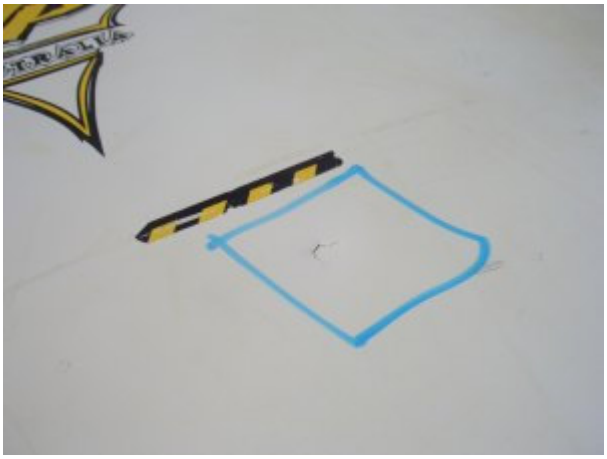
How to repair a dinged windsurf board

VERY Important: *before the repair, let the board **dry out** for at least a day in the hot sun. Be sure to read "preparation" below.*

Repair of a small (1/2") hole in the bottom of a windsurf board, using epoxy resin and hardener, plus filler:

1. preparation,
2. clean board,
3. sand to roughen surface,
4. mix epoxy,
5. add filler,
6. fill the ding with the mixed epoxy/filler paste,
7. allow paste to harden,
8. finish sanding, and
9. spray paint.

Preparation



Ouch! This board got stepped on when it was sitting on the dock.

Now there's a little hole punched through the bottom.

As mentioned above, the first step is to let the board **dry out** for at least a day in the hot sun. Water in the ding will react with the epoxy and create bubbles. The inside of the hole has to be **completely dry** before you start.

Clean the board

Once the board is dry the repair can begin. Start by putting on gloves. Everything in the board hospital has nasty stuff on it.

Now get out the alcohol and a clean rag. You've got to clean off the grease (sunscreen in the water) from the board's surface before you start, or the repair may not stick.

Alcohol is safer than acetone for cleaning windsurf boards--acetone will dissolve the styrofoam inside the lighter glass boards. Soap and water is even safer, but takes longer than alcohol does to dry out.

Clean off the board's surface all around the hole, using a rag soaked in alcohol.

Sand to roughen the board surface

Find a sheet of clean sandpaper. This is 80 grit, which will sand the board's surface to a very rough texture, which is better for the repair.

Sand an area about 1" around the hole, just to roughen the surface. Don't sand all the way through the board surface, just roughen it.

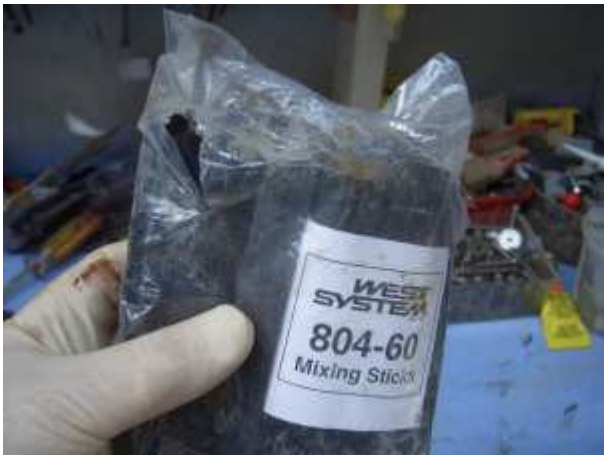
Clean off the sanded area with alcohol again, to make sure there's no grease on the surface.

Mix epoxy

Next we're going to mix up some epoxy resin and hardener, and add filler.

An alternative is to use marine tex, an epoxy product that has filler already in the resin part, to be mixed in a 5:1 proportion with the "catalyst" (really a hardener). Marine tex can be a little faster to use, with less waste since the epoxy resin/hardener process relies on mixing pumps that dispense more than you usually need. But the epoxy resin/hardener/filler approach is better if you're going to use cloth, so this presentation should prepare you for that.

Get out the party cups to mix epoxy in.



...also a mixing stick.

The west systems epoxy pumps deliver the right proportion of resin to hardener, which is critical to a good repair. If the proportion is off, the epoxy won't harden.

The resin is west systems 105.

One squirt of resin, and one squirt of hardener provides about two tablespoonfuls of mixed resin/hardener, which is way more than enough for a ding repair.

The west systems 205 hardener is good for ding repairs because it's quicker to harden than the 206 hardener. 206 hardener is better for more extensive repairs like a nose rebuild, where you need plenty of time to work up the fiberglass before the mix starts to harden. In really hot weather, use 206 for ding repairs, because the outside temperature causes the mix to react quicker.

The resin and hardener need to be very, very thoroughly mixed or they won't react completely, which gives a gooey result that has to be scraped off.

When you start mixing, you'll see streaks in the mix that show where the resin and hardener are still separate.

When the resin and hardener are mixed, there won't be any streaks. For best results, keep mixing for another minute or so, to be absolutely sure the resin and hardener are thoroughly mixed.

With a clean brush, wet the board surface around the hole with resin/hardener mix. This ensures that the epoxy will get a good grip on the surface of the board.

Add filler

Get out the west systems 407 low density filler. You should **put on a particulate mask**, since this filler is a very light powder and can get in your lungs as you pour it.

The filler will add some strength to the epoxy mixture, to reinforce the board's skin where the hole is. (If this had been a larger hole, it would be good to use some fiberglass cloth over the filler.) Straight resin/hardener mix is pretty brittle, and heavy. 407 filler makes for a lighter, stronger repair.

By volume, about 3 parts of 207 filler to one part of resin/hardener mix will give a paste with about the same consistency as peanut butter. Add the filler gradually in tablespoon sized doses, mixing it up after each addition, so you don't add too much filler. Otherwise, you may add too much and have to mix more resin/hardener to get a workable paste.

Almost mixed completely, it's as stiff as peanut butter.

Fill the ding

Force the resin/hardener/filler mix into the ding with a yellow plastic squeegee. Once the ding is filled, use the squeegee to level off the top of the mix, leaving a smooth surface.

Allow the paste to harden

If you're working outdoors, shade the repair so the sun won't hit the uncured epoxy--it doesn't like ultraviolet light, and will not harden properly if exposed to the sun.

Finish sanding

When the epoxy is fully hardened, use a sanding block and sand paper to sand the epoxy flat and level with the surface of the board.

If there are any areas where the epoxy has holes or valleys, fill them with more fresh epoxy resin/hardener/filler mix, and use a yellow plastic squeegee to smush in the epoxy, leaving a smooth surface

Spray paint

The final step is to spray paint the sanded epoxy. The paint protects the cured epoxy from UV, which will break down the epoxy if it's not shielded from the sun.

Go sailing!