

KEVO'S BOATING TIPS & MORE

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BOTTOM PAINT

With the price of marine fuel rising to historic levels, the cost to mariners to push their vessels through the water is becoming a major issue. When your bottom and running gear become fouled with marine growth, it's like putting shag carpeting over the entire bottom surface while still trying to get the vessel to move at a decent speed. This requires a lot more horsepower and more horsepower means more fuel. More fuel means more pollution.

Safety is also a concern. A heavily fouled hull will be very unresponsive and can have serious implications in challenging weather conditions. Another issue is protecting the integrity of the hull. Heavy fouling can damage the substrate of the hull. Personally, I have a diver down every 90 days to scrub the bottom and check the zincs on our boat, *Her Way*. *Have you had a diver down lately to service your bottom paint and zincs?*

Three Basic Causes of Bottom Fouling

Shell: Animal fouling from barnacles, and zebra mussels, releasing their larvae into the water which need to attach themselves to a stationary object (like a boat) to feed.

Weed: Plant growth from several common forms of seaweed, not all of which fall off as the boat moves through the water.

Slime: Single-celled algae settle by the billions in a syrupy medium that they produce themselves. As it thickens, this slime forms a home for other organisms.

How Antifouling Paint Works

Antifouling paints contain "biocides." These are chemical agents that hinder or repel unwanted underwater life. Most of these products contain copper compounds and some have a second booster biocide to prevent algae growth. Some bottom paints maintain a level of biocide near the surface. Others rely on their inherent "slickness" to prevent growth from sticking. These paints also contain resins to bind the coating together and control the release rate of the biocide, solvents to control application properties and drying rate as well as color pigments.

Ablative Antifouling Paint: This paint wears down, much like a bar of soap, as your vessel moves through the water. As a result, fresh layers of biocide are constantly being exposed as time goes on. This type of paint works well in high marine growth areas and continues to work even with multiple haulouts, just as long as the biocide remains. Because of the way

it works, applying two or three coats initially is a good idea.

Another plus to this type of bottom paint is that it can be applied over most other types of antifouling paints. The downside is that because these paints are relatively soft you will be removing good bottom paint every time you have a diver scrub your bottom. Also, it wears away quickly on high drag areas such as rudders or other bottom appendages. In addition, trailer bunks and rollers will grind it off in a big hurry.

Hard Antifouling Paint: The technical term for these types of antifouling paints is "contact leaching." The paint dries to a porous film that is packed with biocide, which leaches out on contact with water to prevent fouling growth. This leaching is chemically designed to release biocide throughout the season, but the amount will steadily decrease until there is not enough biocide coming out of the paint film to maintain fouling protection. Once the biocide is exhausted, the hard paint film remains on the boat. Hard antifouling do not retain their antifouling ability out of the water and the boat cannot be hauled and re-launched without repainting. One of the main benefits of this type of antifouling is its resistance to abrasion and rubbing. This makes it ideal for fast powerboats, racing sailboats or boats where the owners have the bottom scrubbed regularly. This type of antifouling paint will build up on the vessel's hull because the medium that holds the biocide does not wear off.

This type of paint needs to be periodically physically removed to prevent excessive paint buildup on the bottom. Some hard antifouling paints have Teflon® added to reduce further surface friction. Most hard antifouling paints can be wet sanded and burnished prior to launch to reduce drag and improve hull speed.

Self-Polishing Copolymers (SPC): SPC technology antifouling work because the film contains a patented resin called "SBC copolymer." This copolymer reacts with salt water in a controlled way. As a result, the chemical reaction controls and sustains the release of biocides throughout the lifetime of the antifouling without decline. This chemical reaction will take place at the same rate, whether your boat is underway or sitting at the dock. This type of technology has previously only been available in tin-based copolymer coatings, which are restricted in their use to boats over 82 feet in length. This product is not recommended for use in fresh water.

Bottom Blisters

There are a number of reasons for blisters to develop on hull bottoms. Osmosis is one common cause. Osmosis is the diffusion of fluids through membranes or a porous partition. Blisters can be as small as a pinhead or as big as the palm of a human hand. Some are serious; some are not. Some boats develop blisters prematurely – same year, same make, same location – others do not. Most fiberglass vessels that are berthed will develop some form of blisters over time. Blisters form from two directions: from inside the hull and outside the hull. Gel-coat damage is a major cause of blistering. Water seeps in and, once inside, reacts with the chemical components creating acidic substances.

Some causes are manufacturing related, such as using the wrong resin in the fiberglass, too much hardener in the gel-coat, too much hardener in the fiberglass or not enough "wetting." (Wetting is making sure all

fiberglass sheets are sufficiently coated with resin before being layed up.) Voids are also a cause. This is caused by not rolling the fiberglass mat properly, which allows for air pockets to remain in the hull.

Kevo's Tips:

Bottom painting for berthed vessels is required usually every two to four years. Consult with the boat yard you plan on using and discuss which products they use and their application techniques. Bottom blisters are sometimes serious and sometimes not. Our vessel *Her Way* has had eight quarter-sized blisters on her hull since we bought her four years ago. These blisters are not serious and need not be repaired. Bottom paint requires maintenance. A diver should scrub the bottom at least every six months. Fouled bottoms burn more fuel and cause more pollution.

As always, feedback is appreciated. I can be reached at kevo@yachtsmanmagazine.com or 925/890-8428.

Be safe & happy boating! ➤
