Dolphin Waterslides, Inc

Repair, Maintenance and Winterizing Guide for Gel Coat Surface Residential Waterslides

Routine Maintenance and Winterizing Procedures

Maintenance

To help protect your slide from the affects of outdoor elements the following steps should be followed.

- Upon opening your pool for the swimming season you should inspect your slide for any damage that may have occurred during the winter months. Check all lines and hoses for defects such as dry-rot, cracks, leaks, etc. Be sure to clean the strainer and check the pump's operation to ensure it is performing properly.
- Clean the slide surface using solutions recommended by the marine industry for gel coat surfaces. Take care to notice the ingredients to ensure this will not affect your pool water chemicals. For severe issues such as tree sap, etc a mild (water based) polishing compound can be used for removal.
- Apply one coat of polish/wax upon at the beginning of the swimming season. A second application is recommended mid-season and a third coat should be applied when your pool is winterized.
- Most pump systems are equipped with strainers. To optimize performance and extend the life of your pump the strainer should be cleaned on a regular basis.

Winterization

- Follow the same procedure for winterizing your slide pump system as is recommended for the pool pump. Clean the strainer and be sure that no water remains in the lines or pump. Failure to do this may result in damage to your system due to freezing temperatures.
- Apply one coat of wax to the slide surface and wipe clean following the application recommended by the wax manufacturer.
- It is not necessary to cover your slide for the winter. However, covering the slide may help, or alleviate the need for cleaning upon opening the pool next season.

General Repair

Note: It is recommended to have repairs performed by certified repair technician. However, for the do-it-yourself home owner, below is a basic guide for repairing damage to your gel coat waterslide.

Most materials can be obtained at a marine supply or local automotive repair supply store.

Covered Sections:

Minor surface repair

Area patches

Holes, cracks and punctures

Helpful hints

Trouble Shooting

Tools and supplies needed:

Sanding Paper – 80, 180, 320, 600 grit

Gel coat and activator (in some climates a good quality lacquer surface coat is acceptable) – you may order this to match the color of your slide from a pool supplier or local automotive supply store.

Electric sander

Electric polisher

Polishing compound – course and fine finish

Putty knife or plastic spreader (preferably the latter)

Minor Surface Repair

The following procedure is recommended for areas that have damage to the gel coat only or have a blemish (hole, gouge or scratch) that is deep enough to penetrate through the gel coat to the fiberglass, but not deep enough to go completely through the laminate.

- Scuff the surface of the damaged area with coarse sandpaper (150/180 grit). Feather the edge surrounding the blemish with finer grit sandpaper. Do not undercut this edge.
- Be sure that the area to be patched is clean and dry, and free of wax, oil or other contaminants. Acetone, Methel Ethel Keytone or Toluene can be used for cleaning prior to repair.
- Place an ample amount of gel coat in a suitable clean container – plastic or metal. Follow the recommended mixing instructions provided by the manufacturer. It is best to do

repair under warm/dry weather conditions (between 70-90 degrees Fahrenheit). Colder temperatures will impede or completely stop the curing process and the repair will either be unstable or not work at all.

- Work the catalyzed gel coat into the damaged area using the spreader. Slightly overfill the blemish including the area around and above, to allow for shrinkage. Puncture and eliminate any air bubbles that may be entrapped within the gel coat.
- Let the patch cure thoroughly, approximately 2-3 hours, before proceeding to the next step.
- Wipe the patch with solvent to remove sticky residue left from the curing process. The patch has not cured sufficiently if a thumbnail will leave an impression in the gel coat.
- Sand the patched area with 220 grit wet or dry sandpaper. Change to 320 or 400 grit, then to 600 grit wet or dry paper. If the patch shrinks to a point where the surface is not level with the adjoining area, repeat the preceding steps. Complete the finishing process by buffing with rubbing compound to a smooth surface. Then wax and buff the surface to a high gloss.
- If this spot patch does not match in color it might be necessary to make a spray patch (see following directions) over this spot patch or over an entire section.

AREA PATCHING - SPRAY PATCHING

A. Sand the area to be patched using 220 grit sandpaper. Feather the edges using finer grit paper in hard-to-match situations.

B. Clean the surface with a suitable solvent as described under "B." of Minor Surface Repairs, for spot patching.

C. The same gel coat used in section “Minor Surface Repair” is applied in this situation. Follow the manufacturer’s specifications for the mixing recommended ratio of activator vs. gel coat. In spray applications the mixture should be thinned to reduce viscosity and help the fluid to flow smoothly. MEK should be used to thin the gelcoat.

   CAUTION: If solvent is used to thin the gel coat, do not spray the patch too wet or too thick. Retained solvent will retard the cure of the gel coat, create porosity, or change the color and lower the gloss.

D. If a compressor is not readily available, an nitrogen charged aerosol spray gun can ba obtained from most auto repair or marine supply stores.

E. Let the patch cure thoroughly. Possibly, the surface will be tacky or sticky after cure. Solvent should be used to remove this prior to sanding.

F. Sand the patch area with 200 grit wet or dry sandpaper; change to 320 or 400 grit and then to 600 grit wet or dry paper. Buff with polishing compound, then wax and buff to a high gloss for the final finish.

HOLES OR CRACKS IN THE GEL COAT REQUIRING A PUTTY PATCH

The following method covers the procedure for filling in small holes or cracks.

- Grind or drill out the defective area carefully until the loose fiberglass is gone or the crack does not show.
- Scuff the area and clean with solvent.
- Using filler compound acquired either at a marine supply or automotive supply store, follow the manufacturer's specification in mixing,
- Fill in the hole, over filling to allow for shrinkage.
- After the filler compound has cured, remove excess by either sanding or grinding until it is just below the surface.
- Fill a second time with a smoother application leaving the filler flush with the surface
- After the compound has cured, sand smooth with 220 grit paper
- For the remainder of this repair, follow the instructions covered in "Spray Patch."

PATCHING OF HOLES, PUNCTURES & BREAKS

The following repair method is used for damage that penetrates completely through or deeply into the entire laminate:

- Prepare the effected area by cutting away the fractured portion of the laminate to the sound part of the laminate. A keyhole or saber saw works well to cut away these ragged edges.
- Rough up the inside edges of the affected area using a power grinder. Feather out the edge a little more than half the diameter of the hole to be patched.
- Clean the surface and remove all paint or foreign substances as previously described for spot patching.
- Cut glass fabric and mat to the shape of the hole (about 2 layers of 1.5 oz. mat and 1-7 oz. cloth) and one-half diameter larger than the hole.
- Mix an ample amount of resin (approximately pint/sq. ft.) and activator following the manufacturer's specifications then thoroughly work this onto the glass mat to thoroughly wet it completely. Wet out cloth in a similar manner. Apply the mat first against the cellophane over the inside of the hole. Then apply the cloth from the back side.
- Roll out or squeegee out all air bubbles. Allow the area to cure well. Build this laminate up to the same thickness or greater than the thickness of the original laminate.
- If you cannot laminate from the back side (blind hole), cut a piece of cardboard slightly larger than the hole. Then cut the fiberglass mat and cloth along the same outline as the cardboard inset, only larger. Thread a wire or wires through the center of the cardboard insert, follow with the fiberglass.
- Wet out the fiberglass with catalyzed resin. Force the plug through the hole. (Don't worry about neatness - your first concern is a structurally sound repair.) Use the wire to pull

back and secure the plug until the resin cures. When cured, check adhesion of the plug and proceed.

- After the patch has cured, remove the cellophane and backing from the outside of the hole and rough-up from the outside, feathering the edge with a power grinder.
- Mask the area with tape and paper to protect the remainder of the laminate. Then repeat the steps in bullet points 1-6 if a large void is present.
- Use course grit sandpaper to sand smooth and blend the patch into the surrounding surface.
- Follow Steps in bullet points 1-6 for spray patching to complete the patch and obtain a high gloss color matching patch.

HELPFUL HINTS

- To speed up the patching process and for patching in cold working conditions, heat lamps, heat guns, or space heaters may be used. CAUTION: Overheating may cause blistering and poor color matching. Be careful! Patching materials are flammable.
- Spray patches generally match better than spot patches.
- Different colors behave differently in patching.
- Additional additives to the gel coat may cause a color change.
- For making many patches using the same material, considerable waste can be prevented by adding 1% BPO to a gallon of patching material and using heat to cure the patch. This gallon of material will stay good for up to a week at ordinary temperatures.
- As a general rule, keep any patch as small as possible.
- If the patch is not cured thoroughly on the surface, wiping with suitably fast evaporating solvent will clean the surface sufficiently to allow sanding without clogging the paper.
- Check technical literature for the correct catalyst levels on all materials used.
- **WARNING:** Acetone and many other fast evaporating solvents are highly flammable and can be toxic. Material Safety Data Sheets (MSDS) should accompany the chemicals when purchased. If not, ask the supplier or down load from the manufacturer's website.
- Do not use excessive buffing pressure. Excessive pressure can create heat. This heat may cause print through and distortion. This heat and pressure can actually abrade the cured film of gel coat down to the laminate.

TROUBLE SHOOTERS GUIDE

PROBLEM	ITEM TO CHECK
Color does not match	Wrong batch used for patching; fillers added; too many accelerators added; catalyst level off; patch under cured; trapped solvent; dirty spray gun; buffer developed too much heat.
Patch is dull	Under cured; catalyst level off; low temperature; sanding too quickly; trapped solvent; PVA sprayed too wet.
Comet Trails	Too coarse a sandpaper used on last sanding; buffing too hard.
Low Gloss	Excessive buffing pressure, coarse compound, to much solvents used in mixing.
Sand marks	Too coarse a sandpaper or rubbing compound used in last step - work up to 600 wet; dirty buffing pad; under cured.
Ring around patch	Edges not feathered; not sanded properly; porosity in original gel coat - may have to over spray; uncured patch.
Crack reappears	Crack was not fully ground out; weak laminate.
Patch is glossy, part dull	Original gel coat under cured; buffer developed too much heat.
Porosity or voids in patch	Not sprayed or leveled properly; filler not mixed in properly; trapped solvent; or air was not worked out.
Patch is depressed / shallow	Patch will shrink - allow for this by overfilling. Do not sand and finish until patch is cured.