

Proven performance for Selektope's antifouling future

The hull of any tanker spending time in 'biofouling hotspots' acts as a magnet for millions of aspiring biological hitchhikers.*

When voyaging in and out of, or idling in warm waters, even a small accumulation of biological matter on the hull can add thousands of dollars per day to a tanker's operating costs by increasing fuel consumption and maintenance costs.

Among the uninvited guests, barnacles can be particularly troublesome, due to their ability to increase frictional resistance on the hull significantly, forcing the ship to burn more fuel to maintain the same speed. Fouling caused by hard-shelled organisms becomes encrusted on the hull, and is therefore much more difficult to remove than its soft fouling counterpart.

With global biofouling hotspots intensifying as a result of oceanic warming, the impact of biofouling on the profitability of a tanker operations will continue to generate an indefinite commercial headache for operators. Adding to the well-known financial impacts of hull biofouling, there is also growing regulatory movement against the transportation of invasive aquatic species (IAS) by the international shipping fleet. Focus on IAS transfer via hull biofouling on both a regional and international level is growing.

Therefore, it has become essential for tanker operators to take a future-proofing approach to biofouling prevention. For hard fouling

prevention, many tanker operators are choosing to protect their vessel's hulls against barnacle attachment by using antifouling coatings that contain the anti-barnacle active agent Selektope.

Developed by Swedish biotech innovator I-Tech, Selektope is an ingredient for marine coatings that repels barnacles from the hull by temporarily activating the swimming behaviour of barnacle larvae, making it impossible for them to settle and take hold. The effects of the neurological scrambling induced when the barnacle larvae are exposed to Selektope leaching from the hull coating is temporary, with the larvae returning to normal functional capacity when outside of the Selektope exposure zone.

To date, the technology has been deployed to protect the hulls of hundreds of vessels against barnacle fouling, since the launch of the first commercial 60-month antifouling systems in 2015.

MR example

An MR tanker coated with an antifouling paint containing Selektope recently approached the 36-month position in its drydock interval with a hull completely free of barnacle fouling after spending more than 50% of its operating time in areas of high biofouling with up to 32 deg C water temperatures.



I-TECH's CEO Philip Chaabane

The MR had also encountered several extended idling periods of 25 days or more. Independent, third party analysis of hydrodynamic data used to calculate the MR hull's added resistance also reinforced the underwater hull inspection findings. Data analysis confirmed that the added resistance on her hull and propeller, due to fouling, was exceptionally low compared to that expected for a reference ship of similar age, size and trading patterns.

These in-service results, as just one example, confirm the performance of Selektope's anti-barnacle technology for a vessel engaged in three years of active service and encountering significant exposure to severe fouling conditions that include periodic vessel idling. Their significance has not been lost on the wider antifouling market, where an increasing number of antifouling coating products that contain the active agent are already being launched by the marine paint majors.

Clearly, the fuel, emissions and IAS transfer imperatives are forcing operators to place ever greater emphasis on selecting coatings that can cope with the biofouling risks encountered. Existing antifouling coatings including Selektope have the potential to offer a much-needed remedy for hard fouling prevention, bringing the future-proofing required by existing and newbuild tankers against the rising risk to vessel efficiency posed by biofouling.

**This article was written by I-Tech.*

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