

Marine View

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Contents

VOCs – Towards a solvent-free future4

Solutions in a changing world



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When we chose Solutions in a changing world as our topic for this issue, we could never have foreseen how profoundly appropriate that would be.

On top of the challenges our industry has been facing, such as low freight rates and high capacity, the pandemic has damaged economies and changed the nature of trade between countries in ways we have never seen before.

Yet still, the world depends on seaborne freight, and our industry can have an important role to play in the global recovery.

Never has it matter more for ship owners and ship builders to operate as cost-efficiently and sustainably as possible.

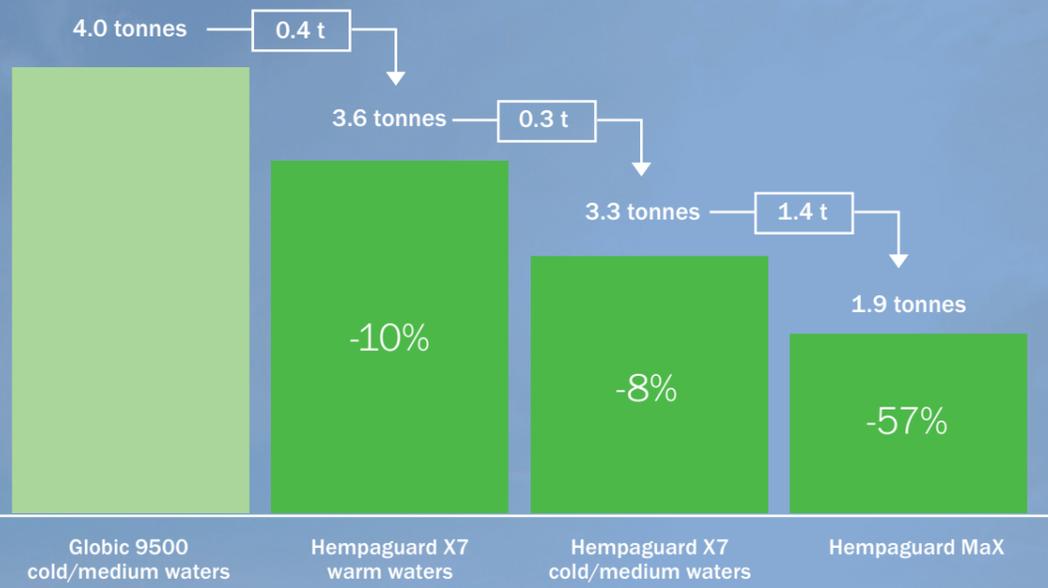
We consider efficiency and sustainability in shipyards, including the importance of fouling prevention during prolonged outfitting periods and the value of versatile coatings that can meet a multitude of shipyard challenges.

I hope you find our insights thought-provoking and helpful.

Enjoy reading!

Volatile Organic Compounds (VOCs) of System*

- Total area 10,000 m²
- Hempadur Quattro 17634 72±2 VS%
- Hempaprime Immerse 900 75±2 VS%
- Globic 9500 58±1 VS%
- Hempaguard X7 70±1 VS%
- Hempaguard X8 80±1 VS%



Sustainability is at the heart of Hempel's vision for the future.

VOCs reduced by **50%** Hempaguard family

VOCs – Towards a solvent-free future

Hempel is the only coatings supplier in the Getting to Zero Coalition, an alliance of more than 90 companies in the maritime industry and beyond, focused on achieving a zero emissions marine industry.

This ambition is driving us to create sustainable solutions across all coating areas, but especially in marine newbuilding, where environmental regulations can be the most demanding. One point of focus in our innovation effort is the reduction of Volatile Organic Compounds (VOCs) in the marine coatings used during newbuilding, shaped particularly by the demands of the South Korean and Chinese markets.

South Korea is pursuing a solvent-free strategy focusing on universal primers, which account for up to 80 per cent of coatings used in newbuilding projects. As a result, we're testing a variety of technological solutions that enable solvent-free coatings to meet shipyard and regulatory requirements without compromising performance – essential in markets where formulations need to meet the demands of all year round application.

A technical challenge

Reducing or eliminating solvents in coatings presents major technical challenges. Shipyards require a range of application properties, including low mixture viscosity, short drying times and long pot life for application flexibility – all in a wide range of climatic conditions, including sub-zero temperatures.

Naturally, this must be achieved without compromising the excellent anticorrosive and mechanical properties that vessel owners require from their coatings. And, it must be delivered in a cost-competitive way.

Towards best-in-class solutions

Our teams in South Korea and Denmark are already working on how to deliver the best products to the market – products that meet the needs of high productivity for the shipyard and long-term performance for the owner.

Meeting this challenge is pushing us to go beyond existing formulation tools to create genuinely innovative new technology in the field – a challenge we relish and befitting our reputation as creators of globally trusted best-in class coatings.

Once these solutions have passed our rigorous testing programmes to ensure they meet

both productivity demands and protection requirements, we will deliver products that can truly meet the full range of needs, including year round application performance.

Following developments in China

In the Chinese newbuilding market, we're following developments around the GB/T standard, which comes into force early this year. The standard requires VOC limits as low as 350 gr/litre and includes primers applied on several ship areas, such as engine rooms and accommodation.

Our strategy is to reformulate our coatings by decreasing the VOC level. At the same time, we're taking tried and tested products from elsewhere in our product portfolio that are already compliant and making them available for marine customers. This will ensure continued product availability, while maintaining application flexibility and keeping shipyard productivity high. In the longer term, in accordance with market trends, we're also exploring solutions for waterborne products.

High-performance solutions that are sustainable. That's the future we see at Hempel.

Performance and sustainability

Working to reduce VOCs is not new for Hempel. We've already reduced VOCs by more than 50 per cent in our Hempaguard product family compared with conventional nanoacrylate antifoulings.

In 2020, Hempaguard X7 reached 2,000 applications and we have continued to document its ability to reduce fuel consumption and CO₂ emissions since its launch in 2013.

At the time of writing, Hempaguard X7 had reduced collective fuel consumption on the vessels it's been applied to by 7.6 million tonnes, lowering CO₂ emissions by 23.5 million tonnes. At the same time, it had reduced the collective fuel bill for the vessels' operators by at least USD 2.6 billion.

Solutions like Hempaguard prove that better environmental and business performance can go hand-in-hand. At Hempel, we believe this is the future of the industry and we will continue to push the boundaries of performance with sustainability.

As a world-leading supplier of trusted coating solutions, Hempel is a global company with strong values, working with customers in the protective, marine, decorative, container and yacht industries. Hempel factories, R&D centres and stock points are established in every region.

Across the globe, Hempel's coatings protect surfaces, structures and equipment. They extend asset lifetimes, reduce maintenance costs and make homes and workplaces safer and more colourful. Hempel was founded in Copenhagen, Denmark in 1915. It is proudly owned by the Hempel Foundation, which ensures a solid economic base for the Hempel Group and supports cultural, social, humanitarian and scientific purposes around the world.

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