

BOATYARD QUALITY, MARINE GELCOAT (CLEAR COTE, WHITE-CS)

CLEAR COTE™ Boatyard, Marine White Gel-coat (CS) is a good quality polyester base gel-coat specifically designed for the repair of previously molded polyester fiberglass products such as boats, shower stalls, tubs, truck pick-up toppers, etc. CLEAR COTE™ Boatyard, Marine White (CS) gel-coat is an "Interior" type gel-coat that contains a surfacing agent or wax. This allows the surface to cure hard & tack free.

By understanding Gel-coat, its' properties & applications, it will help you when you need to do some repairs on your motor/sailing yacht. So what is Gel coat? It is the primary laminate within the construction layering of a production fiberglass boat. Gel-coat is sprayed into a polished mold to give the boat, color and gloss. The fiberglass layers are applied to the "back" side of the gel coat. This is just the opposite of the way most other products are manufactured, as the last step in production is to spray on the finish. This is the why it's called the finish. Gel-coat is the starting point when it comes to production-built boats.

Gel-coat is different from paint in numerous & important ways. Paint bonds to the underlying surface mechanically. The gripping, microscopic scratches are put there by sanding or etching. The bond that occurs between gel-coat and the underlying laminates is a molecular bond. The resin that saturates the first layer of glass material will combine with the surface of the gel-coat to form a single mass. This creates "chemical cross-linking" because the gel-coat resin and the polyester resin used to saturate the fiberglass fabric are the same basic product. Gel-coat is basically pigmented polyester resin that does not "flow out" like paint. Paints are self-leveling very similar to water. Gel-coats dry to a smooth, glossy finish. Gel-coat finishes out more like plaster, mimicking the texture of the chosen application tool. It may be thinned and sprayed to get a smooth finish but the glossy characteristic of the fiberglass boats is due entirely to the polished interior surface of the mold. A gel-coat finish is also about 8-10 times as thick as a paint finish. This can be both a good thing and a bad.

Repairing a gel-coat surface is not hard but it is an art. In order to use the material in a mold or to laminate on top of this cured gel-coat, the outside surface must be sanded and solvent washed first. Surface preparation is the key to any gel-coat project. Gel-coat itself adds very little strength to a fiberglass part. All proper laminations under the surface must be intact and/or repaired prior to gel-coat application. When doing repairs, it is also important to note that gel-coat will not adhere to epoxy.

Make sure to cut off any excess gel-coat shavings or splinters with a straight razor blade, leaving a fairly smooth surface. Wipe damaged area thoroughly with acetone to remove all oil and dirt. Surround the damaged area with strips of 2-inch tape.

Mix repair filler with 10% marine cream hardener. Polyester, putty filler or one that is hand made with this gel-coat by adding fumed Silica type filler, can be used. The amount of filler used will vary based on the size of the repair. Apply filler mixture to damaged area with spatula to fill the chipped or scratched area. Allow the filler to harden and dry. The filler has hardened when pressing on the repair area does not create impressions. If there is a need to decrease the drying or hardening time, use a blow dryer.

Sand the filled area with coarse grit sandpaper to even out the surface of the repair. Next, sand the filled area with medium grit sandpaper to smooth the surface. Remove tape from the perimeter of the repair. Lastly, you will need to sand with a fine grit sandpaper to remove the any remains or grooves of the coarser sand papers. Make sure you sand at least 3 inches out from the damaged area with this paper. This way the area around the repair does not appear scratched or inconsistent with the rest of boat. Clean the sanded area well with acetone.

You are now ready to reapply with a 2-inch masking tape about 3 inches away from the repaired area on all sides. This will prevent over spray on other areas of the boat. Prepare gel-coat for application by mixing the gel-coat with 1 ½% - 3% MEKP, gel-coat hardener. (If being mixed in a humid climate, you should add

30% FERRO patching aid. Patch aid will act as a reducer so the gel-coat can be sprayed through a spray gun.) Stir mixture very well as most problems are the result of a poor mix.

Clean the repaired area again with acetone. Apply approximately 16-32 mils (thousandths of an inch) of gel-coat to the repaired area at 30 pounds of pressure. Remember if gel-coat is too thin or too thick, it may sag when wet or crack when cured. The best method is to spray on the gel-coat, in many passes to gradually buildup the surface, thus avoiding a too heavy spray and uneven surface. Gel-coat will need to be sanded down and should be slightly higher than the surrounding gel-coat. Material may however be applied with a brush or roller requiring more sanding.

Allow gel coat to dry for 3-6 hours before sanding. Begin sanding with 220 grit sandpaper and work up to 800 grit sandpaper.

The final step is buffing out the repair with compound and a wool buffing wheel between 1600 and 3000 rpm. With care, a virtually invisible patch with a mirror like finish is possible.