

# INVENTIONS ON DEMAND



Hempel presented an interesting and challenging task - a new improved antifouling system. The job landed on my desk.

Different coatings were applied to several sets of iron plates of one square meter. Some were riveted on merchant ship's hulls. Some sets were placed in an oceanic aquarium in California. Ship hulls were examined by divers when arriving in ports. The exposure lasted most of a year before the results were evaluated.

Best results were achieved by a non-stick coating like Teflon - known from coated frying pans - or silicone. It was recommended to follow up on this idea and how to fixate a non-stick coating to the vessels. One other idea - not tested, but brought forward - was galvanic protection releasing high amounts of copper on demand - say once a week - to kill fouling organisms before they got time to fasten properly.

Hempel did so. They worked on this recommendation for more decades. The big hurdle was to fix a non-stick material to any surface. It requires some sort of primer and Hempel eventually succeeded. The below description of HEMPASIL is dated 2008, but exactly what we aimed for in 1968.

There is no commercial system based on galvanic protection yet, but research is ongoing.



**HEMPEL**

## HEMPASIL

HEMPASIL is a silicone-based fouling release system - a so-called non-stick coating which prevents unwanted fouling growth on a vessel's hull.

HEMPASIL technology is biocide-free and provides an environmentally sound fouling release solution, because the effect is due to the water-repellent physical properties of the surface, instead of the coating exerting a chemical effect on the surroundings.

This provides two breakthrough advantages. Fouling organisms find it extremely difficult to adhere to a HEMPASIL-treated surface, and the smoothness of such surfaces cuts down on drag, thus reducing fuel costs.

But how do you get a non-stick coating to stick to the hull? Hempel has invented the revolutionary HEMPASIL NEXUS tiecoat which has chemical properties from the underlying anticorrosive coatings and chemical properties from the silicone-based topcoat.

