

The Varnished Truth



Exterior wood on a fiberglass boat adds a touch of warmth, tradition, and style that cannot be duplicated any other way. From a purely functional point of view, exterior wood makes no sense at all, but for most of us boats are more than purely functional objects. I've always thought that for a boat to be the right boat for you, it must pass a simple test: when you leave in the dinghy, do you find yourself looking back and admiring her? If you feel compelled to make a lap around the boat before heading ashore, all the better. After all, in addition to safely transporting you and your crew from points A to B, a boat should tug at your heartstrings along the way.

Wood needs attention, and boat owners must choose from a daunting array of care options. Before we look into the pros and cons of the coating choices, we need to look at the conditions that determine the longevity of the finish. Coatings face four threats: UV exposure, abrasion, moisture, and movement. As soon as you apply the last coat of finish, the elements begin their attack. Ultraviolet rays break down the chemical structure of the coating. Paints include pigments which block out UV rays, but clear finishes struggle in this area. Abrasion comes in the form of chafe from lines, salt crystals left to dry, and dirty shoes. Moisture might pose the strongest threat. If moisture collects in the wood beneath the coating, the bond

Tung oil varnish remains a favorite due to its rich finish and pleasant scent. Here's the payoff for all that sanding and cleaning—laying down a beautiful finish coat.

will break down causing discoloration, at best, and loss of adhesion of the coating from the surface, at worst. Finally, movement of the wood surface, especially at joints, can wreak havoc with the finish.

Let's get this out of the way first: There is no silver bullet, no one-size-fits-all, and no clear answer on what product you should use. Consider all of the variables in play. A boat based in New England likely will have three months of exposure in a temperate climate, followed by nine months under cover. An-

other boat might spend winter in Florida, spring in the Bahamas, and summer on the Chesapeake. One owner might apply a protective coating or two every season while another might go every two or even three years. One boat might have tightly fitted, glued caprail joints, while another might have caulking in the joints, allowing for greater movement and accumulation of moisture.

GO BARE

Many cruisers opt to leave their exterior teak unfinished. Leaving the wood bare will not cause any immediate harm, but it still requires care. When washing bare teak, be gentle, because scrub brushes and high-pressure water will remove the softer grain, leaving hard ridges that look unsightly and feel rough. For this reason, never brush bare teak along the direction of the grain.

If you are going bare, then just let the teak go. Teak naturally grays as surface oils oxidize and it tends to stabilize in these conditions. If you have water standing in low places, moss and mold can develop and an occasional cleaning will be necessary. When selling a boat, wood in this condition will be an issue. First, you cannot escape the lack of curb appeal and, fair or not, bare gray exterior wood gives the impression of a poorly maintained boat. Second, most buyers will want a coating on the wood, and the cost to bring the bare teak to beautiful finish will be substantial and will impact the sales price.

TRADITIONAL VARNISH

Each coating can be evaluated against four criteria: ease of application, appearance, durability, and maintenance requirements. Let's start with traditional oil-based varnishes. Varnish can be described as a clear protective coating applied to wood. It can be traced back

Teak can be left bare and will even out to a gray tone in one season. The moisture collecting near the stainless hardware will harmlessly evaporate away.

thousands of years to resinous pine forests in the Middle East and North Africa. One city in particular, Berenice, was famous for its varnish—change the “B” to a “V” and it sounds a bit like “varnish.” That city remains today, though its name has changed. Maybe you've heard of it: Benghazi. Varnish consists of three primary components: resin, oil, and a solvent. Modern varnishes contain other additives to protect against UV, promote flow, and provide elasticity. A variety of oils can be used, but tung oil (tung oil trees flourish in southern China) provides the best moisture resistance and gloss retention. Tung costs more than linseed oil, for example, but produces better results. The higher the oil content, the better the varnish.

For those inclined to maintain their own wood, nothing compares to the feel and smell of traditional varnish. It has a natural golden hue which adds depth and richness to the look of any wood and an appealing scent when applied.

When starting from bare wood, oil-based varnish has three drawbacks: only one coat can be applied each day, sanding is required between each, and at least eight to ten coats will be needed to provide proper protection and to fill the grain pattern. Annual maintenance

requirements will vary depending on climate and exposure, but most boats will need at least two coats annually.

Ship's stores offer a bewildering array of oil-based varnishes. Interlux offers Schooner® and Schooner Gold®, West Marine has Premium and Admiral's, Pettit includes Captains and Flagship. Perhaps the most mispronounced brand comes from Holland, called Epifanes (epee-fanus), which offers a whopping 64% solids in a tung oil-based varnish (compared to less than 50% solids in other brands, and mixtures of tung and linseed oil in many other brands).

TRANSLUCENT SEALERS

Sikkens is a brand name of AkzoNobel, a Netherlands-based company which offers a sealer known as Cetol®. Cetol, an alkyd-based sealer, occupies a unique niche in the coatings market by combining a pigmented satin appearance along with ease of application. Cetol can be applied at the rate of one coat per day, with no sanding required between coats. From bare wood, only three or four coats are required. Annual bare spots must be treated, and then one or two maintenance coats applied. Cetol finishes breathe, allowing moisture to pass through, making it less likely that moisture coming from a joint or bedding will



Troubleshooter

undermine the finish.

Fifteen years ago or more, many of us came to know Cetol as heavily pigmented stain, often leaving an orange hue on teak. About eight years ago Sikkens modified the formulation and the newer products leave a more natural finish. If you value ease of application over aesthetics, Cetol provides a good option.

URETHANES

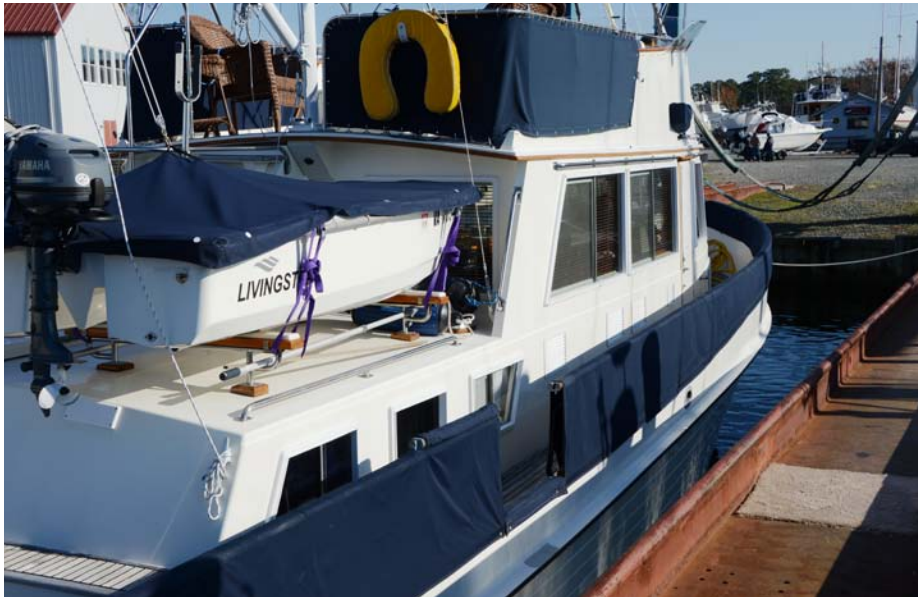
Urethanes fall into two categories: one-part (alkyd type) and two-part (isocyanate based). The well-known Awlgrip® product line includes Awlwood™, a third type that is chemically similar to a two-part that is supplied as a one-part. When refinishing from bare wood, their clear, red, or yellow low-viscosity primer soaks into the surface and bonds with the wood. The Awlwood clear finish then bonds chemically to the primer, resulting in a high-adhesion sealing system. This product is very flexible which, combined with the primer adhesion, results in a tenacious finish. The manufacturer claims longevity of three to four times greater than conventional varnish. From bare wood you will need roughly eight coats after the primer has been applied, with a maintenance coat applied every year or two. Multiple coats can be applied in a single day, but sanding is required for next day applications. The overall thickness is more important than the number of coats as this is what is going to give the longevity. It also has a satin finish which can be used for both interiors and exteriors. Although Awlwood can be applied over some existing coatings, the manufacturer recommends removing all traces of previous finishes. It provides a high gloss and very durable coating, but requires professional application.

A two-part urethane under the trade name Bristol Finish threads the needle between Awlwood and conventional varnish. Bristol Finish, a cross-linked acrylic urethane, comes as a kit with a catalyst that must be added to the base to initiate the curing process. Bristol produces an amber finish that emulates the rich look of conventional varnishes. Bristol produces a harder finish than varnish, giving it better abrasion resistance.



The stainless gate hardware covers the end grain of the wood, a critical area where the fibers soak in moisture. The hardware should be removed, the end grain sealed with epoxy, and new bedding compound applied.

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Unlike Awlwood, Bristol can be applied over existing varnish or Cetol, but moisture content in the underlying wood must be low and Bristol advises sealing sources of moisture with epoxy before applying their coating.

From bare wood, six to eight coats would be needed, with two maintenance coats applied every two to three years, depending upon your conditions. Some have had good results by applying 12-15 coats and going five years before recoating. Bristol can be buffed to a glassy smooth finish if desired. If you are accustomed to brushing on your own varnish, it will take a while before you feel comfortable with Bristol Finish. Despite that, it is certainly within reach for a DIY boat owner.

THE FINAL COAT

Regardless of the coating you choose, the same maintenance basics will extend the life of the finish. If you are refinishing to bare wood, hardware should be removed first and then rebedded after the coating has been applied. Keep up with dents and dings since they provide pathways for water to get into the wood, which will damage the finish. Touchups don't have to be perfect, they just have to seal the bare wood until the next round of coating. To minimize UV damage, consider using canvas covers for handrails, caprails, and other horizontal surfaces. If you are refinishing, go beyond the manufacturer's minimum number of

Canvas will protect the wood and its coatings from UV rays and from moisture. The canvas comes with its own maintenance cost, plus the effort to remove and install it each time you get underway. For a boat left for long periods of time the canvas will greatly prolong the life of the coatings.

coats—more is better.

Evaluate the overall condition annually. If you have applied one of the synthetic finishes you might be able to skip a year or even two. Before applying any maintenance coats, build up worn or damaged places with multiple coats to restore the film thickness. Then apply your maintenance coat to even things out.

Keep in mind that the harder the finish, the more difficult it will be to refinish. Conventional varnish and Cetol can be stripped much more easily than a urethane. It pays to maintain whichever coating you have, given the high cost of stripping back to bare wood.

By now you might be saying to yourself, "Just tell me which one I should use!" I wish I could, but honestly we struggle with these choices in our boatyards. Each situation presents different challenges. For ease of application and maintenance, Cetol has much to offer. For the best blend of pure aesthetics and ease of use, a tung oil-based varnish stands alone. If you are less concerned with ease of application and want a coating that maximizes durability, a urethane such as Bristol Finish or Awlwood might be your best bet. For solid wood (a teak