

January 1, 2005

## From the Bench

Well, I warned you that sooner or later we needed to start some tech articles so I'm going to kick it off here in January and, based on the new project coupe, I'll try to contribute as I have time or something interesting to say.

This month I'd like to talk about my experience in applying epoxy coating to the garage floor, as I'm sure you've all thought about one time or another.

I began this project through an event; selling of my Cobra last April and expecting to start another kit by end of year -- and by a desire to have a nice "cover page" garage. I quickly narrowed the products down to two companies that dealt with industrial floor coating epoxy and went with one that had a 100% solids epoxy. This means that essentially 100% of the material you lay down stays there. Most paints will evaporate some amount as the cure so if you put on 1 gallon you will end up with less than 1 gallon actually in the finish after curing. This reduces the "thickness" of the finish. On a car this isn't a big deal but I thought a floor would benefit from as thick a coating as possible.

Now you have to remember that epoxy is just another paint, but compared to some of the "off the shelf" garage floor paints these industrial versions tend to layout a thicker, tougher and longer lasting finish. This "paint" concept is important since it will get you into the right frame of mind -- the surface must be prepared, temperature must be right to apply, same tools are used, and you can correct mistakes like with a car finish.

Application is through a very detailed step-by-step process. **YOU MUST FOLLOW THE INCLUDED INSTRUCTIONS EXACTLY!** Failure to do so will cause you problems. The basic steps come down to:

1) Cleanout your garage!

Yeah, this means everything that sits on the floor needs to be moved out for about a week. You can choose to leave floor-mounted cabinets in place realizing that if you ever do move them the floor will show it. Pick a warm week and make sure your valuable tools are locked up inside.

2) Floor preparation/cleaning

Pretty much as stated... It's making sure the surface of your project is clean and having the best possible texture for the paint to adhere to. It includes the hosing out -- pressure washing is even better - of the garage and then applying an "etching" solution to rough up the concrete so the epoxy will find something to hold onto. A lot of the garage paints ask for an "acid" etch which I was a little uncomfortable with as the wash out takes it down the street and into the nearby lake. The company I went with provides a biodegradable solution based on salt.

3) Floor repair

Now's the time to fix any cracks or pock marks. Why not before the etch you ask? Unless you really make sure, most etch solutions will remove the fill material you just put on which puts you back to step 2 again.

4) Stain sealing

In the case of really badly stained floors you might need to apply a "sealer" over the stain to keep it from either migrating through or lifting your final product. I

used it on the normal spots under where the cars parked just to make sure. You can also primer the floor if it tickles your fancy but if your floor is in reasonably good shape this isn't needed and wastes money and time.

5) Application of base

Ok, here's the real stuff. **MAKE SURE YOU WAIT THE APPROPRIATE AMOUNT OF TIME SPECIFIED BY THE PRODUCT MANUFACTURER FOR DRYING AND CURING OF SEALERS BEFORE BEGINNING.** **First off** – take 1 quart of product out and set it aside for touchup later. Make sure you keep the right amount of both components. If you don't it will affect both the finish quality and adhering. Most manufacturers send their product in pre-measured containers and when they tell you not to mix more than one set at a time – listen to them! Epoxies are based on a chemical reaction of two parts mixed together. The minute they are mixed the reaction begins and things start to cure. You have a limited amount of time to get it laid out before it becomes too thick to deal with. I did this as a one-person job and I can tell you that 2 people would be better. Once it turns to jello, you're better off tossing that batch and starting the next. It's also important to ration the product. My instructions said to section the garage into quarters as the epoxy came in 4 sets of mix. This way I always knew where I was on consumption and didn't worry about having enough. Also important is to make sure you start in a corner and working your way toward an exit – don't paint yourself into a corner. Make sure the garage is well ventilated. If your heater is in the garage you might think about turning off the pilot light while you do this as most of these epoxies are very flammable.

6) Application of the add-ons – flecks, etc...

My product came with "flecks" which are really dried paint chips that when spread on top of the drying base will give you a nice non-slip surface and it really makes it look better. The instructions make this sound easy but there is no way to "broadcast" this stuff perfectly across the entire floor. My best advice is to pick a method and do it consistently as you go. You will need to add the flecks as you go since you can't do it later unless you walk on the floor. I ended up drilling holes in the lid of one of the fleck cans and used it like a salt shaker. I found I could tape over a couple of holes and fine tune how much came out. Yep, I figured it out the last 10 feet of the floor.

7) Application of a UV inhibitor

Most floor finishes also allow you to apply a UV coating to keep garages that face the sun to keep from fading out over time. In this case it was a clear coat of acrylic urethane. This gets applied after the base coat with flecks has cured 24 hours. Don't get into a rush. If after 24 hours you need to do any touch-up, do it now before the UV coating. That's why I told you to keep a quart aside!

8) Let it cure! If you can get away without driving on it for a week that's always the best. You can walk on it the next day and move your stuff back on in about 2 days.

Now a test to see if you really want to go through with this... Answer yes or no to each.

- 1) Do you desire a showroom garage that will be the envy of all your motor head friends?
- 2) Are you willing to put up with the work of cleaning your garage out to achieve it?

- 3) Are you willing to sweep it every single week, sometimes more during windy times?
- 4) Are you willing to mop it after every rainstorm or park wet cars outside?
- 5) Can you deal with seeing imperfections in the finish every week without increasing your Prosaic dosage? (this only applies if you do it yourself)

If you answered yes to all the above I whole-heartedly endorse epoxy floor coatings in the garage. It does make for a visually stunning garage and it does reflect the lights in the garage making it a much brighter working area. If you answered no to any of the above, think about it carefully.

I've had it now for about 4 months and I've learned to overlook the flaws of my application. It's not perfect like I would prefer it to be but I can live with it. I've done a couple of repairs on it due to contamination under the coating that I didn't get during prep and whereas I could wet sand and buff the repaired areas down like a car finish I've chosen to leave it imperfect. My reasoning is that I walk on it in the rain so why would I want to make it more slippery? And yes, in the fall when the leaves drop and the Santa Ana winds kick up has me sweeping it every weekend. Rain is a pain because the grime from the underside of your car drops on your nice floor and of course that just won't do! Out comes the mop and, well you guessed it, your motor head friends all gather to watch you mop the floor.

Overall though I like it, as I was the kind of person who liked a clean garage anyway so it wasn't that big of a stretch for me and only I can see the imperfections clearly. With a house of girls it also makes sense for me to have the garage as comfortable as possible so I can escape into it as they get older. Anyone interested in more information on my experience, give me a call. Hopefully this will help someone and that's what tech articles are about.