra work of stripping every few years should be considered when you're evaluating the costs of one paint versus another.

Ablative paints vary significantly in hardness and in the way they work, but they all slough off material over time to prevent marine growth.

If your boat moves enough to shed the majority of the bottom paint between haulouts, an ablative paint can be less costly (in money and time) to maintain than a hard paint.

Usually, all it takes is a quick pressure wash before repainting.

Within these two larger paint categories are specialty paints, which include those marketed and recommended for racing or freshwater use and those that are water-based, eco-friendly, or suitable for use on aluminum hulls. We've included a designated column in the Value Guides that lists which, if any, specialty paints are marketed for.

For long-distance cruising and

racing where speed through the water really counts, choose one of several racing paints listed. Hard racing paints can be sanded and burnished to a very smooth finish.

Water-based paints are easy to apply and clean up and are less harsh on the environment than solvent-based paints. Eco-friendly paints have low or no metal-based biocides and low volatile organic compounds (VOCs), which are

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PS VALUE GUIDE ABLATIVE PAINTS at 6 MONTHS

NAME	MAKER	SPECIALTY PAINT	\$ PER GALLON	PRICE SOURCE	6-MONTH RATINGS		COPPER CONTENT	ANTI-SLIME AGENT	SEASON RATING
					FL	CT			
Awlstar	Awlgrip		\$81/qt.	defender.com	Good	Fair	40%		Multi
Copper Pro 67 SCX Ablative	Blue Water		\$220	ipaint.us	Fair	Fair	67%	Irgarol	Multi
Copper Shield 45 Ablative ★	Blue Water		\$115	ipaint.us	Excellent	Good	45%		Multi
Copper Shield 45 Uno	Blue Water		\$90	ipaint.us	Good	Fair	45%		Single
Copper Shield SCX 45 ✓	Blue Water		\$170	ipaint.us	Good	Good	45%	Irgarol	Multi
Kolor ✓	Blue Water	Aluminum safe	\$185	ipaint.us	Good	Good	45%		Multi
MarPro Aluma Pro*	Blue Water	Aluminum safe	\$185	Donovan	Good	Fair	45%		Multi
MarPro Super-B Ablative ✓	Blue Water		\$115	Marine's independent retailers	Excellent	Good	45%		Multi
MarPro Super-B Gold ✓	Blue Water		\$170		Excellent	Excellent	67%	Irgarol	Multi
Ecominder	Epaint	Water-based	\$184	epaint.com	Fair	Fair	None	Zinc Pyrithione	Multi
EP-21 ✓	Epaint	Freshwater, aluminum	\$100	epaint.com	Good	Good	None		Single
ZO ✓	Epaint	Aluminum safe	\$212	epaint.com	Fair	Fair	None	Zinc Pyrithione	Multi
Aquagard II Alumi-Koat	Flexdel	Water-based, aluminum paint	\$149	Flexdel	Good	Fair	3%	Zinc-based	Multi
Aquagard Bottom Paint ✓	Flexdel	Water-based	\$99	Flexdel	Excellent	Fair	26%	Zinc-based	Single
Fiberglass Bottomkote ACT	Interlux		\$140	defender.com	Good	Fair	30%	Irgarol	Multi
Micron 66 ✓	Interlux		\$220	defender.com	Good	Fair	40%	Zinc Pyrithione	Multi
Micron CSC	Interlux		\$173	defender.com	Good	Fair	37%		Multi
Micron Extra	Interlux		\$210	defender.com	Fair	Fair	39%	Irgarol	Multi
Pacifica	Interlux	Aluminum safe	\$180	defender.com	Fair	Fair	None	Zinc Omadine	Single
Tarr & Wonson Copper Paint	Interlux		\$77	jamestowndistributors.com	Good	Fair	25%		Single
Trilux 33	Interlux	Aluminum safe	\$200	defender.com	Fair	Fair	17%	Zinc Pyrithione	Multi
Tri-Lux II	Interlux	Aluminum safe	\$225	ca.binnacle.com	Good	Fair	22%		Multi
Phasecoat Bare Bottom	Microphase	Aluminum safe	NA	NA	Good	Good	None		NA
Alumacoat SR	Pettit	Aluminum safe	\$176	jamestowndistributors.com	Fair	Fair	None	Zinc Omadine	Multi
Horizons	Pettit		\$115	defender.com	Fair	Fair	48%		Single
Hydrocoat ✓	Pettit	Water-based	\$117	defender.com	Good	Good	40%		Single
Hydrocoat ECO	Pettit	Water-based, aluminum safe	\$199	Spring 2010 launch	Good	Fair	None	Zinc Pyrithione	Multi
Ultima Pro	Pettit		\$240	westmarine.com	Good	Good	60%	Irgarol	Multi
Ultima SR 40	Pettit		\$150	defender.com	Fair	Fair	40%		Multi
Ultima SR (WM PCA*) ✓	Pettit		\$75/qt.	defender.com	Good	Fair	40%	Irgarol	Multi
Ultima SSA	Pettit		\$83	defender.com	Fair	Fair	38%		Single
Ultima SSA CCT (WM CPP CCT*)	Pettit		\$139	Fall 2009 launch (2010)	Fair	Fair	24%		Single
Vivid Free ✓	Pettit	Aluminum safe	\$170	defender.com	Good	Good	None	Zinc Omadine	Single
AF-33	Sea Hawk		\$89	Sea Hawk	Good	Fair	34%		Multi
Biocop TF	Sea Hawk		\$215	Sea Hawk	Good	Fair	38%	Zinc Omadine	Multi
Cukote	Sea Hawk		\$160	Sea Hawk	Good	Fair	48%		Multi
Cukote Biocide Plus	Sea Hawk		\$194	Sea Hawk	Good	Fair	48%	Irgarol	Multi
Islands 77	Sea Hawk		\$196	Sea Hawk	Fair	Fair	42%	Zinc Pyrithione	Multi
Mission Bay	Sea Hawk	Aluminum safe	\$170	Sea Hawk	Good	Fair	None	Zinc Omadine	Multi
Mission Bay CSF	Sea Hawk	Water-based, aluminum safe	\$180	Sea Hawk	Poor	Fair	None	Zinc Omadine	Multi
Monterey	Sea Hawk	Water-based	\$149	Sea Hawk	Good	Fair	55%		Single

✓ Recommended ★ Best Choice \$ Budget Buy ✓ 18-month Finalist

* Pettit paints rebranded for West Marine.

Hard Paints Top Long-term Ratings

The 18-month panels saw a greater percentage of hard paints going the distance. In our previous long-term test, the field had been evenly split. Hard paints are generally a good choice for year-round cruisers who plan to extend their protection with regular scrubbing. The downside is the layer-cake buildup that eventually will need stripping or sanding.

The table on the facing page features the best and worst paints at the 18-month mark. Almost all of best paints are over 40-percent copper. The only two that had less were Pettit Vivid (25 percent copper with a zinc-based anti-slime agent) and Epaint ZO (copper-free with a zinc-based biocide).

A few, such as Interlux Micron 66, Pettit Ultima SR, Pettit Trinidad SR, and Interlux VC Offshore made the two-year cut in the previous long-term test (October 2008), as did the Budget Buys. Both Interlux Epoxycop, at \$97 per gallon, and Pettit Unepoxy Plus, at \$125, get Budget Buy honors this go-round.

As often happens in our long-term tests, no water-based paint made our 18-month list. (Only paints scoring Good or better make the long-term “Best” paints list.) The top-performers in other specialty categories were Epaint ZO for aluminum hulls and eco-friendly paint jobs, and VC Offshore for race-ready bottoms.

After 18 months, some paints degraded to the point where they garnered Poor ratings. The majority of these are single-season products, and can’t be expected to offer the long-term protection of multi-season paints. The two multi-seasons antifouling that made the Worst list, Pettit Alumacoat SR and Flexdel Alumi-Koat, are copper-free, aluminum safe paints—a category that historically hasn’t weathered the long haul as well as metal-based antifoulants. And since we test in salt water, we expected freshwater paints like Interlux’s VC-17m and VC-17m Extra, and Pettit SR-21 to allow hard growth. They should perform better in fresh water.



Testers rinse the test panels with seawater before rating the paints.

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gases emitted from certain solids or liquids that can cause adverse health and environmental effects. (Eco paints are usually compatible with metal hulls as well.) Among the six-month test paints, editors tried to flag at least one Recommended paint for each specialty.

Keep in mind that the highest-rated paint might not be the best for your situation. If you are looking for long-term protection, refer to the “18-month Report” above. If you plan to haul out and repaint every year, an expensive multi-season paint will be a waste of money. Instead, check out the budget priced paints in the six-month checkup and the Value Guides on pages 34-35. Past tests have shown that Fair paints at six months often improve with age, comparatively. If you want the absolute cleanest bottom for six months, and don’t mind paying for it, then the top-rated six-month paints come into the picture.

Another key step in choosing a paint is to be sure it is compatible with the paint last applied. If you plan to haul and relaunch, be sure the paint will not lose its punch during storage.

HOW WE TESTED

Once a year, *Practical Sailor* testers apply paint samples to stationary panels that remain submerged in salt water year-round. This is similar to the method some paint manufacturers use for testing. We supplement our test panel results with head-to-head comparisons done on a variety of boats. (See page 39.)

To maintain consistent results, we use a standard set of procedures and protocols each year. Testers start with brand-new polyester/fiberglass panels that are de-waxed and prepped, then taped into sections, and paint samples are applied. Panels are hung to remain completely submerged at all tide levels.

Testers follow manufacturers’ instructions for application and number of coats. Individual panels are identified by a binary code drilled into the panel. Paint performance is rated (with no reference to the name or maker) every six months.

Paints are tested in two locations: a saltwater canal in the Florida Keys (Tavernier, Fla.) and along a boatyard dock in eastern Long Island Sound (Groton, Conn.). At any given time, there are two sets of panels at each location. (Currently being tested are an older set submerged in June 2007 and a newer set submerged in June 2008.) After two years in the water, a panel set is retired.

Before we review and rate the paints, testers sluice each panel with a bucket of seawater. To get an Excellent rating, a paint must have virtually no growth. This is an absolute rating and does not vary from test to test or panel set to panel set. Good and Fair ratings are relative within

PS		VALUE GUIDE ANTIFOULING PAINTS at 18 MONTHS												
	NAME	MAKER	SPECIALTY PAINTS	COST PER GALLON	PRICE SOURCE	RATINGS						COPPER CONTENT	ANTI-SLIME AGENT	SEASON RATING
						6-MONTHS		12-MONTHS		18-MONTHS				
						FL	CT	FL	CT	FL	CT			
SOFT	Micron 66 ✓	Interlux		\$220	defender.com	Excellent	Good	Excellent	Good	Fair	Fair	40%	Zinc Pyrithione	Multi
	Ultima SR ✓	Pettit		\$75/qt.	defender.com	Good	Fair	Fair	Excellent	Fair	Good	40%	Irgarol	Multi
	ZO ✓	Epaint	Aluminum safe	\$212	epaint.com	Fair	Fair	Fair	Good	Fair	Good	None	Zinc Pyrithione	Multi
BEST	Epoxycop ✓	Interlux		\$97	shipstore.com	Fair	Good	Fair	Good	Good	Fair	43%		Multi
	Fiberglass Bottomkote ✓	Interlux		\$124	jamestown distributors.com	Fair	Fair	Good	Good	Good	Good	43%	Irgarol	Multi
	Super Premium ✓	Pettit		\$187	jamestown distributors.com	Fair	Good	Good	Good	Good	Fair	66%		Multi
	Trinidad SR ✓	Pettit		\$225	defender.com	Good	Fair	Good	Excellent	Good	Good	70%	Irgarol	Multi
	Unepoxy Plus \$	Pettit		\$125	defender.com	Good	Fair	Excellent	Excellent	Good	Good	56%		Multi
	VC Offshore ✓	Interlux	Race	\$71/qt.	jamestown distributors.com	Good	Good	Good	Good	Good	Fair	41%		Single
	Vivid ✓	Pettit		\$173	defender.com	Good	Fair	Good	Excellent	Good	Fair	25%	Zinc Omadine	Multi
WORST	Alumacoat SR	Pettit	Aluminum safe	\$176	jamestown distributors.com	Fair	Fair	Fair	Good	Poor	Fair	None	Zinc Omadine	Multi
	Alumi-Koat	Flexdel	Water-based, aluminum safe	\$149	Flexdel	Good	Fair	Fair	Good	Poor	Poor	None		Multi
	Aquagard Bottom Paint	Flexdel	Water-based	\$99	Flexdel	Fair	Fair	Fair	Good	Poor	Fair	26%		Single
	EP-21	Epaint	Aluminum safe	\$100	epaint.com	Fair	Fair	Fair	Poor	Fair	Poor	None		Single
	Trilux Prop and Drive	Interlux		\$29/can	defender.com	Poor	Good	Poor	Fair	Poor	Poor	9%	Irgarol	Single
	SR-21	Pettit		\$47/qt.	defender.com	Poor	Fair	Poor	Fair	Poor	Poor	21%	Irgarol	Single
	VC 17m	Interlux	Race	\$48/qt.	ca.binnacle.com	Poor	Fair	Poor	Good	Poor	Poor	20%		Single
	VC 17m Extra	Interlux	Race	\$51/qt.	jamestown distributors.com	Poor	Good	Poor	Good	Poor	Poor	20%	Irgarol	Single

✓ Recommended ★ Best Choice \$ Budget Buy

each panel set. Good ratings go to those paints with a minimum of soft growth, little to no paint discoloration, and low adhesion of any soft growth. Fair ratings are assigned to paints that clearly allowed more soft growth to occur, show some discoloration, or the growth that is present is adhering solidly to the paint sample. Poor ratings, which are absolute like the Excellent ratings, are given to paint samples with hard growth.

Because Good and Fair ratings are relative, an individual paint can improve from Fair up to Good in successive ratings, depending on the overall condition of the other paints being rated. Any bottom paint that consistently gets Fair or better ratings is a viable option.

Once ratings are put on paper, editors identify overall winners, as well as the top paints in the various categories. If some similar paints scored equally in both locales, we gave the nod to the lower-priced

product. Finalists at the 18-month mark also earned our recommendation at six months, unless the formulas had changed or they scored poorly at six months.

A note about prices: Editors scour the Web to find the lowest prices for the paints. (Shipping costs are not included). Prices vary without notice, so check before you buy. This year, we saw price increases for most of the test paints.

2008 FRESHMEN

In June 2008, we applied more than a dozen new paints and reintroduced some boatyard paints absent from recent tests. This review is our first look at those paints. The panels were pulled and rated in December 2008, after six months in the water.

The vast majority of the reintroduced products were Blue Water's MarPro paints, which are private labeled for Donovan Marine, a wholesaler that supplies independent deal-

ers and boatyards. Their formulas are similar, but not identical, to their sister paints, Blue Water's consumer line, and the SeaBowld paints, made by Blue Water and retailed by Boater's World. (We did not test the SeaBowld paints this go-around but would expect them to perform similarly to the Blue Water line.)

Some new introductions were market-targeted paints like Epaint's copper-free Ecominder; Interlux's California Bottomkote for California boatyards and Pacifica for the West Coast market; Caribbean-marketed paints included Pettit's Vivid Caribe and Sea Hawk's Islands 77. These paints earned mostly Fair ratings. Two paints, Interlux VC 17m and Trilux II, are available only in Canada.

MicroPhase Coatings' PhaseCoat Bare Bottom had a good showing with two Good ratings. However, according to MicroPhase's Brad Lienhart, the paint's success in static panel tests was not duplicated in real-

San Diego Project Update

With growing concern over water quality and the accumulation of heavy metals like copper and zinc in our waterways, many paint manufacturers, boat owners, and other interested parties are looking for alternatives to metal-based antifoulings.

One such effort—being carried out by the Port of San Diego (Calif.) and the non-profit Institute for Research and Technical Assistance (IRTA)—is being funded in part by a U.S. Environmental Protection Agency grant. San Diego Bay is one of several around the U.S. that has documented potentially toxic copper levels, and this has been linked to copper-based antifoulant paints.

The two-year project aims to find viable, environmentally friendly alternatives to copper antifoulings and encourage boaters to use to them. The effort, which we reported on in October 2008, is now moving into its second phase.

The first phase was panel testing 46 coatings from June to October 2008. Of those, 24 were non-biocides, 18 were zinc-based, and four were organic biocides.

Twenty-one of the top-performing coatings will go on to Phase 2, applying the paints to volunteers' boats in the Shelter



The Port of San Diego recently wrapped up its bottom paint panel tests, tapping 21 coatings as top performers.

Island, Calif. Of the advancing paints, five are non-biocide coatings, 14 are zinc-based, and two are organic biocides. The tests will wrap up in June 2010. For more information, visit www.portofsandiego.org or call 619/686-6200.

SONIC BOOM

The list of alternatives to traditional antifoulings doesn't end with paints. From stick-on products to vibrating products, more and more choices are becoming available. One product we've received many inquiries about is Ultrasonic Antifouling. According to the maker, the digital electronic units send pulsed ultrasonic signals to a transducer that in turn emits low-power, low-frequency sound waves, which create a wall of moving water molecules over the submerged hull to destroy growth.

We've not yet tested the Ultrasonic products, but we plan to, and we welcome comments from anyone who has tried the system. For more information, visit www.ultrasonic-antifouling.com.



world use, so the company no longer markets it to boaters.

One paint, Pettit Unepoxy, surprised us by earning Poor ratings in both Florida and Connecticut. This inexpensive paint had performed well in previous tests. Pettit said that the newer formula had slightly less copper but that its tests showed no drop in performance.

A few Pettit paints included in this round of testing aren't due to hit stores for several more months. In its effort to minimize the use of copper while still maintaining acceptable performance, Pettit's new paints utilize the latest coatings technologies and biocides.

Its Hydrocoat ECO, which earned Good and Fair ratings at six months, is set for launch in spring 2010. It is a water-based paint that uses Ecomea as a biocide. Ecomea, a newly approved metal-free antifouling made by Janssen PMP (part of the Johnson & Johnson family), targets hard growth and does not accumulate in the marine environment as copper and other

metal-based biocides do. It's also safe for use on aluminum hulls, and makers claim it offers weight savings.

Another Ecomea-based Pettit paint, the copper-free Vivid ECO, is due out later this year, as is Interlux's copper-free Ecomea offering, Pacifica Plus with Biolux for slime control. We plan to include both in our next round of panel testing.

Pettit's Ultima SSA CCT, which will be rebranded and sold as West Marine CPP CCT, is set for release later this year while the West Marine product will be launched in 2010. These paints utilize Copper Composite Technology (CCT). According to Pettit, instead of using a solid copper flake, CCT is a silica crystal coated with copper. This reduces the weight of copper by 25 percent in the paint while offering the same level of protection. The single-season Ultima SSA CCT earned Fair ratings at six months. Pettit also plans to replace Unepoxy with a new CTT paint (Unepoxy CCT), later this year. Look for it in a future test lineup.

6-MONTH CONCLUSIONS

While the MarPro paints dominated in the ratings—each one earning at least one Excellent—we rated them as Recommended paints rather than Best Choice because of their limited availability.

Taking the top spots after six months are Blue Water's Copper Shield 45 Hard and Copper Shield 45 Ablative, both Excellent performers and available online. Recommended hard paints include Blue Water Copper Pro SCX 67 and Sea Hawk's Sharkskin, which both earned Good ratings. Our ablative recommended paints are Blue Water Copper Shield SCX 45 and Pettit's Ultima Pro. Budget Buy honors go to Pettit's Copper Guard, which sells for \$85 per gallon.

In the specialty categories, the top picks for a water-based paint were two moderately priced products: Flexdel Aquagard Bottom Paint and Pettit Hydrocoat. Aquagard is rated for a single season, and we'd stick to that recommendation.

Photos courtesy of the Port of San Diego and Ultrasonic Antifouling

Testers' Notes from the Field

To get a better idea of how the paints behave in real-world use, *PS* testers picked a sampling of top performers and popular paints to be applied to various boats representing a broad range of types, usage levels, and boating areas.

For the head-to-head tests, one paint is applied to the port bow and starboard quarter while another is painted onto the starboard bow and port quarter, giving the paints equal exposure.

AQUAGARD vs. HYDROCOAT

In March 2008, testers applied two water-based, "hard" ablative paints, Flexdel Aquagard and Pettit Hydrocoat, to the hull of a Union 36, a full-keel cruising boat. Based in Virginia and Annapolis, Md., the boat sails mainly in the Chesapeake Bay area. The boat was sailed often between March and August, but has seen limited use since then.

After 10 months, the hull was covered with a layer of slime and a grass-like algae that showed no obvious preference for a particular paint. All sections of the hull were easily cleaned with a light rub of the diver's hand, making this head-to-head neck-and-neck after a single season.

THE MYTH BUSTER

In November 2007, testers applied Interlux Bottomkote and Interlux Bottomkote mixed with cayenne pepper to our Cape Dory 25 test boat to see whether the cayenne increased the paint's antifouling ability. Nearly a year and a half later, testers

BOAT	LOCATION	DURATION	PAINT A / RATING	PAINT B / RATING
Union 36	Chesapeake, Va.	10 months	Flexdel Aquagard / Good	Pettit Hydrocoat / Good
Cape Dory 25	Sarasota, Fla.	14 months	Interlux Bottomkote / Fair	Interlux Bottomkote with cayenne / Fair
21-foot Parker powerboat	Sarasota, Fla.	6 months	Interlux Micron 66 / Good	Blue Water Kolor / Good
Seacraft 20 powerboat	Tavernier, Fla.	8 months	Pettit Vivid Free / Fair	Epaint EP 2000 / Good
Ericson 41	Annapolis, Md.	6 months	Micron 66 with InterProtect* / Excellent	Micron 66 with SeaGuard* / Excellent

* Barrier coat long-term test

confirmed their last report that there is no difference in fouling between those sections with and without the cayenne additive. Soft growth, mainly at the waterline, and even some hard growth was noted.

The Cape Dory—daysailed several times a week and cruised occasionally—is kept on a mooring in the warm waters of Sarasota Bay, Fla.

KOLOR vs. MICRON 66

On *Practical Sailor's* 22-foot Parker powerboat, testers compared two ablative paints: Blue Water Kolor, a paint that uses aluminum-safe cuprous thiocyanate (45 percent) as the active ingredient and is available in a variety of colors, and Interlux Micron 66, a past top finisher that is 40-percent copper. After six months of sitting at the dock on a saltwater canal in Sarasota, Fla., where the boat saw weekly use, all paint sections had slime at the waterline that was easily sponged off. The rest of the hull was very clean.

VIVID FREE vs. EP 2000

A 20-foot Seacraft homeported in the Florida Keys was painted with two copper-free "eco-paints": Pettit's ablative Vivid

Free and Epaint's race-ready EP 2000 hard paint. The often-used boat is stored in the water and on a trailer. Eight months into the test, and after the boat had been in the water for 30 consecutive days, testers reported both paints had soft growth at the waterline and transom. However, the EP 2000 is holding up much better to the bumps and scrapes of trailering.

BARRIERS & MICRON 66

Another *PS* test boat, a 41-foot Ericson in Annapolis, is the platform for a test of two barrier-coat systems, Interlux InterProtect 2000E and Sherwin Williams Seaguard 5000HS, topped with Micron 66. (For more on this, see "Barrier Coat Breakdown," page 27.) Testers are monitoring the boat for paint adhesion and performance. After six months, there was no sign of growth on the hull.

Our most recent reports from the field have yielded too-close-to-call evaluations, with all paints performing up to snuff. We will be adding more boats to the water this spring, including the 1974 Catalina 22 *Jelly*, our ongoing rehab project. For more on these test boat tests, see the previous report in the October 2008 issue.

Topping the paints marketed for racing are Interlux's multi-season Regatta Baltoplate Racing and single-season VC Offshore.

Paints designed for aluminum hulls and Recommended after six months include Pettit Vivid Free, a copper-free paint that uses zinc omadine as a biocide, and Epaint's EP-21, which also gets our recommendation for a freshwater paint.

Boatowners looking to have a "green" bottom would do well choosing from the top copper-free (aluminum safe) or water-based paints or others with low VOCs. ▲

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