

Gary Anderson has been using water-based paints on his dimensional wood signs for years, and now uses them for hand lettering as well

Learning to swim: More on using water-based paints

by Gary Anderson



In my desire to find a system that was healthier and allowed me to offer a sign that had more longevity outdoors has led to the development of working with water-based acrylic paint. Last summer I wrote an article (*Jump in, the water's fine: Using water-based paints*, *SignCraft*, May/June 1995) about using flat acrylic on sandblasted dimensional signs for 14 years. Since that time we have become a totally water-based shop — with the addition of gloss acrylic on overlaid plywood for our flat painted signs.

Maybe a year is not a very long period with gloss acrylic, but my concern is not the paint but how overlaid plywood will react to a system that allows a small amount of water vapor to enter the wood. We use Simpson plywood and have had no problems to date. I know of other overlaid plywoods out there that might not react kindly to this system. They weren't good even with enamel coatings. Again, that's my own experience.

This article will deal with gloss acrylic on mostly flat surfaces like overlaid plywood — the more traditional types of sign painting. All of the signs you see in these photos were painted with water-based acrylic paint. Flat acrylics can be used, but gloss allows easier brush stroking, outlining, and vinyl application because of the slicker surface. I will try to cover all the pros and cons of this system so



12-ft. long, overlaid plywood

you will know what to expect. Hopefully, the examples will show that, for me, there are no limitations to what can be done.

What brushes should I use?

Of course, we have to begin with brushes. What types of brushes to use is the most common question I'm asked. Most normal gray squirrel hair flats can be used in water. Regular quills seem to be too soft. Don't oil them after use; simply shape them after washing and let dry. When using them, keep the paint in the heel wet because acrylics dry fast. Mack Brushes has developed an entire line of brushes that are a blend of Taklon and squirrel, and they are very good for this work. I have not found a totally synthetic hair brush that I like as of yet. Along with the Mack brushes, we are using some Langnickel brushes — series 206 flats and series 133 quills — that I bought when they were discontinued, so you may not be able to find them. Mack will be offering a Taklon/hair blend quill very soon. For coating out large areas, we use regular white hog bristle fitches. They seem to take to water just fine. (We use Luco #1640 or a Mack hog bristle fitch.)

Choosing paints

We use gloss acrylic house paint for this work. After 14 years of use and seeing the performance time after time in the field, I feel confident about our system. The brand that we use almost exclusively is Porter Acrylic House Paint, Flat (500 Series), Gloss (600 Series). Most brands of acrylic house paints will work; but coverage will vary. Porter covers easily in two coats and many times in one. Of course, just like oil-based paints, coverage varies according to color. If you try various brands to check coverage, buy 100% acrylic paint.

Many times these paints have 10-year warranties, but longevity depends on the individual color. I am currently experimenting with bright red in various acrylic brands to find one that will last more than two years, which is about how long Porter's Oriental Red lasts. When using house

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paint, be careful of any deep, rich color. Many of these are mixed in a transparent base to achieve the rich intensity and consequently lose their coverage capability. Acrylics are mixed in somewhat white bases and are graded as to quantity of white, i.e., light base will have a lot of white and will have very good coverage.

Porter's range in order will be light base, deep base, extra deep base, and ultra deep base. This is

a similar system used by all house paints. The ultra deep base will allow almost any rich color you might want but will give you very poor coverage. It also has some other characteristics that I don't like, but that's my opinion, so I don't have paint mixed in that base. One good use for this product is to use the base without any pigment mixed into it, and use it like varnish to make glazes.

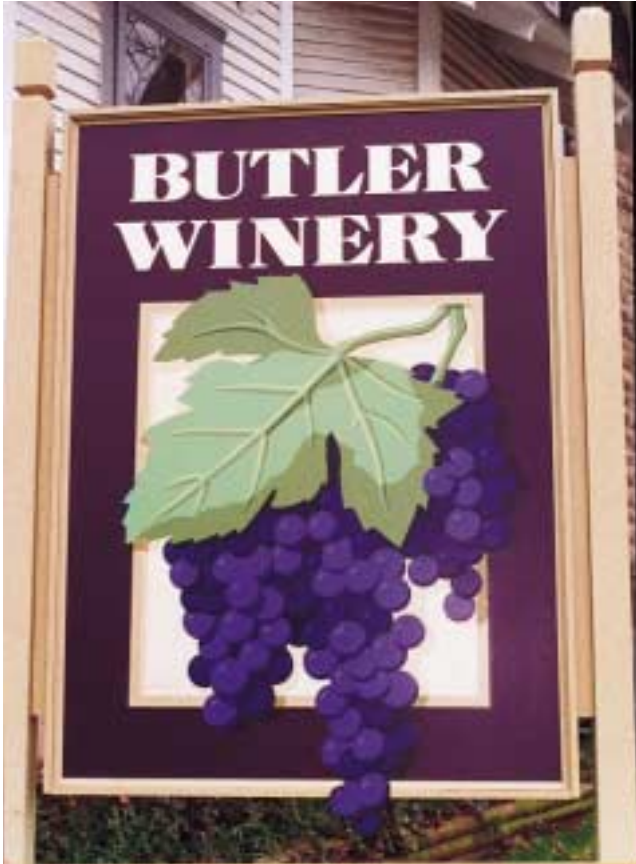
A lot of the really dark, rich

colors that we like to use — like green and blue — are mixed in-house. For example, if I want to mix dark green, I start off with the best Porter or MAB green that we can find, add black, and then add green 1-Shot acrylic bulletin color. (Other brands, such as Deka, Ronan, or Rich-Art may be used, but my experience is with 1-Shot.) One-Shot bulletin acrylic is so highly pigmented you can achieve a really rich color, and the Porter



Here is our palette of what I call our “stock colors”. Except for the ones that say “mix”, they’re all standard colors that are mixed by the manufacturer. Although we can mix nearly any color we want from this palette, it’s amazing how many of them we use straight out of the can. It’s wonderful to be able to inventory such a broad range of stock colors. Our ultimate goal with lettering paint is coverage. Sign paints have always been noted for coverage. We have found that we get the same, if not better, coverage from house paint than we do from today’s sign enamels. The exception is with some of the deep, rich colors — we have to mix them ourselves to get the proper coverage.

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4-by-6-ft. overlaid plywood



3-by-8-ft. overlaid plywood



4-by-8-ft. overlaid plywood

Main panel is
2-by-8-ft.
overlaid plywood



will give coverage.

Another important issue that you should be aware of is whether a paint is water-based or water-borne. Water-based paint is almost a non-toxic substance, whereas water-borne paint should be handled somewhat like oil-based paint. In all cases, protect yourself if spraying or disposing.

I find that acrylic house paint has similar characteristics to oil-based lettering enamels in terms of workability. In most cases, the paint that is known as acrylic sign lettering paint will be very fast drying and will need some sort of retarder in order to use it. I haven't tested the longevity of the acrylic lettering paints. This is a less-than-technical overview of acrylic paint, so be sure to talk to the manufacturers for technical data. In either case, when you want to clean your hands, forget that gallon of thinner — just go to the tap!

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6-by-3-ft. overlaid plywood

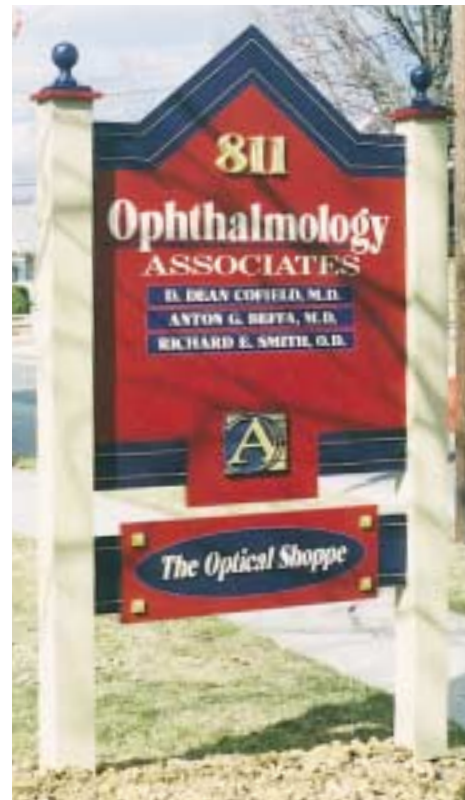
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3-by-4-ft. overlaid plywood with sandblasted urethane panel. Pictorial painted with water-based acrylic.



3-by-4-ft. overlaid plywood with glazed pictorial. Gary made this sign some time ago and used a varnish glaze. He now makes glazes with Ultra-Deep Base — a transparent acrylic product which can be tinted.



6-by-4-ft. overlaid plywood

As far as coating overlaid plywood, we sand the corners slightly, rough the surface, then coat with Porter 515 acrylic (or another brand of acrylic primer). Once dry it sands very easily, then we finish with two coats of gloss house paint. Two coats in the same day, with a very light sanding between, is no problem. We hand letter, stripe, border, or apply vinyl just like you would with any other sign. One thing that you might have to give up is the very high gloss and perfectly smooth finish you can get with enamel paints. Acrylics designed for the sign trade are more glossy than house paint.

Tips on coating

Flat acrylics tend to be more user-friendly and easier to get smooth than gloss acrylics. Do not flood the surface with paint. Work out of the roller tray and do not overwork — these paints dry fast. Use a 1/4-in. nap roller with a plastic core. (We use a lint-free, dripless made by Pro Roller Company, St. Louis, Missouri.) As the nap mashes down with use, the finish will get even smoother. After use, put your rollers in a plastic bag, and they will last almost indefinitely. Don't use foam rollers with acrylics, or it will be "Bubble World."

Source List

1-Shot Paints: CPF, 5300 S. 5th Ave., PO Box 6369, Gary, IN 46406; 219-949-1684

Chromatic Paints: AKZO Coatings, 3295 River Exchange Dr., #500, Norcross, GA 30092; 404-368-3960

Deka Paints: Decart, Box 309, Morrisville, VT 05661; 802-888-4217

MAB Paints: M. A. Bruder & Sons, 600 Reed Rd., Broomall, PA 19008; 610-353-5100

Porter Paints: Courtaulds Coatings, 400 S. 13th St., Louisville, KY 40203; 502-588-9200

Rich Art Paints: Rich Art Color Company, PO Box 198, Northvale, NJ 07647; 201-767-0009

Ronan Paints: T. J. Ronan Paint Corp., 749 E. 135th St., New York, NY 10454; 718-292-1100, 800-24-ROGAN

Luco Brushes: Leo Uhlfelder Co., 420 S. Fulton Ave., Mt. Vernon, NY 10553; 914-664-8701

Mack Brushes: Andrew Mack & Sons, PO Box 157, Jonesville, MI 49250; 517-849-9272

Scharff Brushes: Scharff Brushes, PO Box 746, Fayetteville, GA 30214; 770-461-2200

It's doing the job

All in all, I do not notice much difference in the workability of water-based acrylic or oil-based enamel. It definitely does not limit what I can achieve, and after all that work, I also know I will be able to look back on those signs in years to come and not see oxidation or color shifts. It's also sped up production a lot. Acrylic is also more flexible and "rides" with the overlaid plywood edges. Even if a crack should develop, the moisture will not affect the acrylic as much and push the paint off the surface.

I'm lettering signs just like I have for the past 26 years. Some things have to be double coated and others don't. We do pictorials, stripe, outline, shade and blend. The times they are a-changing, and I am making an attempt to keep up with the changes that environmental concerns and the availability of resources, such as certain kinds of pigments, have affected. I can still produce a product that has longevity and creativity, and that gives the customer their money's worth. □

Gary Anderson's shop, Bloomington Design Inc., is in Bloomington, Indiana.