

Coppercoat: A Worthy Alternative to Bottom Paint

It is an expensive solution up front, but this epoxy-based antifouling option is effective, hassle-free, easy on the environment, and can last a decade or more.

Wooden ship bottoms were sheathed in copper to ward off worms, barnacles, and other growth. In modern times, especially since the invention of fiberglass, we haven't been worried about worms, but we've been using bottom paint infused with high concentrations of copper to keep fouling at bay. There are antifouling paints that combine copper with biocides and other antifouling agents, and a few that use other compounds and metals, like zinc, but copper is still the most widely used antifouling material. It's simple, and it works.



Freshly applied Coppercoat shows a bright metallic color. It's sanded before launch to expose a layer of copper at the surface. Because new copper is exposed by the very slow breakdown of the Coppercoat shell over the years, resanding is not necessary. Underwater sponging and post-season pressure-washing maintain the surface. All photos: Doug Logan

Unfortunately, there are downsides to copper paint, and antifouling paint in general. If it's a hard paint, eventually it flakes and has to be stripped away. If it's an ablative (sloughing) paint, it can still flake if the application isn't ideal, and it eventually releases large amounts of copper and other chemicals into the water. There are plenty of state and local regulations restricting the use of copper bottom paints.

And now the paint is getting expensive – very expensive. A gallon of premium-quality copper bottom paint can cost \$300 or more, and even most “multi-season” paints are only as effective as application, locale, and boat usage permit. Some are effective for three years, some for only one.

There’s an alternative called [Coppercoat](#), which is in many ways a return to the old concept of copper sheathing. Instead of hammered-on sheets of pure copper, it consists of a high concentration of copper powder stirred into an epoxy matrix at the time of application. It’s rolled on in multiple layers to a substantial thickness, usually about 12 mils, and ends up forming, essentially, a shell on the bottom of the boat. It’s sanded before being put in the water, and that abrasion exposes a fixed layer of copper to the surrounding water.



A Coppercoated transom emerges from Long Island Sound -- a high fouling zone. The bottom had been sponged twice underwater during the season, then left alone for the last two months. A light layer of soft slime covered parts of the bottom, but there was no hard growth.

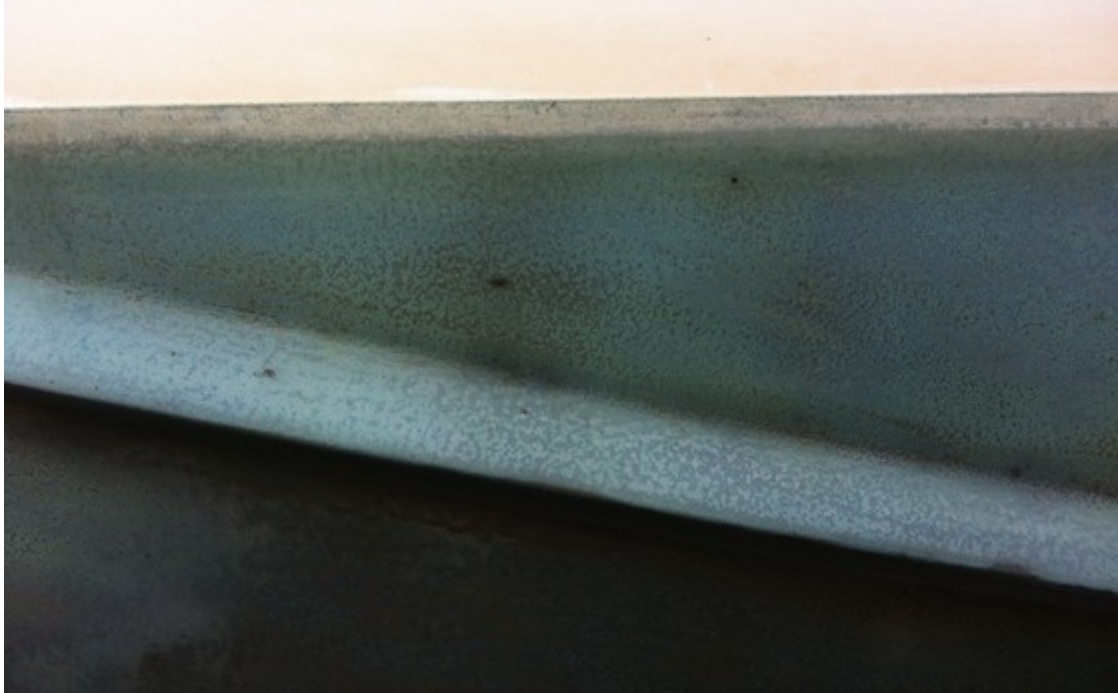
Coppercoat has been around for over fifteen years, but until relatively recently has been known mostly in the domain of larger yachts and commercial vessels. Application is not a standard do-it-yourself bottom-painting job. The bottom has to be completely stripped of old paint, either by chemical stripper or soda or nutshell blasting, and carefully prepared for the Coppercoat. The epoxy-copper is rolled on, wet-on-tacky, usually in four applications, all in one day. Temperature, time, and available manpower are important considerations. An amateur skilled in both marine paints and epoxy coatings, and who can provide the right conditions for application, can do the work and save the yard fees, but most people will prefer to have it done by a professional marine paint shop. (The Coppercoat shown in these photos was applied by [Dutch Wharf Boatyard](#) in Branford, CT.)



The same hull after a quick pressure-wash.

Because the copper does not slough away, Coppercoat acts more like a hard, smooth racing paint. Applied and maintained correctly it can reduce drag and increase speed. As with hard paints, if you want it to stay completely slick and free of slime, it will pay to sponge it off occasionally during the season.

When a Coppercoat bottom is hauled out and dried, it has a coppery-green look of bright to dull metal powder and verdigris, somewhat mottled from the original sanding. In other words, it looks like an old copper-sheathed ship bottom. Or the Statue of Liberty. If you prefer the look of red, blue, green, or black bottom paint, the Coppercoat patina may not appeal.



After a washdown, Coppercoat dries to a mottled verdigris green, much like a copper-sheathed wooden ship bottom, or the Statue of Liberty.

The upsides to Coppercoat are many. Properly applied, it can last for ten seasons or more. Because it's epoxy, there is no need for a separate barrier coat next to the gelcoat. It's effective, tough, easy to maintain, and easy to repair if scratched or dinged. Over the long haul, it becomes increasingly cost-effective. And it's probably the most environmentally friendly antifouling alternative on the market.

Coppercoat costs \$140 for a 1.5-liter kit, which contains the two-part epoxy mix and a 4.4-lb. bag of fine copper powder. According to Coppercoat, this is equivalent to about \$325 per gallon. The website provides a [handy calculator](#) to determine the approximate materials cost (exclusive of rollers, gloves, tape, etc). For example, a displacement or semi-displacement powerboat with a beam of 10 feet, a draft of 3 feet, and a waterline length of 30 feet, would need 10 kits to achieve the four coats. Add in boatyard labor rates to the \$1,400 cost of the coating, and it's not a project to be taken lightly. On the other hand, the same boat would require at least two gallons of bottom paint for the usual two coats, and at today's (and tomorrow's) price per gallon for a two-season premium ablative, the Coppercoat catches up after only four or five years. After that it draws ahead.

That's for materials cost only. In terms of labor, for those who have suffered under more boat bottoms than they can count, the idea of a light sanding and a launch, rather than sweating for hours again with brushes, rollers, and solvent fumes... may be very compelling.

Consider Coppercoat if...

- You're in a locale that restricts or bans copper antifouling paint, especially ablative paint.
- Your antifouling paint is old and flaky and you need to strip or soda-blast it off down to the gelcoat.
- Your underwater gelcoat needs epoxy barrier coating.
- You're buying a new boat with an unpainted bottom and have your choice of how to cover it.
- You're not concerned with an old-fashioned copper-verdigris look on the bottom.
- You're planning to hold on to your boat for more than 4-5 years.
- You're concerned about the release of too much copper and solvents into the water.
- You don't mind an occasional swim with a mask and sponge to wipe off slime during the season.
- You're simply tired of the hassle and expense of bottom-painting every year or so.

For more information, visit [Coppercoat](#).



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Profile

Senior editor Doug Logan is a former editor-in-chief of Practical Sailor, managing editor and technical editor of Sailing World, webmaster for Sailing World and Cruising World, and contributing editor to Powerboat Reports. He is the editor of many books about boats, boat gear, and the sea, and is experienced in both sail and power.

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