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A SHORT SUMMARY OF HOW TO USE SMITH & CO. PRODUCTS TO REPAIR OR RESTORE A WOODEN BOAT

Below the waterline

1) Strip the hull to bare wood. If paint remover is used, sand the wood thoroughly.
2) Reef out old caulking. Sand or scrape clean the side walls of seams that are 1/8" or wider. Vee-groove seams of 0-1/8". For plywood, vee-groove everywhere the separate pieces of plywood meet.
3) Remove any small areas of rot. Replace planks that are seriously decomposed.
4) Refasten as necessary. Glue in sister ribs where necessary, using Tropical Hardwood Epoxy™ for rib-to-rib glue joints and polysulfide for rib-to-plank glue joints.
5) Apply Clear Penetrating Epoxy Sealer™ (CPES) in all the seams and vee-grooved joints and everywhere else.
6) Caulk all seams and vee-grooved joints with two-component polysulfide rubber paste.
7) Sand off excess polysulfide after it has fully cured; for 4-hours or greater working time materials this may take a week at 70°F.
8) Reapply CPES™ to seal the freshly sanded wood.
9) Apply two coats of High Build Epoxy Paint™ barrier coating.
10) Use our Fill-it™ epoxy filler to fill gouges and small rotted areas previously cleaned out. Sand flush and apply another coat or two of the High Build Epoxy Paint ™ barrier coat over the sanded Fill-it™.
11) Apply antifouling paint (hard vinyl copper at 100 sq. ft. per gallon net total coverage).

Above the waterline

1) Strip to bare wood. If paint remover is used, sand the bare wood thoroughly.
2) Reef seams and refasten as previously discussed. Apply CPES and caulk as previously discussed.
3) Apply CPES to entire surface. If finish is to be bright, apply varnish or clear polyurethane. Our Aerospace Grade polyurethane will hold its gloss, toughness and flexibility better than any other finish. The single-component oil-base enamels are less flexible, hold their gloss fairly well and are available anywhere. The two-component gloss epoxies will chalk in the sunlight.

Lapstrake hulls, both above and below the waterline

The only difference is that there are no seams to caulk. The overlaps of the planks must be sealed with a smooth, radiused fillet of two-component polysulfide. Sand the bare wood well, apply CPES, then two-component polysulfide rubber paste caulking. Use a tool (or wet thumb) to form a neat radius. When cured, sand the excess and proceed as previously discussed.

Plywood decks

Plywood decks typically suffer from leaking at the joint between separate pieces of plywood, delamination of the plies, and random rot.

1) Strip the deck to bare wood.
2) With a router or sharp wood chisel, vee-groove every edge of every separate piece of plywood.
3) Saturate the entire area with CPES™.
4) Any areas which have delaminated plies, lay polyethylene sheet on top and sandbag in place until the CPES™ is fully cured.
5) Paint CPES™ in all the vee-grooved areas.
6) Caulk the grooves with two-component liquid polysulfide rubber caulking and squeegee flush.
7) Apply two coats High Build Epoxy Paint™.
8) Apply topcoat as desired.

Canvas over wood

Old canvas-covered decks typically develop rot in the wood under the canvas.

1) Strip the old canvas. Sand the deck to bare wood.
2) Apply CPES™ liberally.
3) Apply two-component liquid polysulfide rubber caulking: typical coverage should be 24 sq. ft. per gallon for a 1/16" film thickness.
4) Lay fresh canvas on the wet rubber. Squeegee from the center out to the edges. Pull tight and fasten at the edges. Bed any trim strips or cap rail in two-component polysulfide rubber.
5) You may desire to paint the canvas. Epoxy or oil-based enamel paints are hard and tend to crack. Because they are glued to the canvas fibers they break the fibers. This leads to flaking of the paint and decomposition of the canvas. Polyurethane paints may be applied directly to dry canvas, and will soak in and bond very well. Our Aerospace Grade polyurethane is sufficiently flexible that it will not crack as a harder paint will, and can provide a very attractive finish.

Decks, hatch covers, cockpits with seams

The most common problem is that old, poor quality seam compound has shrunk, gotten hard and come loose allowing water to drain through into below-decks areas.

1) Reef old seam compound out. A router and a guide strip may be convenient. Ensure seam sides are clean wood.
2) Liberally apply CPES™ in seams. Ensure seam side walls are well coated. Fast Formula CPES™

is recommended, except in hot weather (85°F or above), when the standard formula will cure sufficiently quickly. Allow to dry until dry to the touch or as long as until half-cured.

3) Apply two-component liquid polysulfide caulking. If sanding after rubber cures is not desired, mask wood on either side of seam beforehand. If white seams are desired, mask after rubber is cured and paint with semigloss white epoxy paint.

4) Sometimes it is simpler to prime with CPES™ and then squeegee the liquid polysulfide into the seams and all over everything, including screw countersinks. A few days to (preferably) a week later, sand down everything, removing the excess polysulfide from the surface.

New teak on plywood subdeck

When a new teak deck is being laid it is important that the entire deck be watertight.

1) Prime the plywood with CPES™, as well as the bottom and sides of each piece of teak.

2) Apply two-component liquid polysulfide rubber to the area of the plywood deck where the first teak plank will go.

3) Place the first teak plank. Drill holes and drive the screws.

4) Proceed as above; with all fasteners going through wet rubber which will cure around them, there will be no leaks.

5) When all planks are laid, top off seams with two-component liquid polysulfide rubber, black or brown.

6) Teak plugs may be glued in with Tropical Hardwood Epoxy.

Cabin tops and corners

Many cabin tops are fiberglassed (which may delaminate) or have canvas (which rots, as well as the wood underneath). Corner or edge trim pieces may be allowing water to seep underneath, rotting the structure. Cabin tops usually do not need to be fiberglassed. The original hope of the manufacturer in using a resin/glass covering was that it would be weatherproof, which it usually is not. A paint designed as a moisture barrier is usually adequate.

1) Strip the surface to bare wood. Remove all loose resin/glass laminate and sand to a feather edge whatever remains well bonded. Remove all trim. Remove all badly rotted wood.

2) Saturate everything thoroughly with CPES™.

3) Fill any holes or rotted-out sections with Fill-It™ Epoxy Filler. Sand smooth.

4) Apply two coats High Build Epoxy Paint™.

5) Bed trim wood pieces back in place with two-component polysulfide rubber paste caulking. Prime trim with CPES™ first.

6) When rubber is cured and excess cut or sanded smooth, Prime with CPES™ and apply topcoat.

7) Prime and apply linear polyurethane paint if desired.

Brightwork

Varnish applied directly on wood tends to peel off, usually in 9 to 18 months. Clear Penetrating Epoxy Sealer can glue down the varnish, and the ultraviolet absorbers in the varnish will protect the CPES™ from degradation for a year or two, but the varnish surface becomes dull due to oxidation. We now have a clear polyurethane finish which lasts five years or more with excellent appearance.

1) Sand to bare wood or use hot-air gun paint remover. If any stripper is used, allow to dry then sand thoroughly.

2) Apply CPES™. Allow to cure, then sand very lightly to remove only the raised grain, using 320 grit or finer. If CPES™ film is sanded off, apply another coat of CPES™. Allow to half cure, then apply first coat of varnish and several more coats as desired.

3) If you wish our clear "five year" Aerospace Grade polyurethane, apply a first coat of CPES™. Allow to dry so that all residual alcohol from the CPES™ is evaporated (this may take a few days). Alcohol poisons urethanes. Sand lightly to remove raised grain. Apply one coat of CPES™ and allow to dry for 24 hours. Then apply our clear linear polyurethane.

Nonskid

Mask off areas of the deck where nonskid is not desired.

Very fine nonskid:

Apply a coat of epoxy or linear polyurethane paint. Sprinkle salt crystals on the wet paint. Allow the paint to cure. Then wash the surface with water to dissolve the salt, leaving a roughened paint surface. This surface will wear well only when foot traffic is bare feet.

Fine sand nonskid:

Apply a coat of paint, epoxy or polyurethane as desired, or even varnish. While wet, throw small handfuls of fine sand up in the air and allow the wind to drift the sand evenly across the wet paint. Allow the paint to cure, then apply a second coat of paint to lock the sand grains down.

Serious nonskid:

Same as above for fine sand, except use 30 mesh sandblasting sand. This is only recommended on working boats, as a fall on this coarse nonskid with bare skin exposed will remove the skin.

When the wind is blowing too strongly for the sand to be thrown up in the air, throw the sand out into the wet paint and then use a short-nap paint roller and a bit more paint to redistribute the grit. This gives far neater results than mixing the grit into the paint and then rolling it out.

Special Situations

Every boat is different. So is every boat owner and the specific goals of each situation. We have a staff of trained and helpful people, ready to assist you in finding the best solution for your needs.