



Osmotic Blister Repair Service

Jamestown Boat Yard has developed a reputation as an expert in the field of osmotic blister repair. We pioneered many techniques and products, and offer our services to customers and other repair yards around the world.

Our service comes with a 10-year or 5-year transferable warranty, this means if you sell the boat the guarantee remains in affect as long as the requirements have been followed. We can only offer this guarantee after we have peeled the boat and completed the drying process. This provides the opportunity to determine if the blistering was caused by factors outside our repair realm. In the last 10-plus years, we have only encountered 2 or 3 boats that fit into this category.

Our flat rates are as follows:

\$350.00/ft x LOA for a 5 year warranty

\$450.00/ft x LOA for a 10 year warranty

This covers labor & materials to peel, dry, fair, coat & apply antifouling. Work not included involves removal & replacement of the thru hulls, stripping appendages, the cost of the antifoulant paint, repainting the boot stripe (if necessary), haul/block/launch, & unstep/step the rig. The reason we do not include these items is as follows:

Thru hulls – since the condition of thru hulls varies so much from boat to boat we cannot accurately estimate the time involved to remove.

Appendages – lead keels should not suffer from osmosis, rudders are generally structurally thinner and have a greater propensity to have water intrusion from the stock.

Antifoulant – because of the variety of paints and price ranges available, we do not include this.

Boot Stripe – this is also not included since we do not always have to peel this area. Only if the blisters have extended into the area do we need to peel the boot top. If so, then repairs & repainting work will be necessary to blend the repairs completed.

Our Procedure:

To give you an idea of all the work involved following is a step by step description:

Upon hauling, the thru hulls are removed and the scum line marked for peeling, as you know, the waterline as painted may not reflect the true submersion point, thus we peel down from the scum line.

The boat is peeled, using our robotic gelcoat/laminate peeler, to a depth required to remove all damaged laminate and gelcoat. This is typically between 100-125 mils. The five-year warranted job will have one pass of our peeler around the hull. The ten-year





warranted job takes away more material and thus the peeler takes two “laps.” The boat is dried to 5% on the *A* scale of our Sovereign Moisture Meter. The drying takes place with infrared catalytic heaters and is a critical step in the proper repair of osmotic blisters. We have experimented with every conceivable way of drying hulls, including vacuum bagging, and found infrared heat to be superior.

Once dry, the bottom is ground in way of struts, keel, etc, and prepped with solvent wipedowns. The next step within the five-year warrantee job is that the bottom is coated with a low viscosity vinylester primer (LVVE), and then a build-up using the same vinylester primer and fairing compound that is applied via our resin extension machine. The first coats of LVVE resin are typically 20-30 mils and are used as a neat, unfilled barrier. The subsequent coats are gradually thickened (using the resin extender) to form a sand-able LVVE fairing compound.

The bottom is then faired using our hydraulic power-board sanding unit. This unit replaced the use of manual long boards and gives a faired bottom similar to how a boat would look straight out of a mold

Once fair, the bottom is post cured; this is achieved by skirting the boat and applying temperatures in excess of 100°F for a period of 48 hours. We then spray International 2000 Interprotect to a minimum of 20 mils. The Interprotect is an epoxy barrier that has very high moisture barrier properties. An epoxy barrier is required to assure a good bond of the antifoulant to the LVVE fairing. The Interprotect, not only assures good bonding, but also has the advantage of superior moisture barriers and thus is the ideal product. The application of epoxies over the vinylester products is the reason we are required to post cure the LVVE. It is important to remember that the LVVE is our true barrier coat, the Interprotect is a tie-coat with additional barrier properties.



With the ten year warranted job, after two passes with the peeler, we apply vinylester resin and chopped strand mat with our chopper gun to a minimum of 60 mils. This newly applied chopped laminate is faired and then we start the above-mentioned vinylester coatings. Again, over the years we have done extensive independent testing of coating systems using epoxies as well as vinylester resins. The vinylester resins outperformed the epoxies in accelerated moisture testing and is the reason we are able to achieve such a high success rate. In addition, the use of properly calibrated chopper guns allows for superior wet out and bubble quota than hand laid glass and resin.

The thru hulls are reinstalled and additional coats of a contrasting colored antifoulant (for signal coats) can be applied. Upon owner approval the boat is launched. After final payment and with prior yard approval the boat, along with any written warranties, is passed to the owner.

In a nutshell that is what’s involved. We are leaders in the field of blistering repair and have been at the forefront of blister repair, bringing many processes & material systems into the field.

