ECOSPEED®

SHIP HULL PERFORMANCE TECHNOLOGY

NEWS LETTER

ECOSPEED®

SHIP HULL PERFORMANCE TECHNOLOGY

Ecospeed ship hull performance technology lasts the lifetime of the vessel. The need for full repaints during future drydockings is eliminated.

An impermeable and extremely tough coating is combined with an underwater cleaning system keeping the hull roughness at an optimum level and resulting in a major saving in fuel.

Ecospeed is a 100% non-toxic technology and is guaranteed for 10 years. Its surface texture will improve over time with regular inwater hull maintenance.

HYDREX®
UNDERWATER TECHNOLOGY

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Second Staten Island ferry Ecospeed application

Recently the underwater hull of m/v *Sen. John J. Marchi*, one of the ferries owned by Staten Island Ferries was coated with Ecospeed in Norfolk, Virginia, U.S.A.

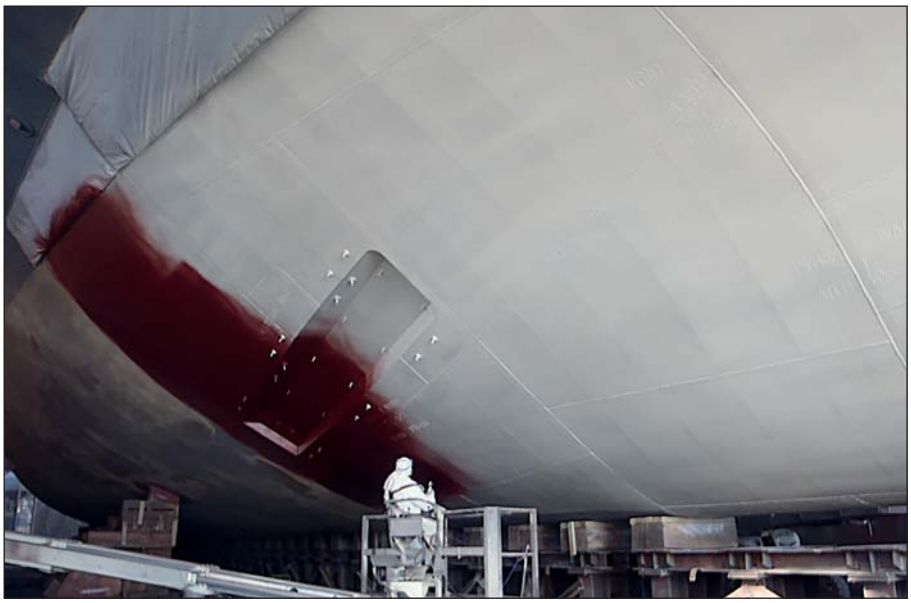
The Staten Island ferry John Noble was coated with Ecospeed last year.

This is the second ferry owned by Staten Island Ferries that was given an Ecospeed treatment after m/v *John Noble* was coated in Bridgeport, Connecticut last year. Ecospeed was also applied on one the company's fuel barges in Staten Island, New York earlier this year and a third ferry is planned to be coated later this year.

Under normal operation, ferries have to drydock once a year to comply with classification regulations. During the busy tourist season these ferries need to be sailing so the best time for drydocking is the off season when there are fewer passengers. For this reason the majority of the ferries come into drydock for a short time during the winter months. The owner is then presented with bad weather conditions in which to perform repair work to the paint system, and often a quality paint job cannot be assured. It is therefore

The stern area of the Staten Island ferry after Ecospeed application.

One of the fuel barges of the company was also coated with Ecospeed earlier this year.



Application of second layer on m/v Sen. John J. Marchi.

Ecospeed is ideally suited for those areas prone to cavitation damage, like rudders.

Both the rudder and the rest of the underwater hull will require no repaint during future drydockings.

essential to reduce the maintenance and paint work that has to be done in drydock.

The use of Ecospeed on the hulls, however, opens the door to optimizing their fuel efficiency. Ferries sail on a fixed route, so the ports they visit and the turnaround time is known in advance. Knowing the exact schedule makes it possible to implement a stricter underwater maintenance program.

Regular underwater treatment of Ecospeed is used as a performance enhancement measure. Added drag caused by marine fouling is kept under control. Moreover, the coating's surface texture and hence its hydrodynamic efficiency improves with each treatment. As a result, by adjusting the cleaning interval, the fuel penalty resulting from biofouling is minimized to significantly lower levels than would be the case for an SPC or foul release paint.

Restoring the performance of the hull by repainting it can be time-consuming and therefore expensive in drydock. However, once Ecospeed has been applied, this is no longer an issue. Instead, the owners of m/v *Sen. John J. Marchi* and any other ferry operator can optimize the hull performance, and thereby fuel consumption. This is achieved by in-water maintenance which can be done economically outside of drydock. The Ecospeed coating itself, once standardly applied, does not need to be replaced for the rest of the service life of the vessel so repainting the underwater hull will never again be a major requirement in drydock. ■

KEEPING SHIPS IN BUSINESS

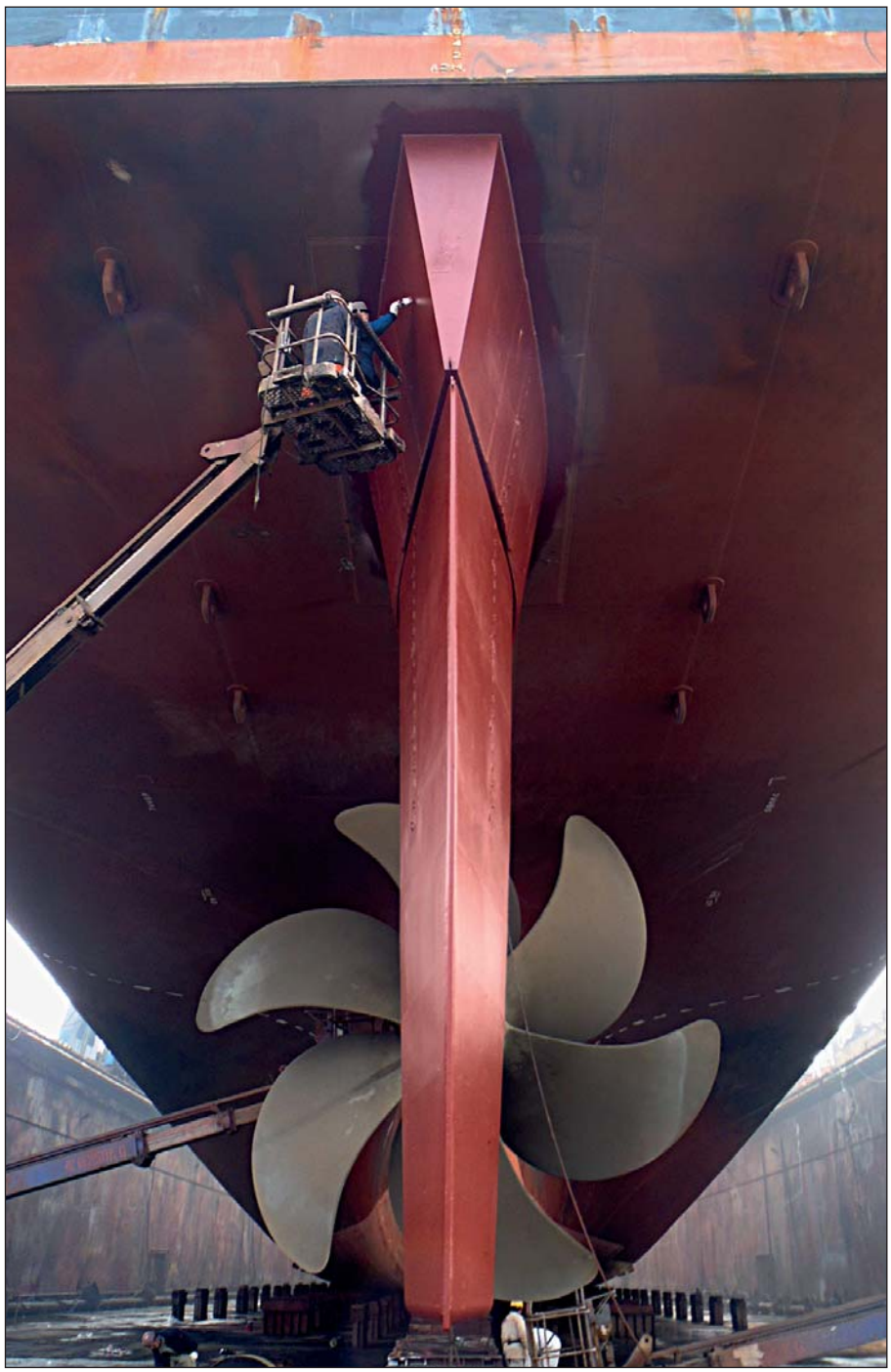
Supreme rudder protection given to vessels in China and Turkey

Over the last few months the rudders of four container vessels and a bulk carrier from a number of different fleets, were coated with the Ecospeed surface treated coating (STC) at shipyards in China and Turkey. The coating ensures lasting protection against cavitation damage for the rudders of these vessels and this for the remainder of their service life.

The decision to use Ecospeed was made by the shipowners after cavitation damage had appeared on the rudders. Ecospeed will prevent similar damage from occurring again. Most of these owners are returning customers for Ecospeed and so they had experienced at first hand the benefits of an Ecospeed coating.

If a rudder is not given the proper protection against cavitation and the resulting erosion and corrosion damage, the financial consequences can be substantial for the owner.

What needs to be done is protect the rudder from the damaging effects of cavitation. Ecospeed gives a very thorough and lasting defense against cavitation and corrosion damage for a ship hull's entire service life. The coating equally provides the rudder (and the entire underwater hull) with an impenetrable protective layer while its flexibility enables absorption of the forces that are produced by cavitation. This prevents the damage normally caused by this phenomenon.



Application of second Ecospeed layer on container vessel in Shanghai.

Protection can start in the newbuild phase

When a vessel comes into drydock, maintenance of its stern area, especially cavitation damage repair, can take a long time. There are strict procedures concerning blasting, painting, welding and propeller and stern tube seal work. This combined with the close proximity of the

Rudder of container vessel in Guangzhou after surface preparation.

Application of second layer on container vessel in Guangzhou.

Rudder of vessel in Guangzhou with lasting protection against cavitation.

Ecospeed is applied in only two identical layers.

An Ecospeed application can easily be adapted to the yard's schedule.

Application of first layer on bulk carrier in Tuzla, Turkey.

rudder, the propeller and the rest of the stern area makes it impossible to carry out most of the repairs that need to be done in these areas simultaneously. Painting is then usually assigned to the end of the schedule and as a consequence may not get done at all or else prolongs the stay in drydock. Taking into account the tight drydock schedule of most vessels this is often problematic.

With an Ecospeed application one can avoid these problems from day one because no full repaint of the underwater hull will be needed during drydocking, and that includes the rudder. Ecospeed will remain intact for the lifetime of the vessel and is guaranteed for ten years. At the most, touch-ups amounting to less than 1% of the surface area will be required. Planning the maintenance of the vessel's stern area therefore becomes much easier.

The newbuild phase is the perfect time to apply Ecospeed, but the coating can also be used to protect vessels that have been in service for some time and are already facing cavitation and corrosion damage.

Ecospeed is applied in only two identical layers after surface preparation.

An Ecospeed coating will protect a rudder against the forces produced by cavitation.

Rudder of container vessel in Shanghai after application of second layer.

Ecospeed's flexibility makes it easy to adapt the application schedule to the rest of the activities scheduled at the shipyard or drydock in a way which does not interfere with them. Overcoating time can be as short as three hours, which means that for smaller surfaces such as rudders, propellers or bow thrusters the two coats required can usually be applied in one single day.

Conclusion

Over 150 rudders have now been coated with Ecospeed with 100% success. The number increases as more and more shipowners and operators find that there is a final answer to rudder cavitation damage. In all cases where Ecospeed has been standardly applied, the rudders suffered no cavitation damage and did not need to be recoated. ■

KEEPING SHIPS IN BUSINESS

Supreme Rudder Protection

Ecospeed gives a very thorough and lasting defense against cavitation and corrosion damage for a ship hull's entire service life.

The coating equally provides the rudder with an impenetrable protective layer while its flexibility enables absorption of the forces that are produced by cavitation. This prevents the damage normally caused by this phenomenon.

Without proper protection against cavitation and the resulting erosion and corrosion damage, the financial consequences can be severe.

By removing the existing paint layers and applying Ecospeed on the rudder we can break the never ending cycle. of painting, suffering damage, having to perform extensive repairs in drydock followed by a full repainting, again and again.

With an Ecospeed application no full repaint will be needed during drydocking. Ecospeed is guaranteed for ten years. At the most, minor touch-ups will be required.

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