

selektope®

A bio-repellent ingredient for marine coatings.
A revolution in antifouling innovation.



RETHINKING

Selektope® is an approved bio-repellent ingredient for marine coatings that offers superior antifouling performance for hard fouling prevention. Offering a unique mode of action, Selektope® protects ship hulls from barnacle settlement by temporarily stimulating the barnacle larvae's octopamine receptor, keeping the larvae in swimming mode rendering it unable to attach to the hull. The first of its kind in the marine antifouling application.

FOULING PREVENTION

Barnacles are a global species that pose great threat to vessel operations and maintenance due to their rapid accumulation on the wetted surface of ships. Present in all marine and brackish waters, these crustaceans, once established, attract other barnacles to form colonies. When attached to a ship's hull, their shells cause microturbulence, significantly increasing drag and fuel consumption as a result.

Biofouling – a growing problem
Average global water temperatures are rising. Ships are increasingly idle in biofouling hotspots. There is a growing regulatory movement against the transportation of invasive species by biofouled ships. Barnacles, once attached have to be mechanically removed - creating a huge headache and cost for the ship operator.

The issue of biofouling is becoming an increasingly dominant issue for some Asian shipyards, with newly launched vessels laying idle in warming waters, suffering the effects of intense fouling during the ship fitting out process. This accumulation of biofouling on the hull can impact both the newly applied coating and the ship performance of a newbuild ship leaving the yard. Technology that ensures both superior static and in-service performance is the only answer.

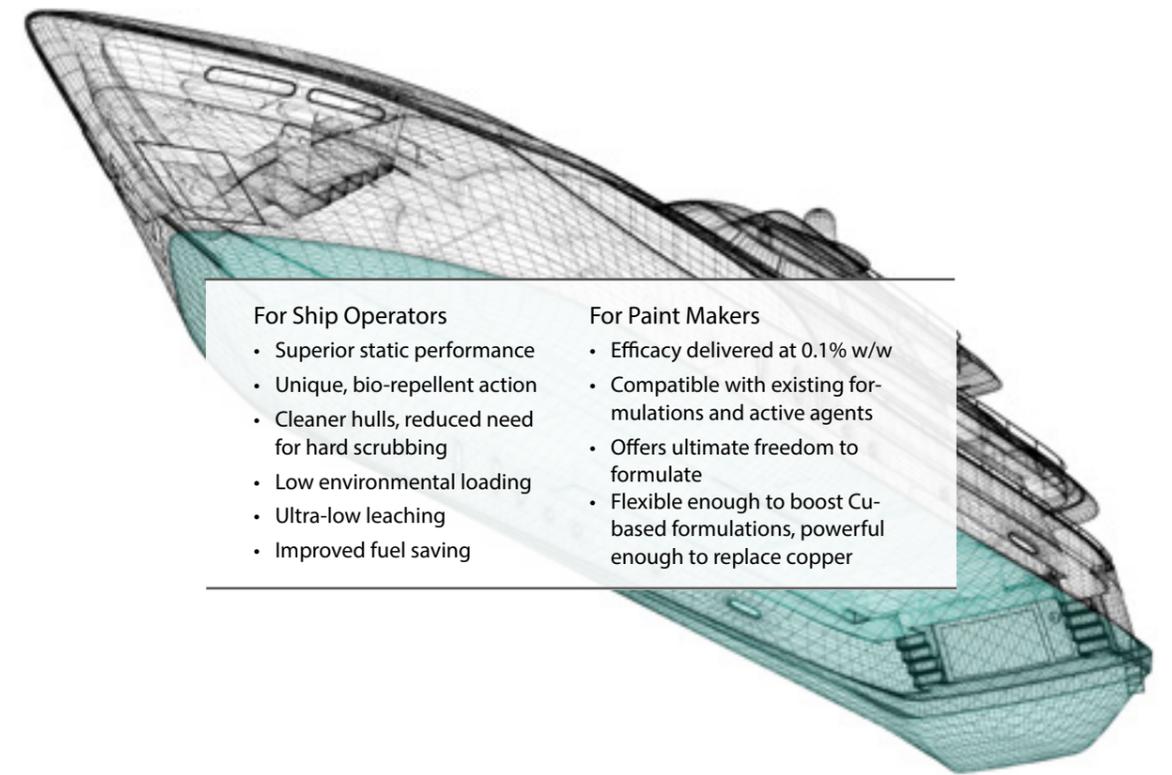
Futureproofing ships
Ship owners need to futureproof their ships by selecting marine coatings that contain Selektope to ensure that good fouling prevention is consistently delivered for ships with differing activity levels, whether in constant active service, idle for long periods of time, or at risk of fluctuating between the two during a ship's lifetime in a changing market.

Rethinking fouling prevention
I-Tech AB has dedicated over a decade of research and development to developing a bio-tech approach to fouling prevention. The resulting organic, non-metal compound delivers unrivalled efficacy at minute concentrations, yet within the limits of the most rigorous risk assessment bodies in the industry.

When present in marine coatings, Selektope prevents barnacle larvae from settling on a ship's hull (and other structures) by temporarily inducing hyperactivity in the barnacle larvae. Selektope works by stimulating the octopamine receptor of the barnacle larvae activating swimming behavior. The effects of this neurological scrambling are reversible, with the larvae returning to normal functional capacity shortly after encountering Selektope.

Less is more
Selektope has, in the hands of leading paint makers, proven its position as a core ingredient in antifouling paints, delivering remarkable fouling protection even in the most demanding situations. Performance is delivered at only a few grams per litre paint, leaving room for differentiation and innovation at the paint maker level to optimize hull performance, while sharply reducing biocide loadings.

Versatility delivered
Selektope is approved for use in the major regions for commercial shipbuilding and repair. The comprehensive regulatory file also enables Selektope, as one of few substances, to be applied on leisure boats as a DIY product. It is compatible with all other biocides it enables powerful formulations for a large range of applications.



For Ship Operators

- Superior static performance
- Unique, bio-repellent action
- Cleaner hulls, reduced need for hard scrubbing
- Low environmental loading
- Ultra-low leaching
- Improved fuel saving

For Paint Makers

- Efficacy delivered at 0.1% w/w
- Compatible with existing formulations and active agents
- Offers ultimate freedom to formulate
- Flexible enough to boost Cu-based formulations, powerful enough to replace copper

CASE STUDY

Operating pattern:
Tropical waters with medium to low activity

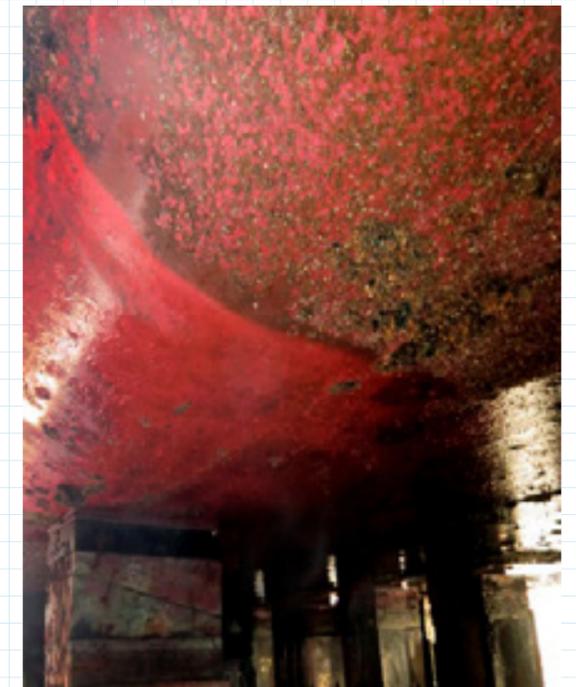
Geography:
Japanese coasts

Test patch:
Selektope-based antifouling (non-copper coating)

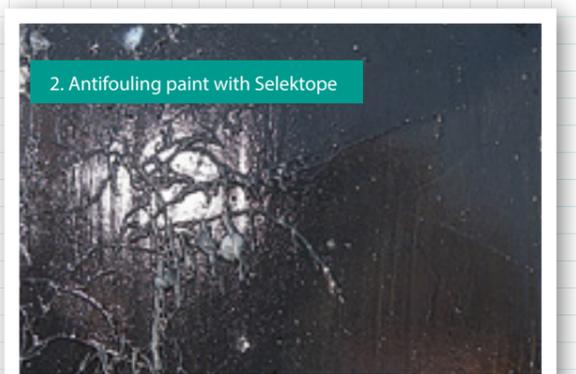
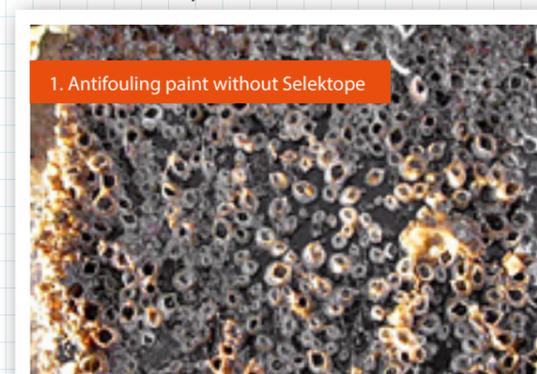
Main hull:
Traditional Cu-based antifouling (high end product).
Dry docking interval: 12 months

Results:
The main hull is heavily fouled with both macro and micro fouling, leading to significantly increased fuel consumption when moving. In contrast, the test patch is clean from fouling, potentially saving 30-40% of fuel (J.P Shultz. Dec 2007, Effects of coating roughness and biofouling on ship resistance and powering).

Benefits:
By using powerful Selektope containing antifouling products, owners operating in aggressive waters and with an unpredictable idling scheme will avoid fuel penalties of more than USD 100,000/year for small vessels and over USD 1 million/year for large vessels.



Test results: Comparative results after 7 months in static conditions on the west coast of Sweden.



Compliance

Selektope conforms to IMO guidelines for antifouling coatings and is in line with global regulatory schemes. Selektope has received approvals for commercial vessels, yachts and underwater structures in all leading markets for new builds and dry-docking including China, South Korea and Japan. In the EU, Selektope has received UK HSE recommendation for approval. For Africa, South America and the rest of Asia, no registration is needed for the use of Selektope.

The company behind Selektope

Selektope is sold and marketed by I-Tech AB, a privately owned bio-tech company based in Gothenburg, Sweden.

Since 2006, I-Tech has successfully transformed the scientific invention into a commercially ready and available antifouling agent. I-Tech holds all proprietary rights to Selektope as well as global regulatory files for its use in the field of marine antifouling.

Contact

If you would like to find out more about Selektope, please email us via info@i-tech.se and a member of our team will contact you. Alternatively you can call +46 31 788 05 60, or visit www.selektope.com
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