



Dave Carnell's Boatbuilding Page: Articles from Boatbuilder and Other Magazines

Introduction:

I am a retired chemical engineer who has been messing about in boats for well over 50 years. [e-mail me](#).

Contents:

Latex Paint For Boats

A2

Page A3

A4

Page A5

A6

Latex Paint for Boats

WARNING: Warning this article contains material that may be offensive if you think painting is more fun than boating.

When I bought my first yacht (27' auxiliary sloop) for \$300 in 1951 I quickly learned that if its for a boat, the same material costs several times as much as if it is for your house. Oakum was \$1/lb. at the marine supply store; five pounds for a dollar at the plumbing supply store. Marine paint cost several times as much as house paint of similar composition. I worked for a major chemical company that also made paint and knew that their paint

that made the most money and on which they spent the most on research was house paint. Houses are out in the weather all year-no winter cover or inside storage. Their owners expect to repaint them infrequently, such as every ten years or so. They also expect a good paint job will require little preparation before repainting. Back then the only house paints were oil paints, so my yacht was painted with top quality oil-based house paint.

All paints consist of binders or resins, pigments, solvents, and additives. The binder forms the film that sticks to the boat and holds the pigment there. The pigments color the paint, make it opaque and have a good deal to do with UV resistance. Solvents keep the binder dispersed or dissolved and the pigments dispersed in an easy to apply state. They allow the paint to be applied in the correct thickness and then evaporate from the paint film as it dries. Mineral spirits, a petroleum distillate fraction, is the most common solvent in oil-based paints. In latex paints, water is the major fluid. It does not dissolve the latex particles, but disperses them in suspension. Small amounts of special solvents are present to control the coalescence of the latex particles into a tough, tenacious film and to slow down the drying of the latex paint.

Through the years latex paints have developed to the point where 100% acrylic latex paints are better than oil paints on all counts. They are more durable and tougher. They resist chalking and fading, retaining their color especially well when exposed to bright sun. They are easier to apply, going on more smoothly and with less brush drag. They have less tendency to grow mildew. They have almost no odor and no fire hazard. Cleanup is with water. They can be recoated in as little as one hour.

The 100% acrylic latex is the key to the outstanding latex primers and paints now available. The weather resistance of these polymers parallels that of the acrylic molding powders that make red automobile taillight and stoplight lenses that last forever without fading. I checked out all the top quality exterior primers, paints, and porch and deck paints at both Lowe's and Home Depot-they are all 100% acrylic latex products (the Glidden latex exterior primer at Home Depot used an organic nomenclature I hadn't worked with for 50 years, but my Handbook of Chemistry and Physics translated it to 100% acrylic copolymer latex). All of the products are available as custom colors mixed to your desire.

Your new boat went together pretty fast-instant boat or tack and tape construction. What kind of a paint schedule can you use to get it in the water next weekend. Let's say the inside will be all one color and the outside all one color, not necessarily the same as the inside. You can do the outside in one day, the inside the next,

and give it a couple of days before you launch it.

Here is the schedule. Sand it all over with 60 grit and clean up the dust. Put on a coat of latex primer. That will raise some hairy fuzz, so after drying a couple of hours give it a once over with 60 grit to defuzz it. Put on a coat of your exterior latex paint. Gloss is the toughest and most durable, but also shows surface imperfections best. Semigloss is almost as tough, durable, and easy to clean as gloss while not showing surface imperfections. For me, it is the usual pick. I have stayed away from flat paint.

You won't have to sand after the first coat of finish paint and you can easily recoat in the afternoon. That finishes half of the boat. The next morning turn it over and repeat the schedule for the other half of the boat.

If you use two colors on the outside of the boat, you will add another day to the painting. If you use different colors for the bottom and the side on the inside and have a steady enough hand to cut it in at the chine you can do it in one day.

While it is best to wait a week for the paint to dry hard, don't let it keep you from getting in the water before next weekend.

A posting on the rec.boats.building newsgroup on the Internet asked if latex paint was good below the waterline, as if it was going to wash off. Look around your neighborhood. All those houses painted with latex paint sit out in the weather all the time. My boats live in the water with their latex paint jobs. Platt Monfort recommends for waterproofing the Dacron® skins of his Geodesic Airolite boats "...the simplest method being a good quality exterior latex house paint."

How long is the latex paint job going to last? My sailing skiff that lives in the water was three years old this spring. The inside, especially the bottom, was scroungy from bilge water and having been through two hurricanes, so I gave it a one coat repaint job this spring. It looked great until Hurricane Bonnie messed it up this year.

The 16-year old Uncle Gabe's Flattie Skiff (Sam Rabl) built of ¼" fir plywood was painted when new and then about 9 years ago. It looks pretty scroungy, but the interesting thing is that while the paint on the wood has been scoured off by hurricane winds and general wear the paint on the epoxy-fiberglass joints in the sides is perfectly intact and looks great.

A fellow who was donating a boat to our local museum told me he had the real secret to boat painting. He had painted a production

plywood boat with latex primer and latex paint. He was sanding the paint off and found it was almost impossible to remove the last traces of the latex primer because it had penetrated the wood to some degree. Well, nothing soaks into wood like water and some of the pigment particles are bound to be carried along with the water vehicle of the latex paint.

When I rebuilt my 1964 Simmons Sea-Skiff 20 I used a heat gun and a wide chisel to remove about a dozen layers of old oil paint. To repaint I used latex primer and then two coats of Lowe's "Severe Weather" 15-year guarantee semigloss latex exterior paint custom colored to match the "Simmons blue" that was next to the wood. It

has been three years and three hurricanes ridden out on the mooring since the boat was launched. Except where the boat has rubbed fenders or the edge of the float and on the cockpit floorboards the paint is in first class shape. I do need to repaint the floorboards. In my survey I found that Lowe's has an exterior 100% acrylic latex skid resistant paint (Skid-Not®) that can be custom colored. I believe I will try it.

I am not alone in appreciating the outstanding performance of 100% acrylic latex paints for boats. Thomas Firth Jones, boat designer, boatbuilder, and author of *Boats To Go* wrote in *Boatbuilder* several years ago that he preferred latex paint over oil paint for boats for all of the reasons cited above. He did comment that he paints his tiller with oil-based paint because the latex paint stains there.

I was talking with "Dynamite" Payson one May weekend a couple of years ago and he told me he was going to repaint his skiff with latex paint that weekend.

Jim Michalak, boat designer and builder, uses latex paint on his boats.

Phil Bolger reported in *Messing About in BOATS* that his personal outboard boat is painted with semigloss latex house paint.

Boatbuilders are traditionalists and it has been a hard sell to get them to accept plywood, stitch-and-glue construction, epoxy adhesives, and other similar innovations. Don't let tradition keep you from benefitting from the ease of application and outstanding performance of 100% acrylic latex paints.