GET THE RUST OUT - FILLING AN IRON KEEL

What to do about that rusty iron ballast keel?

Years ago Tony DeLima, one of MAS' founders, was up against a big restoration project that required the iron ballast keel to be shot blasted and then faired. "Unmph," was his first response as the last time he tried to keep the corrosion under control his strategy failed in less than one season.

What doesn't work:

At first Tony used another companies' super expensive yellow zinc chromate epoxy primer applied according to the manufacturer's directions. He poisoned himself for 2 days with the solvent stink and bright yellow. The coating was so brittle it cracked when the ballast changed size from winter to summer (the Coefficient of Thermal Expansion of the iron is greater than what this coating system can tolerate). So, being a cool $300 lighter he went for what he should have done in the first place, he reached for his MAS epoxy.

What works:

After re-chipping the keel, he wire wheeled it to get it looking OK - it does not have to be perfect by any stretch of the imagination. Then he mixed a pot of MAS Low Viscosity Epoxy Resin and Slow hardener. He threw in a little Colloidal Silica and then cut this whole mix with 10% Denatured or solvent alcohol Tony used a crappy stiff steel brush and wore safety goggles when we scrubbed the mixture into the keel. First he applied the above coating with a roller and then scrubbed it intensely, into the rusty surfaces, with the wire brush. He kept doing this until the whole thing (or areas in question) were thickly coated.

He let this scrubbed-in epoxy coating cure for a couple of days, then did a light scotch brighting and followed that by applying 4 more coats of MAS FLAG /Medium, wet on set, finished the coating job. Tony uses a cotton ball to tell when the epoxys set. If the coating can pull the hair off a cotton ball it's ready for the next coat. If it's sticky but doesn't not come off on your gloved finger, it is a sign of tack and you can recoat from there.

A few days again of curing, light scotch brighting and the job was ready for fairing compound. Tony's favorite mix for keel fairing, depending on how much has to be built, is One part MAS FLAG /Medium mix, One part Colloidal Silica (also known as Cab-O-Sil or Aerosil) and Phenolic micro-balloons. If you need a stiff mix for building add more filler, looser mixes for skimming use lesser amounts of the filler. By the way, Colloidal Silica is not a filler, but a thickener. Add Colloidal Silica to a mix and the volume only increases very slightly. Now try adding a filler like wood flour, Phenolic mico-balloons, milled fiber, etc. The fillers add bulk like adding sawdust to hot dogs (you get more hot dogs, right). Fillers also change the mechanical properties of the filled epoxy system. In the case of the micro-balloons an easily sanded putty fits the keel fairing bill.

The overall cost was less than 1/3 of the paint system he originally used and the results have been holding up. Rust never sleeps, so when (notice he did not say if) the rust peeps through again take to it and do a spot repair following the same tactics.
You can reach Tony at 1-877-374-9802.

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