International

CASE STUDY

Intersleek 1100SR helps tankers generate over 10% fuel savings

Intersleek®
CELEBRATING 21 YEARS

AkzoNobel

Summary

Tankers are a major player in the shipping sector. Tankers can range in capacity from several hundred tonnes, which includes vessels for servicing small harbours and coastal ports, to several hundred thousand tonnes for long range haulage and transport. Besides ocean-going tankers, there are also specialised inland-waterway tankers which operate on rivers and canals with an average cargo capacity of a few thousand tonnes. There are a diverse range of products transported by tankers including hydrocarbon products, chemicals, fresh water and other foodstuffs.

Maintaining vessel performance and operating costs within budgets is one of key concerns of a tanker operator, as well as asset protection throughout the lifetime of the vessel. The use of foul release coatings on over 700 tankers provides a significant track record demonstrating the benefits of using this technology to overcome these concerns in this competitive market segment. The global trading route of tankers presents an additional challenge to underwater coatings, and the performance charts below show how we made it possible to generate savings for them.

Challenges

Tankers generally operate in a global trading pattern with numerous very high fouling challenge regions around the globe. Furthermore, they normally have frequent stops due to the loading and discharging of cargoes. Therefore, an effective underwater coating is essential to their operation.

How We Made It Possible

These three charts show how Intersleek 1100SR has maximised the hull efficiencies on tankers.

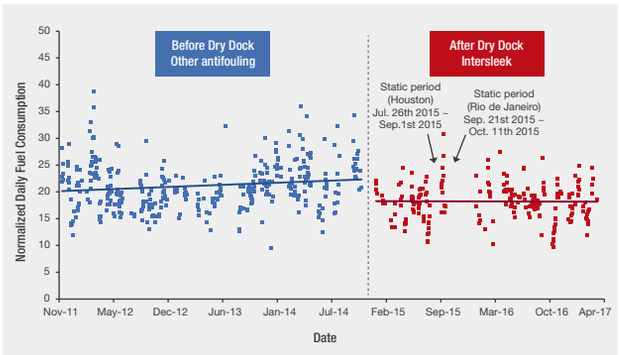


Chart 1. Normalized Daily Fuel Consumption for a typical Chemical Tanker (DWT 19,874)

Chart 1 shows that over 10% fuel saving has been achieved during 29 months after the application of Intersleek 1100SR on a typical chemical tanker (DWT 19,874), which demonstrates the maintenance of the smooth hull achieved by superior slime release performance of Intersleek 1100SR. Furthermore, despite two static periods of several weeks duration in high fouling challenge areas, the performance was still maintained with no significant increase in fuel consumption.

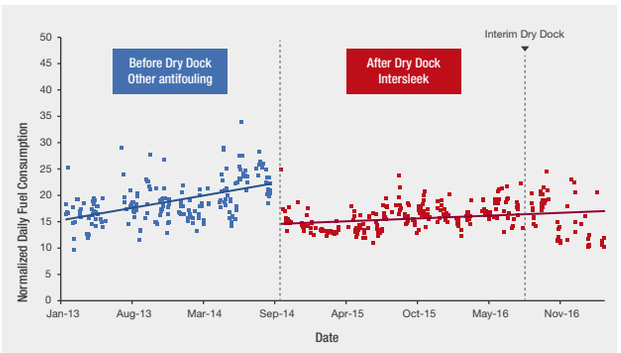


Chart 2. Normalized Daily Fuel Consumption for a typical Chemical Tanker (DWT 19,885)

Chart 2 also demonstrates over 10% fuel saving with the application of Intersleek 1100SR and negligible degradation rate on a chemical tanker (DWT 19,885). After two years in-service at the interim docking, less than 2% touch-ups were required and the performance was maintained.

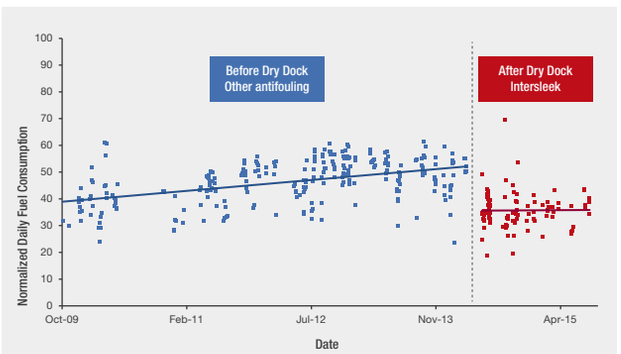
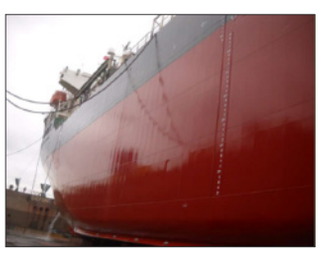


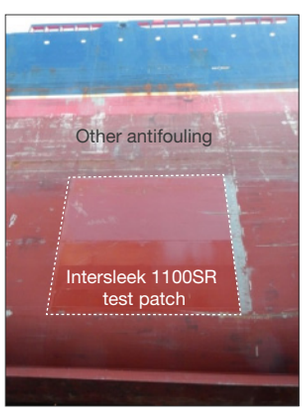
Chart 3. Normalized Daily Fuel Consumption for a typical Crude Oil Tanker (DWT 157,048)

Chart 3 demonstrates the slime release benefits of Intersleek 1100SR on larger tankers, such as the crude oil tanker (DWT 157,048), with over 10% fuel savings achieved.



Results, Return on Investment and Future Plans

In comparison to other technologies, Intersleek 1100SR has demonstrated excellent slime release properties. The picture on the right shows the performance after 38 months in-service on a chemical tanker. Its innovative fluoropolymer technology and extremely low roughness for underwater areas lead to minimal macro and micro fouling observed on vessels, which results in significant savings to vessel operators.

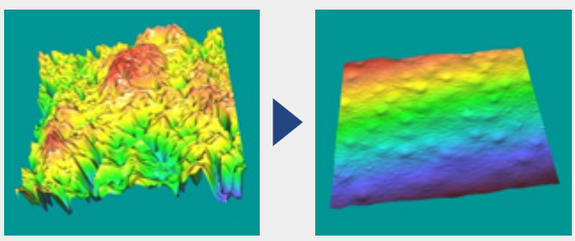


Myth-buster

Can I only apply Intersleek on fully blasted hulls?

Intersleek can be applied onto aged biocidal coatings or fouling release coatings through the use of linkcoat systems, Intersleek 717 or Intersleek 7180. They can effectively help to reduce the surface roughness of biocidal systems and provide excellent adhesion of the finish coat, giving the benefits of Intersleek foul release systems without full blasting.

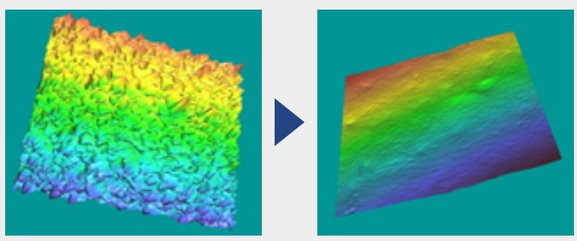
Through combining the flexibility of Intersleek linkcoat with the extremely low surface roughness of Intersleek finish coats, a surface with low roughness, similar to that of a blasted system, can be achieved.



Controlled Depletion Polymer (CDP)

CDP with Intersleek scheme using Intersleek linkcoat

Typical roughness 80-100 mm



Blasted steel

Intersleek scheme over blasted surface

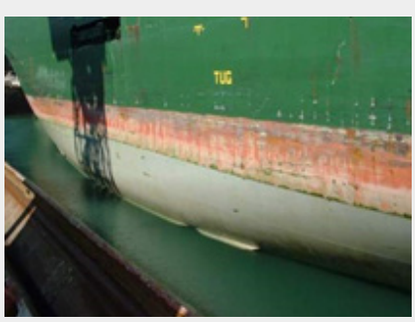
Typical roughness 70-80 mm

So far, over 300 applications of Intersleek coatings have been completed using linkcoat schemes. This represents a saving of around USD12 million in blasting costs.

This also saves time in drydock, cost of blasting and reduces waste generated.

For an underwater area of 10,000 m^2 , full blast takes around 3-4 days. However, with Intersleek linkcoat, this time isn't required which results in fewer days in drydock, which approximately is USD40,000 savings in docking costs.

As shown below in the two pictures, there are no adhesion issues or system breakdown. The integrity of a linkcoat scheme is the same as a scheme on a fully blasted surface.



Intersleek system with linkcoat after 35 months

Intersleek system with linkcoat after 60 months

Global Marine Coatings Headquarters

International Paint Singapore Pte Ltd, 21, Tuas South Street 3, Singapore 638023. Call:+65 6594 8800 Fax:+65 6594 8897