

businessbythebay

Anti-fouling that lasts 4-5 years

New joint venture offers mobile, environmentally-friendly coating service

BY CHRIS KNAUSS

MARINER EDITOR
STEVENSVILLE, MD.

Imagine an anti-fouling bottom coating that lasts four to five years, is as durable as hard plastic, can be reapplied after mere surface sanding, and is free of environmentally harmful solvents. Then imagine it being applied any place you can park a van. That bottom coating has just arrived at Atlantic Coatings in Stevensville.

Atlantic Coatings recently formed a joint venture with Xiom Systems to provide mobile polymer powder coating services to the marine industry throughout the Chesapeake Bay watershed.

Chuck Bell, president of Atlantic Coatings began his architectural and decorative powder coating operation serving the Mid-Atlantic in 2006. Strategically located in the middle of the Chesapeake Bay on Kent Island, Bell says his company now plans to focus most of its offerings on the marine industry with its new partnership with Xiom Systems.

Xiom of West Babylon, N.Y., has developed both a mobile application system and special polymer formulations specific to recreational and commercial marine applications.



PHOTO BY CHRIS KNAUSS

Chuck Bell, president of Atlantic Coatings, looks on as shop foreman Chris Jones applies Xiom's anti-fouling coating to a Boston Whaler.

"What we are most excited about is the polymer formulation for anti-fouling," said Bell. "The anti-fouling formulation has tested to be incredibly effective at keeping growth off the hull bottom, while also being very sensitive to the environment."

Instead of a liquid paint, the polymer formulation is a powder that is applied thermally to the bottom of a vessel. The system can be used to apply the anti-fouling coating to metal, fiberglass and wood hulls as well as metal and composite running gear such as props,

rudders and so on.

Bell said he's in the "BETA" stage right now and has one unit ready to be mobilized. The process doesn't require oven curing, which makes it a unique powder coating. The anti-fouling coating is solvent free and features controlled, minimal leaching. A report from the Florida Institute of Technology says anti-fouling properties should last five years.

"The anti-fouling product uses a capillary leach where the cuprous oxide particle is actually bound to the polymer, so when it's applied

what you have is a microscopic latticework," said Bell. "In the testing that's been done, it's been proven that this product has a very, very slow leach rate. After six months of immersion, the active ingredient, cuprous oxide, showed negligible leaching, from 51.8 percent cuprous oxide to 51.5."

Traditional powder coating uses an electrostatic process with thermoset powder applied using compressed air and high voltage. It's cured at high heat in a convection oven, something that's hard to fit a 46-foot yacht into.

"What we're doing here is we're conveying the powder to a flame. We're preheating the substrate, which obviates the need for the electrostatic phenomenon and the convection curing," said Bell.

The polymer powder goes in a hopper and is agitated by vibration and air. The Xiom system runs on propane, oxygen and compressed air. The process is entirely mobile.

"As long as you have compressed air and a fuel supply you can apply this anywhere," said Bell.

Xiom has also formed a partnership with New Bedford Coatings on New Bedford, MA. The company plans to use Xiom polymers on 700 sea-going fishing trawlers.

"They don't have as much of a fouling issue up there because the water is so cold, but they're

doing conformal coatings for prop cavitation and they're able to get less cavitation and increased fuel economy," said Bell. "They're also using a non-skid formulation on decks and another polymer on railings and things so you don't get an ice buildup. They're also using an antimicrobial in live wells and holds of the ship to keep out contamination."

Bell said the polymers and process has generated interested from the Department of Natural Resources and the Chesapeake Bay Foundation.

"This product is better for the environment in three ways. Number one, we feel it will save fuel by greatly diminishing bottom growth. Secondly, the efficacy

of the product should mean that you're having to put bottom on much less. It should last four to five times longer than the best liquid paint. And then the third, there are no solvents used in this process.

"Open up a can of liquid paint, the only way to convey cuprous oxide is to load it with solvents — liquid solvents which break it down and allow you to either roll it, brush it, or spray it. But when the paint is dry the solvents have leached out into the environment.

"We really feel this is a Bay-friendly technology and I think we will be able to promote this in the Chesapeake Bay watershed as an alternative to traditional bottom paint." ↓