



Bottom Paint Guide



Editor

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Paint: varnish & antifouling
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Bottom Paint Guide will help you understand the types of bottom paint and chose the best one for your needs. This is the time of year where you are planning your next boating season and before you launch your boat, you more than likely will be repainting her bottom. So what to use? Today paint choices are abound, but the main choice is between; **Hard antifouling** and **Ablative antifouling**.

Biocides/toxins; When a bottom gets fouled the first sign is a slime covering the bottom called biofilm, which then leads to algae growth which in turn leads to barnacles and other creatures attaching to the bottom. To combat this Bottom paints contain biocides, cuprous oxide being the most popular, which are released at a controlled rate.



Level of Toxins Hard paints contain varying levels of biocides which are released slowly on contact with water. Ablative paints generally contain lower levels of toxins but they are released at a more steady rate as fresh paint is exposed. In addition to Cuprous Oxide many paints now include a slimicide to prevent growth of slime. Slimicides can be identified by the names; Irgarol, Biolux by Interlux, and SR Slime Resistance by Pettit.

Cost of bottom paints ; You get what you pay for; Biocides and Slimicide, especially copper add to the cost of the paint and are expensive. Cheaper paints can be OK for colder water with fewer nutrients.

Choosing a Bottom Paint

Before choosing a Bottom Paint you will need to determine your boats use; use the chart below to determine your needs.

Time in Water	
Winter on land, summer in water	Hard paint must be applied soon before launching
In water all year round	Hard Paints are good especially multi season ones
Trailer sailed, ie mostly out of the water	Hard paints cannot be left out of water
Do you use a diver	Ablatives rub off
Boat speed	Ablative paints will scrub off with too much speed
Boat construction	
Fibreglass or wood	Most paints will work
Alloy or steel boats	Alloy boats do not like copper so special paints are used.
Inflatables	Need specialized paint
The environment	Certain States have restrictions

Saltwater v fresh water use	Slime grows in fresh water and animal types grow in salt water
Nutrient content of the water	Nutrient rich water is more susceptible to fouling
Cold water v warm water	Warm water is more susceptible to fouling

Bottom Paint guide

Which of these are you going to choose?

- Hard
- Ablative
- Tin
- Copper
- Copper Free



Hard Antifouling

Hard Antifouling dries to a hard smooth finish, but is actually full of very small pockets chock full of biocides. Over time these biocides leach out of the bottom paint killing off growth. After a while, the level of available biocides decreases; eventually offering little or no protection. Hard paints when the biocides have leached out look like swiss cheese.



This hard antifouling has been sanded and cleaned after hauling. Now all needs to be done before Launch is to paint.

Positives ; Hard anti-fouling paints which work on contact with water are ideal for go-fast boats and racing sailboats, and for boats which have divers clean the bottom during the season.

Negatives; Hard paints lose their effectiveness if left out of the water, (copper oxidises) hence you need to launch soon after painting. Each year that you add hard antifouling the build-up increases and at some point you will need to strip the paint.

TYPES OF HARD PAINTS;

Modified epoxy paints; are one-part epoxies hard and durable which work well in various types of waters. It's recommended that modified epoxy paint with a higher content of biocides is used in warm water and areas that are more susceptible to fouling.

Thin Film (Teflon) Paints; are very slick and organisms tend to have a hard time attaching themselves to it. To get a very smooth surface fewer biocides are used. They are generally used in fresh water due to the low levels of biocides.

Vinyl type paints are hard and durable. The coating can be polished smooth to help with speed, also have low levels of biocides but are more effective than thin film paints in salt water

Hard Bottom Paint Choices

This is a selection of some of the more popular hard paints available. Prices are hard to pin down due to discounts, online offers etc so use the prices as a guide only.

Modified Epoxy	High levels of biocides	\$/quart estimates
Interlux Ultra	Modified epoxy , 66.5% cuprous oxide antifouling paint	40
Interlux Ultra-kote	Same as Ultra but with 76% Cuprous oxide	50
Pettit Trinidad	Modified epoxy bottom paint contains up to 70% cuprous oxide	78
Pettit Trinidad SR	Same as Trinidad plus slime fighting biocides.	90
WM Bottom Shield	CCT-Composite Copper Technology, 28% cuprous oxide	53
WM Bottom Pro Gold	Modified epoxy 40% copper and 2% Irgarol combine in this dual-biocide paint	70
Thin Film	Low level biocides, Fresh Water only,	

Interlux VC17m	20% Cuprous Oxide; smooth finish but not too good in salt water	55
Pettit SR-21	Ultra-thin, low friction film for boat bottoms. It is the ideal racing finish for fresh water.	56
Hard Vinyl	Low levels of biocides, Hard Smooth finish,	
VC offshore (Baltoplate)	Unlike the thin film paints VC Offshore can be used in salt-water, but also low levels of biocides.	90

Ablative bottom paints

Ablative paints are engineered to gradually wear away as the boat moves through the water. They work by layers of paint rubbing off exposing fresh biocides. One advantage of Ablatives is there is no paint build-up.

This ablative paint has worn off in some places

Positives ; This is the best type of bottom paint for boats that spend time out of the water, because the paint does not lose effectiveness when dry.

Negatives; If you spend most of the time at the dock ablative paints will not work as they need water moving over their surface. Also if you have a fast boat too much paint will be removed leaving you with a bare bottom. Also do not dive on ablative antifouling as you will just scrub it off.

Using copolymers like Micron 66 on a displacement cruiser, there are examples of boats covering 10,000 miles on one full application

Ablative paints include;

Ablative paints, self-polish when the vessel is underway, shedding layers which release new biocides.



Copolymer paints, binds the biocide to the pigment within an ablative binder. On contact with water a chemical reaction controls and sustains the release of biocides, before the paint wears off. Copolymers since they do not need water movement can work at the dock.

Hybrids are the latest in Ablative paints. They claim to have the qualities of hard paints and ablatives

Sloughing paints are the most inexpensive and lowest performing ablative paints. Sloughing paints are very soft. The paint is lost in visible flakes and are single season use only and utilize a soft rosin binder with low copper content.

ABLATIVE BOTTOM PAINT CHOICES

This is a selection of ablative paints available. Prices are hard to pin down due to discounts, online offers etc so use the prices as a guide

Water-based ablatives have become available in recent years, with less odor and easier clean-up.

Ablative	Water moving over surface, erodes paint exposing fresh biocides	\$/qt estimate

Interlux Trilux 33	slow-polishing antifouling, suitable for faster boats, 24% copper thiocyanate tin-free antifouling paint, ideal for aluminum boats, plus biolux,	83
West Marine CPP plus	CCT-Composite Copper Technology-CPP offers season-long antifouling.; 23.7% Cuprous oxide Additives: None	58
Pettit Hydrocoat	Water-based ablative is 40% Cuprus Oxide, same as SR40 but without the anti-slime agent, multi-season ablative.	63
Copolymer	Biocide releases by chemical reaction, then the paint wears away.	
Interlux Micron 66	Self Polishing Copolymer with Biolux® (use in Salt water only)	83

Interlux Micron extra	self-polishing copolymer antifouling paint, 39% cuprous oxide, not available in California	83
Interlux fibreglass bottomkote ACT	ACT; Ablative Copolymer Technology, premium seasonal antifouling protection in moderate to heavy fouling areas 25% copper	68
Interlux Micron CSC	copper-copolymer formula, 37% cuprous oxide, wears away slower than Interlux extra	60
Pettit Ultima SR 40 & 60	high cuprous oxide load (40% & 60%) combined with the power of Irgarol to offer outstanding dual biocide, multi-season control in all.	72
West Marine PCA Gold	Copolymer ablative, 40% Cuprous Oxide, Irgarol added to prevent slime	75

Hybrid Dual Resin	Mix of hard and ablative technology	
Pettit Vivid	Hybrid technology provides excellent multi-season use, dual biocide antifouling. 25% Copper Thiocyanate	99
Interlux Fibreglass Bottomkote NT	Interlux Fiberglass Bottomkote NT uses Dual Resin Technology to provide the advantages in both ablative and hard antifouling paints, 25% Cuprous oxide	50
Sloughing		
Interlux Bottomkote XXX	cheap, launch 24-48 hrs	34

Antifouling with Tin

legal in some parts of the Caribbean

While tin is banned in antifouling paint, we do hear about cruisers in the Islands who are still using tin based paints which are available. Tin-based anti-fouling paints are still legally available for pleasure craft in some parts of the Caribbean, but you won't be legal if you cruise to the US.

Interlux does not make paint with tin paints, but Seahawk and Blue Water still do;

[Seahawk 44](#) [Blue water caribbean gold](#)

COPPERCOAT

Coppercoat is a specially developed two-part epoxy resin and 99% pure copper. Each 1½ liter kit of Coppercoat contains 4.4 lbs of ultra fine copper powder, the maximum allowed by law. On immersion, seawater attacks the exposed pure copper powder, causing the formation of cuprous oxide. The process of Coppercoat application is a bit more complicated and time consuming than a simple paint application as it involves mixing and getting the correct ratios.

As far as antifouling properties there are mixed results, some people have good experiences and some have bad ones, so it seems either you love it or you hate it.

The future of Bottom paint

Copper free paint & other technology

The Netherlands, Sweden and some locations in Denmark have already banned the use of copper and it is coming to the US soon. Washington is the first State to ban copper starting in 2018, and so the search for good non copper paints is being waged by paint manufacturers.

Paint manufacturers believe that ECONEA™, a metal-free antifouling agent may be the future of antifouling paint. Econe, is a pharmaceutical product that has a very rapid half-life, and it disappears quickly in the water. ECONEA-based paints like [Interlux's Pacifica Plus](#) and Pettit's Ultima ECO are now available.

Biocide-free foul release coatings are beginning to be available to recreational boaters, similar to products like [PropSpeed used on propellers](#).

Apart from paints there are new technologies which are being investigated like; Ultrasonic vibration, which vibrates the water around the vessel so growth cannot attach and [Shark Skin film](#) , have you seen a shark with barnacles?

Copper Free paints

ePaint is an example of paint which is free of copper, tributyltin, and other metals. When immersed in oxygenated water, ePaint photo chemically generates minute levels of peroxides. The peroxide makes your boats' surface inhospitable to the settling larvae of fouling organisms. The molecular formula for Hydrogen Peroxide is H₂O₂. Once it comes in contact with water it quickly breaks down into good old H₂O, making it environmentally friendly.

Other examples of copper free paints are; Microns CF, Interlux Pacifica and Pettit's Ultima ECO.

	Copper free	\$/qt
ePaint ZO	EP-ZO is a soft, "ablativ" paint with a Hard, smooth finish that will dissipate over time. Hauling and relaunching should not affect coating performance.	66
ePaint SN-1	SN-1 has been specified by the U.S. Coast Guard for a decade and is used on over 95% of the aluminum fleet.	
ePaint 2000 water based	ePaint EP-2000 is a smooth finish, hard antifouling bottom paint. It's designed as a hard bottom paint for fast moving vessels that normally operate over 30 knots, or for racing sailboats.	69

Micron CF	Combining ECONEA® with Biolux® Slime Blocking Technology, this multi-season, copper-free ablative paint	
Pettit Ultima ECO	ablative surface; metal-free Econeal™ biocide with a powerful slime fighting agent for dual-biocide	
Interlux Pacifica Plus	All waters where copper-free antifouling is desired, ECONEA™ (4%), Zinc Omadine® (4%), plus Biolux.	

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