

Immersion Emission Admission

The largest single uncontrollable emission made by a vessel over its working life is what is discharged into the environment by its antifoul, and it happens 24 hours a day, 7 days a week!

All other damaging emissions are largely controllable. Fuelling, if carried out with care, should result in minimal loss/environmental damage. The subsequent use of that fuel will have a negative environmental impact, but this can be mitigated through engine and exhaust management, proper engine maintenance and responsible engine use.

Traditional solvent-based antifoul on the other hand makes uncontrollable discharges of aggressive solvents into the atmosphere when it is applied and subsequently leaches significant quantities of solvents, biocides, binders and pigments into the aquatic environment 24 hours a day, for every day the vessel is in the water.

The average 40ft motor boat will use 12.5 litres of antifoul, while a 110ft superyacht might use 80 litres or more. With each litre of traditional antifoul containing between 30 and 45% solvent, the 40ft motor boat will discharge approximately 5 litres of solvent into the environment every season while the 110ft superyacht will discharge a staggering 35 litres. Mega yachts (100m+) and giga yachts (150m+) will discharge over 300 litres and 500 litres respectively, of damaging solvents into the environment every time they are slipped.

However, this is not the end of the environmental damage caused by traditional antifoul. Superyachts are expensive to haul and are often scrubbed/cleaned in the water by divers, a practice copied from the Cruise industry. Cruise ships are now restricted to where they can scrub, with the practice being illegal in inshore waters because of the significant paint discharge that occurs with in-water cleaning. Designed to be ablative, self-polishing and self-eroding at haul-out/re-paint time, much of the previously applied antifoul coatings are intentionally removed by high-pressure water jetting to provide the most stable base for the new application. This removal of "spent" antifoul creates toxic waste by way of solvents, biocides, binders, microplastics and pigments which are usually discharged directly into the harbour or marina.

With every haul-out, several new layers of antifoul are applied on top of the old coatings. This inevitably leads to a rough, thick and crusty layer of antifoul building up over a short period of time. This rough coating surface and the fact that traditional antifouls absorb water, causes increased drag, fuel consumption and emissions and can reduce hull speed by as much as 5%.

Thankfully there is an alternative. This is not another soft, ablative coating that is up to 45% solvent. It is a non-leaching rock-hard epoxy resin that is water-based and solvent-free. A product with no pigment and only one (and naturally occurring) biocide, itself made from 100% re-cycled material. With one simple application lasting 10-20 years this globally unique epoxy antifoul can provide a 4-5% performance improvement over traditional antifoul because of its smooth and non-porous surface. Its multi season, hard epoxy nature

means it won't build up or flake off and it is simply over painted (and not removed) when its end of life is eventually reached.

This revolutionary, evolutionary and unique product has been available for 30 years and is currently used by over 75,000 vessels Worldwide. This product is COPPERCOAT.

UK Boatowner with Coppercoat applied.

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