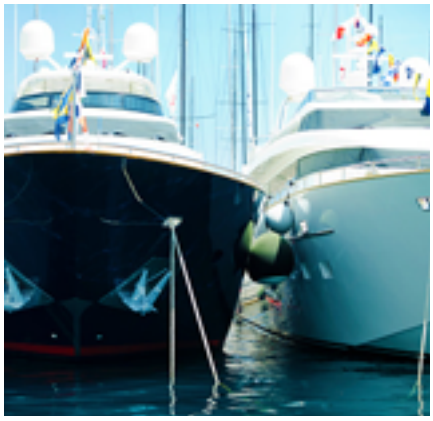
COPPERCOAT®

AVOIDING 24/7 IMMERSION POLLUTION

COPPERCOAT® COMMERCIAL

COPPERCOAT® SUPERYACHT

COPPER COAT



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.

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 24/7.

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 equally leaches significant amounts 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 40 ft motor boat will use 12.5 litres of antifoul while a 110 ft superyacht might use 80 litres or more. With each litre of traditional antifoul containing between 30 and 45 % solvent the 40 ft motor boat will discharge approximately 5 litres of solvent into the environment every season while the 110 ft 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.

It is calculated that a large 700 berth marina with an average vessel size of 70 feet discharges 10,000kg of solvent and 40,000 kg of biocides, binders and pigments into the environment every year, with much being deposited when the vessel is at rest, on its berth.

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.

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.

Designed to be ablative, leaching, 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 sort period of time. This rough coating surface and the fact that traditional antifouls absorb water caused increased drag, fuel consumption and emissions and can reduced hull speed by as much as 5%.

There are "biocide free" coatings available and while the don't contain chemicals listed as "approved biocides" they do contain environmentally damaging solvents usually 20-35%, soon to be banned PFAS compounds (Forever Chemicals) and silicone oils. These types of antifoul are recommended to be applied over primers that are 55% solvent and when these antifouls come to the end of their life, usually 2 years they must be removed with products that are 65% solvent! Being soft to the touch these coatings are easily damaged resulting in the creation of micro plastics while their "slippery when wet" surface means that lifting and blocking boats can be a dangerous insurance risk with special measures required.

There is an alternative! This is not a soft ablative coating that is up to 45% solvent but a non-leaching rock-hard epoxy resin which is WATER BASED and SOLVENT FREE. A product with no pigment and only one naturally occurring biocide which is made from 100% re cycled material. With one simple application lasting 10-20 years this Globally unique, hard epoxy antifoul can provide a 4-5 % performance improvement over traditional antifoul because of its smooth non porous surface. Its multi season, hard epoxy nature means it won't build up and flake off and it is simply over painted and not removed when its end of life is reached.

This revolutionary, evolutionary and unique product has been available for over 30 years, this product is **COPPERCOAT®**.

SUPPORTING DOCUMENTS

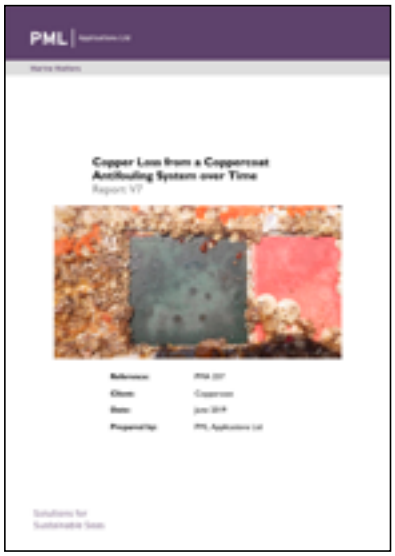
Top left, clockwise

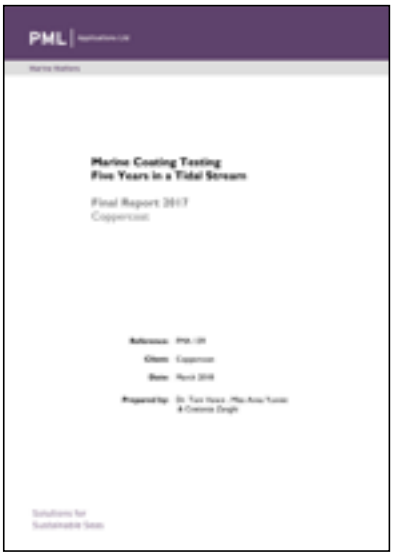
Copper loss from a Coppercoat Antifouling System over time.
Author: PML Applications Ltd.
Ref: PMA 257
Published: 2019

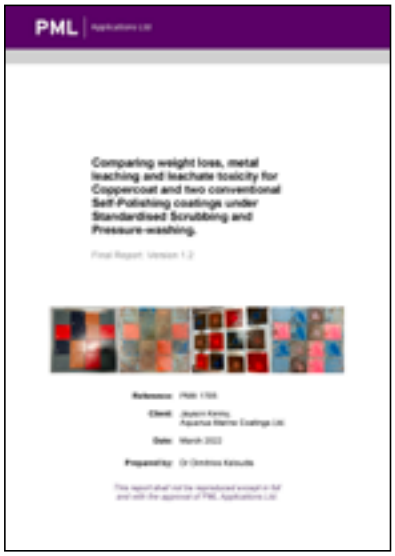
Marine Coating Testing Five Years in a Tidal Stream.
Author: PML Applications Ltd.
Ref: PMA 139
Published: 2018

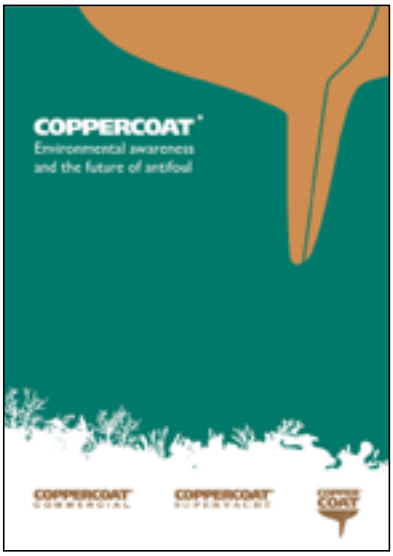
Coppercoat: Environmental awareness and the future of antifoul.
Author: AMC Ltd.
Published: 2020

Comparing weight loss, metal leaching and leachate toxicity for Coppercoat and two conventional Self-Polishing coatings under Standardised Scrubbing and Pressure-washing.
Author: PML Applications Ltd.
Ref: PMA 1705
Published: 2022









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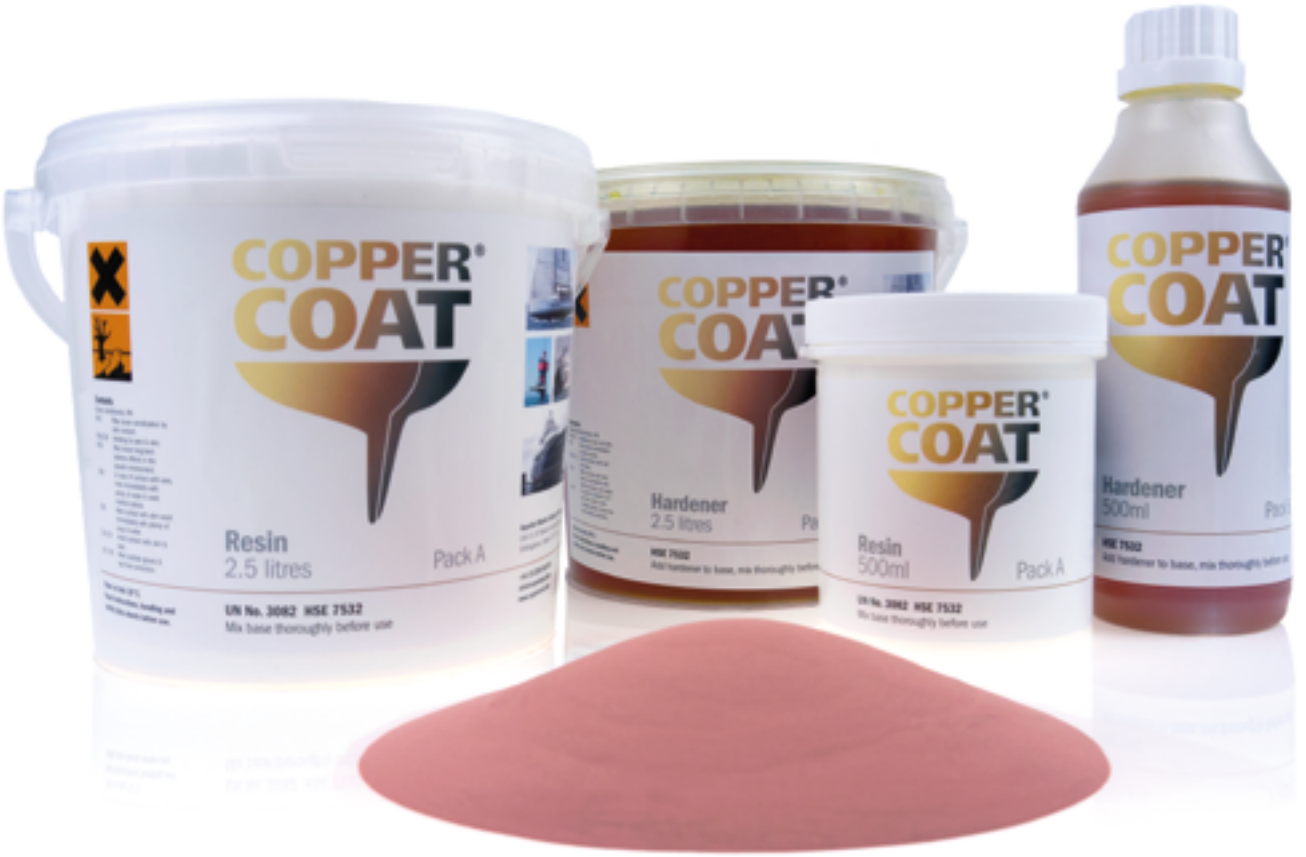

AMC AQUARIUS MARINE COATINGS

Aquarius Marine Coatings Limited
Unit 10 St Patrick's Industrial Estate
Shillingstone, Dorset DT11 0SA
United Kingdom

+44 (0)1258 861059 | office@coppercoat.com

BCF BRITISH COATINGS FEDERATION

Lloyd's Register

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