

*Here's an easy way to add an impressive look to dimensional lettering*

## Step-by-step: Epoxy finished letters

by Dave Beatty

Having had the good fortune of lettering boats in the Sarnia area for over 27 years, I've seen a lot of boat repair in progress. Some is minor, like a splintered spar; some is major, like a six-foot hole in the hull of a yacht from a racing accident. One thing I've learned is that mariners put a lot of faith in West Systems epoxy [Gougeon Brothers, Inc., P. O. Box 908, Bay City, MI 48707; 517-684-7286] for such repairs. They use it by the 45-gallon drum.

I've learned a lot from my friends in the field of boat repair. When gluing up wood panels for sandblasted or carved signs, I've always used West Systems epoxy. Epoxy eliminates joint failure and is easy to work with.

You can also use epoxy as a coating or finish. It has the unique quality of flowing out so that no brush or applicator strokes are visible. The result is a relatively thick, incredibly smooth finish. When you do this on a surface, like the raised letters on a sandblasted sign, the epoxy flows to the edge of the letter stroke and stops (providing you don't apply too much epoxy!). The thick coating hardens with a gentle curve to the stroke's edge. This creates a beautiful effect—especially when gilded. It makes the letters appear rounded.

This effect will really set your work apart and add a lot of class to a sign. It's also very durable. I've done over 50 signs using this method and all have held up great. Some have been out in the weather for over eight years.

### Materials

■ Epoxy—West Systems 105 Epoxy Resin and 205 Hardener. You can get this at most marine suppliers, or by mail from JT's Ship Chandlery [364 Thames St., Newport, RI 02840; 401-846-8170]. Be sure to get West Systems' technical manual for more information on using the epoxies and fillers.



- Filler—West makes several to choose from: 403 Microfibers, 404 High Density, 405 Filleting Bond, 404 Colloidal Silica or 407 Low Density. I've used them all with satisfactory results.
- Applicator sticks. I use wooden popsicle sticks.
- Small plastic cups. The tops of plastic containers that yogurt comes in work fine.
- ScotchBrite pad (No. 7447 General Purpose Hand Pad)
- Stencil knife
- Rags and paper towels

Sandblast the sign as usual. On this sign, I did what some call a "double blast" or "stage blast" to create a blasted outline on the letters. I applied the sandblast mask, then cut the lettering and outlines. I removed the mask to expose the background—but did not remove the mask from the outline. After blasting the background almost to the desired depth, I removed the mask from the outline and blasted the sign again. This creates two levels of blasted areas.

After blasting, remove the mask and blow it off with compressed air to remove all dust and sand. Prime and paint the sign as usual. I use top quality acrylic latex house paints.

Lay the sign on a flat surface or a pair of sawhorses, then use a level to make sure it's lying dead flat in all directions. If the sign isn't level, the epoxy will run off the edges of the letters, rather than lying on the faces.

### Mixing the epoxy

Epoxy doesn't "dry" like paint—it hardens (or "cures") as the result of a chemical reaction between the two parts, which are the resin and the hardener. Careful measuring of both resin and hardener, and thorough mixing are essential for a proper cure. I use West Systems' calibrated mini-pumps to maintain the proper ratio of resin to hardener. Otherwise, you can measure by weight or volume: five parts resin to one part hardener.

Mix the epoxy in a clean plastic, metal or wax-free paper container. Don't use glass or foam—epoxy generates heat during the mixing/curing process. Make sure the container is clean so the epoxy

isn't contaminated by something that would affect curing.

For the letter surface, the epoxy is easier to handle when it's thickened slightly with a filler. I've used all the various fillers that West Systems offers with good results. You just want to add enough to give a heavier consistency.

Use an applicator stick to stir the two parts of the epoxy together for one minute, then stir in the filler. Load the stick with epoxy, then drip it onto the letter, applying enough for it to flow out to the edges of the stroke—but no more. On small letters (under 1½ in.) use an applicator that has been split in half. On very fine strokes, try a toothpick.

With a little practice, you'll soon learn how much epoxy you can flow on to each stroke before moving on to the next one. Once most of the epoxy has run off the applicator, you can use it to push the epoxy around on the letters so that the stroke fills evenly.

Keep your sleeves rolled up or you'll bump a letter and make a fine mess. On large lettering, I skip every other letter so that I don't have to worry about bumping into wet epoxy. After the epoxy hardens, I come back and do the remaining letters.

On letters with diagonal strokes, there is a tendency for the epoxy to flow over the edge at the points where strokes meet. Take care not to apply any more epoxy than you need to coat the letter. When you're finished, discard any remaining epoxy.

Keep an eye on the letters during the curing stage. Watch for drips or spots where the epoxy starts to flow over the edge. If it does, use a stencil knife to clean it up. Once it begins to harden there's nothing to worry about. Hopefully you won't have any tiny "outgassing bubbles". They usually expand, rise to the surface and pop before the epoxy hardens.

Let the letters dry overnight. The next day you will notice a wax-like film on the surface of the cured epoxy. Wash the surface with clean warm water and a Scotchbrite abrasive pad. Scuff the letters lightly with the pad, then dry with a paper towel or rag.

If bubbles have caused a few pin-



*Start the project with a clean sandblasted panel.*



*Paint the background and lettering before applying the epoxy.*



*Drip the epoxy onto the letters from a stirring stick.*



*The epoxy will flow out to the edge. (It may need a little help.)*



*It's less messy if you skip every other letter, let dry, then do the remaining ones.*



*For gilded letters, apply a primer coat of enamel mixed with Dekor screen ink.*

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23k patent gold leaf makes gilding easy.



Before burnishing, the leaf looks like this.



After burnishing, you see the added dimension epoxy gives.



Here are a few examples of signs done using this process.



holes in the surface, they can be patched with exterior spackle or auto body spot filler, then sanded when dry. The letters are now ready to paint, and in this case, gild.

As a base coat for my gold leaf size, I mix equal parts of yellow lettering enamel and yellow ochre Dekor silk screen ink. Dekor ink is available from many sign and screen suppliers, or by mail from Esoteric Sign Supply [P. O. Box 279, Harbor City, CA 90710; 310-549-6622] or Canadian Signcrafters Supply [39 Bedford Park Ave., Richmond Hill, Ontario L4C 2N9; 905-508-7374]. Brush on the base coat. When it has dried thoroughly, sand it lightly.

I use LeFranc slow oil size mixed with a little yellow enamel to make it easier to see. It's a 12-hour size, so I apply the size late in the day and let it tack up overnight.

When the size has tacked up so that it makes a squeak when a knuckle is dragged across it, it's ready to gild. I use 23k patent gold to gild the letters. I find it works quickly and is easy to push down and around the letters.

After gilding, I gently burnish the gold with a burnishing brush or wad of cotton. Use compressed air to blow off excess gold so that it doesn't stick to the background.

Now you can stand back and admire your work. The process may sound like a lot of work, but it's harder to explain than to do it. Make a sample panel and give it a try. It's quick to do and the effect is worth it. You can also charge a premium price for this work because the look is so unique and the finish is very durable. □



*David Beatty's shop, Sign Artist Extraordinaire, is located in Point Edward, Ontario, Canada.*



*Epoxy can also be used as a coating as I did on these high-density urethane letters.*

