

# SIGMACOVER™ 380

Outstanding protection result  
for water ballast tanks at long-  
term inspection

## Case study



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### The Customer

Carisbrooke Shipping

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### The Location

Jiangsu Yangzijiang Shipyard, China

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### The Challenge

To provide outstanding anticorrosive protection for water ballast tanks

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### The Solution

The SIGMACOVER 380 universal epoxy anticorrosive primer gives highly durable protection for water ballast tanks

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### The Benefits

The universal epoxy primer delivers outstanding anticorrosive properties, long-term durable performance and easy application

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### The Result

The water ballast tanks showed the outstanding condition of all areas inspected after 5 years in service

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### The Customer

Carisbrooke Shipping owns and operates a fleet of over fifty modern dry cargo and multipurpose vessels from offices in Cowes (UK), Zwijndrecht (Holland) and Leer and Bremen (Germany).

All key aspects of ship management are covered by the Carisbrooke Group, including chartering / operations, technical and safety management, crewing and financial administration.

The fleet has an average age of around 5 years with the company focusing on fuel-efficiency. The vessels now trade worldwide due to customer demand and new developing trades. The relatively young fleet is due in no small way to an active and forward-thinking new-building program partnering the Jiangsu Yangzijiang Shipyard in China of which Kristin C is a part.

### The Challenge

Kristin C is the first of a series of ten dry bulk carriers delivered to Carisbrooke in January 2010. The vessel is a multipurpose carrier of 6,250 DWT designed for unrestricted trading although principally employed on European trades (Northern European and Mediterranean waters).



## SIGMACOVER™ 380

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The coating systems in the water ballast tank areas were of special interest as this area is now the single biggest coated area on the vessel. The water ballast tank areas are subject to aggressive operating conditions including intermittent sea water immersion, temperature cycling and, coupled with the operating regime of the vessel, may lead to accelerated corrosion of the structure in these areas.

The International Maritime Organization has, therefore, increased its focus on these areas with the introduction of the Performance Standard for Performance Coatings (PSPC) regulation in 2008 (with full implementation in 2012) and it is not surprising that these areas now come in for close scrutiny at Special Surveys.

The water ballast tanks on the Kristin C are designed to be able to take up to 3,000 m<sup>3</sup> (106,000 ft<sup>3</sup>) of ballast water in tanks located in the double bottom and side shell.

### The Solution

PPG has a long-standing relationship with Carisbrooke Shipping having delivered coatings to the company's new-building vessels constructed in a number of European and Far Eastern countries. Building on this close relationship, all vessels in this series at Jiangsu Yangzijiang were allocated to PPG for the provision of coating systems on their internal and external surfaces.

The system applied at the new-building stage in China was as follows:

SIGMACOVER 380 green at 160 µm

SIGMACOVER 380 grey at 160 µm

### The Benefits

The SIGMACOVER 380 universal epoxy anticorrosive primer, based upon pure epoxy technology is specifically designed to meet yard demands for a PSPC-approved product to protect key areas such as water ballast tanks. The coating has outstanding anticorrosive properties, can be overcoated by a wide range of topcoats and is suitable for use on many vessel areas. It has an extensive, proven track record for boottop, interiors, superstructures, topsides, underwater hulls and water ballast tanks.

#### SIGMACOVER 380 benefits:

- Excellent anticorrosive properties
- Ease of application – less time, more productivity
- Extended pot life
- Easily overcoatable with a wide range of topcoats

- Impact resistant
- All-year-round application
- Suitable for application at new-build, in dry dock and for onboard maintenance

### The Result

The first Special Survey on the Kristin C (after 5 years in service) showed the outstanding condition of all areas inspected. The water ballast tanks had been extensively used during the 5 years in service as is to be expected for these busy workhorses of the sea.

Despite layers of slime and muddy deposits on all immersed surfaces, the underlying coating condition on all areas inspected was proven to be very good and no remedial treatment was required. This is a tribute both to the coating system and to the application and inspection protocols followed by the dedicated teams of the shipowner, shipyard and paint supplier.

Martin Henry, Fleet Technical Director said, "We are delighted with the excellent condition of the water ballast tanks after 5 years and also the excellent service and technical support provided by PPG throughout the project."

The SIGMACOVER 380 coating delivers the ultimate solution for customers who need ease of use, durability and outstanding anticorrosive protection.



**Images:** After 5 years of extensive use, the water ballast tanks of the Kristin C are in excellent condition as a result of the outstanding anti-corrosive properties of the SIGMACOVER 380 coating

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Asia Pacific ☎ +86-21-6025-2688 ✉ [ppgpmc.ap@ppg.com](mailto:ppgpmc.ap@ppg.com) | Europe, Middle East and Africa ☎ +32-3-3606-311 ✉ [customers@ppg.com](mailto:customers@ppg.com)

Latin America ☎ +57-1-8764242 ext. 201 ✉ [ppgpmcandean-ca@ppg.com](mailto:ppgpmcandean-ca@ppg.com) | North America (US & Canada) ☎ +1-888-9PPGPMC ✉ [PMCMarketing@ppg.com](mailto:PMCMarketing@ppg.com)

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