

2006 • Over a Decade with Dr. Gel • 2017



Ask

Dr. Gel

by Dave Weakley



Dave Weakley is the owner of American Boat Restoration and has been helping Northeastern boaters keep their boats in fine trim and good repair for over 40 years.

"Email me or call me with your questions! I'll be happy to help you out"

americanboatrestoration.com / email: boatrepair@aol.com / Office: 413.665.7424 / Cell: 518.577.7799

## Gelcoat Repairs - "There's more to it than meets the eye!"

### Have you ever ...

- Seen a fresh repair turn gray?
- Noticed a shiny ring around the repair? I call that a "halo"
- Not been able to polish a repaired area?
- Observed deep scratches in the repair that you can't feel? I describe those as "comet tails"
- Had a repair spot that is dark with tiny little pin holes in it?
- Have gelcoat plug up your sand paper?
- Have the color not match? This happens a lot!
- Seen gelcoat peeling off the boat and actually be able to scrape off with a putty knife?

All of these results are attributed to using the wrong methods and materials!

Dr Gel: "I bought a Gelcoat Repair Kit and did a minor repair. The repair is still tacky, the color does not match, and it looks terrible! Help!"

Gelcoat repairs can be challenging even for the professional! There is a lot you need to know about it before you attempt a repair. Gelcoat is a very unique surface over fiber reinforced composite made of polyester. The gelcoat provides a high-quality finish made even more attractive using color pigments.

With proper care a good surface should last for years!

Successful gelcoat repair is affected by many things including age, temperature, humidity, hardener, surfacing agent, additives, and application methods.

How much color fade the boat has will also determine how nice the repair will look.

**AGE-** Gelcoat has a shelf life! Hopefully that Repair Kit you used was fresh and not sitting on the shelf for a couple of years! Gelcoat is good usually for up to 6 months. I won't use gelcoat if it is more than 3 months old. There are chemicals in the gelcoat that evaporate over time. The chemicals are crucial to insure a proper cure. Once a boat manufacturer sent unknown to me, outdated gelcoat to do a warranty repair! I sprayed the gelcoat and it would not fully cure - it was TACKY! Hummm, brand new boat, outdated gelcoat. I asked the manufacturer to please ship me some fresh gelcoat! Repair was redone successfully. That will only happen to me once!

**TEMPERATURE** - Gelcoat is very temperature sensitive. Apply it in a minimum temp. of 68 degrees - maximum 98 degrees. I don't recommend 98 degrees! I think 73-75 degrees is the ideal temperature to work in. It is very important the boat and gelcoat be the same temperature when applying the gelcoat.

**HUMIDITY-** Gelcoat and water don't like each other. If there is heavy humidity in the air, wait to do your repair. A humid environment will create pin holes and affect the color and adhesion. These are just three of many problems humidity will cause.

**HARDENER-** mekp - There is 50% mekp hardener for gelcoat and another type of mekp 9% for fiberglass resin. Be sure you have the proper type! At 68 degrees, 1-oz. of gelcoat will require 12 eye dropper drops of mekp. At 73 degrees you will need 9 drops of mekp, 88 degrees use 6 drops. 98 degrees requires 4 drops but trust me, at 98 degrees you won't get it from the mixing cup to the boat before it hardens.

Too much mekp will change the color. Using the wrong mekp will affect the cure.

**SURFACING AGENT-** A must! You need to apply a surfacing agent over gelcoat because air inhibits the curing of it. Cellophane is the type often included in Repair Kits. It will do the trick if you get a good enough seal! Two other types used by professionals are sprayed on PVA (Polyvinyl Alcohol) or a mixture of Styrene/Paraffin Wax added to gelcoat before it is applied.

**ADDITIVES-** Using too much pigment while you are trying to get a color match will retard your cure. It will cause a big problem!

**APPLICATION METHODS-** When you use a popsicle stick or brush to apply the gelcoat, it is often applied too thick & fast. The thicker the gelcoat, the hotter the cure. Too much heat developing quickly will affect the color. Gelcoat is designed to be applied with a spray gun resulting in a better color match and finished product.

**GELCOAT COLOR FADE** - It is important to compound the boat, make it look as nice as possible. You are now matching the color of the boat and not the dirty faded gelcoat.

With all this information in mind, try your repair again. You may be successful!

Finally there is a lot of bad, inaccurate and misleading information on line on how to do successful gelcoat repairs! Key words here are "successful repairs". The "Forums" and other so called professional instructions are most often w-r-o-n-g! Save yourself time and money and either have your repairs done by a professional or take one of my Gelcoat-Fiberglass-Polyflake Repair Training classes. I can teach you the proper gelcoat repair techniques saving you lots of heartache and frustration!



1. You may make a bigger mess than you started with.



2. Repairing the "Repairs"



3. That's the way it should look!



## Questions from our readers:

***"My trailer is my boats worst enemy. I have a roller trailer and every time I put my boat on it the boat ends up crooked. The trailer has caused damage to the gelcoat and fiberglass on the keel and around bow eye. Is there anything I can do without buying a new trailer?" F.T. Catskill, NY.***

First of all, it is possible you may be backing your trailer in the water too deep. A rule of thumb is to back your trailer in far enough to just submerge your fenders. Keep in mind every trailer is different!

Secondly, you want to make sure your trailer has been adjusted properly to fit your boat. We can check it or you can take it to your favorite marina. You want to be sure your rollers are running between the strikes. The bow stop on the winch stand should be wide enough so you don't have to be a sharp shooter to hit the center. There are guide posts that can be installed on the trailer. Just remember they are guides not bumpers!

Personally, I prefer bunk trailers over roller trailers. I fix damage all the time caused by roller trailers. Each roller supports only approx. 4"- 6" square area of the hull. In some cases if you look carefully along the bottom of your boat you can see indentations the rollers cause. It is best to have a drive on bunk trailer in my opinion. In most situations a roller trailer can be converted into a bunk trailer. A properly adjusted bunk trailer will support the entire hull!

***Email us your questions!  
boatrepair@aol.com***

***"When I purchased my 46' boat it had bottom paint on it. Last spring I noticed areas of missing paint and had another application of bottom paint put on. At the beginning of this season I saw areas of flaking and peeling paint exposing shiny gelcoat. Why isn't the paint staying on it?"***

***J.B. Albany, NY***

During my inspection of Joe's hull I observed many areas of exposed glossy gelcoat and was able to easily peel sections of the bottom paint off the boat indicating right away that the hull was not correctly prepped for bottom paint. Also during the inspection, I found stress cracks along the port and starboard sides under the waterline. It was obvious the bottom paint had to be removed and I proceeded to do so. As I removed the paint, I discovered additional cracks and impact fractures wide enough to absorb some serious water. Joe wanted all the problems repaired and the hull properly prepared for new bottom paint. I highly recommended the application of a gelcoat barrier

protection system before any further bottom paint was applied to protect the hull from additional water absorption and osmosis damage. Epoxy barrier is made of unique resins and has very high water resistance properties sealing the hull from the water. Epoxy barrier on a boat is similar to shingles on a roof, helping to eliminate water intrusion. Using the barrier coating should minimize the possibility of reoccurrence of damage and is cheap insurance that will help extend the life of the boat.

After the application of a barrier coat the hull was ready for the proper bottom paint. I advised not to cheap out on the type of bottom paint to use. The four main types to choose from are; Self-Polishing, Hard, Performance & Specialty. It is important to choose the right one for the fouling type the boat will be exposed to.

Clearly, Joe's hull was not properly prepped for the bottom paint application. Fortunately, in his case removing the bottom paint exposed some damages that were able to be repaired before serious issues developed such as osmotic blisters.

Bottom line is, good preparation is essential to insure the best protection for your hull. Preparing it for bottom paint is labor intensive and often not done properly. Can you image sanding a 46' from bow to stern with 80 grit sand paper on a 6" sander? It's like scrubbing the deck of a ship with a toothbrush! An unpainted boat needs to be first cleaned of all contaminates; dirt, oils, wax, etc. If the boat is brand new it will have a "mold release wax" on it that also has to be removed. I suggest using solvent washes to do that. Next the hull will need to be sanded with 80 grit sand paper. Remove the sanding residue using the solvent wash again. The hull surface is now ready for an epoxy primer followed by bottom paint if desired.

If you do not take the proper preparation steps you are wasting your time and money. Do it right the first time!

